

2024
2025



MEASURING INSTRUMENTS

CATALOGUE NO. 107



QUALITY | INNOVATION | SERVICE | VALUE



The products with this mark are **INSIZE PLUS** brand, otherwise the products are **INSIZE** brand.

INSIZE is our standard quality

INSIZE PLUS is our premium quality



The products with this mark are supplied with manufacturer inspection certificate.

| INSIZE Inspection Certificate | | | | | | | |
|-------------------------------|--------------------|--------------|--------------------------------|------------------|-------------------|----------|----------|
| Product name | Digital Caliper | Traceable to | USA NIST No.821/279484-10 | | | | |
| Code No. | 1108-150 | | Germany DKK No.D-K-15190-01-00 | | | | |
| Measuring range | 0-150mm / 0-6" | Inspector | <i>David</i> | | | | |
| Resolution | 0.01mm / 0.0005" | Judgement | Passed | | | | |
| Serial No. | 0910120004 | | | | | | |
| Standard temperature | 20°C / 68°F | | | | | | |
| | | Unit: inch | | | | | |
| Measuring Length | Permissible Error | Error | | Measuring Length | Permissible Error | Error | |
| | | External | Internal | | | External | Internal |
| 0.4 DIA | +0.0005 -0.0010 | / | 0.0005 | Φ10 | +0.01 -0.02 | / | 0.01 |
| 2 | ±0.0010 | -0.0005 | / | 50 | ±0.02 | -0.01 | / |
| 4 | | -0.0005 | / | 100 | | -0.01 | / |
| 6 | | -0.0010 | / | 150 | | -0.02 | / |
| 8 | | / | / | 200 | | / | / |
| 10 | ±0.0015 | / | / | 250 | ±0.03 | / | / |
| 12 | | / | / | 300 | | / | / |



Please scan QR code to watch the videos of products.



How to search:

1. Search for products according to category in PRODUCT INDEX (next 6 pages)
2. Search for products in CODE NO. INDEX (page 926-932)
3. Search for products in APPLICATION INDEX OF MEASURING TOOLS (page 933-939)

We reserve the right to change or modify the design and specification of products in this catalogue without prior notice.

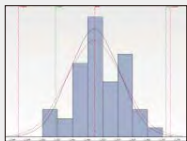
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DEPTH GAGES



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HEIGHT GAGES

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OUTSIDE DIAMETER MEASURING INSTRUMENTS



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INSIDE MICROMETERS



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BORE GAGES



CARBON FIBER BORE GAGES



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DIGITAL CHAMFER GAGES



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PROTRACTORS



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SQUARES



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STRAIGHT EDGES



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PERMANENT MAGNETIC CHUCKS



PARALLELS



PARALLEL/SQUARE SETS



ANGLE PLATE SETS



ADJUSTABLE ANGLE BLOCKS



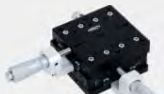
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FEELER GAGES



PITCH GAGES



RADIUS GAGES



TAPER SLOT GAGES



TAPER BORE GAGES



WELDING GAGES



INSIDE/OUTSIDE CALIPERS



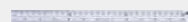
LENGTH TAPES



MEASURING TAPES



MEASURING WHEELS



STEEL RULES



COMBINATION SQUARES



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EDGE FINDERS FOR EDM



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ZERO SETTERS



ZERO SETTERS

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SCALES



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CMM



MEASURING ARMS



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PROFILE PROJECTORS



QUICK MEASUREMENT SYSTEMS



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VIDEOSCOPIES



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ELECTROMAGNETIC ULTRASONIC THICKNESS GAGES



ULTRASONIC THICKNESS GAGES



TACHOMETERS



STROBOSCOPES



VIBRATION METERS



LASER DISTANCE METERS



PORTABLE CONDUCTIVITY/TDS METERS



PORTABLE pH METERS



REFRACTOMETERS



DIGITAL STOPWATCHES



STROKE COUNTERS



DIGITAL MOISTURE METERS



DIFFERENTIAL PRESSURE MANOMETERS



ANEMOMETERS



BOURDON TUBE PRESSURE GAGES



SOUND LEVEL METERS



LIGHT METERS



UV LIGHT METERS



GAS DETECTORS



TESLAMMETERS



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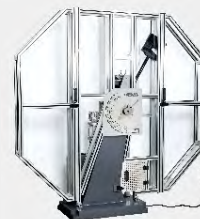


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DIGITAL SPRING TESTERS



FORCE GAGES



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SCALES



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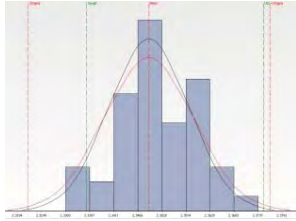
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SALT SPRAY TESTERS



TEMPERATURE AND HUMIDITY CHAMBERS



Data Management Softwares
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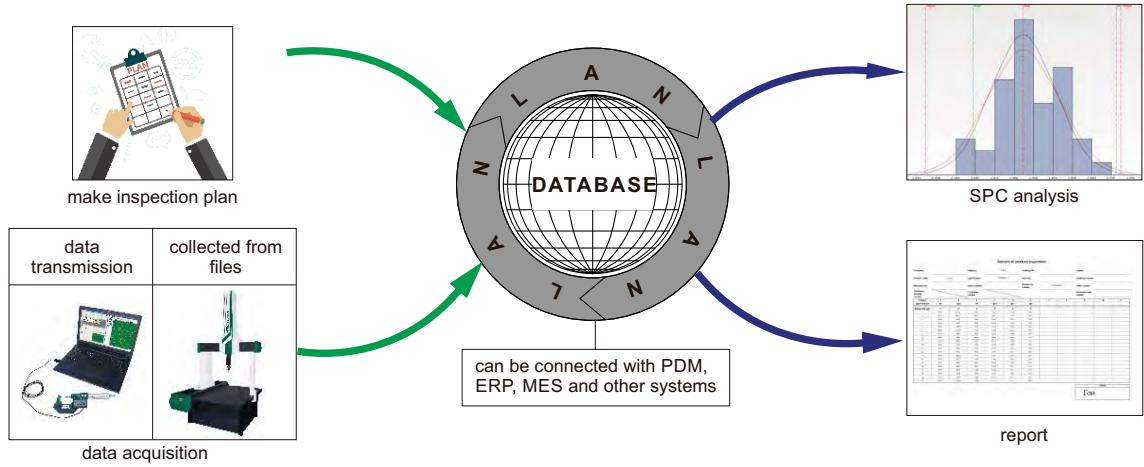


Wireless Data Transmission Systems
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Data Output Cables
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MEASUREMENT DATA MANAGEMENT AND ANALYSIS SOFTWARE CODE 7317



Make inspection plan

- Define the dimensions, tolerances, control range and other parameters of workpieces

define the drawing of workpieces

define association items of data

define the measured dimension and tolerance

| Seq | Data Member Code | Data Member Name | Measuring Tool | 1 | 2 | 3 | 4 | 5 | 6 |
|-----|------------------|----------------------------|-----------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| 1 | DC04070001 | Check type | | 2022-06-08 11:16:27 | 2022-06-08 11:16:27 | 2022-06-08 11:16:27 | 2022-06-08 11:16:27 | 2022-06-08 11:16:27 | 2022-06-08 11:16:27 |
| 2 | DC04070002 | Serial number | | | | | | | |
| 3 | DC04070003 | Furnace No. | | | | | | | |
| 4 | DC02070001 | Flatness0.008 | CMH | | | | | | |
| 5 | DC02070002 | 2.39±0.01/-0.03 | Vernier caliper | | | | | | |
| 6 | DC02070003 | Verticality0.008 | CMH | | | | | | |
| 7 | DC02070004 | 2.335±0.004 | Vernier caliper | | | | | | |
| 8 | DC02070005 | Outside diameterφ=45±0.002 | Micrometer | | | | | | |
| 9 | DC02070006 | Inner diameterφ=45±0.002 | Micrometer | | | | | | |
| 10 | DC02070007 | Wall thickness | | | | | | | |

Data acquisition

manual input

data transmission

collected from files

screen capture

| Seq | Data Member Code | Data Member Name | Measuring Tool | 1 | 2 | 3 | 4 | 5 |
|-----|------------------|----------------------------|-----------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| 1 | DC04070001 | Check type | | 2022-06-08 10:58:07 | 2022-06-08 10:58:07 | 2022-06-08 10:58:08 | 2022-06-08 11:03:40 | 2022-06-08 11:10:08 |
| 2 | DC04070002 | Serial number | | 2022060801 | 2022060801 | 2022060801 | 2022060802 | 2022060802 |
| 3 | DC04070003 | Furnace No. | | F00120 | F00120 | F00120 | F00120 | F00120 |
| 4 | DC02070001 | Flatness0.008 | CMH | 0.0080 | 0.0080 | 0.0080 | 0.0082 | 2.440 |
| 5 | DC02070002 | 2.39±0.01/-0.03 | Vernier caliper | 2.391 | 2.391 | 2.391 | 2.391 | 2.440 |
| 6 | DC02070003 | Verticality0.008 | CMH | 0.0080 | 0.0080 | 0.0080 | 0.0080 | 0.0080 |
| 7 | DC02070004 | 2.335±0.004 | Vernier caliper | 2.330 | 2.330 | 2.330 | 2.330 | 2.330 |
| 8 | DC02070005 | Outside diameterφ=45±0.002 | Micrometer | 45.0020 | 45.0020 | 45.0020 | 45.0020 | 45.0020 |
| 9 | DC02070006 | Inner diameterφ=45±0.002 | Micrometer | 45.0010 | 45.0010 | 45.0010 | 45.0010 | 45.0010 |
| 10 | DC02070007 | Wall thickness | | 0.0010 | 0.0020 | 0.0010 | 0.0010 | -0.0033 |

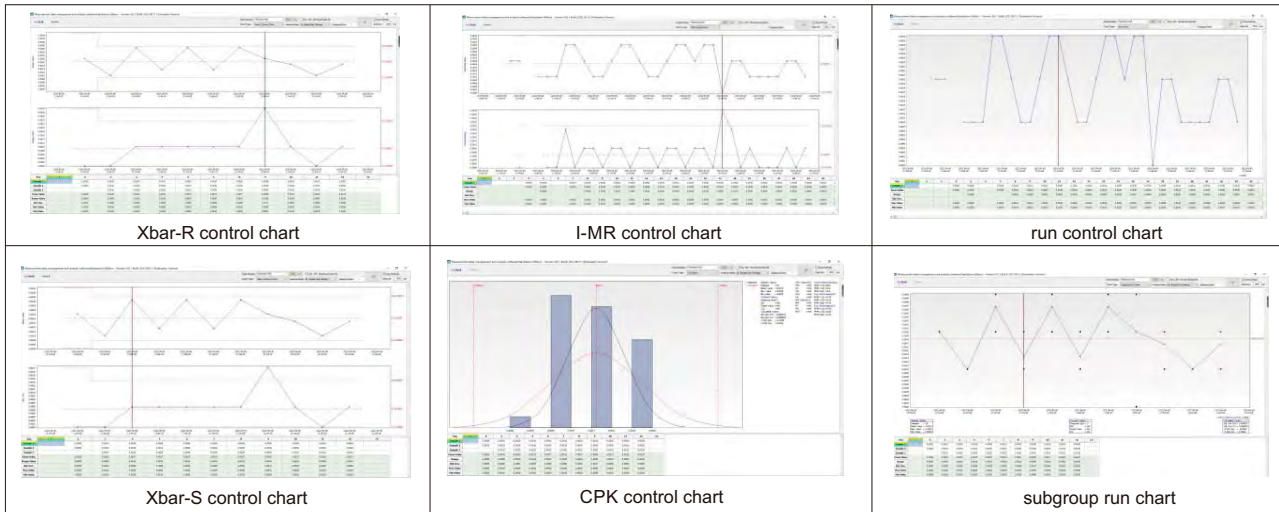
measurement interface

To be continued

Continued from previous page

SPC

- Provide variety of quality analysis control charts



Report

The process shows a report template being used to generate a final report. The final report includes a signature field labeled 'Tom' with a note 'support exporting electronic signature'.

Management of inspection plan

The figure illustrates three different management views for the inspection plan:

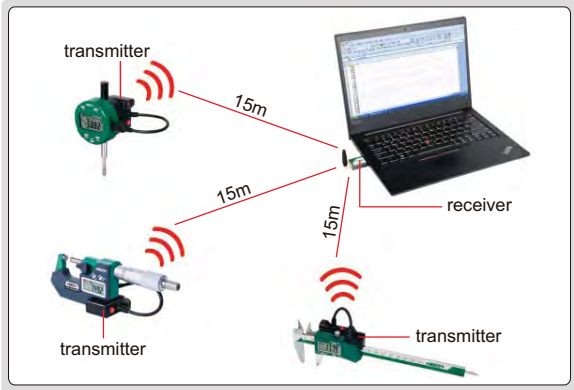
- management by customers:** A table listing items with columns for Seq, Manag..., List Item Code, List Item Name, Creation User, and Creation Time.
- management by drawings:** A tree view showing a hierarchy from INSIZE.COM to Drawing, then to specific drawing numbers like A0103, A0104, and B2467.
- management by departments:** A tree view showing a hierarchy from INSIZE.CN to Production department, then to Production area 1, 2, and 3.

1 WIRELESS DATA TRANSMISSION SYSTEM

- Through wireless transmission, the measurement data can be transmitted to computers or mobile phones
- Wireless zigbee protocol, conforming to IEEE802, 2.4GHz band
- Transmission distance is 15 meter (under the condition of no obstruction and no electromagnetic interference)

Transmitter

- Connecting to digital measuring tools such as calipers, micrometers and indicators
- CR2032 battery



| Code | Description | Transmitter | Connecting with measuring tool | Transmit data |
|---------|--|-------------|--------------------------------|---|
| 7315-21 | transmitter for digital calipers | | | <ul style="list-style-type: none"> Press the transmit button on the plug of cable, can also press the transmit button of the transmitter Data is transmitted once, the signal light of the transmitter flashes once |
| 7315-22 | transmitter for large digital calipers | | | <ul style="list-style-type: none"> Press the transmit button of the transmitter Data is transmitted once, the signal light of the transmitter flashes once |
| 7315-30 | transmitter for digital micrometers | | | <ul style="list-style-type: none"> Press the "data" button of digital micrometer, can also press the transmit button of the transmitter Data is transmitted once, the signal light of the transmitter flashes once, at the same time, the signal light on the digital micrometer flashes once |
| 7315-31 | transmitter for digital micrometers | | | <ul style="list-style-type: none"> Press the "data" button of digital micrometer Data is transmitted once, the signal light on the digital micrometer flashes once |

To be continued

Continued from previous page

| Code | Description | Transmitter | Connecting with measuring tool | Transmit data |
|----------|---|--|---|---|
| 7315-50M | transmitter for digital indicators | <p>transmit button</p> <p>signal light</p> | <p>signal light</p> <p>"DATA" button</p> <p>transmit button</p> <p>signal light</p> <p>for 2108, 2138, 2139 series digital indicators</p> | <ul style="list-style-type: none"> Press the "DATA" button of digital indicator, can also press the transmit button of the transmitter Data is transmitted once, the signal light of the transmitter flashes once, at the same time, the signal light on digital indicator flashes once |
| | | | <p>signal light</p> <p>transmit button</p> <p>for other digital indicators</p> | <ul style="list-style-type: none"> Press the transmit button of the transmitter Data is transmitted once, the signal light of the transmitter flashes once |
| 7315-51 | transmitter for digital indicators | | <p>"DATA" button</p> <p>signal light</p> <p>for 2108, 2138, 2139 series digital indicators</p> <p>back</p> <p>foot switch (code 7304-7, optional)</p> | <ul style="list-style-type: none"> Press the "DATA" button of digital indicator, can also press the foot switch (code 7304-7, optional) Data is transmitted once, the signal light on digital indicator flashes once |
| 7315-60 | transmitter for high precision digital indicators | <p>transmit button</p> <p>signal light</p> | <p>signal light</p> <p>transmit button</p> | <ul style="list-style-type: none"> Press the transmit button of the transmitter Data is transmitted once, the signal light of the transmitter flashes once |
| 7315-80 | transmitter for digital calipers/micrometers | <p>transmit button</p> <p>signal light</p> | <p>"SET" button</p> <p>transmit button</p> | <ul style="list-style-type: none"> Press the "SET" button of the calipers/micrometers, can also press the transmit button of the transmitter Data is transmitted once, the signal light of the transmitter flashes once |

To be continued

Continued from previous page

| Code | Description | Transmitter | Connecting with measuring tool | Transmit data |
|-----------|--------------------------------------|-------------|--------------------------------|---|
| 7315-3350 | transmitter for digital micrometers | | | <ul style="list-style-type: none"> Press the transmit button of the transmitter Data is transmitted once, the signal light of the transmitter flashes once |
| 7315-1150 | transmitter for digital height gages | | | <ul style="list-style-type: none"> Press the transmit button of the transmitter Data is transmitted once, the signal light of the transmitter flashes once |
| 7315-1151 | transmitter for digital height gages | | | <ul style="list-style-type: none"> Press the transmit button of the transmitter Data is transmitted once, the signal light of the transmitter flashes once |
| 7315-2771 | transmitter for digital protractor | | | <ul style="list-style-type: none"> Press the transmit button of the transmitter Data is transmitted once, the signal light of the transmitter flashes once |
| 7315-8301 | transmitter for electronic balances | | | <ul style="list-style-type: none"> Press the “⏏” transmit button of the electronic balances, can also press the transmit button of the transmitter Data is transmitted once, the signal light of the transmitter flashes once |





Receiver (keyboard signal)

- For computers and mobile phones
- Recognized as HID keyboard device, the transmitted data is recognized by computers or mobile phones as keyboard input data and press enter, such as 12.34 √. No need to install drivers and softwares
- Data can be transmitted to excel, word, txt etc.
- For any softwares which can receive keyboard signal

| Code | Product | Description | Remark |
|--------|---------|-------------------------|-----------------------------------|
| 7315-3 | | single channel receiver | connected with 1 transmitter only |


To be continued

Continued from previous page

| Code | Product | Description | Remark |
|--------|---|-----------------------|--|
| 7315-6 |  USB port | multichannel receiver | connected with 6 transmitters, each channel has status indicator |
| 7315-7 |  type-C port | | |
| 7315-8 |  micro USB port | | |
| 7315-9 |  lightning port | | |

Receiver (text format, virtual com port)

- For computers with windows system
- Text format virtual com port, converted to keyboard format with supplied software
- Supplied with Excel directional input software
- Measurement data can be transmitted to excel, word, txt etc. and any software which receives keyboard signal

| Code | Product | Description | Remark |
|--------|--|-----------------------|---|
| 7315-2 |  USB port antenna | multichannel receiver | connected with maximum 16 transmitters, each of them has unique identification code |

Excel directional input software

- Supplied with 7315-2 receiver
- The measurement data of multiple measuring tools can be transmitted to the designated area of excel, which facilitates data management and improves efficiency

Excel directional input software (included in 7315-2), application example 1

Set the display area of caliper at B4-B9, the readings of caliper are displayed at B4, B5...B9.
Set the display area of micrometer at C4-C9, the readings of micrometer are displayed at C4, C5... C9.
Set the display area of height gage at D4-D9, the readings of height gage are displayed at D4, D5... D9.

| | A | B | C | D |
|---|-------------------------|-----------|------------|---------------|
| 1 | Project | Length | Width | Height |
| 2 | Dimension and Tolerance | 50±0.05 | 24±0.01 | 10+0.05/-0.06 |
| 3 | Measuring tool | Caliper | Micrometer | Height gage |
| 4 | 1 | 50.02 | 24.004 | 9.98 |
| 5 | 2 | 50.01 | 24.010 | 10.01 |
| 6 | 3 | 49.99 | 23.990 | 10.02 |
| 7 | 4 | 50.00 | 23.996 | 9.99 |
| 8 | 5 | 50.04 | 24.000 | 10.01 |
| 9 | | Channel 1 | Channel 2 | Channel 3 |

serial of workpieces the next data display area is indicated in green

Excel directional input software (included in 7315-2), application example 2

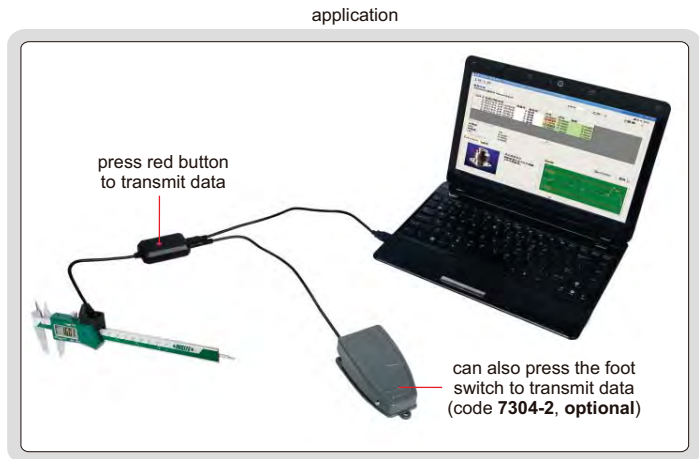
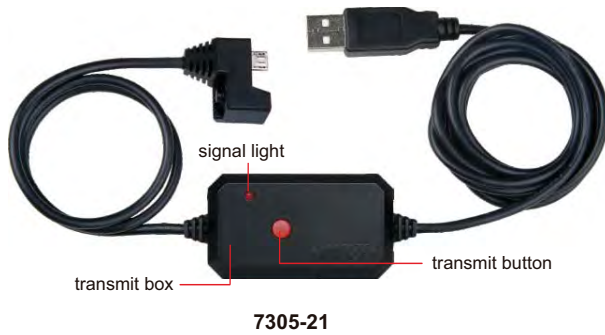
Set the display area of micrometer at B4-C9, data input is from the left to the right, the readings of micrometer are displayed at B4, C4, B5, C5... B9, C9.
Set the display area of caliper at D4-D9, the readings of caliper are displayed at D4, D5... D9.
Set the display area of depth gage at E4-E9, the readings of depth gage are displayed at E4, E5... E9.

| | A | B | C | D | E |
|---|-------------------------|--------------------|--------------------|-----------|------------|
| 1 | Project | External diameter1 | External diameter2 | Length | Depth |
| 2 | Dimension and Tolerance | Φ23+0.01/-0.02 | Φ21+0.01/-0.02 | 50±0.04 | 28±0.05 |
| 3 | Measuring tool | Micrometer | Micrometer | Caliper | Depth gage |
| 4 | 1 | 23.010 | 21.008 | 49.98 | 28.01 |
| 5 | 2 | 23.010 | 21.000 | 49.98 | 27.98 |
| 6 | 3 | 22.999 | 21.000 | 50 | 28 |
| 7 | 4 | 23.007 | 20.998 | 50 | 28 |
| 8 | 5 | 23.000 | 20.985 | 50.01 | 28.01 |
| 9 | 6 | 23.008 | Channel 1 | Channel 2 | Channel 3 |

serial of workpieces the next data display area is indicated in green

DATA OUTPUT CABLES (TEXT FORMAT, VIRTUAL COM PORT)

1) Data output cables with transmit box











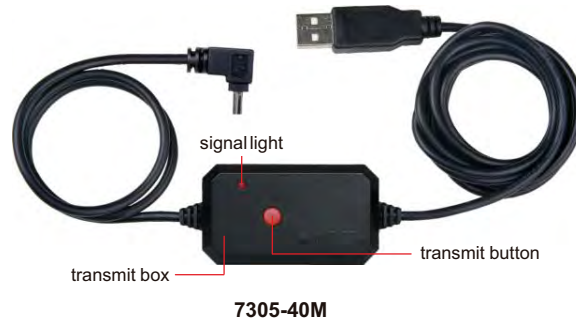
Single transmit (can be switched to continuous transmit)

| Code | Description | Plug to measuring tool | Plug to computer | Connecting with measuring tool | Transmit data |
|----------|--|------------------------|------------------|--|---|
| 7305-21 | cable for digital calipers (length 3m) | | | | <ul style="list-style-type: none"> Press the transmit button on the plug of cable, can also press the transmit button of the transmit box, or press the foot switch Data is transmitted once, the signal light of the transmit box flashes once |
| 7305-R21 | | | | | |
| 7305-22 | cable for large digital calipers (length 2.5m) | | | | <ul style="list-style-type: none"> Press the transmit button of the transmit box, or press the foot switch Data is transmitted once, the signal light of the transmit box flashes once |
| 7305-R22 | | | | | |
| 7305-30 | cable for digital micrometers (length 2.5m) | | | <p>Labels: signal light, "data" button</p> | <ul style="list-style-type: none"> Press the "data" button of digital micrometer, can also press the transmit button of the transmit box, or press the foot switch Data is transmitted once, the signal light of the transmit box flashes once, at the same time, the signal light on the digital micrometer flashes once |
| 7305-R30 | | | | | |
| 7305-31 | cable for digital micrometers (length 2.5m) | | | <p>Labels: "data" button, signal light</p> | <ul style="list-style-type: none"> Press the "data" button of digital micrometer, can also press the transmit button of the transmit box, or press the foot switch Data is transmitted once, the signal light of the transmit box flashes once, at the same time, the signal light on the digital micrometer flashes once |
| 7305-R31 | | | | | |



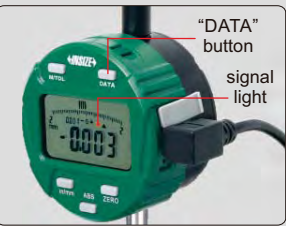

To be continued

Continued from previous page

| Code | Description | Plug to measuring tool | Plug to computer | Connecting with measuring tool | Transmit data |
|------------|--|---|---|--|--|
| 7305-50M | cable for digital gages (length 2.5m) |  |  |  | <ul style="list-style-type: none"> Press the transmit button of the transmit box, or press the foot switch Data is transmitted once, the signal light of the transmit box flashes once |
| 7305-R50M | | |  | | |
| 7305-1150 | cable for digital height gages (length 2.5m) |  |  |  | <ul style="list-style-type: none"> Press the transmit button of the transmit box, or press the foot switch Data is transmitted once, the signal light of the transmit box flashes once |
| 7305-R1150 | | |  | | |



Continuous transmit (can be switched to single transmit)

| Code | Description | Plug to measuring tool | Plug to computer | Connecting with measuring tool | Transmit data |
|----------|--|---|---|--|--|
| 7305-40M | cable for digital indicators (length 2.5m) |  |  |  <p>for 2108, 2138, 2139 series digital indicators</p> | <p>Continuous transmit is controlled in software</p> <p>Single transmit:</p> <ul style="list-style-type: none"> Press the "DATA" button of digital indicator, can also press the transmit button of the transmit box, or press the foot switch Data is transmitted once, the signal light of the transmit box flashes once, at the same time, the signal light on digital indicator flashes once <p>Note: long press transmit button to zero the digital indicators; software of data transmit is included</p> |
| | | | |  <p>for other digital indicators</p> | <p>Continuous transmit is controlled in software</p> <p>Single transmit:</p> <ul style="list-style-type: none"> Press the transmit button of the transmit box, or press the foot switch Data is transmitted once, the signal light of the transmit box flashes once <p>Note: long press transmit button to zero the digital indicators; software of data transmit is included</p> |

To be continued

Continued from previous page

| Code | Description | Plug to measuring tool | Plug to computer | Connecting with measuring tool | Transmit data |
|-----------|--|------------------------|------------------|---|--|
| 7305-R40M | cable for digital indicators (length 2.5m) | | | <p>for 2108, 2138, 2139 series digital indicators</p> | <p>Continuous transmit is controlled in software</p> <p>Single transmit:</p> <ul style="list-style-type: none"> Press the "DATA" button of digital indicator, can also press the transmit button of the transmit box, or press the foot switch Data is transmitted once, the signal light of the transmit box flashes once, at the same time, the signal light on digital indicator flashes once <p>Note: long press transmit button to zero the digital indicators; software of data transmit is included</p> |
| | | | | <p>for other digital indicators</p> | <p>Continuous transmit is controlled in software</p> <p>Single transmit:</p> <ul style="list-style-type: none"> Press the transmit button of the transmit box, or press the foot switch Data is transmitted once, the signal light of the transmit box flashes once <p>Note: long press transmit button to zero the digital indicators; software of data transmit is included</p> |

Software (included in 7305-40M and 7305-R40M)

- Real-time display
- Tolerance setting, automatic judgment, out-of-tolerance alarm
- Real time statistics: max, min, average, Go/No-Go number
- Can save results as Excel

The screenshot shows the software interface with several key features highlighted:

- export Excel:** A red box highlights the 'Save' button in the top menu.
- real-time display:** A red box highlights the large digital display showing '12.000 mm'.
- setting zero of digital indicators:** A red box highlights the 'Zero' button below the display.
- measurement results and judgment:** A red box highlights the 'Data collection' table with columns for No, Value, Error, Result, and Time.
- setting tolerance and sampling period:** A red box highlights the 'Parameters' section, including fields for STD, USL, LSL, Beep, Unit, and Auto Sampling period.

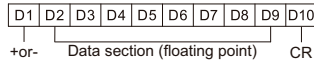
To be continued

Continued from previous page

communication protocol

- Baud: 9600bps
- Data bit: 8
- Stop bit: 1
- Check bit: None
- No flow control

▪ Data output format



| Display | Output |
|---------|---------------|
| 1.234 | ➔ +0001.234 ✓ |
| -1.234 | ➔ -0001.234 ✓ |

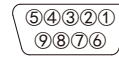
▪ Data output format with ID number



| Display | Output |
|---------|--------------------------|
| 1.234 | ➔ 4109210605 +0001.234 ✓ |
| -1.234 | ➔ 4109210605 -0001.234 ✓ |

- The data transmission mode can be switched: single or continuous;
- The data output format can be switched: with ID number or without ID number;
- Data of digital indicators can be transmitted by instruction;
- The digital indicators can be zeroed by instruction

▪ Pin definition of RS232 plug:



| Pin No. | Symbol | Description |
|---------|--------|-------------|
| 2 | TXD | Data OUT |
| 3 | RXD | Data IN |
| 4 | VDD | +5V Power |
| 5 | GND | Ground |

2) Data output cables without transmit box

application



7305-G3350



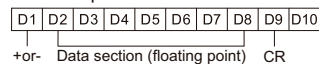
Single transmit

| Code | Description | Plug to measuring tool | Plug to computer | Connecting with measuring tool | Transmit data |
|------------|---|------------------------|------------------|--------------------------------|---|
| 7305-G60 | cable for high precision digital indicators (length 3m) | | | | <ul style="list-style-type: none"> ▪ Press the "DATA" button of high precision digital indicator |
| 7305-G3350 | cable for digital micrometers (length 3m) | | | | <ul style="list-style-type: none"> ▪ Press the "DATA" button of digital micrometer |

communication protocol

- Baud: 9600bps
- Data bit: 8
- Stop bit: 1
- Check bit: None
- No flow control

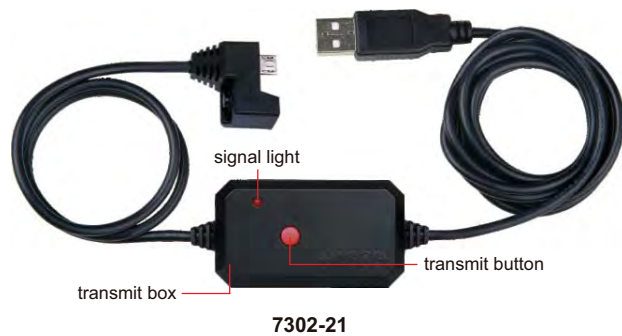
▪ Data output format



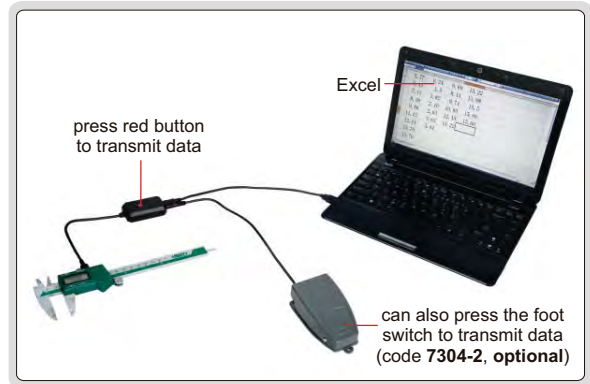
| Display | Output |
|---------|---------------|
| 1.234 | ➔ +0001.234 ✓ |
| -1.234 | ➔ -0001.234 ✓ |

- Data of high precision digital indicators can be transmitted by instruction;
- The high precision digital indicators can be zeroed by instruction

DATA OUTPUT CABLES (KEYBOARD FORMAT)



application
















- Recognized as HID keyboard device by computer, no need to install drivers and softwares
- Data can be transmitted to Excel, Word, txt and other files (press transmit button, which is recognized by the computer as keyboard input data and press enter, such as 12.34)
- For any softwares which can receive keyboard signal
- Optional accessory: foot switch (code: **7304-2**), hub (code: **7324-HUB4**, **7324-HUB7**), extension cables (code: **7325-ADD5**, **7325-ADD10**)

| Code | Description | Plug | Connecting with measuring tool | Transmit data |
|---------|--|------|--------------------------------|---|
| 7302-21 | cable for digital calipers (length 3m) | | | <ul style="list-style-type: none"> ▪ Press the transmit button on the plug of cable, can also press the transmit button of the transmit box, or press the foot switch ▪ Data is transmitted once, the signal light of the transmit box flashes once |
| 7302-22 | cable for large digital calipers (length 2.5m) | | | <ul style="list-style-type: none"> ▪ Press the transmit button of the transmit box, or press the foot switch ▪ Data is transmitted once, the signal light of the transmit box flashes once |
| 7302-30 | cable for digital micrometers (length 2.5m) | | | <ul style="list-style-type: none"> ▪ Press the "data" button of digital micrometer, can also press the transmit button of the transmit box, or press the foot switch ▪ Data is transmitted once, the signal light of the transmit box flashes once, at the same time, the signal light on the digital micrometer flashes once |
| 7302-31 | cable for digital micrometers (length 2.5m) | | | <ul style="list-style-type: none"> ▪ Press the "data" button of digital micrometer, can also press the transmit button of the transmit box, or press the foot switch ▪ Data is transmitted once, the signal light of the transmit box flashes once, at the same time, the signal light on the digital micrometer flashes once |


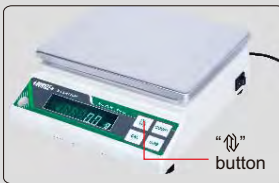








To be continued

Continued from the previous page

| Code | Description | Plug | Connecting with measuring tool | Transmit data |
|-----------|---|---|---|--|
| 7302-50M | cable for digital gages (length 2.5m) |  |  | <ul style="list-style-type: none"> Press the transmit button of the transmit box, or press the foot switch Data is transmitted once, the signal light of the transmit box flashes once |
| 7302-40M | cable for digital indicators (length 2.5m) |  |  <p>“DATA” button signal light</p> <p>for 2108, 2138, 2139 series digital indicators</p> | <ul style="list-style-type: none"> Press the “DATA” button of digital indicator, can also press the transmit button of the transmit box, or press the foot switch Data is transmitted once, the signal light of the transmit box flashes once, at the same time, the signal light on digital indicator flashes once <p>Note: long press transmit button to zero the digital indicators</p> |
| | | |  <p>for other digital indicators</p> | <ul style="list-style-type: none"> Press the transmit button of the transmit box, or press the foot switch Data is transmitted once, the signal light of the transmit box flashes once <p>Note: long press transmit button to zero the digital indicators</p> |
| 7302-60 | cable for high precision digital indicators (length 2.5m) |  |  <p>“DATA” button</p> | <ul style="list-style-type: none"> Press the “DATA” button of high precision digital indicator, can also press the transmit button of the transmit box, or press the foot switch Data is transmitted once, the signal light of the transmit box flashes once |
| 7302-3350 | cable for digital micrometers (length 2.5m) |  |  <p>“DATA” button</p> | <ul style="list-style-type: none"> Press the “DATA” button of digital micrometer, can also press the transmit button of the transmit box, or press the foot switch Data is transmitted once, the signal light of the transmit box flashes once |
| 7302-1151 | cable for digital height gages (length 2.5m) |  |  | <ul style="list-style-type: none"> Press the transmit button of the transmit box, or press the foot switch Data is transmitted once, the signal light of the transmit box flashes once |
| 7302-SPC7 | cable for digital height gages (length 2.5m) |  |  | <ul style="list-style-type: none"> Press the transmit button of the transmit box, or press the foot switch Data is transmitted once, the signal light of the transmit box flashes once |

To be continued

Continued from the previous page

| Code | Description | Plug | Connecting with measuring tool | Transmit data |
|-----------|---|---|--|--|
| 7302-8001 | cable for weighing scales (length 2.5m) |  |  <p>back</p>  <p>for 8301 and 8305 series electronic balances</p> | <ul style="list-style-type: none"> Press the “” button of electronic balances, can also press the transmit button of the transmit box, or press the foot switch Data is transmitted once, the signal light of the transmit box flashes once |
| | | |  <p>back</p>  <p>for 8001-6D, 8001-15D, 8001-30D series weighing scales and 8501 series platform scales</p> | <ul style="list-style-type: none"> Press the transmit button of the transmit box, or press the foot switch Data is transmitted once, the signal light of the transmit box flashes once |
| 7302-8304 | cable for electronic balances (length 3m) |  |  <p>back</p>  | <ul style="list-style-type: none"> Press the “” button of electronic balances, can also press the transmit button of the transmit box, or press the foot switch Data is transmitted once, the signal light of the transmit box flashes once |

DISPLAY UNIT CODE 7106-1A

REFER TO PAGE 261 FOR DETAILS



connected with digital indicator



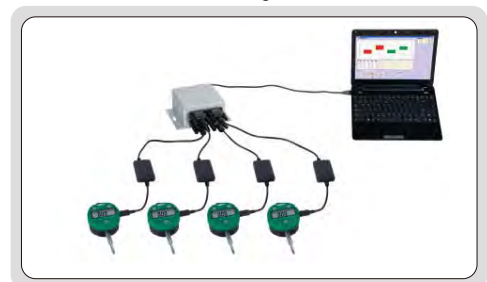
MULTICHANNEL INTERFACE BOXES

REFER TO PAGE 262 FOR DETAILS



7107-1

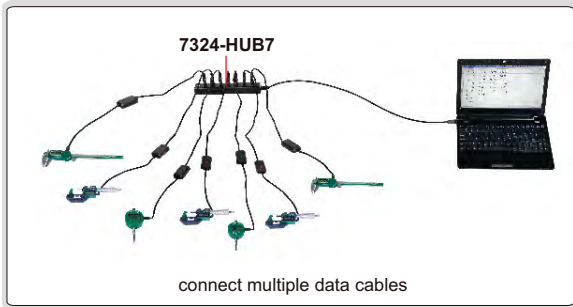
connected with digital indicators



HUBS

1

application



7324-HUB4

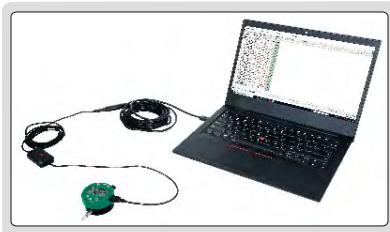


7324-HUB7

| Code | Description | Applicable products |
|-----------|--|------------------------------------|
| 7324-HUB4 | 4-channel hub (length 0.2m, USB computer plug) | 7302 series data cables |
| 7324-HUB7 | 7-channel hub (length 1m, USB computer plug) | 7305 series data cables (USB plug) |

- For USB plug data cable

application

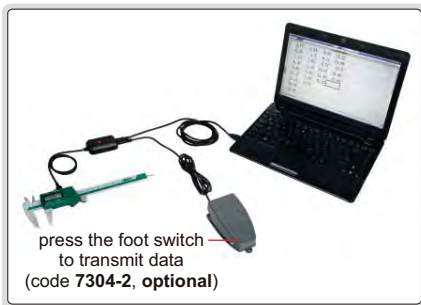


7325-ADD5

EXTENSION CABLES

| Code | Description | Applicable products |
|------------|---|------------------------------------|
| 7325-ADD5 | data extension cable (length 5m, USB plug) | 7302 series data cables |
| 7325-ADD10 | data extension cable (length 10m, USB plug) | 7305 series data cables (USB plug) |

application



7304-2

FOOT SWITCH

- For data transmission

| Code | Description | Applicable products |
|--------|--|--|
| 7304-2 | data transmission foot switch with cable (length 2m) | 7302 series data cables 7305 series data cables |

OK/NG INPUT SWITCHES



7327-FS



7327-SW

application



| Code | Description |
|---------|-----------------------------|
| 7327-FS | foot switch for OK/NG input |
| 7327-SW | hand switch for OK/NG input |

- Used with 7317 software, output OK or NG
- USB plug, length 1.5m



Digital Calipers
Page 17-24



Vernier Calipers
Page 24-28



Dial Calipers
Page 28



Large Digital Calipers
Page 29-31



Large Vernier Calipers
Page 31-33



Depth Base Attachments
Page 34



Caliper/Height Gage Checkers
Page 34



Caliper End Grinding Machines
Page 34



Accessory Sets For Digital Calipers
Page 35-36



Special Purpose Calipers
Page 37-66



DATA OUTPUT

IP67 WATERPROOF

IP67 WATERPROOF DIGITAL CALIPERS



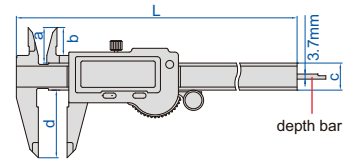
- IP67 dust/waterproof
- Resolution: 0.01mm/0.0005"
- Button function: zero, mm/inch, preset, data output
- Battery CR2032
- Automatic power off, move the digital unit to turn on power
- Data output
- Meet DIN862
- Made of stainless steel
- Optional accessory: data output cable (code 7315-80 need receiver page 5, 7302-80)



1195-150

| Code | Range | Accuracy | L | a | b | c | d | Remark |
|-----------|---------------|----------|-----|------|------|----|----|-------------------|
| 1195-150* | 0-150mm/0-6" | ±0.02mm | 235 | 21 | 16.5 | 16 | 40 | with depth bar |
| 1195-200* | 0-200mm/0-8" | ±0.03mm | 290 | 24.5 | 20 | 16 | 50 | with depth bar |
| 1195-300* | 0-300mm/0-12" | ±0.03mm | 387 | 23 | 18.5 | 16 | 64 | without depth bar |

(mm)



* Supplied with manufacturer inspection certificate

ATTENTION: IT IS NECESSARY TO SET ZERO AFTER POWER ON EACH TIME

ATTENTION: NO DATA OUTPUT

IP67 WATERPROOF

IP67 WATERPROOF DIGITAL CALIPERS



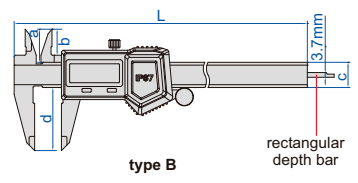
- IP67 dust/waterproof
- Resolution: 0.01mm/0.0005"
- Button function: zero, on/off, mm/inch, ABS/REL, hold
- Battery CR2032
- Meet DIN862
- Made of stainless steel



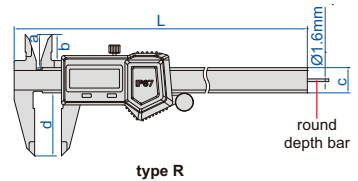
1118-150B



1118-150R



type B



type R

| Code | Range | Accuracy | Type | L | a | b | c | d |
|------------|---------------|----------|------|-------|------|--------|------|------|
| 1118-150B* | 0-150mm/0-6" | ±0.03mm | B | 236mm | 21mm | 16mm | 16mm | 40mm |
| 1118-200B* | 0-200mm/0-8" | ±0.03mm | B | 286mm | 24mm | 19mm | 16mm | 50mm |
| 1118-300B* | 0-300mm/0-12" | ±0.03mm | B | 400mm | 25mm | 20.5mm | 16mm | 60mm |
| 1118-150R* | 0-150mm/0-6" | ±0.03mm | R | 236mm | 21mm | 16mm | 16mm | 40mm |

* Supplied with manufacturer inspection certificate

ATTENTION: NO DATA OUTPUT

IP67 WATERPROOF

IP67 WATERPROOF DIGITAL CALIPERS

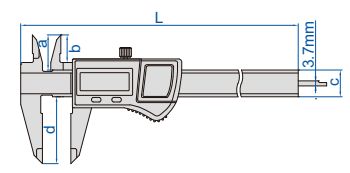


- IP67 dust/waterproof
- Resolution: 0.01mm/0.0005"
- Button function: zero, on/off, mm/inch
- Battery CR2032
- Automatic power off
- Meet DIN862
- Made of stainless steel



1115-150

| Code | Range | Accuracy | L | a | b | c | d |
|-----------|---------------|----------|-------|------|------|------|------|
| 1115-150* | 0-150mm/0-6" | ±0.03mm | 235mm | 20mm | 15mm | 16mm | 40mm |
| 1115-200* | 0-200mm/0-8" | ±0.03mm | 287mm | 24mm | 19mm | 16mm | 50mm |
| 1115-300* | 0-300mm/0-12" | ±0.03mm | 388mm | 26mm | 21mm | 16mm | 60mm |



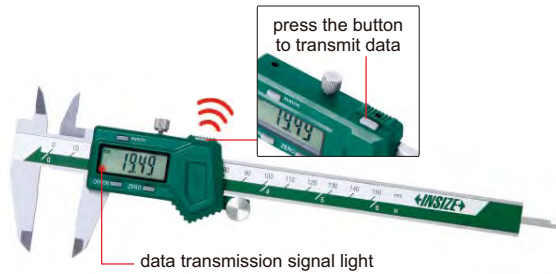
* Supplied with manufacturer inspection certificate

WIRELESS DIGITAL CALIPERS



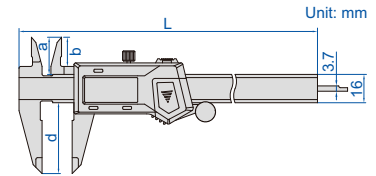
ATTENTION: THE WORKING LIFE OF A BATTERY IS ABOUT 3-5 MONTHS

2

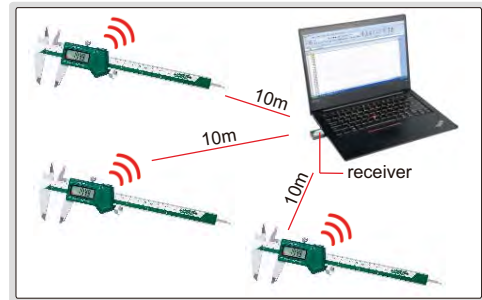


1113-150

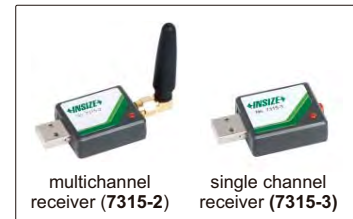
- Non waterproof
- Built-in wireless data transmission module, Zigbee signal
- Transmission distance is 10 meter (under the condition of no obstruction and no electromagnetic interference)
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch, data transmission
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel
- Optional accessory: receiver (code 7315-2/3/6/7/8/9)



application



receiver (optional)



| Code | Range | Accuracy | L | a | b | d |
|------------|---------------|----------|-----|----|------|----|
| 1113-150 * | 0-150mm/0-6" | ±0.03mm | 236 | 21 | 16 | 40 |
| 1113-200 * | 0-200mm/0-8" | ±0.03mm | 286 | 24 | 19 | 50 |
| 1113-300 * | 0-300mm/0-12" | ±0.03mm | 400 | 25 | 20.5 | 60 |

* Supplied with manufacturer inspection certificate

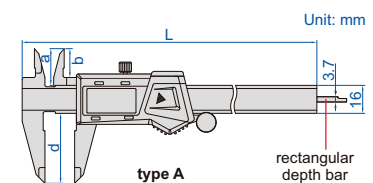
DIGITAL CALIPERS (ABSOLUTE SYSTEM)

DATA OUTPUT



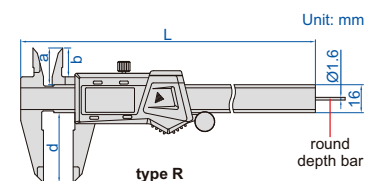
1103-150

- Non waterproof
- Absolute system, low power consumption, long battery life
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, mm/inch, ORIGIN, ZERO/ABS
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Meet DIN862
- Made of stainless steel
- Optional accessory: wireless transmitter, code 7315-22 need receiver page 4, data output cable (keyboard format), code 7302-22 page 12



type A

rectangular depth bar



type R

round depth bar

| Code | Range | Accuracy | Type | L | a | b | d |
|-------------|---------------|----------|------|-------|------|--------|------|
| 1103-150 * | 0-150mm/0-6" | ±0.03mm | A | 236mm | 21mm | 16.5mm | 40mm |
| 1103-200 * | 0-200mm/0-8" | ±0.03mm | A | 286mm | 24mm | 19.5mm | 50mm |
| 1103-300 * | 0-300mm/0-12" | ±0.03mm | A | 400mm | 26mm | 21.5mm | 60mm |
| 1103-150R * | 0-150mm/0-6" | ±0.03mm | R | 236mm | 21mm | 16.5mm | 40mm |

* Supplied with manufacturer inspection certificate

DATA OUTPUT

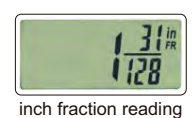
INSPECTION CERTIFICATE

DIGITAL CALIPERS (FRACTION READING)

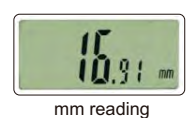
- Non waterproof
- Resolution: 1/128", 0.01mm, 0.0005"
- Buttons: unit (inch fraction/mm/inch), on/off, zero
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output (for mm and inch)
- Meet DIN862
- Made of stainless steel
- Optional accessory: data output cable (code 7315-21 need receiver page 4, 7302-21 page 12)



1102-150



inch fraction reading

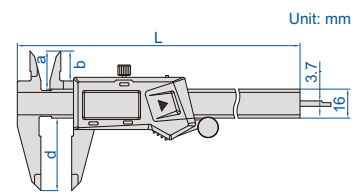


mm reading



inch reading

| Code | Range | Accuracy | L | a | b | d |
|------------|---------------|----------|-------|------|--------|------|
| 1102-150 * | 0-150mm/0-6" | ±0.02mm | 236mm | 21mm | 16mm | 40mm |
| 1102-200 * | 0-200mm/0-8" | ±0.03mm | 286mm | 24mm | 19mm | 50mm |
| 1102-300 * | 0-300mm/0-12" | ±0.03mm | 400mm | 25mm | 20.5mm | 60mm |



* Supplied with manufacturer inspection certificate

ATTENTION: NO DATA OUTPUT

INSPECTION CERTIFICATE

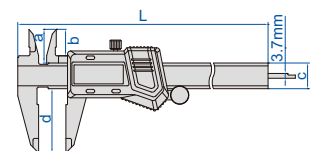
DIGITAL CALIPERS

- Non waterproof
- Zinc alloy housing for digital unit
- Resolution: 0.01mm/0.0005"
- Buttons: zero, on/off, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Meet DIN862
- Made of stainless steel



1114-150A

| Code | Range | Accuracy | L | a | b | c | d |
|-------------|---------------|----------|-------|------|--------|------|------|
| 1114-150A * | 0-150mm/0-6" | ±0.03mm | 236mm | 21mm | 16mm | 16mm | 40mm |
| 1114-200A * | 0-200mm/0-8" | ±0.03mm | 286mm | 24mm | 19mm | 16mm | 50mm |
| 1114-300A * | 0-300mm/0-12" | ±0.03mm | 400mm | 25mm | 20.5mm | 17mm | 60mm |



* Supplied with manufacturer inspection certificate

DATA OUTPUT

INSPECTION CERTIFICATE

POPULAR MODEL

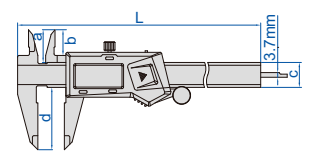
DIGITAL CALIPERS (STANDARD TYPE)

- Non waterproof
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Meet DIN862
- Made of stainless steel
- Optional accessory: data output cable (code 7315-21 need receiver page 4, 7302-21 page 12)



1108-150

| Code | Range | Accuracy | L | a | b | c | d |
|------------|---------------|----------|-------|------|--------|------|------|
| 1108-150 * | 0-150mm/0-6" | ±0.02mm | 236mm | 21mm | 16mm | 16mm | 40mm |
| 1108-200 * | 0-200mm/0-8" | ±0.03mm | 286mm | 24mm | 19mm | 16mm | 50mm |
| 1108-250 * | 0-250mm/0-10" | ±0.03mm | 350mm | 25mm | 20.5mm | 16mm | 60mm |
| 1108-300 * | 0-300mm/0-12" | ±0.03mm | 400mm | 25mm | 20.5mm | 16mm | 60mm |



* Supplied with manufacturer inspection certificate

HEAVY DUTY 300mm DIGITAL CALIPER

DATA
OUTPUT

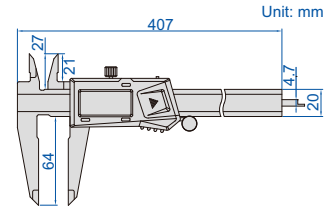
INSPECTION
CERTIFICATE

2

- Non waterproof
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Meet DIN862
- Made of stainless steel
- Optional accessory: data output cable (code 7315-22 need receiver page 4, 7302-22 page 12)



1196-300



| Code | Range | Accuracy |
|------------|---------------|----------|
| 1196-300 * | 0-300mm/0-12" | ±0.03mm |

*Supplied with manufacturer inspection certificate

METRIC DIGITAL CALIPERS

INSPECTION
CERTIFICATE

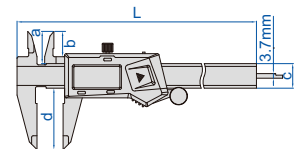
LOCK READING WITH
"HOLD" BUTTON

DATA
OUTPUT

- Non waterproof
- Resolution: 0.01mm
- Buttons: on/off, zero, hold
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Meet DIN862
- Made of stainless steel
- Optional accessory: data output cable (code 7315-21 need receiver page 4, 7302-21 page 12)



1109-150



| Code | Range | Accuracy | L | a | b | c | d |
|------------|---------|----------|-------|------|--------|------|------|
| 1109-150 * | 0-150mm | ±0.03mm | 236mm | 21mm | 16mm | 16mm | 40mm |
| 1109-200 * | 0-200mm | ±0.03mm | 286mm | 24mm | 19mm | 16mm | 50mm |
| 1109-300 * | 0-300mm | ±0.03mm | 400mm | 25mm | 20.5mm | 16mm | 60mm |

*Supplied with manufacturer inspection certificate

DIGITAL CALIPERS WITH ROUND DEPTH BAR

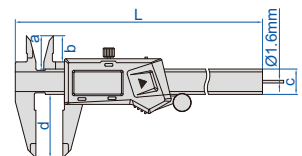
INSPECTION
CERTIFICATE

DATA
OUTPUT

- Non waterproof
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Meet DIN862
- Made of stainless steel



1119-150



With data interface (data output cable code 7315-21 need receiver page 4, 7302-21 page 12, optional)

| Code | Range | Accuracy | L | a | b | c | d |
|------------|--------------|----------|-------|------|------|------|------|
| 1119-150 * | 0-150mm/0-6" | ±0.03mm | 236mm | 21mm | 16mm | 16mm | 40mm |



round depth
bar Ø1.6mm

Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range | Accuracy | L | a | b | c | d |
|--------------|--------------|----------|-------|------|------|------|------|
| 1119-150WL * | 0-150mm/0-6" | ±0.03mm | 236mm | 21mm | 16mm | 16mm | 40mm |

*Supplied with manufacturer inspection certificate

DATA
OUTPUT

INSPECTION
CERTIFICATE

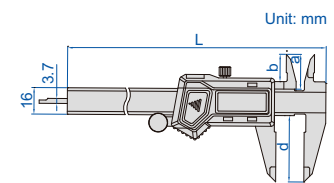
LEFT HAND DIGITAL CALIPERS

2

- Non waterproof
- Designed for left handed users
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Meet DIN862
- Made of stainless steel
- Optional accessory: data output cable
(code 7315-22 need receiver page 4, 7302-22 page 12)



1130-150



| Code | Range | Accuracy | L | a | b | d |
|-----------|---------------|----------|-------|------|--------|------|
| 1130-150* | 0-150mm/0-6" | ±0.03mm | 236mm | 21mm | 16mm | 40mm |
| 1130-200* | 0-200mm/0-8" | ±0.03mm | 286mm | 24mm | 19mm | 50mm |
| 1130-300* | 0-300mm/0-12" | ±0.03mm | 400mm | 25mm | 20.5mm | 60mm |

*Supplied with manufacturer inspection certificate

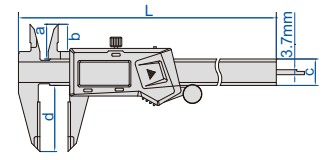
DATA
OUTPUT

INSPECTION
CERTIFICATE

DIGITAL CALIPERS WITH CERAMIC TIPPED JAWS



1193-150



- Non waterproof
- Ceramic tipped jaws for outside measurement, extremely wear-resistant, non-magnetic and non electric conductive
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, made of stainless steel
- Meet DIN862



With data interface (data output cable code 7315-21 need receiver page 4, 7302-21 page 12, optional)

| Code | Range | Accuracy | L | a | b | c | d |
|-----------|---------------|----------|-------|------|--------|------|------|
| 1193-150* | 0-150mm/0-6" | ±0.03mm | 235mm | 21mm | 16.5mm | 16mm | 40mm |
| 1193-200* | 0-200mm/0-8" | ±0.03mm | 287mm | 24mm | 20mm | 16mm | 50mm |
| 1193-300* | 0-300mm/0-12" | ±0.03mm | 390mm | 26mm | 21.5mm | 16mm | 60mm |

Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range | Accuracy | L | a | b | c | d |
|-------------|---------------|----------|-------|------|--------|------|------|
| 1193-150WL* | 0-150mm/0-6" | ±0.03mm | 235mm | 21mm | 16.5mm | 16mm | 40mm |
| 1193-200WL* | 0-200mm/0-8" | ±0.03mm | 287mm | 24mm | 20mm | 16mm | 50mm |
| 1193-300WL* | 0-300mm/0-12" | ±0.03mm | 390mm | 26mm | 21.5mm | 16mm | 60mm |

*Supplied with manufacturer inspection certificate

DIGITAL CALIPERS WITH CARBIDE TIPPED JAWS



2

carbide measuring faces



carbide measuring faces

1110-150A

steel measuring faces



carbide measuring faces

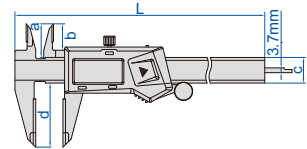
1110-150B

carbide measuring faces



carbide measuring faces

1110-150C



- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Meet DIN862
- Made of stainless steel

Non waterproof, with data interface (data output cable code 7315-21 need receiver page 4, 7302-21 page 12, optional)

| Code | Range | Accuracy | L | a | b | c | d | Remark |
|------------|---------------|----------|-------|------|--------|------|------|-------------------------------------|
| 1110-150A* | 0-150mm/0-6" | ±0.03mm | 236mm | 21mm | 16mm | 16mm | 40mm | carbide tipped upper and lower jaws |
| 1110-200A* | 0-200mm/0-8" | ±0.03mm | 286mm | 24mm | 19mm | 16mm | 50mm | carbide tipped upper and lower jaws |
| 1110-300A* | 0-300mm/0-12" | ±0.03mm | 400mm | 25mm | 20.5mm | 16mm | 60mm | carbide tipped upper and lower jaws |
| 1110-150B* | 0-150mm/0-6" | ±0.03mm | 236mm | 21mm | 16mm | 16mm | 40mm | carbide tipped lower jaws |
| 1110-200B* | 0-200mm/0-8" | ±0.03mm | 286mm | 24mm | 19mm | 16mm | 50mm | carbide tipped lower jaws |
| 1110-300B* | 0-300mm/0-12" | ±0.03mm | 400mm | 25mm | 20.5mm | 16mm | 60mm | carbide tipped lower jaws |

Non waterproof, built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range | Accuracy | L | a | b | c | d | Remark |
|--------------|---------------|----------|-------|------|--------|------|------|-------------------------------------|
| 1110-150AWL* | 0-150mm/0-6" | ±0.03mm | 236mm | 21mm | 16mm | 16mm | 40mm | carbide tipped upper and lower jaws |
| 1110-200AWL* | 0-200mm/0-8" | ±0.03mm | 286mm | 24mm | 19mm | 16mm | 50mm | carbide tipped upper and lower jaws |
| 1110-300AWL* | 0-300mm/0-12" | ±0.03mm | 400mm | 25mm | 20.5mm | 16mm | 60mm | carbide tipped upper and lower jaws |
| 1110-150BWL* | 0-150mm/0-6" | ±0.03mm | 236mm | 21mm | 16mm | 16mm | 40mm | carbide tipped lower jaws |
| 1110-200BWL* | 0-200mm/0-8" | ±0.03mm | 286mm | 24mm | 19mm | 16mm | 50mm | carbide tipped lower jaws |
| 1110-300BWL* | 0-300mm/0-12" | ±0.03mm | 400mm | 25mm | 20.5mm | 16mm | 60mm | carbide tipped lower jaws |

IP67 dust/waterproof, without data interface

| Code | Range | Accuracy | L | a | b | c | d | Remark |
|------------|--------------|----------|-------|------|------|------|------|-------------------------------------|
| 1110-150C* | 0-150mm/0-6" | ±0.03mm | 236mm | 21mm | 16mm | 16mm | 40mm | carbide tipped upper and lower jaws |
| 1110-150D* | 0-150mm/0-6" | ±0.03mm | 236mm | 21mm | 16mm | 16mm | 40mm | carbide tipped lower jaws |

*Supplied with manufacturer inspection certificate

DATA OUTPUT

DIGITAL CALIPERS

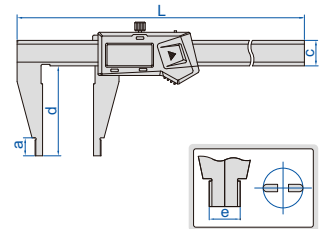
- Non waterproof
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel



1170-300

With data interface
(data output cable code 7315-21 need receiver page 4, 7302-21 page 12, optional)

| Code | Range | Accuracy | a | c | d | e | L |
|----------|---------------|----------|------|------|------|------|-------|
| 1170-200 | 0-200mm/0-8" | ±0.03mm | 12mm | 17mm | 60mm | 10mm | 314mm |
| 1170-306 | 0-300mm/0-12" | ±0.04mm | 12mm | 17mm | 60mm | 10mm | 420mm |
| 1170-300 | 0-300mm/0-12" | ±0.06mm | 12mm | 17mm | 90mm | 10mm | 420mm |



Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range | Accuracy | a | c | d | e | L |
|------------|---------------|----------|------|------|------|------|-------|
| 1170-200WL | 0-200mm/0-8" | ±0.03mm | 12mm | 17mm | 60mm | 10mm | 314mm |
| 1170-306WL | 0-300mm/0-12" | ±0.04mm | 12mm | 17mm | 60mm | 10mm | 420mm |
| 1170-300WL | 0-300mm/0-12" | ±0.06mm | 12mm | 17mm | 90mm | 10mm | 420mm |

DATA OUTPUT

DIGITAL CALIPERS

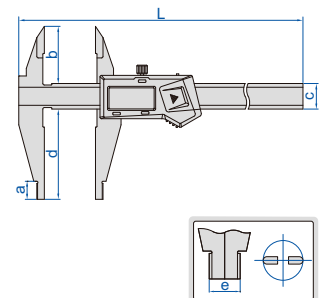
- Non waterproof
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel



1171-300

With data interface
(data output cable code 7315-21 need receiver page 4, 7302-21 page 12, optional)

| Code | Range | Accuracy | a | b | c | d | e | L |
|----------|---------------|----------|------|------|------|------|------|-------|
| 1171-200 | 0-200mm/0-8" | ±0.03mm | 12mm | 38mm | 17mm | 60mm | 10mm | 320mm |
| 1171-250 | 0-250mm/0-10" | ±0.03mm | 12mm | 38mm | 17mm | 60mm | 10mm | 365mm |
| 1171-306 | 0-300mm/0-12" | ±0.04mm | 12mm | 38mm | 17mm | 60mm | 10mm | 420mm |
| 1171-300 | 0-300mm/0-12" | ±0.06mm | 12mm | 38mm | 17mm | 90mm | 10mm | 420mm |



Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range | Accuracy | a | b | c | d | e | L |
|------------|---------------|----------|------|------|------|------|------|-------|
| 1171-200WL | 0-200mm/0-8" | ±0.03mm | 12mm | 38mm | 17mm | 60mm | 10mm | 320mm |
| 1171-250WL | 0-250mm/0-10" | ±0.03mm | 12mm | 38mm | 17mm | 60mm | 10mm | 365mm |
| 1171-306WL | 0-300mm/0-12" | ±0.04mm | 12mm | 38mm | 17mm | 60mm | 10mm | 420mm |
| 1171-300WL | 0-300mm/0-12" | ±0.06mm | 12mm | 38mm | 17mm | 90mm | 10mm | 420mm |

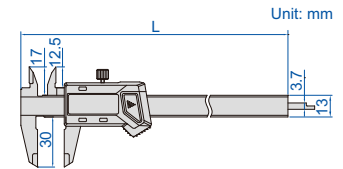
MINI DIGITAL CALIPERS

ATTENTION:
NO DATA OUTPUT

- Non waterproof
- Resolution: 0.01mm/0.0005"
- Buttons: zero, mm/inch, on/off
- Automatic power off, move the digital unit to turn on power
- Battery LR44
- Meet DIN862
- Made of stainless steel



1111-100A



| Code | Range | Accuracy | L |
|-----------|--------------|----------|-------|
| 1111-75A | 0-75mm/0-3" | ±0.02mm | 144mm |
| 1111-100A | 0-100mm/0-4" | ±0.02mm | 170mm |

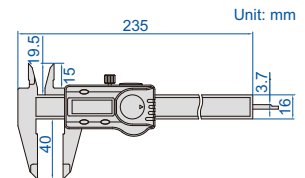
PLASTIC DIGITAL CALIPER

ATTENTION:
NO DATA OUTPUT

- Non waterproof
- Made of hard plastic, non-magnetic and non electric conductive
- Prevent workpieces from scratching by calipers
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Battery CR2032, automatic power off



1139-150

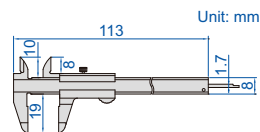


| Code | Range | Accuracy |
|----------|--------------|----------|
| 1139-150 | 0-150mm/0-6" | ±0.1mm |

MINI VERNIER CALIPERS

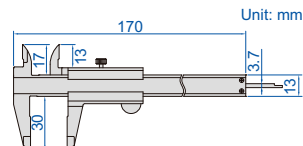
- Meet DIN862
- Made of stainless steel
- Satin chrome plated reading surface

| Code | Range | Graduation | Accuracy |
|---------|--------|------------|----------|
| 1204-70 | 0-70mm | 0.05mm | ±0.05mm |



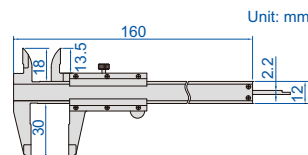
1204-70

| Code | Range | Graduation | Accuracy |
|-----------|---------|------------|----------|
| 1203-1003 | 0-100mm | 0.05mm | ±0.05mm |



1203-1003

| Code | Range | Graduation | Accuracy |
|-----------|---------|------------|----------|
| 1201-1003 | 0-100mm | 0.05mm | ±0.05mm |



1201-1003

POPULAR MODEL

VERNIER CALIPERS

2



1205-150S

Graduation 0.05mm/1/128" (mm)

| Code | Range | Accuracy | L | a | b | c | d |
|-----------|---------------|----------|-----|------|------|----|----|
| 1205-150S | 0-150mm/0-6" | ±0.05mm | 235 | 20.5 | 15.5 | 16 | 40 |
| 1205-200S | 0-200mm/0-8" | ±0.05mm | 290 | 23.5 | 19 | 17 | 50 |
| 1205-250S | 0-250mm/0-10" | ±0.05mm | 364 | 27.5 | 22 | 20 | 64 |
| 1205-300S | 0-300mm/0-12" | ±0.05mm | 414 | 27.5 | 22 | 20 | 64 |

Graduation 0.05mm (mm)

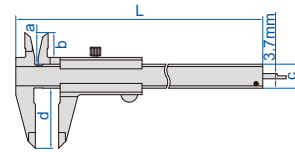
| Code | Range | Accuracy | L | a | b | c | d |
|------------|---------|----------|-----|------|------|----|----|
| 1205-1503S | 0-150mm | ±0.05mm | 235 | 20.5 | 15.5 | 16 | 40 |
| 1205-2003S | 0-200mm | ±0.05mm | 290 | 23.5 | 19 | 17 | 50 |
| 1205-2503S | 0-250mm | ±0.05mm | 350 | 26 | 21.5 | 16 | 60 |
| 1205-3003S | 0-300mm | ±0.05mm | 414 | 27.5 | 22 | 20 | 64 |

Graduation 0.02mm/0.001" (mm)

| Code | Range | Accuracy | L | a | b | c | d |
|------------|---------------|----------|-----|------|------|----|----|
| 1205-1502S | 0-150mm/0-6" | ±0.03mm | 235 | 20.5 | 15.5 | 16 | 40 |
| 1205-2002S | 0-200mm/0-8" | ±0.03mm | 290 | 23.5 | 19 | 17 | 50 |
| 1205-2502S | 0-250mm/0-10" | ±0.03mm | 364 | 27.5 | 22 | 20 | 64 |
| 1205-3002S | 0-300mm/0-12" | ±0.03mm | 414 | 27.5 | 22 | 20 | 64 |

Graduation 0.02mm (mm)

| Code | Range | Accuracy | L | a | b | c | d |
|------------|---------|----------|-----|------|------|----|----|
| 1205-1501S | 0-150mm | ±0.03mm | 235 | 20.5 | 15.5 | 16 | 40 |
| 1205-2001S | 0-200mm | ±0.03mm | 290 | 23.5 | 19 | 17 | 50 |
| 1205-2501S | 0-250mm | ±0.03mm | 350 | 26 | 21.5 | 16 | 60 |
| 1205-3001S | 0-300mm | ±0.03mm | 414 | 27.5 | 22 | 20 | 64 |



- Meet DIN862
- Made of stainless steel
- Satin chrome plated reading surface

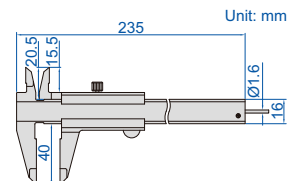
VERNIER CALIPER WITH ROUND DEPTH BAR



1202-150

- Graduation 0.05mm/1/128"
- Round depth bar
- Meet DIN862
- Made of stainless steel
- Satin chrome plated reading surface

| Code | Range | Accuracy |
|----------|--------------|----------|
| 1202-150 | 0-150mm/0-6" | ±0.05mm |



VERNIER CALIPERS WITH FINE ADJUSTMENT

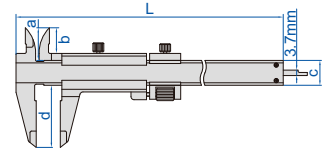
- Graduation 0.02mm/0.001"
- With fine adjustment
- Meet DIN862
- Made of stainless steel
- Satin chrome plated reading surface



1233-130

| Code | Range | Accuracy | L | a | b | c | d |
|----------|---------------|----------|-----|------|------|----|----|
| 1233-130 | 0-130mm/0-5" | ±0.03mm | 230 | 20.5 | 16.5 | 16 | 40 |
| 1233-180 | 0-180mm/0-7" | ±0.03mm | 295 | 23.5 | 19 | 16 | 50 |
| 1233-280 | 0-280mm/0-11" | ±0.03mm | 410 | 26 | 20 | 20 | 60 |

(mm)



VERNIER CALIPERS WITH THUMB CLAMP

- Meet DIN862
- With thumb clamp
- Made of stainless steel
- Satin chrome plated reading surface

Graduation 0.05mm/1/128" (mm)

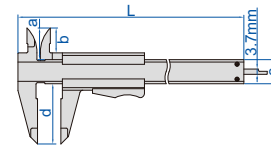
| Code | Range | Accuracy | L | a | b | c | d |
|----------|--------------|----------|-----|------|------|----|----|
| 1223-150 | 0-150mm/0-6" | ±0.05mm | 230 | 20.5 | 16.5 | 16 | 40 |
| 1223-200 | 0-200mm/0-8" | ±0.05mm | 295 | 23.5 | 19 | 16 | 50 |



1223-150

Graduation 0.02mm/0.001" (mm)

| Code | Range | Accuracy | L | a | b | c | d |
|-----------|--------------|----------|-----|------|------|----|----|
| 1223-1502 | 0-150mm/0-6" | ±0.03mm | 230 | 20.5 | 16.5 | 16 | 40 |
| 1223-2002 | 0-200mm/0-8" | ±0.03mm | 295 | 23.5 | 19 | 16 | 50 |

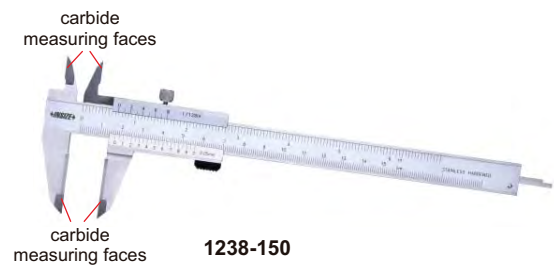


VERNIER CALIPERS WITH CARBIDE TIPPED JAWS

- Carbide tipped jaws for inside and outside measurements
- Meet DIN862
- Made of stainless steel
- Satin chrome plated reading surface

Graduation 0.05mm/1/128" (mm)

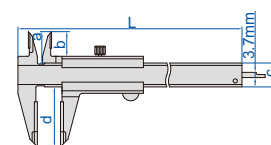
| Code | Range | Accuracy | L | a | b | c | d |
|----------|---------------|----------|-----|----|------|----|----|
| 1238-150 | 0-150mm/0-6" | ±0.05mm | 230 | 21 | 16.5 | 16 | 40 |
| 1238-200 | 0-200mm/0-8" | ±0.05mm | 295 | 24 | 19 | 16 | 50 |
| 1238-300 | 0-300mm/0-12" | ±0.05mm | 410 | 25 | 20 | 16 | 60 |



1238-150

Graduation 0.02mm/0.001" (mm)

| Code | Range | Accuracy | L | a | b | c | d |
|-----------|---------------|----------|-----|----|------|----|----|
| 1238-1502 | 0-150mm/0-6" | ±0.03mm | 230 | 21 | 16.5 | 16 | 40 |
| 1238-2002 | 0-200mm/0-8" | ±0.03mm | 295 | 24 | 19 | 16 | 50 |
| 1238-3002 | 0-300mm/0-12" | ±0.03mm | 410 | 25 | 20 | 16 | 60 |



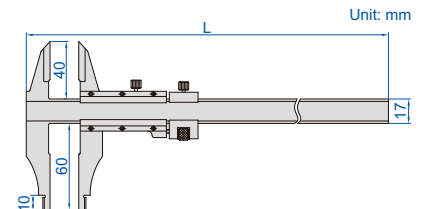
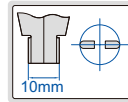
VERNIER CALIPERS



1217-3001

- With fine adjustment
- Made of stainless steel
- Satin chrome plated reading surface

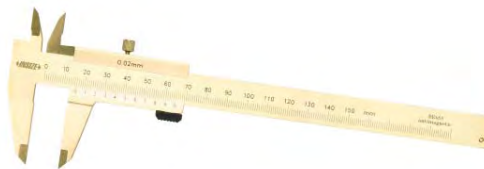
| Code | Range | Graduation | Accuracy | L |
|-----------|---------|------------|----------|-------|
| 1217-2503 | 0-250mm | 0.05mm | ±0.05mm | 360mm |
| 1217-3001 | 0-300mm | 0.02mm | ±0.03mm | 410mm |



ATTENTION:
NOT HARDENED

PURE COPPER

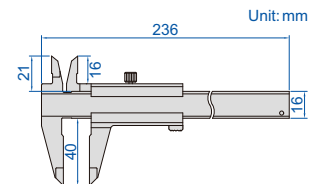
VERNIER CALIPERS (ANTI MAGNETIC)



1224-150A

- Suitable for magnetic parts
- Made of pure copper

| Code | Range | Graduation | Accuracy |
|------------|---------|------------|----------|
| 1224-150A | 0-150mm | 0.02mm | ±0.05mm |
| 1224-1501A | 0-150mm | 0.05mm | ±0.05mm |



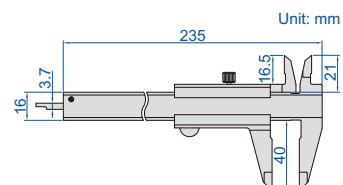
LEFT HAND VERNIER CALIPERS



1239-1502

- Designed for left handed users
- Made of stainless steel
- Satin chrome plated reading surface

| Code | Range | Graduation | Accuracy |
|-----------|--------------|---------------|----------|
| 1239-150 | 0-150mm/0-6" | 0.05mm/1/128" | ±0.05mm |
| 1239-1503 | 0-150mm | 0.05mm | ±0.05mm |
| 1239-1502 | 0-150mm/0-6" | 0.02mm/0.001" | ±0.03mm |
| 1239-1501 | 0-150mm | 0.02mm | ±0.03mm |

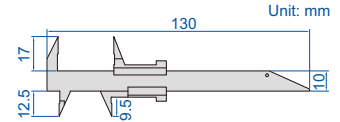
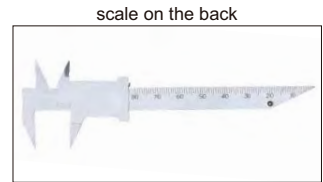


TEETH VERNIER CALIPER



1226-70

- Used for teeth
- Made of stainless steel

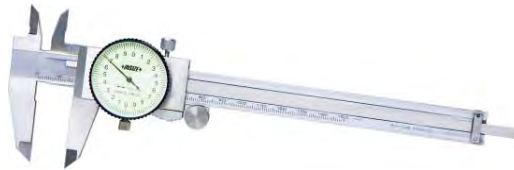


| Code | Range | Graduation | Accuracy |
|---------|--------|------------|----------|
| 1226-70 | 0-70mm | 0.1mm | ±0.1mm |

DIAL CALIPERS

SHOCK PROOF

INSPECTION CERTIFICATE



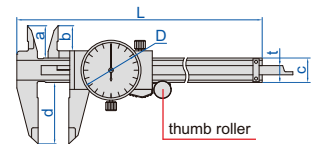
1312-150A

- Shockproof dial indicator
- Made of stainless steel

Dial indicator graduation: 0.02mm

(mm)

| Code | Range | Accuracy | Thumb roller | L | a | b | c | d | D | t |
|-------------|---------|----------|--------------|-----|----|------|----|----|-------|-----|
| 1312-150A* | 0-150mm | ±0.03mm | with | 235 | 21 | 16.5 | 16 | 40 | Ø39 | 6.5 |
| 1312-200A* | 0-200mm | ±0.03mm | with | 288 | 24 | 19 | 16 | 48 | Ø39 | 6.5 |
| 1312-300A* | 0-300mm | ±0.03mm | with | 410 | 28 | 22 | 20 | 62 | Ø44.5 | 7.5 |
| 1312-100AW* | 0-100mm | ±0.02mm | without | 165 | 18 | 13 | 13 | 30 | Ø32 | 6 |



Dial indicator graduation: 0.01mm

(mm)

| Code | Range | Accuracy | Thumb roller | L | a | b | c | d | D | t |
|------------|---------|----------|--------------|-----|----|------|----|----|-------|-----|
| 1311-150A* | 0-150mm | ±0.03mm | with | 235 | 21 | 16.5 | 16 | 40 | Ø39 | 6.5 |
| 1311-200A* | 0-200mm | ±0.03mm | with | 288 | 24 | 19 | 16 | 48 | Ø39 | 6.5 |
| 1311-300A* | 0-300mm | ±0.03mm | with | 410 | 28 | 22 | 20 | 62 | Ø44.5 | 7.5 |

*Supplied with manufacturer inspection certificate

DIAL CALIPERS

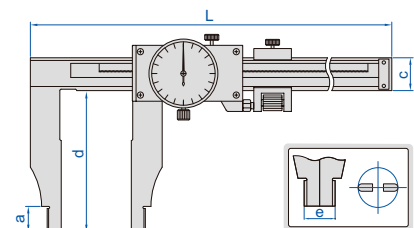
SHOCK PROOF



1316-500

- Shockproof dial indicator
- Dial indicator graduation: 0.02mm
- Made of stainless steel

| Code | Range | Accuracy | a | c | d | e | L |
|-----------|----------|----------|----|----|-----|----|------|
| 1316-500 | 0-500mm | ±0.05mm | 18 | 21 | 90 | 20 | 650 |
| 1316-600 | 0-600mm | ±0.05mm | 18 | 21 | 90 | 20 | 750 |
| 1316-1000 | 0-1000mm | ±0.07mm | 24 | 28 | 150 | 20 | 1190 |
| 1316-1500 | 0-1500mm | ±0.11mm | 24 | 28 | 150 | 20 | 1690 |



DATA
OUTPUT

POPULAR
MODEL

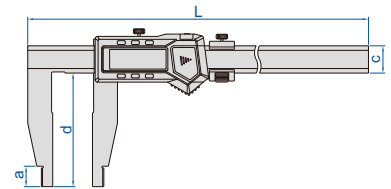
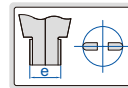
DIGITAL CALIPERS

2



1106-501

- Non waterproof
- Resolution: 0.01mm/0.0005"
- Button function: on/off, zero, mm/inch, ABS, data preset
- Battery CR2032
- Made of stainless steel



With data interface

(mm)

| Code | Range | Accuracy | a | c | d | e | L | Data output cable (optional) |
|-----------|-----------------|----------|----|----|-----|----|------|---|
| 1106-301 | 0-300mm/0-12" | ±0.05mm | 18 | 24 | 100 | 20 | 420 | 7315-22 need receiver page 4, 7302-22 page 12 |
| 1106-302 | 0-300mm/0-12" | ±0.05mm | 18 | 24 | 150 | 20 | 420 | 7315-22 need receiver page 4, 7302-22 page 12 |
| 1106-451 | 0-450mm/0-18" | ±0.05mm | 18 | 24 | 100 | 20 | 625 | 7315-22 need receiver page 4, 7302-22 page 12 |
| 1106-501 | 0-500mm/0-20" | ±0.05mm | 18 | 24 | 100 | 20 | 675 | 7315-22 need receiver page 4, 7302-22 page 12 |
| 1106-502 | 0-500mm/0-20" | ±0.06mm | 18 | 24 | 150 | 20 | 675 | 7315-22 need receiver page 4, 7302-22 page 12 |
| 1106-503 | 0-500mm/0-20" | ±0.06mm | 24 | 31 | 200 | 20 | 675 | 7315-22 need receiver page 4, 7302-22 page 12 |
| 1106-505 | 0-500mm/0-20" | ±0.08mm | 24 | 42 | 300 | 20 | 675 | 7315-20B need receiver, 7302-SPC1A |
| 1106-601 | 0-600mm/0-24" | ±0.05mm | 18 | 24 | 100 | 20 | 770 | 7315-22 need receiver page 4, 7302-22 page 12 |
| 1106-602 | 0-600mm/0-24" | ±0.06mm | 18 | 24 | 150 | 20 | 770 | 7315-22 need receiver page 4, 7302-22 page 12 |
| 1106-603 | 0-600mm/0-24" | ±0.06mm | 24 | 31 | 200 | 20 | 770 | 7315-22 need receiver page 4, 7302-22 page 12 |
| 1106-802 | 0-800mm/0-32" | ±0.07mm | 24 | 31 | 150 | 20 | 1025 | 7315-22 need receiver page 4, 7302-22 page 12 |
| 1106-1002 | 0-1000mm/0-40" | ±0.08mm | 24 | 31 | 150 | 20 | 1220 | 7315-22 need receiver page 4, 7302-22 page 12 |
| 1106-1003 | 0-1000mm/0-40" | ±0.08mm | 24 | 31 | 200 | 20 | 1220 | 7315-22 need receiver page 4, 7302-22 page 12 |
| 1106-1005 | 0-1000mm/0-40" | ±0.10mm | 24 | 42 | 300 | 20 | 1220 | 7315-20B need receiver, 7302-SPC1A |
| 1106-1502 | 0-1500mm/0-60" | ±0.11mm | 24 | 42 | 150 | 20 | 1780 | 7315-20B need receiver, 7302-SPC1A |
| 1106-1503 | 0-1500mm/0-60" | ±0.12mm | 24 | 42 | 200 | 20 | 1780 | 7315-20B need receiver, 7302-SPC1A |
| 1106-2002 | 0-2000mm/0-80" | ±0.14mm | 24 | 42 | 150 | 20 | 2290 | 7315-20B need receiver, 7302-SPC1A |
| 1106-2003 | 0-2000mm/0-80" | ±0.14mm | 24 | 42 | 200 | 20 | 2290 | 7315-20B need receiver, 7302-SPC1A |
| 1106-2502 | 0-2500mm/0-100" | ±0.22mm | 24 | 42 | 150 | 20 | 2800 | 7315-20B need receiver, 7302-SPC1A |
| 1106-3002 | 0-3000mm/0-120" | ±0.26mm | 24 | 42 | 150 | 20 | 3300 | 7315-20B need receiver, 7302-SPC1A |

Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range | Accuracy | a | c | d | e | L |
|------------|---------------|----------|------|------|-------|------|-------|
| 1106-301WL | 0-300mm/0-12" | ±0.05mm | 18mm | 24mm | 100mm | 20mm | 420mm |
| 1106-302WL | 0-300mm/0-12" | ±0.05mm | 18mm | 24mm | 150mm | 20mm | 420mm |
| 1106-451WL | 0-450mm/0-18" | ±0.05mm | 18mm | 24mm | 100mm | 20mm | 625mm |
| 1106-501WL | 0-500mm/0-20" | ±0.05mm | 18mm | 24mm | 100mm | 20mm | 675mm |
| 1106-502WL | 0-500mm/0-20" | ±0.06mm | 18mm | 24mm | 150mm | 20mm | 675mm |
| 1106-601WL | 0-600mm/0-24" | ±0.05mm | 18mm | 24mm | 100mm | 20mm | 770mm |
| 1106-602WL | 0-600mm/0-24" | ±0.06mm | 18mm | 24mm | 150mm | 20mm | 770mm |

DIGITAL CALIPERS

DATA
OUTPUT

2

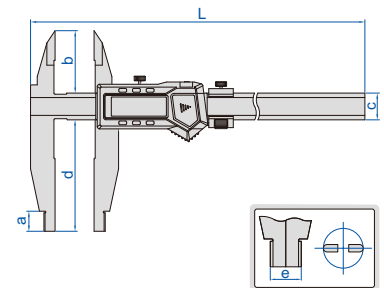
- Non waterproof
- Resolution: 0.01mm/0.0005"
- Button function: on/off, zero, mm/inch, ABS, data preset
- Battery CR2032
- Made of stainless steel



1117-501

With data interface
(data output cable code 7315-22 need receiver page 4, 7302-22 page 12, optional)

| Code | Range | Accuracy | a | b | c | d | e | L |
|-----------|----------------|----------|------|------|------|-------|------|--------|
| 1117-301 | 0-300mm/0-12" | ±0.05mm | 18mm | 56mm | 24mm | 100mm | 20mm | 420mm |
| 1117-501 | 0-500mm/0-20" | ±0.05mm | 18mm | 56mm | 24mm | 100mm | 20mm | 675mm |
| 1117-502 | 0-500mm/0-20" | ±0.06mm | 24mm | 56mm | 24mm | 150mm | 20mm | 675mm |
| 1117-601 | 0-600mm/0-24" | ±0.05mm | 18mm | 56mm | 24mm | 100mm | 20mm | 770mm |
| 1117-802 | 0-800mm/0-32" | ±0.07mm | 24mm | 67mm | 31mm | 150mm | 20mm | 1025mm |
| 1117-1002 | 0-1000mm/0-40" | ±0.08mm | 24mm | 67mm | 31mm | 150mm | 20mm | 1220mm |



Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range | Accuracy | a | b | c | d | e | L |
|------------|---------------|----------|------|------|------|-------|------|-------|
| 1117-301WL | 0-300mm/0-12" | ±0.05mm | 18mm | 56mm | 24mm | 100mm | 20mm | 420mm |
| 1117-501WL | 0-500mm/0-20" | ±0.05mm | 18mm | 56mm | 24mm | 100mm | 20mm | 675mm |
| 1117-502WL | 0-500mm/0-20" | ±0.06mm | 24mm | 56mm | 24mm | 150mm | 20mm | 675mm |
| 1117-601WL | 0-600mm/0-24" | ±0.05mm | 18mm | 56mm | 24mm | 100mm | 20mm | 770mm |

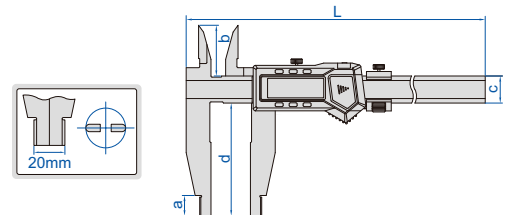
DIGITAL CALIPERS

DATA
OUTPUT

- Non waterproof
- Resolution: 0.01mm/0.0005"
- Button function: on/off, zero, mm/inch, ABS, data preset
- Battery CR2032
- Made of stainless steel



1136-501



With data interface (data output cable code 7315-22 need receiver page 4, 7302-22 page 12, optional, for calipers with c=24mm or 31mm)

| Code | Range | Accuracy | a | b | c | d | L |
|-----------|----------------|----------|----|----|----|-----|------|
| 1136-301 | 0-300mm/0-12" | ±0.05mm | 18 | 45 | 24 | 100 | 420 |
| 1136-451 | 0-450mm/0-18" | ±0.05mm | 18 | 45 | 24 | 100 | 625 |
| 1136-501 | 0-500mm/0-20" | ±0.05mm | 18 | 45 | 24 | 100 | 675 |
| 1136-502 | 0-500mm/0-20" | ±0.06mm | 18 | 45 | 24 | 150 | 675 |
| 1136-503 | 0-500mm/0-20" | ±0.06mm | 24 | 60 | 31 | 200 | 675 |
| 1136-601 | 0-600mm/0-24" | ±0.05mm | 18 | 45 | 24 | 100 | 770 |
| 1136-1002 | 0-1000mm/0-40" | ±0.08mm | 24 | 60 | 31 | 150 | 1220 |
| 1136-1502 | 0-1500mm/0-60" | ±0.11mm | 24 | 60 | 42 | 150 | 1780 |
| 1136-2002 | 0-2000mm/0-80" | ±0.14mm | 24 | 60 | 42 | 150 | 2290 |

Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range | Accuracy | a | b | c | d | L |
|------------|---------------|----------|----|----|----|-----|-----|
| 1136-301WL | 0-300mm/0-12" | ±0.05mm | 18 | 45 | 24 | 100 | 420 |
| 1136-451WL | 0-450mm/0-18" | ±0.05mm | 18 | 45 | 24 | 100 | 625 |
| 1136-501WL | 0-500mm/0-20" | ±0.05mm | 18 | 45 | 24 | 100 | 675 |
| 1136-502WL | 0-500mm/0-20" | ±0.06mm | 18 | 45 | 24 | 150 | 675 |
| 1136-601WL | 0-600mm/0-24" | ±0.05mm | 18 | 45 | 24 | 100 | 770 |

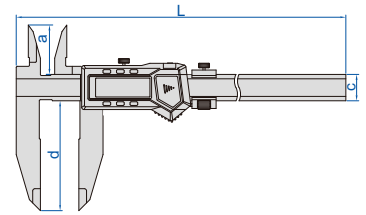
DATA OUTPUT

DIGITAL CALIPERS

2



1135-601



- Non waterproof
- Resolution: 0.01mm/0.0005"
- Button function: on/off, zero, mm/inch, ABS, data preset
- Battery CR2032
- Made of stainless steel

With data interface (data output cable code 7315-22 need receiver page 4, 7302-22 page 12, optional) (mm)

| Code | Range | Accuracy | a | c | d | L |
|-----------|----------------|----------|----|----|-----|------|
| 1135-451 | 0-450mm/0-18" | ±0.05mm | 45 | 24 | 100 | 625 |
| 1135-601 | 0-600mm/0-24" | ±0.05mm | 45 | 24 | 100 | 770 |
| 1135-1002 | 0-1000mm/0-40" | ±0.08mm | 60 | 31 | 150 | 1220 |

Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required) (mm)

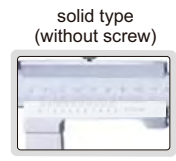
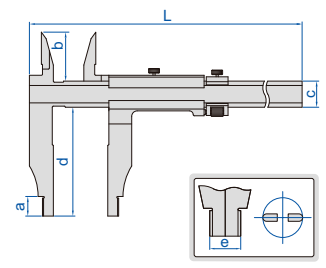
| Code | Range | Accuracy | a | c | d | L |
|------------|---------------|----------|----|----|-----|-----|
| 1135-451WL | 0-450mm/0-18" | ±0.05mm | 45 | 24 | 100 | 625 |
| 1135-601WL | 0-600mm/0-24" | ±0.05mm | 45 | 24 | 100 | 770 |

VERNIER CALIPERS (SOLID TYPE)

- With fine adjustment
- Made of stainless steel
- Satin chrome plated reading surface



1236-521



Graduation 0.05mm/1/128" (mm)

| Code | Range | Accuracy | a | b | c | d | e | L |
|-----------|----------------|----------|----|----|----|-----|----|------|
| 1236-394 | 0-300mm/0-12" | ±0.07mm | 12 | 38 | 20 | 90 | 10 | 450 |
| 1236-514 | 0-500mm/0-20" | ±0.07mm | 18 | 45 | 24 | 100 | 20 | 670 |
| 1236-524 | 0-500mm/0-20" | ±0.08mm | 18 | 45 | 24 | 150 | 20 | 670 |
| 1236-614 | 0-600mm/0-24" | ±0.08mm | 18 | 45 | 24 | 100 | 20 | 770 |
| 1236-824 | 0-800mm/0-32" | ±0.09mm | 24 | 60 | 31 | 150 | 20 | 1030 |
| 1236-1024 | 0-1000mm/0-40" | ±0.12mm | 24 | 60 | 31 | 150 | 20 | 1230 |

Graduation 0.02mm (mm)

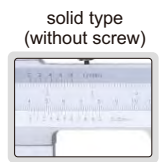
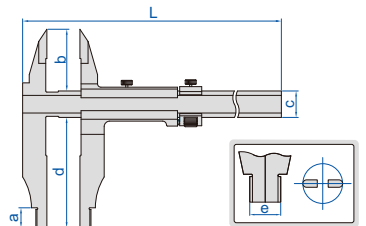
| Code | Range | Accuracy | a | b | c | d | e | L |
|-----------|----------|----------|----|----|----|-----|----|------|
| 1236-511 | 0-500mm | ±0.05mm | 18 | 45 | 24 | 100 | 20 | 670 |
| 1236-521 | 0-500mm | ±0.06mm | 18 | 45 | 24 | 150 | 20 | 670 |
| 1236-1021 | 0-1000mm | ±0.08mm | 24 | 60 | 31 | 150 | 20 | 1230 |

VERNIER CALIPERS (SOLID TYPE)

- Graduation 0.05mm/1/128"
- With fine adjustment
- Made of stainless steel
- Satin chrome plated reading surface



1207-514



(mm)

| Code | Range | Accuracy | a | b | c | d | e | L |
|-----------|----------------|----------|----|----|----|-----|----|------|
| 1207-394 | 0-300mm/0-12" | ±0.07mm | 12 | 40 | 20 | 90 | 10 | 440 |
| 1207-514 | 0-500mm/0-20" | ±0.07mm | 18 | 56 | 24 | 100 | 20 | 670 |
| 1207-524 | 0-500mm/0-20" | ±0.08mm | 18 | 56 | 24 | 150 | 20 | 670 |
| 1207-824 | 0-800mm/0-32" | ±0.09mm | 24 | 67 | 31 | 150 | 20 | 930 |
| 1207-1024 | 0-1000mm/0-40" | ±0.12mm | 24 | 67 | 31 | 150 | 20 | 1230 |

VERNIER CALIPERS (SOLID TYPE)

2

- With fine adjustment
- Made of stainless steel
- Satin chrome plated reading surface



1208-511

Graduation 0.05mm/1/128" (mm)

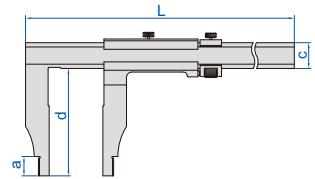
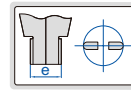
| Code | Range | Accuracy | a | c | d | e | L |
|-----------|----------------|----------|----|----|-----|----|------|
| 1208-214 | 0-200mm/0-8" | ±0.06mm | 10 | 20 | 100 | 10 | 330 |
| 1208-394 | 0-300mm/0-12" | ±0.07mm | 10 | 20 | 90 | 10 | 410 |
| 1208-324 | 0-300mm/0-12" | ±0.07mm | 18 | 24 | 150 | 20 | 410 |
| 1208-524 | 0-500mm/0-20" | ±0.08mm | 18 | 24 | 150 | 20 | 670 |
| 1208-614 | 0-600mm/0-24" | ±0.08mm | 18 | 24 | 100 | 20 | 770 |
| 1208-624 | 0-600mm/0-24" | ±0.09mm | 18 | 24 | 150 | 20 | 770 |
| 1208-824 | 0-800mm/0-32" | ±0.09mm | 24 | 31 | 150 | 20 | 1030 |
| 1208-1024 | 0-1000mm/0-40" | ±0.12mm | 24 | 31 | 150 | 20 | 1230 |
| 1208-1524 | 0-1500mm/0-60" | ±0.16mm | 24 | 42 | 150 | 20 | 1820 |
| 1208-2024 | 0-2000mm/0-80" | ±0.20mm | 24 | 42 | 150 | 20 | 2330 |

solid type
(without screw)



Graduation 0.02mm (mm)

| Code | Range | Accuracy | a | c | d | e | L |
|-----------|----------|----------|----|----|-----|----|------|
| 1208-511 | 0-500mm | ±0.05mm | 18 | 24 | 100 | 20 | 670 |
| 1208-521 | 0-500mm | ±0.06mm | 18 | 24 | 150 | 20 | 670 |
| 1208-1021 | 0-1000mm | ±0.08mm | 24 | 31 | 150 | 20 | 1230 |
| 1208-1521 | 0-1500mm | ±0.11mm | 24 | 42 | 150 | 20 | 1820 |



VERNIER CALIPERS (SOLID TYPE)

- With fine adjustment
- Made of stainless steel
- Satin chrome plated reading surface



1210-611

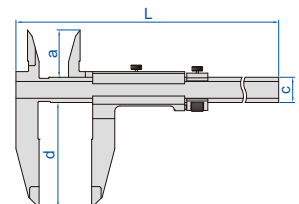
Graduation 0.05mm/1/128" (mm)

| Code | Range | Accuracy | a | c | d | L |
|-----------|----------------|----------|----|----|-----|------|
| 1210-614 | 0-600mm/0-24" | ±0.08mm | 45 | 24 | 100 | 770 |
| 1210-1024 | 0-1000mm/0-40" | ±0.12mm | 60 | 31 | 150 | 1230 |

Graduation 0.02mm (mm)

| Code | Range | Accuracy | a | c | d | L |
|-----------|----------|----------|----|----|-----|------|
| 1210-611 | 0-600mm | ±0.05mm | 45 | 24 | 100 | 770 |
| 1210-1021 | 0-1000mm | ±0.08mm | 60 | 31 | 150 | 1230 |

solid type
(without screw)



POPULAR MODEL

VERNIER CALIPERS (SEPARATE TYPE)

2

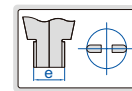
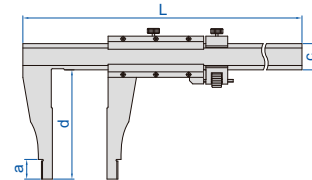
- With fine adjustment
- Made of stainless steel
- Satin chrome plated reading surface



1214-500

Graduation 0.02mm/0.001"

| Code | Range | Accuracy | a | c | d | e | L |
|-----------|----------------|----------|----|----|-----|----|------|
| 1214-300 | 0-300mm/0-12" | ±0.05mm | 10 | 20 | 75 | 10 | 410 |
| 1214-450 | 0-450mm/0-18" | ±0.05mm | 18 | 24 | 100 | 20 | 620 |
| 1214-500 | 0-500mm/0-20" | ±0.05mm | 18 | 24 | 100 | 20 | 670 |
| 1214-600 | 0-600mm/0-24" | ±0.05mm | 18 | 24 | 100 | 20 | 770 |
| 1214-1000 | 0-1000mm/0-40" | ±0.08mm | 24 | 32 | 140 | 20 | 1216 |
| 1214-1500 | 0-1500mm/0-60" | ±0.12mm | 24 | 42 | 200 | 20 | 1830 |
| 1214-2000 | 0-2000mm/0-80" | ±0.14mm | 24 | 42 | 200 | 20 | 2320 |



separate type
(with screws)



Graduation 0.05mm/1/128"

| Code | Range | Accuracy | a | c | d | e | L |
|-----------|----------------|----------|----|----|-----|----|------|
| 1214-6004 | 0-600mm/0-24" | ±0.08mm | 18 | 24 | 100 | 20 | 770 |
| 1214-1004 | 0-1000mm/0-40" | ±0.12mm | 24 | 32 | 140 | 20 | 1216 |

LONG JAW VERNIER CALIPERS (SEPARATE TYPE)

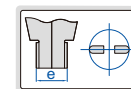
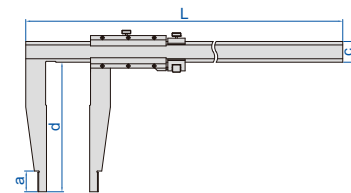
- With fine adjustment
- Made of stainless steel
- Satin chrome plated reading surface



1215-1032

Graduation 0.02mm/0.001"

| Code | Range | Accuracy | a | c | d | e | L |
|-----------|-----------------|----------|----|----|-----|----|------|
| 1215-392 | 0-300mm/0-12" | ±0.05mm | 10 | 17 | 90 | 10 | 410 |
| 1215-322 | 0-300mm/0-12" | ±0.05mm | 18 | 24 | 150 | 20 | 470 |
| 1215-522 | 0-500mm/0-20" | ±0.06mm | 18 | 24 | 150 | 20 | 670 |
| 1215-532 | 0-500mm/0-20" | ±0.06mm | 18 | 24 | 200 | 20 | 670 |
| 1215-622 | 0-600mm/0-24" | ±0.06mm | 18 | 24 | 150 | 20 | 770 |
| 1215-642 | 0-600mm/0-24" | ±0.08mm | 24 | 32 | 250 | 20 | 870 |
| 1215-822 | 0-800mm/0-32" | ±0.07mm | 24 | 32 | 150 | 20 | 1020 |
| 1215-832 | 0-800mm/0-32" | ±0.07mm | 24 | 32 | 200 | 20 | 1020 |
| 1215-1032 | 0-1000mm/0-40" | ±0.08mm | 24 | 32 | 200 | 20 | 1220 |
| 1215-1052 | 0-1000mm/0-40" | ±0.11mm | 24 | 42 | 300 | 20 | 1330 |
| 1215-3052 | 0-3000mm/0-120" | ±0.26mm | 24 | 50 | 300 | 20 | 3360 |



separate type
(with screws)

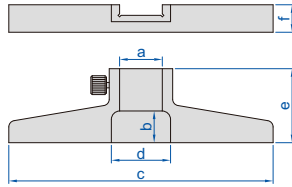


Graduation 0.05mm/1/128"

| Code | Range | Accuracy | a | c | d | e | L |
|-----------|----------------|----------|----|----|-----|----|------|
| 1215-524 | 0-500mm/0-20" | ±0.08mm | 18 | 24 | 150 | 20 | 670 |
| 1215-1034 | 0-1000mm/0-40" | ±0.12mm | 24 | 32 | 200 | 20 | 1330 |

DEPTH BASE ATTACHMENTS

2



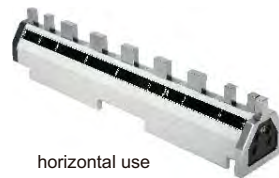
- To increase the stability of depth measurement
- Suitable for digital calipers and dial calipers
- Made of stainless steel

(mm)

| Code | a | b | c | d | e | f | Type | Application |
|------------------|------|------|-----|------|----|----|----------------------------------|--|
| 6140 | 16.5 | 9 | 75 | 18 | 30 | 6 | narrow base (f=6) | suitable for calipers with beam width (w) 16mm |
| 6140-300A | 20 | 15 | 125 | 22 | 34 | 9 | narrow base (f=9) | suitable for calipers with beam width (w) 20mm |
| 6140-16B | 16 | 12.5 | 75 | 24.5 | 30 | 11 | wide base (f=11), high stability | suitable for calipers with beam width (w) 16mm |
| 6140-300B | 20 | 15 | 125 | 28 | 35 | 13 | wide base (f=13), high stability | suitable for calipers with beam width (w) 20mm |

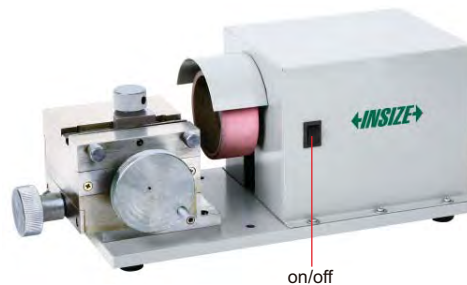
CALIPER/HEIGHT GAGE CHECKERS

REFER TO PAGE 332
FOR DETAILS



6884-300

CALIPER END GRINDING MACHINE CODE 6309



- Used for grinding the depth measuring surface of the end of calipers

SPECIFICATION

| | |
|-------------------|---------------|
| Power supply | 220V, 50/60Hz |
| Dimension (L×W×H) | 370×200×160mm |
| Weight | 15kg |

application



REFER TO PAGE 162 FOR DETAILS

CALIPER/MICROMETER LAPPING MACHINE CODE 6318



lapping measuring surfaces of caliper lower jaws



- For lapping measuring surfaces of caliper lower jaws



ACCESSORY SET FOR DIGITAL CALIPERS CODE 6144

| | |
|--|--|
| | |
| | |
| | |
| | |

6144

| | | | |
|-----------------|--|---|--|
| <p>Unit: mm</p> | <p>Unit: mm</p> <p>disk points (stainless steel)</p> | <p>Unit: mm</p> <p>conical points (stainless steel)</p> | <p>Unit: mm</p> <p>spherical/flat points (stainless steel)</p> |
|-----------------|--|---|--|

- Suitable for 0-150mm/0-6" and 0-200mm/0-8" digital calipers (thickness of lower jaws ≤ 3.7mm)

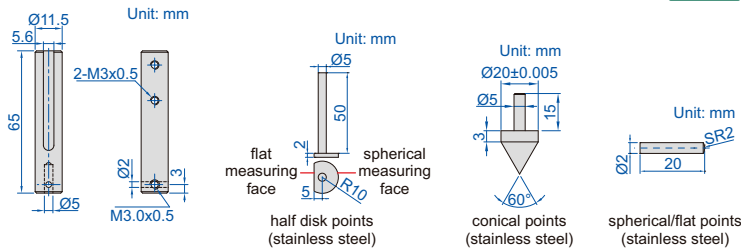
Code
6144

**ACCESSORY SET FOR LARGE DIGITAL CALIPERS
CODE 6145-500**

2



6145-500



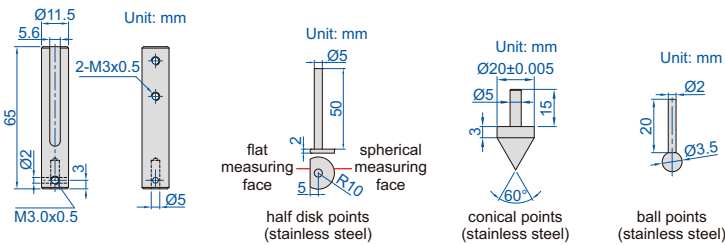
■ Suitable for 0-500mm/0-20" and 0-600mm/0-24" digital calipers (thickness of lower jaws≤5.6mm)

Code
6145-500

**ACCESSORY SET FOR LARGE DIGITAL CALIPERS (WITH SIDE POINTS)
CODE 6146-500B**



6146-500B



■ Suitable for 0-500mm/0-20" and 0-600mm/0-24" digital calipers (thickness of lower jaws≤5.6mm)

Code
6146-500B

UNIVERSAL CALIPERS

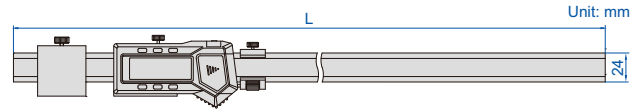


DATA OUTPUT



1125-600

- Non waterproof
- Buttons: on/off, set, mm/inch, ABS, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel



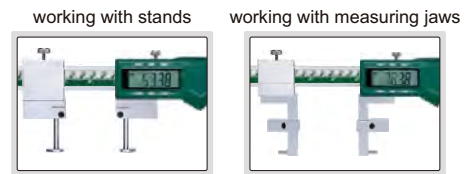
With data interface (data output cable code 7315-22 need receiver page 4, 7302-22 page 12, optional)

| Code | Range * | Resolution | Accuracy | L |
|-----------|----------------|----------------|----------|--------|
| 1125-600 | 0-600mm/0-24" | 0.01mm/0.0005" | ±0.05mm | 778mm |
| 1125-1000 | 0-1000mm/0-40" | 0.01mm/0.0005" | ±0.07mm | 1205mm |

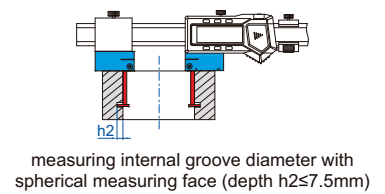
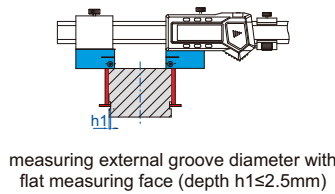
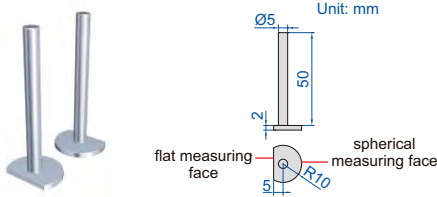
Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range * | Resolution | Accuracy | L |
|-------------|----------------|----------------|----------|--------|
| 1125-600WL | 0-600mm/0-24" | 0.01mm/0.0005" | ±0.05mm | 778mm |
| 1125-1000WL | 0-1000mm/0-40" | 0.01mm/0.0005" | ±0.07mm | 1205mm |

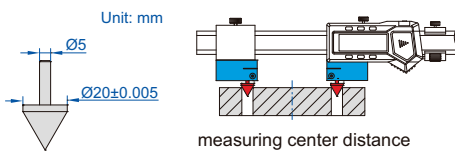
*The range changes according to different points



Half disk points (included)

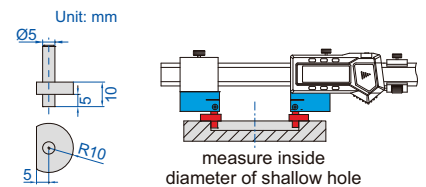


Conical points (optional)



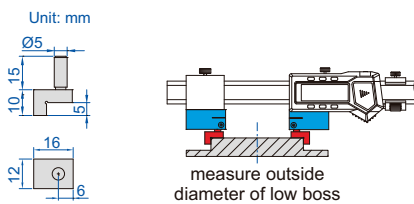
Code
1125-T101

Round shoulder points (optional)



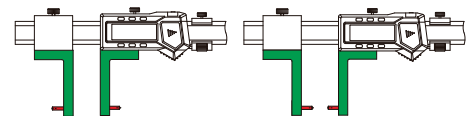
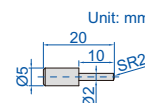
Code
1125-T102

Flat shoulder points (optional)

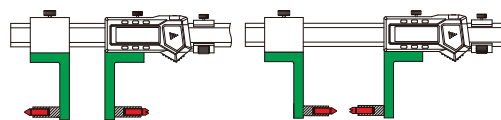


Code
1125-T103

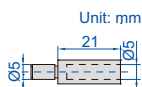
Spherical points (included)



Point sleeve (optional)

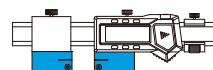
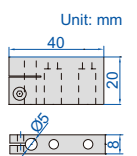


working with multifunctional points, ball points and screw thread points



Code
1125-T104

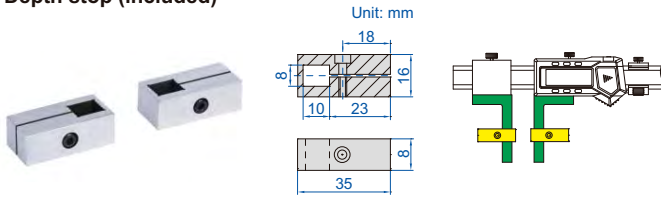
Stands (included)



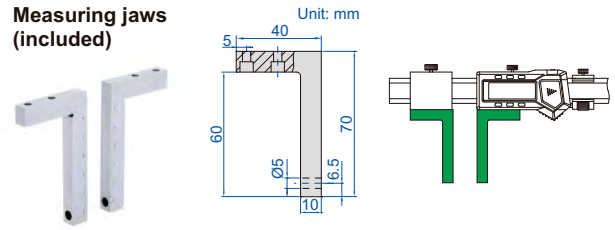
To be continued

Continued from previous page

Depth stop (included)



Measuring jaws (included)



Multifunctional points 7392* (optional, page 39)



*It is necessary to use point sleeve (code 1125-T104) for these points

Ball points 7391* (optional, page 39)



Screw thread points 7381*, 7321* (optional, page 39)



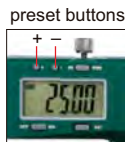
DIGITAL CALIPERS WITH INTERCHANGEABLE POINTS

DATA OUTPUT



1526-200

- Non waterproof
- Supplied with 3 pairs of points and zero setting block for external measurement
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, set, mm/inch, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel
- Optional accessory: points



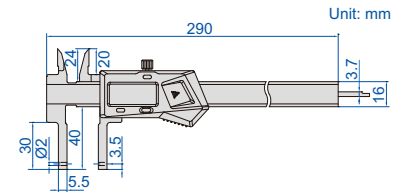
short spherical points (included) Unit: mm



long spherical/flat points (included) Unit: mm



spherical blade points (included) Unit: mm



With data interface

| Code | Data output cable (optional) |
|----------|--|
| 1526-200 | code 7315-21 need receiver page 4, 7302-21 page 12 |

| Built-in wireless | |
|-------------------|-----------------------|
| Code | Receiver (optional) |
| 1526-200WL | code 7315-2/3/6/7/8/9 |

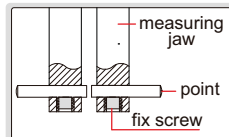
| Point | Range | Accuracy | Application |
|----------------------------|---|----------|--|
| short spherical points | 12-212mm/0.5-8.5" (internal) | ±0.03mm | for grooves inside small hole |
| long spherical/flat points | 24-224mm/1-8.8" (internal) 0-187mm/0-7.5" (external) | ±0.03mm | spherical points for grooves inside hole flat points for external grooves |
| spherical blade points | 24-224mm/1-8.8" (internal) 0-187mm/0-7.5" (external) | ±0.03mm | for narrow grooves inside hole |



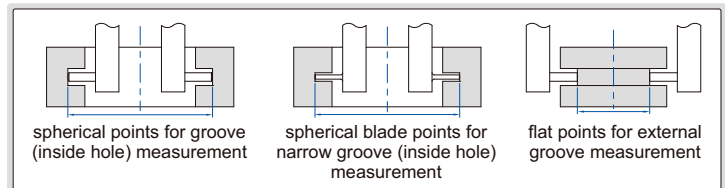
zero setting block for external measurement (included)



install points



measure internal and external grooves



To be continued

Continued from previous page

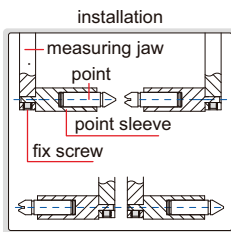
Depth stop (optional)

| | | | | | |
|----------------------------|--|--------------------|--|--|--|
| Code 6143 | | <p>6143</p> | | <p>for external groove measurement</p> | <p>for internal groove measurement</p> |
|----------------------------|--|--------------------|--|--|--|

Point sleeve (optional)



1526-T101

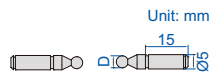


| |
|------------------|
| Code |
| 1526-T101 |

Ball points (optional)



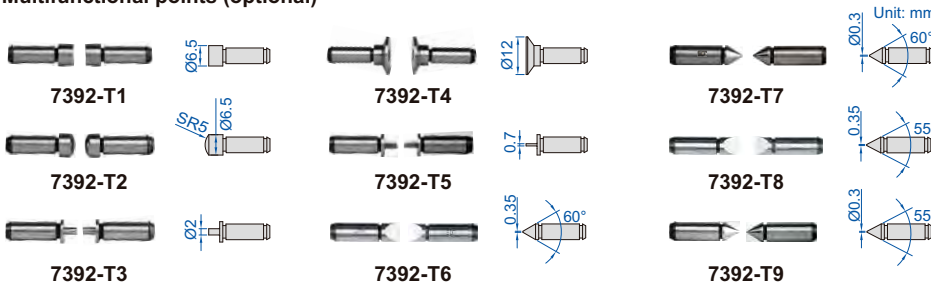
7391-T5



* It is necessary to use point sleeve (code **1526-T101**) for these points
 ** Range of **1526-200** and **1526-200WL** after installing the points and point sleeve

| Code | Ball dia. (D) | Range ** |
|------------------|---------------|--|
| 7391-T3* | SØ2.0mm | 75-275mm/3.0-10.8" (internal) 0-146mm/0-5.7" (external) |
| 7391-T4* | SØ2.5mm | 76-276mm/3.0-10.8" (internal) 0-145mm/0-5.7" (external) |
| 7391-T5* | SØ3.0mm | 77-277mm/3.0-10.9" (internal) 0-144mm/0-5.6" (external) |
| 7391-T6* | SØ3.5mm | 78-278mm/3.1-10.9" (internal) 0-143mm/0-5.6" (external) |
| 7391-T7* | SØ4.0mm | 79-279mm/3.1-10.9" (internal) 0-142mm/0-5.6" (external) |
| 7391-T8* | SØ4.5mm | 80-280mm/3.2-11.0" (internal) 0-141mm/0-5.5" (external) |
| 7391-T9* | SØ5.0mm | 81-281mm/3.2-11.0" (internal) 0-140mm/0-5.5" (external) |
| 7391-T10* | SØ6.0mm | 83-283mm/3.3-11.1" (internal) 0-138mm/0-5.4" (external) |

Multifunctional points (optional)



| Code | Type |
|-----------------|------------|
| 7392-T1* | flat |
| 7392-T2* | spherical |
| 7392-T3* | spline |
| 7392-T4* | disk |
| 7392-T5* | blade |
| 7392-T6* | knife-edge |
| 7392-T7* | point |
| 7392-T8* | knife-edge |
| 7392-T9* | point |

| |
|--|
| Range ** |
| 66-266mm/2.6-10.5" (internal), 0-155mm/0-6.1" (external) |

* It is necessary to use point sleeve (code **1526-T101**) for these points

Screw thread points (optional)



Internal thread (60° thread angle)

| Code | Pitch |
|------------------|---|
| 7321-T11* | 0.4-0.5mm/64-48TPI |
| 7321-T12* | 0.6-0.9mm/44-28TPI |
| 7321-T13* | 1-1.75mm/24-14TPI |
| 7321-T14* | 2-3mm/13-9TPI |
| 7321-T15* | 3.5-5mm/8-5TPI |
| 7321-T16* | 5.5-7mm/4.5-3.5TPI |
| 7321-T1S* | 6 pairs/set, including all above points |

External thread (60° thread angle)

| Code | Pitch |
|------------------|---|
| 7381-T11* | 0.4-0.5mm/64-48TPI |
| 7381-T12* | 0.6-0.9mm/44-28TPI |
| 7381-T13* | 1-1.75mm/24-14TPI |
| 7381-T14* | 2-3mm/13-9TPI |
| 7381-T15* | 3.5-5mm/8-5TPI |
| 7381-T16* | 5.5-7mm/4.5-3.5TPI |
| 7381-TS* | 6 pairs/set, including all above points |

| |
|--|
| Range ** |
| 66-266mm/2.6-10.5" (internal) 0-155mm/0-6.1" (external) |

** Range of **1526-200** and **1526-200WL** after installing the points and point sleeve

* It is necessary to use point sleeve (code **1526-T101**) for these points

DIGITAL CALIPERS WITH INTERCHANGEABLE POINTS

DATA OUTPUT



2

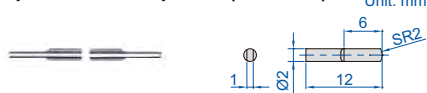
short spherical/flat points (included)



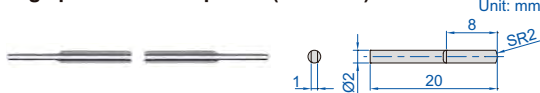
long spherical/flat points (included)



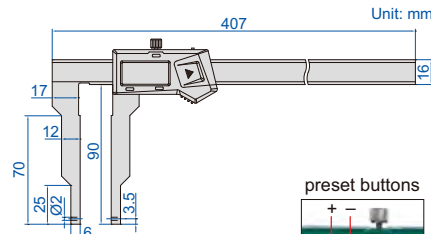
short spherical blade points (included)



long spherical blade points (included)



1124-300A



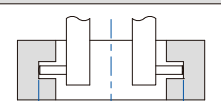
preset buttons



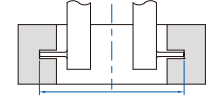
zero setting block for external measurement (included)



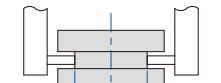
measure internal and external grooves



spherical points for groove (inside hole) measurement



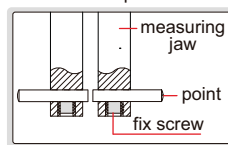
spherical blade points for narrow groove (inside hole) measurement



flat points for external groove measurement

- Non waterproof
- Supplied with 4 pairs of points and zero setting block for external measurement
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, set, mm/inch, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel
- Optional accessory: points (code 1526-T101, 7392, 7391, 7381, 7321), depth stop (code 6143)

install points



depth stop 6143 (optional)



With data interface

| Code | Data output cable (optional) |
|-----------|--|
| 1124-300A | code 7315-21 need receiver page 4, 7302-21 page 12 |

Built-in wireless

| Code | Receiver (optional) |
|-------------|-----------------------|
| 1124-300AWL | code 7315-2/3/6/7/8/9 |

| Point | Range | Accuracy | Application |
|------------------------------|---|----------|---|
| short spherical/flat points | 24-324mm/1-12.7" (internal) 0-288mm/0-11.3" (external) | ±0.04mm | spherical points for grooves inside hole (small hole) flat points for external grooves |
| long spherical/flat points | 40-340mm/1.5-13.3" (internal) 0-272mm/0-10.7" (external) | ±0.04mm | spherical points for grooves inside hole (large hole) flat points for external grooves |
| short spherical blade points | 24-324mm/1-12.7" (internal) 0-288mm/0-11.3" (external) | ±0.04mm | for narrow grooves inside hole (small hole) |
| long spherical blade points | 40-340mm/1.5-13.3" (internal) 0-272mm/0-10.7" (external) | ±0.04mm | for narrow grooves inside hole (large hole) |

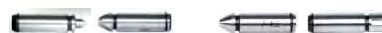
Multifunctional points 7392* (optional, page 39)



Ball points 7391* (optional, page 39)



Screw thread points 7381*, 7321* (optional, page 39)



* It is necessary to use point sleeve (code 1526-T101) for these points

DATA OUTPUT

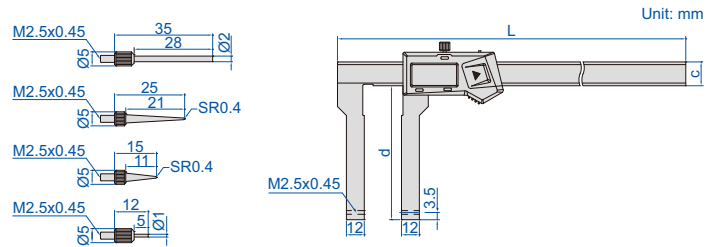
VARIOUS POINTS ARE AVAILABLE (PAGE 250-252)

DIGITAL CALIPERS WITH INTERCHANGEABLE POINTS

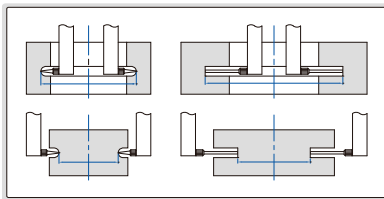


1530-300

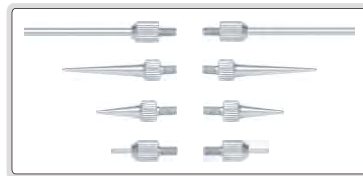
- Non waterproof
- Supplied with 4 pairs of points and zero setting block for external measurement
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, set, mm/inch, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel
- Optional accessory: points (page 250~252), depth stop (code 6143)



measure internal and external grooves



4 pairs of points (included)



zero setting block for external measurement (included)



depth stop 6143 (optional)



(mm)

| Code | Range * | Accuracy | L | d | c | Data output cable (optional) |
|----------|---------------|----------|-----|-----|----|---|
| 1530-300 | 0-300mm/0-12" | ±0.06mm | 407 | 90 | 16 | 7315-21 need receiver page 4, 7302-21 page 12 |
| 1530-500 | 0-500mm/0-20" | ±0.08mm | 740 | 100 | 24 | 7315-22 need receiver page 4, 7302-22 page 12 |

Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

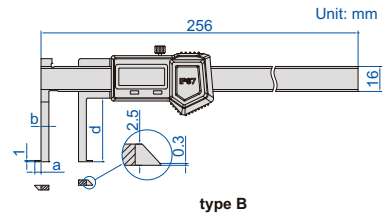
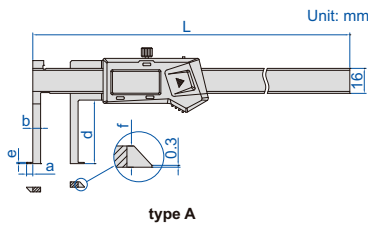
(mm)

| Code | Range * | Accuracy | L | d | c |
|------------|---------------|----------|-----|-----|----|
| 1530-300WL | 0-300mm/0-12" | ±0.06mm | 407 | 90 | 16 |
| 1530-500WL | 0-500mm/0-20" | ±0.08mm | 740 | 100 | 24 |

*For different points, the measuring range changes accordingly

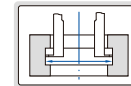
DIGITAL INSIDE GROOVE CALIPERS

2



- Measure diameter of grooves inside small bores
- Resolution: 0.01mm/0.0005"
- Buttons type A: on/off, set, mm/inch, preset (+, -), type B: on/off, zero, mm/inch, ABS/REL, hold
- Battery CR2032
- Made of stainless steel
- Optional accessory: depth stop (code **6143**)

depth stop **6143**
(optional)



Non waterproof, with data interface (data output cable code 7315-21 need receiver page 4, 7302-21 page 12, optional)

| Code | Range | Type | Accuracy | L | a | b | d | e | f |
|----------|-------------------|------|----------|-------|-------|-----|------|-----|-------|
| 1520-150 | 11-150mm/0.43-6" | A | ±0.04mm | 236mm | 3.5mm | 5mm | 41mm | 1mm | 2.5mm |
| 1520-200 | 16-200mm/0.63-8" | A | ±0.04mm | 285mm | 5mm | 7mm | 41mm | 1mm | 3mm |
| 1520-300 | 20-300mm/0.79-12" | A | ±0.05mm | 398mm | 7.5mm | 9mm | 62mm | 2mm | 4mm |

Non waterproof, built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range | Type | Accuracy | L | a | b | d | e | f |
|------------|-------------------|------|----------|-------|-------|-----|------|-----|-------|
| 1520-150WL | 11-150mm/0.43-6" | A | ±0.04mm | 236mm | 3.5mm | 5mm | 41mm | 1mm | 2.5mm |
| 1520-200WL | 16-200mm/0.63-8" | A | ±0.04mm | 285mm | 5mm | 7mm | 41mm | 1mm | 3mm |
| 1520-300WL | 20-300mm/0.79-12" | A | ±0.05mm | 398mm | 7.5mm | 9mm | 62mm | 2mm | 4mm |

IP67 dust/waterproof, no automatic power off, set zero after power on each time, without data interface

| Code | Range | Type | Accuracy | a | b | d |
|------------|------------------|------|----------|-----|-----|------|
| 1520-150P | 14-150mm/0.56-6" | B | ±0.04mm | 5mm | 7mm | 30mm |
| 1520-1501P | 8-150mm/0.31-6" | B | ±0.04mm | 2mm | 4mm | 40mm |

DATA OUTPUT

DIGITAL INSIDE POINT CALIPERS

2

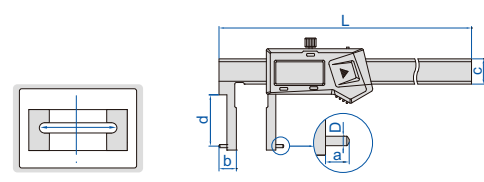


1121-150A
type A



1121-150B
type B

- Non waterproof
- Measure groove diameter
- Resolution: 0.01mm/0.0005"
- Buttons type A: on/off, set, mm/inch, preset (+, -)
type B: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: depth stop
(code **6143**, for calipers with c=16mm)



Preset (no need to add the width of the jaws on the reading), with data interface

(mm)

| Code | Range | Type | Accuracy | L | a | b | c | d | D | Data output cable (optional) |
|------------|-------------------|------|----------|-----|----|------|----|-----|----|---|
| 1121-150A | 24-150mm/0.94-6" | A | ±0.04mm | 250 | 5 | 12 | 16 | 28 | Ø2 | 7315-21 need receiver page 4, 7302-21 page 12 |
| 1121-1501 | 35-150mm/1.38-6" | A | ±0.05mm | 250 | 6 | 17.5 | 16 | 60 | Ø2 | 7315-21 need receiver page 4, 7302-21 page 12 |
| 1121-200A | 25-200mm/0.98-8" | A | ±0.04mm | 310 | 5 | 12.5 | 16 | 37 | Ø2 | 7315-21 need receiver page 4, 7302-21 page 12 |
| 1121-2001 | 40-200mm/1.57-8" | A | ±0.05mm | 310 | 7 | 20 | 16 | 70 | Ø3 | 7315-21 need receiver page 4, 7302-21 page 12 |
| 1121-300A | 30-300mm/1.18-12" | A | ±0.07mm | 410 | 5 | 15 | 16 | 50 | Ø2 | 7315-21 need receiver page 4, 7302-21 page 12 |
| 1121-3001A | 50-300mm/1.97-12" | A | ±0.07mm | 410 | 8 | 25 | 16 | 77 | Ø3 | 7315-21 need receiver page 4, 7302-21 page 12 |
| 1121-500A | 40-500mm/1.57-20" | A | ±0.07mm | 680 | 5 | 20 | 24 | 90 | Ø3 | 7315-22 need receiver page 4, 7302-22 page 12 |
| 1121-5001 | 60-500mm/2.36-20" | A | ±0.08mm | 680 | 10 | 30 | 24 | 120 | Ø3 | 7315-22 need receiver page 4, 7302-22 page 12 |
| 1121-5002 | 80-500mm/3.15-20" | A | ±0.08mm | 680 | 16 | 40 | 24 | 150 | Ø3 | 7315-22 need receiver page 4, 7302-22 page 12 |

Preset (no need to add the width of the jaws on the reading), built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range | Type | Accuracy | L | a | b | c | d | D |
|--------------|-------------------|------|----------|-------|------|--------|------|-------|------|
| 1121-150AWL | 24-150mm/0.94-6" | A | ±0.04mm | 250mm | 5mm | 12mm | 16mm | 28mm | Ø2mm |
| 1121-1501WL | 35-150mm/1.38-6" | A | ±0.05mm | 250mm | 6mm | 17.5mm | 16mm | 60mm | Ø2mm |
| 1121-200AWL | 25-200mm/0.98-8" | A | ±0.04mm | 310mm | 5mm | 12.5mm | 16mm | 37mm | Ø2mm |
| 1121-2001WL | 40-200mm/1.57-8" | A | ±0.05mm | 310mm | 7mm | 20mm | 16mm | 70mm | Ø3mm |
| 1121-300AWL | 30-300mm/1.18-12" | A | ±0.07mm | 410mm | 5mm | 15mm | 16mm | 50mm | Ø2mm |
| 1121-3001AWL | 50-300mm/1.97-12" | A | ±0.07mm | 410mm | 8mm | 25mm | 16mm | 77mm | Ø3mm |
| 1121-500AWL | 40-500mm/1.57-20" | A | ±0.07mm | 680mm | 5mm | 20mm | 24mm | 90mm | Ø3mm |
| 1121-5001WL | 60-500mm/2.36-20" | A | ±0.08mm | 680mm | 10mm | 30mm | 24mm | 120mm | Ø3mm |
| 1121-5002WL | 80-500mm/3.15-20" | A | ±0.08mm | 680mm | 16mm | 40mm | 24mm | 150mm | Ø3mm |

No preset (need to add the width of the jaws on the reading)

| Code | Range | Type | Accuracy | L | a | b | c | d | D |
|-----------|-------------------|------|----------|-------|------|------|------|-------|------|
| 1121-150B | 50-150mm/1.97-6" | B | ±0.06mm | 270mm | 8mm | 25mm | 20mm | 90mm | Ø3mm |
| 1121-200B | 60-200mm/2.36-8" | B | ±0.06mm | 320mm | 10mm | 30mm | 20mm | 100mm | Ø3mm |
| 1121-300B | 60-300mm/2.36-12" | B | ±0.07mm | 420mm | 10mm | 30mm | 20mm | 110mm | Ø3mm |

DIGITAL INSIDE GROOVE CALIPERS

depth stop 6143
(optional)



- Measure groove diameter
- Resolution: 0.01mm/0.0005"
- Buttons type A: on/off, set, mm/inch, preset (+, -)
type B: on/off, zero, mm/inch
type C: on/off, zero, mm/inch, ABS/REL, hold
- Battery CR2032
- Made of stainless steel
- Optional accessory: depth stop
(code 6143, for calipers with c=16mm)

preset buttons



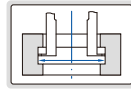
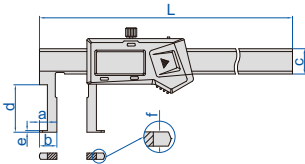
1120-150A
type A



1120-150B
type B



1120-150P
type C



Non waterproof, preset (no need to add the width of the jaws on the reading), with data interface

(mm)

| Code | Range | Type | Accuracy | L | a | b | c | d | e | f | Data output cable (optional) |
|-----------|-------------------|------|----------|-----|----|------|----|-----|-----|-----|---|
| 1120-150A | 22-150mm/0.87-6" | A | ±0.04mm | 250 | 5 | 11 | 16 | 30 | 1 | 4 | 7315-21 need receiver page 4, 7302-21 page 12 |
| 1120-1501 | 35-150mm/1.38-6" | A | ±0.06mm | 250 | 6 | 17.5 | 16 | 60 | 1.5 | 4 | 7315-21 need receiver page 4, 7302-21 page 12 |
| 1120-200A | 25-200mm/0.98-8" | A | ±0.04mm | 310 | 5 | 12.5 | 16 | 40 | 1 | 4 | 7315-21 need receiver page 4, 7302-21 page 12 |
| 1120-2001 | 40-200mm/1.57-8" | A | ±0.06mm | 310 | 7 | 20 | 16 | 70 | 2.5 | 4 | 7315-21 need receiver page 4, 7302-21 page 12 |
| 1120-300A | 30-300mm/1.18-12" | A | ±0.05mm | 410 | 5 | 15 | 16 | 50 | 1.5 | 4 | 7315-21 need receiver page 4, 7302-21 page 12 |
| 1120-3001 | 50-300mm/1.97-12" | A | ±0.07mm | 410 | 8 | 25 | 16 | 80 | 2.5 | 4 | 7315-21 need receiver page 4, 7302-21 page 12 |
| 1120-500 | 40-500mm/1.57-20" | A | ±0.07mm | 680 | 5 | 20 | 24 | 90 | 2.2 | 5.5 | 7315-22 need receiver page 4, 7302-22 page 12 |
| 1120-5001 | 60-500mm/2.36-20" | A | ±0.08mm | 680 | 10 | 30 | 24 | 120 | 3.4 | 5.5 | 7315-22 need receiver page 4, 7302-22 page 12 |
| 1120-5002 | 80-500mm/3.15-20" | A | ±0.08mm | 680 | 16 | 40 | 24 | 150 | 5.2 | 5.5 | 7315-22 need receiver page 4, 7302-22 page 12 |

Non waterproof, preset (no need to add the width of the jaws on the reading),
built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range | Type | Accuracy | L | a | b | c | d | e | f |
|-------------|-------------------|------|----------|-------|------|--------|------|-------|-------|-------|
| 1120-150AWL | 22-150mm/0.87-6" | A | ±0.04mm | 250mm | 5mm | 11mm | 16mm | 30mm | 1mm | 4mm |
| 1120-1501WL | 35-150mm/1.38-6" | A | ±0.06mm | 250mm | 6mm | 17.5mm | 16mm | 60mm | 1.5mm | 4mm |
| 1120-200AWL | 25-200mm/0.98-8" | A | ±0.04mm | 310mm | 5mm | 12.5mm | 16mm | 40mm | 1mm | 4mm |
| 1120-2001WL | 40-200mm/1.57-8" | A | ±0.06mm | 310mm | 7mm | 20mm | 16mm | 70mm | 2.5mm | 4mm |
| 1120-300AWL | 30-300mm/1.18-12" | A | ±0.05mm | 410mm | 5mm | 15mm | 16mm | 50mm | 1.5mm | 4mm |
| 1120-3001WL | 50-300mm/1.97-12" | A | ±0.07mm | 410mm | 8mm | 25mm | 16mm | 80mm | 2.5mm | 4mm |
| 1120-500WL | 40-500mm/1.57-20" | A | ±0.07mm | 680mm | 5mm | 20mm | 24mm | 90mm | 2.2mm | 5.5mm |
| 1120-5001WL | 60-500mm/2.36-20" | A | ±0.08mm | 680mm | 10mm | 30mm | 24mm | 120mm | 3.4mm | 5.5mm |
| 1120-5002WL | 80-500mm/3.15-20" | A | ±0.08mm | 680mm | 16mm | 40mm | 24mm | 150mm | 5.2mm | 5.5mm |

Non waterproof, no preset (need to add the width of the jaws on the reading)

| Code | Range | Type | Accuracy | L | a | b | c | d | e | f |
|-----------|-------------------|------|----------|-------|------|------|------|-------|-------|-----|
| 1120-150B | 50-150mm/1.97-6" | B | ±0.06mm | 270mm | 8mm | 25mm | 20mm | 90mm | 3.4mm | 4mm |
| 1120-200B | 60-200mm/2.36-8" | B | ±0.06mm | 320mm | 10mm | 30mm | 20mm | 100mm | 3.4mm | 4mm |
| 1120-300B | 60-300mm/2.36-12" | B | ±0.07mm | 420mm | 10mm | 30mm | 20mm | 110mm | 3.4mm | 4mm |

IP67 dust/waterproof, no automatic power off, set zero after power on each time,
no preset (need to add the width of the jaws on the reading), without data interface

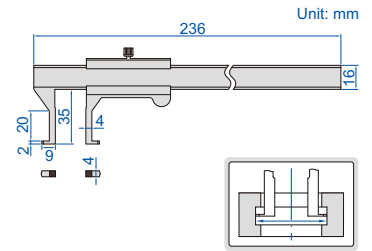
| Code | Range | Type | Accuracy | L | a | b | c | d | e | f |
|-----------|------------------|------|----------|-------|-----|------|------|------|-----|-----|
| 1120-150P | 22-150mm/0.87-6" | C | ±0.04mm | 250mm | 5mm | 11mm | 16mm | 30mm | 1mm | 4mm |

INSIDE GROOVE VERNIER CALIPER

- Measure diameter of grooves inside bores
- Made of stainless steel
- Satin chrome plated reading surface



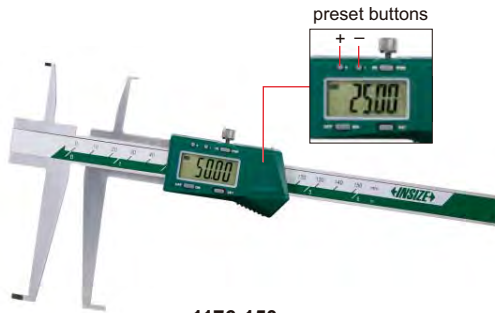
1262-150A



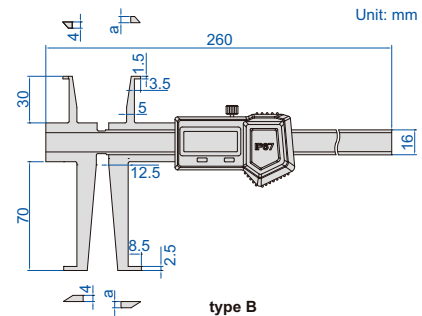
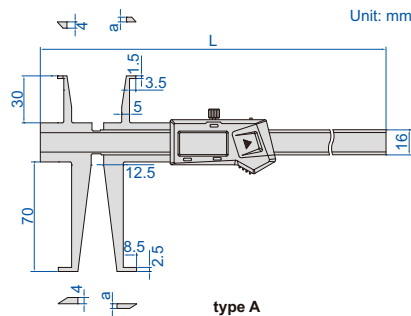
2

| Code | Range | Graduation | Accuracy |
|-----------|----------|------------|----------|
| 1262-150A | 18-150mm | 0.02mm | ±0.04mm |

DIGITAL INSIDE GROOVE CALIPERS

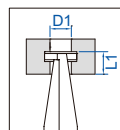


depth stop 6143 (optional)



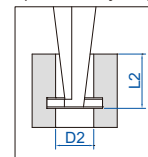
- Measure diameter of grooves inside bores
- Resolution: 0.01mm/0.0005"
- Buttons type A: on/off, set, mm/inch, preset (+, -)
type B: on/off, zero, mm/inch, ABS/REL, hold
- Battery CR2032
- Made of stainless steel
- Optional accessory: depth stop (code 6143)

sizes to be measured (use upper jaws)



| (mm) | |
|---------|-----|
| D1 | L1 |
| Ø9 | <8 |
| Ø10 | <15 |
| Ø11~200 | <30 |

sizes to be measured (use lower jaws)



| (mm) | |
|---------|-----|
| D2 | L2 |
| Ø17 | <16 |
| Ø18 | <28 |
| Ø19 | <40 |
| Ø20 | <50 |
| Ø21 | <58 |
| Ø22~200 | <70 |

Non waterproof, with data interface
(data output cable code 7315-21 need receiver page 4, 7302-21 page 12, optional)

| Code | Range of upper jaw | Range of lower jaw | Type | Accuracy | L | a |
|----------|--------------------|--------------------|------|----------|-------|-------|
| 1176-150 | 9-150mm/0.35-6" | 17-150mm/0.70-6" | A | ±0.04mm | 260mm | 3mm |
| 1176-200 | 9-200mm/0.35-8" | 17-200mm/0.70-8" | A | ±0.05mm | 320mm | 3.5mm |

Non waterproof, built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range of upper jaw | Range of lower jaw | Type | Accuracy | L | a |
|------------|--------------------|--------------------|------|----------|-------|-------|
| 1176-150WL | 9-150mm/0.35-6" | 17-150mm/0.70-6" | A | ±0.04mm | 260mm | 3mm |
| 1176-200WL | 9-200mm/0.35-8" | 17-200mm/0.70-8" | A | ±0.05mm | 320mm | 3.5mm |

IP67 dust/waterproof, without data interface, no automatic power off, set zero after power on each time

| Code | Range of upper jaw | Range of lower jaw | Type | Accuracy | a |
|-----------|--------------------|--------------------|------|----------|-----|
| 1176-150P | 9-150mm/0.35-6" | 17-150mm/0.70-6" | B | ±0.04mm | 4mm |

INSIDE GROOVE CALIPERS

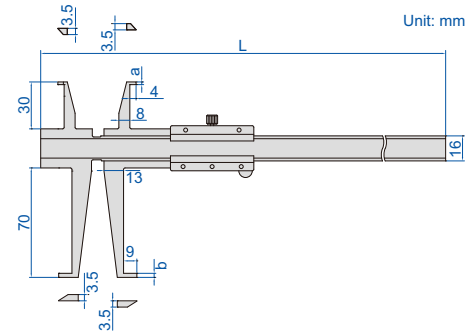


1199-150

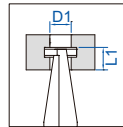
depth stop **6143**
(optional)



- Measure diameter of grooves inside bores
- Graduation: 0.02mm
- Made of stainless steel
- Optional accessory: depth stop (code **6143**)

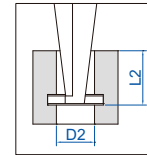


sizes to be measured
(use upper jaws)



| (mm) | |
|---------|-----|
| D1 | L1 |
| Ø9 | <8 |
| Ø10 | <12 |
| Ø11 | <15 |
| Ø12 | <20 |
| Ø13-300 | <30 |

sizes to be measured
(use lower jaws)

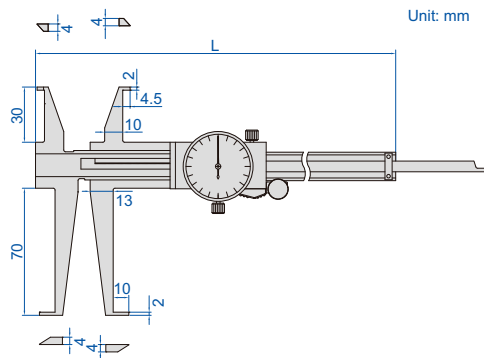


| (mm) | |
|---------|-----|
| D2 | L2 |
| Ø18 | <30 |
| Ø19 | <40 |
| Ø20 | <45 |
| Ø21 | <55 |
| Ø22 | <60 |
| Ø23-300 | <70 |

| Code | Range of upper jaw | Range of lower jaw | Accuracy | L | a | b |
|----------|--------------------|--------------------|----------|-------|-------|-------|
| 1199-150 | 9-150mm | 18-150mm | ±0.04mm | 248mm | 1.6mm | 2.5mm |
| 1199-200 | 9-200mm | 18-200mm | ±0.05mm | 298mm | 1.8mm | 2.8mm |
| 1199-300 | 9-300mm | 18-300mm | ±0.06mm | 398mm | 2.0mm | 3.0mm |

INSIDE GROOVE DIAL CALIPERS

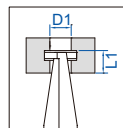
SHOCK PROOF



1376-150

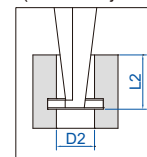
- Measure diameter of grooves inside bores
- Shockproof dial indicator
- Dial indicator graduation: 0.02mm
- Made of stainless steel
- Optional accessory: depth stop (code **6143**)

sizes to be measured
(use upper jaws)



| (mm) | |
|---------|-----|
| D1 | L1 |
| Ø11 | <8 |
| Ø12 | <10 |
| Ø13 | <15 |
| Ø14 | <20 |
| Ø15-300 | <30 |

sizes to be measured
(use lower jaws)



| (mm) | |
|---------|-----|
| D2 | L2 |
| Ø18 | <20 |
| Ø19 | <28 |
| Ø20 | <35 |
| Ø21 | <40 |
| Ø22 | <50 |
| Ø23-300 | <70 |

| Code | Range of upper jaw | Range of lower jaw | Accuracy | L |
|----------|--------------------|--------------------|----------|-------|
| 1376-150 | 11-150mm | 18-150mm | ±0.03mm | 240mm |
| 1376-200 | 11-200mm | 18-200mm | ±0.03mm | 290mm |
| 1376-300 | 11-300mm | 18-300mm | ±0.04mm | 390mm |

DATA OUTPUT

DIGITAL DEEP HOLE INSIDE GROOVE CALIPERS

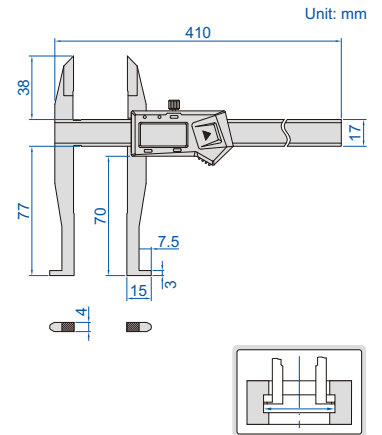
preset buttons



1129-300

- Non waterproof
- Measure diameter of grooves inside deep holes
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, set, mm/inch, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel
- Optional accessory: depth stop (code 6143)

depth stop 6143 (optional)



With data interface (data output cable code 7315-21 need receiver page 4, 7302-21 page 12, optional)

| Code | Range of upper jaw | Range of lower jaw | Accuracy |
|----------|--------------------|--------------------|----------|
| 1129-300 | 0-300mm/0-12" | 30-300mm/1.2-12" | ±0.06mm |

Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range of upper jaw | Range of lower jaw | Accuracy |
|------------|--------------------|--------------------|----------|
| 1129-300WL | 0-300mm/0-12" | 30-300mm/1.2-12" | ±0.06mm |

DATA OUTPUT

DIGITAL INSIDE GROOVE CALIPERS

- Non waterproof
- Measure diameter or distance of grooves
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, set, mm/inch, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel



1128-200

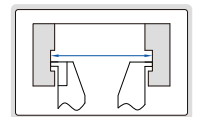
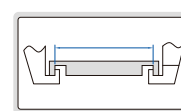
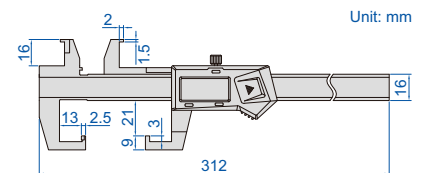
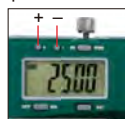
With data interface (data output cable code 7315-21 need receiver page 4, 7302-21 page 12, optional)

| Code | Range of upper jaw | Range of lower jaw | Accuracy |
|----------|--------------------|--------------------|----------|
| 1128-200 | 10-200mm/0.39-8" | 3-200mm/0.12-8" | ±0.03mm |

Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

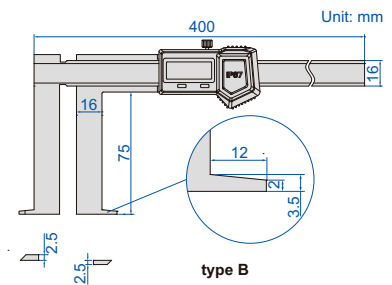
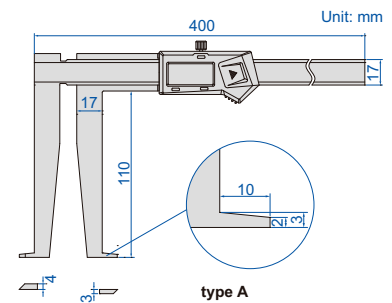
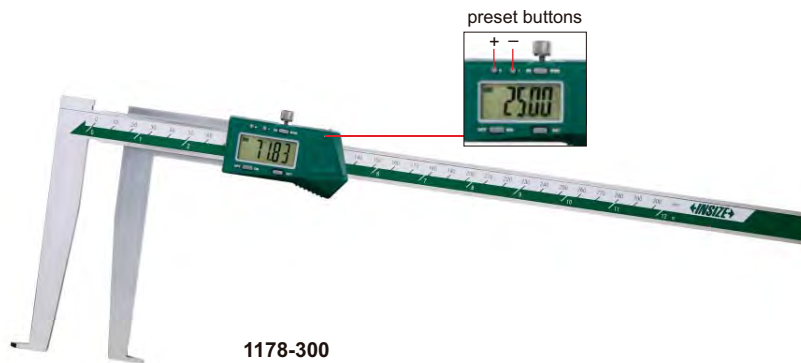
| Code | Range of upper jaw | Range of lower jaw | Accuracy |
|------------|--------------------|--------------------|----------|
| 1128-200WL | 10-200mm/0.39-8" | 3-200mm/0.12-8" | ±0.03mm |

preset buttons



DIGITAL INSIDE GROOVE CALIPERS

2



- Measure diameter of grooves inside bores
- Resolution: 0.01mm/0.0005"
- Buttons type A: on/off, set, mm/inch, preset (+, -)
type B: on/off, zero, mm/inch, ABS/REL, hold
- Battery CR2032
- Made of stainless steel
- Optional accessory: depth stop (code **6143**)

depth stop **6143**
(optional)



Non waterproof, built-in wireless
(receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range | Type | Accuracy |
|------------|-------------------|------|----------|
| 1178-300WL | 25-300mm/1.18-12" | A | ±0.05mm |

Non waterproof, with data interface (data output cable
code 7315-21 need receiver page 4, 7302-21 page 12, optional)

| Code | Range | Type | Accuracy |
|----------|-------------------|------|----------|
| 1178-300 | 25-300mm/1.18-12" | A | ±0.05mm |

IP67 dust/waterproof, no automatic power off, set zero
after power on each time, without data interface

| Code | Range | Type | Accuracy |
|-----------|-------------------|------|----------|
| 1178-300P | 33-300mm/1.30-12" | B | ±0.05mm |

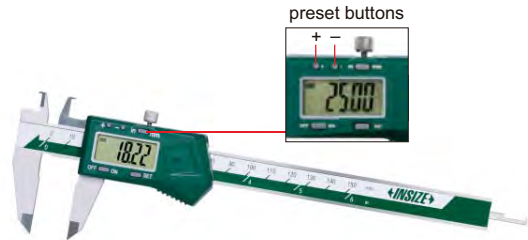
DATA OUTPUT

DIGITAL INSIDE GROOVE CALIPERS

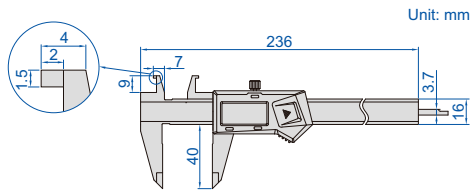
2



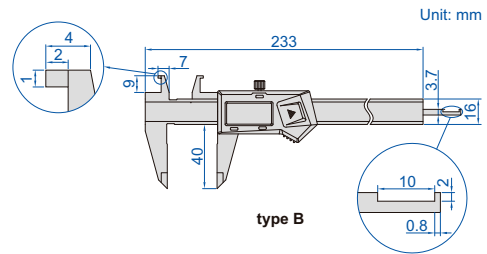
1191-150



1191-150B



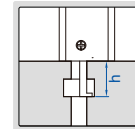
type A



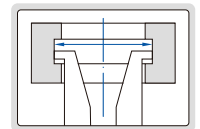
type B

- Non waterproof
- Upper jaws for measuring diameter of grooves
- Resolution: 0.01mm/0.0005"
- Buttons type A: on/off, zero, mm/inch
type B: on/off, set, mm/inch, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel

measure depth of grooves (h<10mm, only for type B)



measure diameter of grooves 8-150mm



With data interface

(data output cable code 7315-21 need receiver page 4, 7302-21 page 12, optional)

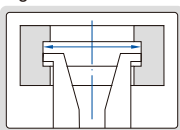
| Code | Range of upper jaw | Range of lower jaw | Accuracy | Type |
|-----------|--------------------|--------------------|----------|------|
| 1191-150 | 8-150mm/0.3-6" | 0-150mm/0-6" | ±0.03mm | A |
| 1191-150B | 8-150mm/0.3-6" | 0-150mm/0-6" | ±0.03mm | B |

Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

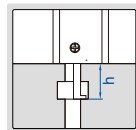
| Code | Range of upper jaw | Range of lower jaw | Accuracy | Type |
|-------------|--------------------|--------------------|----------|------|
| 1191-150WL | 8-150mm/0.3-6" | 0-150mm/0-6" | ±0.03mm | A |
| 1191-150BWL | 8-150mm/0.3-6" | 0-150mm/0-6" | ±0.03mm | B |

INSIDE GROOVE VERNIER CALIPER

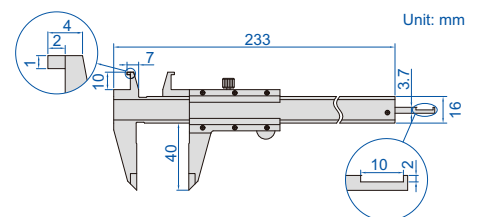
measure diameter of grooves 8-150mm



measure depth of grooves (h<10mm)



1291-150



- Graduation: 0.02mm
- Made of stainless steel
- Satin chrome plated reading surface

| Code | Range of upper jaw | Range of lower jaw | Accuracy |
|----------|--------------------|--------------------|----------|
| 1291-150 | 8-150mm | 0-150mm | ±0.03mm |

DIGITAL OUTSIDE NECK CALIPERS

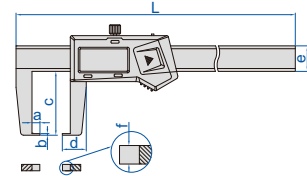
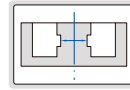
DATA OUTPUT

- Non waterproof
- Measure grooves and recesses
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel
- Optional accessory: depth stop (code **6143**, for calipers with e=16mm)



1187-150A

depth stop 6143 (optional)



With data interface

(mm)

| Code | Range | Accuracy | L | a | b | c | d | e | f | Data output cable (optional) |
|-----------|---------------|----------|-----|----|-----|-----|----|----|-----|---|
| 1187-150A | 0-150mm/0-6" | ±0.04mm | 250 | 5 | 1 | 40 | 15 | 16 | 4 | 7315-21 need receiver page 4, 7302-21 page 12 |
| 1187-200A | 0-200mm/0-8" | ±0.05mm | 310 | 9 | 1.5 | 80 | 23 | 16 | 4 | 7315-21 need receiver page 4, 7302-21 page 12 |
| 1187-300A | 0-300mm/0-12" | ±0.06mm | 490 | 12 | 2 | 150 | 36 | 24 | 4 | 7315-22 need receiver page 4, 7302-22 page 12 |
| 1187-500A | 0-500mm/0-20" | ±0.07mm | 690 | 12 | 2 | 150 | 36 | 24 | 5.5 | 7315-22 need receiver page 4, 7302-22 page 12 |

Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range | Accuracy | L | a | b | c | d | e | f |
|-------------|---------------|----------|-------|------|-------|-------|------|------|-------|
| 1187-150AWL | 0-150mm/0-6" | ±0.04mm | 250mm | 5mm | 1mm | 40mm | 15mm | 16mm | 4mm |
| 1187-200AWL | 0-200mm/0-8" | ±0.05mm | 310mm | 9mm | 1.5mm | 80mm | 23mm | 16mm | 4mm |
| 1187-300AWL | 0-300mm/0-12" | ±0.06mm | 490mm | 12mm | 2mm | 150mm | 36mm | 24mm | 4mm |
| 1187-500AWL | 0-500mm/0-20" | ±0.07mm | 690mm | 12mm | 2mm | 150mm | 36mm | 24mm | 5.5mm |

DIGITAL OUTSIDE POINT CALIPERS

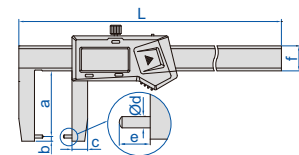
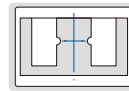
DATA OUTPUT

- Non waterproof
- Measure wall thickness inside bores and recesses
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel
- Optional accessory: depth stop (code **6143**)



1185-150A

depth stop 6143 (optional)



With data interface

(mm)

| Code | Range | Accuracy | L | a | b | c | Ød | e | f | Data output cable (optional) |
|-----------|---------------|----------|-----|-----|---|----|----|----|----|---|
| 1185-150A | 0-150mm/0-6" | ±0.04mm | 250 | 40 | 3 | 10 | 2 | 5 | 16 | 7315-21 need receiver page 4, 7302-21 page 12 |
| 1185-200A | 0-200mm/0-8" | ±0.05mm | 310 | 80 | 3 | 14 | 3 | 9 | 16 | 7315-21 need receiver page 4, 7302-21 page 12 |
| 1185-300A | 0-300mm/0-12" | ±0.06mm | 490 | 150 | 3 | 20 | 3 | 12 | 24 | 7315-22 need receiver page 4, 7302-22 page 12 |

Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

(mm)

| Code | Range | Accuracy | L | a | b | c | Ød | e | f |
|-------------|---------------|----------|-----|-----|---|----|----|----|----|
| 1185-150AWL | 0-150mm/0-6" | ±0.04mm | 250 | 40 | 3 | 10 | 2 | 5 | 16 |
| 1185-200AWL | 0-200mm/0-8" | ±0.05mm | 310 | 80 | 3 | 14 | 3 | 9 | 16 |
| 1185-300AWL | 0-300mm/0-12" | ±0.06mm | 490 | 150 | 3 | 20 | 3 | 12 | 24 |

DATA OUTPUT

- Non waterproof
- Measure grooves and recesses in small spaces
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel

DIGITAL OUTSIDE GROOVE CALIPERS


1535-100

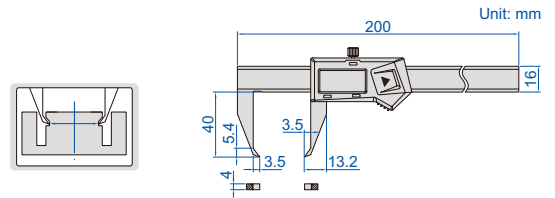


With data interface (data output cable code 7315-21 need receiver page 4, 7302-21 page 12, optional)

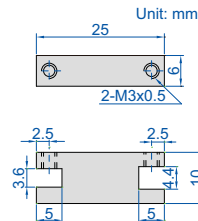
| Code | Range | Accuracy |
|----------|--------------|----------|
| 1535-100 | 0-100mm/0-4" | ±0.03mm |

Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range | Accuracy |
|------------|--------------|----------|
| 1535-100WL | 0-100mm/0-4" | ±0.03mm |

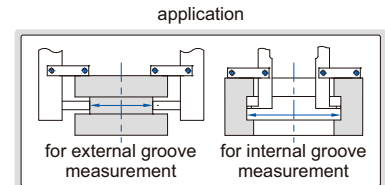

DEPTH STOP FOR CALIPERS


6143



| Code |
|------|
| 6143 |

- Supplied in pair
- Made of stainless steel
- Suitable for caliper series 1124, 1526, 1530, 1199, 1520, 1176, 1178, 1120, 1121, 1187, 1129, 1185 and 1376


DIGITAL SMALL POINT CALIPERS

- Non waterproof
- Small pointed jaws fit into small grooves and recesses
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel



1169-150

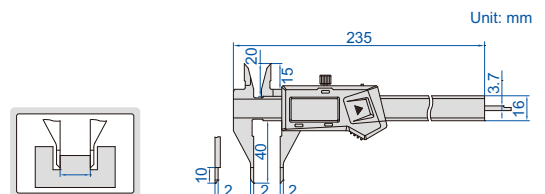
DATA OUTPUT

With data interface (data output cable code 7315-21 need receiver page 4, 7302-21 page 12, optional)

| Code | Range | Accuracy |
|----------|--------------|----------|
| 1169-150 | 0-150mm/0-6" | ±0.03mm |

Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range | Accuracy |
|------------|--------------|----------|
| 1169-150WL | 0-150mm/0-6" | ±0.03mm |



DIGITAL POINT CALIPERS

DATA
OUTPUT

2

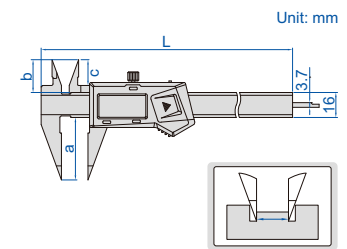
- Non waterproof
- Pointed jaws fit into small grooves and recesses
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel



1183-150A

With data interface
(data output cable code 7315-21 need receiver page 4, 7302-21 page 12, optional)

| Code | Range | Accuracy | L | a | b | c |
|-----------|---------------|----------|-------|------|------|--------|
| 1183-150A | 0-150mm/0-6" | ±0.03mm | 236mm | 40mm | 21mm | 16.5mm |
| 1183-200A | 0-200mm/0-8" | ±0.03mm | 286mm | 50mm | 24mm | 19.5mm |
| 1183-300A | 0-300mm/0-12" | ±0.03mm | 400mm | 60mm | 25mm | 21.5mm |



Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range | Accuracy | L | a | b | c |
|-------------|---------------|----------|-------|------|------|--------|
| 1183-150AWL | 0-150mm/0-6" | ±0.03mm | 236mm | 40mm | 21mm | 16.5mm |
| 1183-200AWL | 0-200mm/0-8" | ±0.03mm | 286mm | 50mm | 24mm | 19.5mm |
| 1183-300AWL | 0-300mm/0-12" | ±0.03mm | 400mm | 60mm | 25mm | 21.5mm |

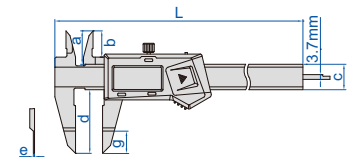
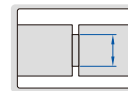
DIGITAL BLADE CALIPERS

DATA
OUTPUT



1188-150A

- Non waterproof
- The blade jaws fit into small grooves
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel



With data interface (data output cable code 7315-21 need receiver page 4, 7302-21 page 12, optional)

| Code | Range | Accuracy | L | a | b | c | d | e | g |
|-----------|---------------|----------|-------|------|--------|------|------|--------|------|
| 1188-150A | 0-150mm/0-6" | ±0.03mm | 235mm | 21mm | 16.5mm | 16mm | 40mm | 0.85mm | 17mm |
| 1188-200A | 0-200mm/0-8" | ±0.03mm | 297mm | 24mm | 20mm | 16mm | 50mm | 0.85mm | 17mm |
| 1188-300A | 0-300mm/0-12" | ±0.04mm | 390mm | 26mm | 21.5mm | 16mm | 60mm | 1.00mm | 17mm |

Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range | Accuracy | L | a | b | c | d | e | g |
|-------------|---------------|----------|-------|------|--------|------|------|--------|------|
| 1188-150AWL | 0-150mm/0-6" | ±0.03mm | 235mm | 21mm | 16.5mm | 16mm | 40mm | 0.85mm | 17mm |
| 1188-200AWL | 0-200mm/0-8" | ±0.03mm | 297mm | 24mm | 20mm | 16mm | 50mm | 0.85mm | 17mm |
| 1188-300AWL | 0-300mm/0-12" | ±0.04mm | 390mm | 26mm | 21.5mm | 16mm | 60mm | 1.00mm | 17mm |

DIGITAL CALIPERS WITH POSITIONING SURFACES

- Non waterproof
- Lower jaws with positioning surfaces, for measuring inside diameters quickly
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, set, mm/inch, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel

With data interface (data output cable code 7315-21 need receiver page 4, 7302-21 page 12, optional)

| Code | Range | Accuracy |
|----------|--------------|----------|
| 1534-200 | 0-200mm/0-8" | ±0.03mm |

Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range | Accuracy |
|------------|--------------|----------|
| 1534-200WL | 0-200mm/0-8" | ±0.03mm |

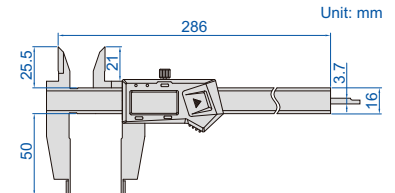
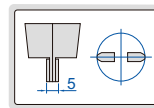
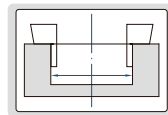


1534-200

DATA OUTPUT



preset buttons



Unit: mm

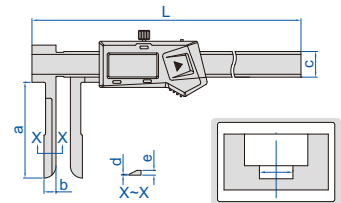
DATA OUTPUT

DIGITAL INSIDE KNIFE-EDGE CALIPERS

- Non waterproof
- Measure diameter of deep step holes
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel



1123-150A



With data interface

(mm)

| Code | Range | Accuracy | L | a | b | c | d | e | Data output cable (optional) |
|-----------|------------------|----------|-----|-----|----|----|-----|-----|---|
| 1123-150A | 15-150mm/0.6-6" | ±0.05mm | 250 | 60 | 12 | 16 | 0.3 | 3.5 | 7315-21 need receiver page 4, 7302-21 page 12 |
| 1123-200A | 20-200mm/0.8-8" | ±0.06mm | 305 | 100 | 17 | 16 | 0.3 | 3.5 | 7315-21 need receiver page 4, 7302-21 page 12 |
| 1123-300A | 24-300mm/0.9-12" | ±0.06mm | 500 | 150 | 22 | 24 | 0.5 | 3.5 | 7315-22 need receiver page 4, 7302-22 page 12 |

Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

(mm)

| Code | Range | Accuracy | L | a | b | c | d | e |
|-------------|-----------------|----------|-----|-----|----|----|-----|-----|
| 1123-150AWL | 15-150mm/0.6-6" | ±0.05mm | 250 | 60 | 12 | 16 | 0.3 | 3.5 |
| 1123-200AWL | 20-200mm/0.8-8" | ±0.06mm | 305 | 100 | 17 | 16 | 0.3 | 3.5 |

DIGITAL CALIPERS WITH KNIFE-EDGE LOWER JAWS

- Non waterproof
- Measure diameter of narrow grooves
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel

With data interface (data output cable code 7315-21 need receiver page 4, 7302-21 page 12, optional)

| Code | Range | Accuracy |
|----------|--------------|----------|
| 1532-200 | 0-200mm/0-8" | ±0.03mm |

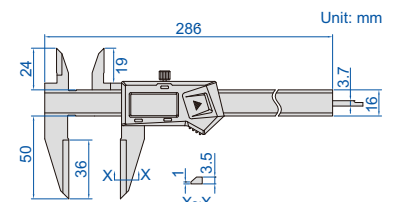
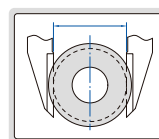
Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range | Accuracy |
|------------|--------------|----------|
| 1532-200WL | 0-200mm/0-8" | ±0.03mm |



1532-200

DATA OUTPUT



Unit: mm

DIGITAL CALIPERS WITH LONG UPPER JAWS

DATA
OUTPUT

2

- Non waterproof
- Long upper jaws for measuring diameter of deep holes
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel



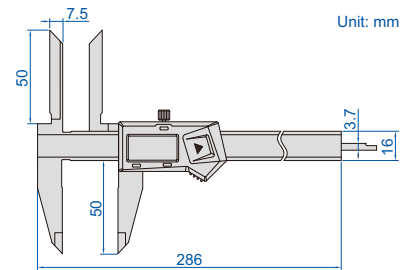
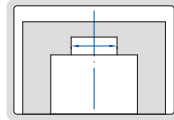
1138-200

With data interface (data output cable code 7315-21 need receiver page 4, 7302-21 page 12, optional)

| Code | Range | Accuracy |
|----------|--------------|----------|
| 1138-200 | 0-200mm/0-8" | ±0.04mm |

Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range | Accuracy |
|------------|--------------|----------|
| 1138-200WL | 0-200mm/0-8" | ±0.04mm |



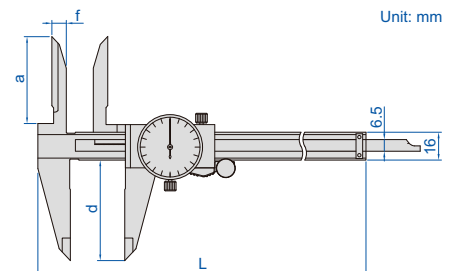
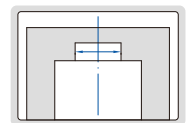
DIAL CALIPERS WITH LONG UPPER JAWS

SHOCK
PROOF



1338-300

- Long upper jaws for measuring diameter of deep holes
- Shockproof dial indicator
- Dial indicator graduation: 0.02mm
- Made of stainless steel

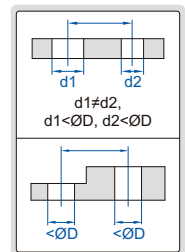
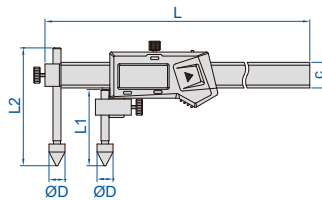


(mm)

| Code | Range | Accuracy | L | a | d | f |
|----------|---------|----------|-----|----|----|-----|
| 1338-150 | 0-150mm | ±0.03mm | 236 | 40 | 40 | 6.5 |
| 1338-200 | 0-200mm | ±0.03mm | 288 | 45 | 50 | 7.5 |
| 1338-300 | 0-300mm | ±0.04mm | 400 | 50 | 60 | 8 |


1192-150A

preset buttons



- Non waterproof
- Measure hole center distance in the same or offset planes
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, set, mm/inch, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel

With data interface

(mm)

| Code | Range | Accuracy | c | ØD | L1 | L2 | L | Data output cable (optional) |
|-------------------|-------------------|----------|----|----|----|-----|------|---|
| 1192-150A | 10-150mm/0.4-6" | ±0.05mm | 16 | 10 | 46 | 79 | 236 | 7315-21 need receiver page 4, 7302-21 page 12 |
| 1192-200A | 10-200mm/0.4-8" | ±0.07mm | 16 | 10 | 46 | 79 | 286 | 7315-21 need receiver page 4, 7302-21 page 12 |
| 1192-300A | 10-300mm/0.4-12" | ±0.09mm | 16 | 10 | 46 | 79 | 396 | 7315-21 need receiver page 4, 7302-21 page 12 |
| 1192-500A | 20-500mm/0.8-20" | ±0.09mm | 24 | 20 | 52 | 112 | 725 | 7315-22 need receiver page 4, 7302-22 page 12 |
| 1192-1000A | 30-1000mm/1.2-40" | ±0.12mm | 31 | 30 | 75 | 120 | 1255 | 7315-22 need receiver page 4, 7302-22 page 12 |
| 1192-1500A | 30-1500mm/1.2-60" | ±0.15mm | 31 | 30 | 75 | 120 | 1760 | 7315-22 need receiver page 4, 7302-22 page 12 |

Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

(mm)

| Code | Range | Accuracy | c | ØD | L1 | L2 | L |
|--------------------|------------------|----------|----|----|----|-----|-----|
| 1192-150AWL | 10-150mm/0.4-6" | ±0.05mm | 16 | 10 | 46 | 79 | 236 |
| 1192-200AWL | 10-200mm/0.4-8" | ±0.07mm | 16 | 10 | 46 | 79 | 286 |
| 1192-300AWL | 10-300mm/0.4-12" | ±0.09mm | 16 | 10 | 46 | 79 | 396 |
| 1192-500AWL | 20-500mm/0.8-20" | ±0.09mm | 24 | 20 | 52 | 112 | 725 |

DIGITAL BACK-JAW CENTERLINE CALIPERS

DATA OUTPUT

preset buttons

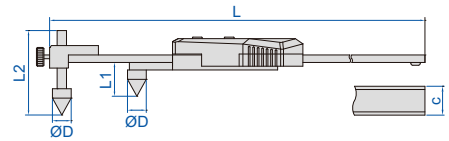
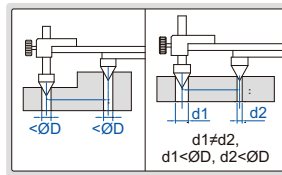


1177-200

back-jaw



- Non waterproof
- Measure hole center distance in the same or offset planes
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, set, mm/inch, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel



With data interface

(mm)

| Code | Range | Accuracy | ØD | c | L1 | L2 | L | Data output cable (optional) |
|-----------|-------------------|----------|----|----|----|----|------|---|
| 1177-200 | 10-200mm/0.4-8" | ±0.10mm | 10 | 16 | 18 | 45 | 310 | 7315-21 need receiver page 4, 7302-21 page 12 |
| 1177-300 | 10-300mm/0.4-12" | ±0.10mm | 10 | 16 | 18 | 45 | 410 | 7315-21 need receiver page 4, 7302-21 page 12 |
| 1177-500 | 20-500mm/0.8-20" | ±0.10mm | 20 | 24 | 26 | 70 | 692 | 7315-22 need receiver page 4, 7302-22 page 12 |
| 1177-1000 | 30-1000mm/1.2-40" | ±0.12mm | 30 | 31 | 39 | 70 | 1242 | 7315-22 need receiver page 4, 7302-22 page 12 |
| 1177-1500 | 30-1500mm/1.2-60" | ±0.15mm | 30 | 31 | 39 | 70 | 1745 | 7315-22 need receiver page 4, 7302-22 page 12 |

Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

(mm)

| Code | Range | Accuracy | ØD | c | L1 | L2 | L |
|------------|------------------|----------|----|----|----|----|-----|
| 1177-200WL | 10-200mm/0.4-8" | ±0.10mm | 10 | 16 | 18 | 45 | 310 |
| 1177-300WL | 10-300mm/0.4-12" | ±0.10mm | 10 | 16 | 18 | 45 | 410 |
| 1177-500WL | 20-500mm/0.8-20" | ±0.10mm | 20 | 24 | 26 | 70 | 692 |

DIGITAL BACK-JAW EDGE TO CENTER CALIPERS

DATA OUTPUT

- Non waterproof
- Measure edge to hole center distance
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, set, mm/inch, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel

With data interface (data output cable code 7315-21 need receiver page 4, 7302-21 page 12, optional)

| Code | Range | Accuracy | L |
|----------|-----------------|----------|-------|
| 1524-200 | 5-200mm/0.2-8" | ±0.1mm | 310mm |
| 1524-300 | 5-300mm/0.2-12" | ±0.1mm | 410mm |

Built-in wireless

(receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range | Accuracy | L |
|------------|-----------------|----------|-------|
| 1524-200WL | 5-200mm/0.2-8" | ±0.1mm | 310mm |
| 1524-300WL | 5-300mm/0.2-12" | ±0.1mm | 410mm |

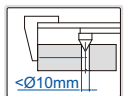
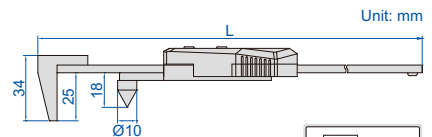
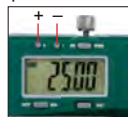


1524-200

back-jaw



preset buttons



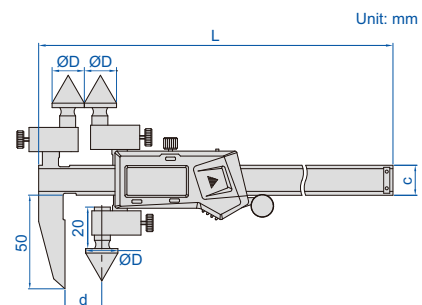
DATA
OUTPUT

DIGITAL CENTERLINE AND EDGE TO CENTER CALIPERS



1521-2002

- Non waterproof
- Measure hole center distance in the same or offset planes and edge to hole center distance
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, set, mm/inch, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel

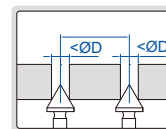


With data interface

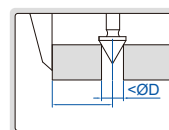
(data output cable code 7315-21 need receiver page 4, 7302-21 page 12, optional) (mm)

| Code | Range | Accuracy | ØD | d | L | c |
|-----------|------------------|----------|----|----|-----|----|
| 1521-150 | 5-150mm/0.2-6" | ±0.05mm | 5 | 5 | 236 | 16 |
| 1521-1501 | 10-150mm/0.4-6" | ±0.05mm | 10 | 10 | 236 | 16 |
| 1521-1502 | 20-150mm/0.8-6" | ±0.05mm | 20 | 20 | 236 | 16 |
| 1521-200 | 5-200mm/0.2-8" | ±0.05mm | 5 | 5 | 285 | 16 |
| 1521-2001 | 10-200mm/0.4-8" | ±0.05mm | 10 | 10 | 285 | 16 |
| 1521-2002 | 20-200mm/0.8-8" | ±0.05mm | 20 | 20 | 285 | 16 |
| 1521-300 | 5-300mm/0.2-12" | ±0.07mm | 5 | 5 | 385 | 17 |
| 1521-3001 | 10-300mm/0.4-12" | ±0.07mm | 10 | 10 | 385 | 17 |
| 1521-3002 | 20-300mm/0.8-12" | ±0.07mm | 20 | 20 | 385 | 17 |

measure hole center distance



measure edge to hole center distance



Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

(mm)

| Code | Range | Accuracy | ØD | d | L | c |
|-------------|------------------|----------|----|----|-----|----|
| 1521-150WL | 5-150mm/0.2-6" | ±0.05mm | 5 | 5 | 236 | 16 |
| 1521-1501WL | 10-150mm/0.4-6" | ±0.05mm | 10 | 10 | 236 | 16 |
| 1521-1502WL | 20-150mm/0.8-6" | ±0.05mm | 20 | 20 | 236 | 16 |
| 1521-200WL | 5-200mm/0.2-8" | ±0.05mm | 5 | 5 | 285 | 16 |
| 1521-2001WL | 10-200mm/0.4-8" | ±0.05mm | 10 | 10 | 285 | 16 |
| 1521-2002WL | 20-200mm/0.8-8" | ±0.05mm | 20 | 20 | 285 | 16 |
| 1521-300WL | 5-300mm/0.2-12" | ±0.07mm | 5 | 5 | 385 | 17 |
| 1521-3001WL | 10-300mm/0.4-12" | ±0.07mm | 10 | 10 | 385 | 17 |
| 1521-3002WL | 20-300mm/0.8-12" | ±0.07mm | 20 | 20 | 385 | 17 |

DIGITAL CENTERLINE AND EDGE TO CENTER CALIPERS

DATA OUTPUT

2

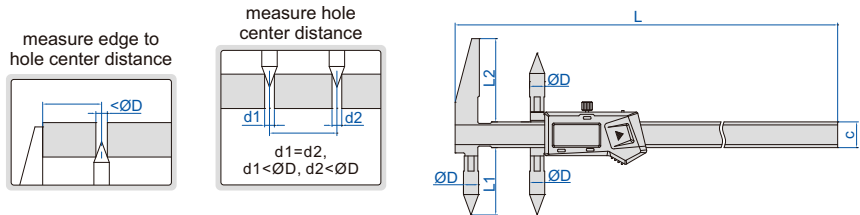


1525-300

preset buttons



- Non waterproof
- Measure hole center distance or edge to hole center distance
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, set, mm/inch, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel



With data interface

(mm)

| Code | Range of upper jaw (edge to center) | Range of lower jaw (center to center) | Accuracy | ØD | L1 | L2 | c | L | Data output cable (optional) |
|-----------|-------------------------------------|---------------------------------------|----------|----|------|----|----|------|---|
| 1525-300 | 5-300mm/0.2-12" | 10-300mm/0.4-12" | ±0.08mm | 10 | 44.5 | 55 | 17 | 410 | 7315-21 need receiver page 4, 7302-21 page 12 |
| 1525-3001 | 10-300mm/0.4-12" | 20-300mm/0.8-12" | ±0.08mm | 20 | 48 | 60 | 17 | 410 | |
| 1525-500 | 10-500mm/0.4-20" | 20-500mm/0.8-20" | ±0.09mm | 20 | 50 | 60 | 24 | 690 | 7315-22 need receiver page 4, 7302-22 page 12 |
| 1525-1000 | 15-1000mm/0.6-40" | 30-1000mm/1.2-40" | ±0.12mm | 30 | 70 | 81 | 31 | 1255 | |
| 1525-1500 | 15-1500mm/0.6-60" | 30-1500mm/1.2-60" | ±0.15mm | 30 | 70 | 81 | 31 | 1760 | |

Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

(mm)

| Code | Range of upper jaw (edge to center) | Range of lower jaw (center to center) | Accuracy | ØD | L1 | L2 | c | L |
|-------------|-------------------------------------|---------------------------------------|----------|----|------|----|----|-----|
| 1525-300WL | 5-300mm/0.2-12" | 10-300mm/0.4-12" | ±0.08mm | 10 | 44.5 | 55 | 17 | 410 |
| 1525-3001WL | 10-300mm/0.4-12" | 20-300mm/0.8-12" | ±0.08mm | 20 | 48 | 60 | 17 | 410 |
| 1525-500WL | 10-500mm/0.4-20" | 20-500mm/0.8-20" | ±0.09mm | 20 | 50 | 60 | 24 | 690 |

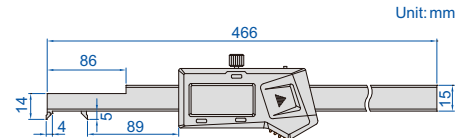
DIGITAL HOOK CALIPERS

DATA OUTPUT



1122-300

- Non waterproof
- Measure width and distance of grooves inside bores
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel

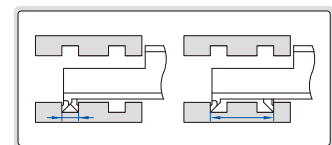


With data interface (data output cable code 7315-21 need receiver page 4, 7302-21 page 12, optional)

| Code | Range | Accuracy |
|----------|------------------|----------|
| 1122-300 | 4-300mm/0.16-12" | ±0.04mm |

Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range | Accuracy |
|------------|------------------|----------|
| 1122-300WL | 4-300mm/0.16-12" | ±0.04mm |



DATA
OUTPUT

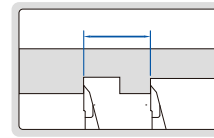
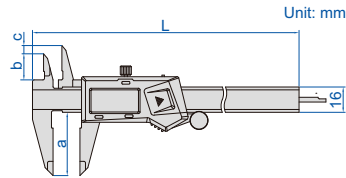
DIGITAL CALIPERS WITH ONE DIRECTION UPPER JAWS


1184-200

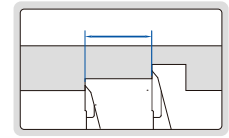


1184-150A

- Non waterproof
- Resolution: 0.01mm/0.0005"
- Buttons: zero, power on/off, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code 7315-21 need receiver page 4, 7302-21 page 12)



jaws with same height used for measuring the distance in same level



jaws with different height used for measuring the distance in different level

Jaws with same height (mm)

| Code | Range | Accuracy | L | a | b | c |
|----------|---------------|----------|-----|----|----|---|
| 1184-150 | 0-150mm/0-6" | ±0.03mm | 236 | 40 | 17 | 0 |
| 1184-200 | 0-200mm/0-8" | ±0.03mm | 286 | 50 | 20 | 0 |
| 1184-300 | 0-300mm/0-12" | ±0.03mm | 400 | 60 | 22 | 0 |

Jaws with different height (mm)

| Code | Range | Accuracy | L | a | b | c |
|-----------|---------------|----------|-----|----|----|----|
| 1184-150A | 0-150mm/0-6" | ±0.03mm | 236 | 40 | 17 | 5 |
| 1184-200A | 0-200mm/0-8" | ±0.03mm | 286 | 50 | 20 | 8 |
| 1184-300A | 0-300mm/0-12" | ±0.03mm | 400 | 60 | 22 | 10 |

 DATA
OUTPUT

DIGITAL OFFSET CALIPERS


1186-150A

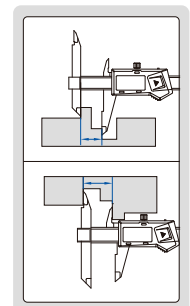
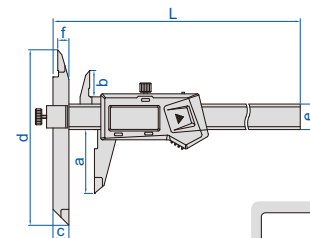
- Non waterproof
- The left jaw can slide up and down to facilitate measurement of stepped sections
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel

With data interface (data output cable code 7315-21 need receiver page 4, 7302-21 page 12, optional) (mm)

| Code | Range | Accuracy | L | a | b | c | d | e | f |
|-----------|---------------|----------|-----|----|------|----|-----|----|---|
| 1186-150A | 0-150mm/0-6" | ±0.04mm | 249 | 40 | 16.5 | 10 | 110 | 17 | 7 |
| 1186-200A | 0-200mm/0-8" | ±0.04mm | 299 | 50 | 19.5 | 10 | 120 | 17 | 7 |
| 1186-300A | 0-300mm/0-12" | ±0.05mm | 399 | 60 | 20.5 | 10 | 130 | 17 | 7 |

Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required) (mm)

| Code | Range | Accuracy | L | a | b | c | d | e | f |
|-------------|---------------|----------|-----|----|------|----|-----|----|---|
| 1186-150AWL | 0-150mm/0-6" | ±0.04mm | 249 | 40 | 16.5 | 10 | 110 | 17 | 7 |
| 1186-200AWL | 0-200mm/0-8" | ±0.04mm | 299 | 50 | 19.5 | 10 | 120 | 17 | 7 |
| 1186-300AWL | 0-300mm/0-12" | ±0.05mm | 399 | 60 | 20.5 | 10 | 130 | 17 | 7 |



DIGITAL TUBE THICKNESS CALIPERS

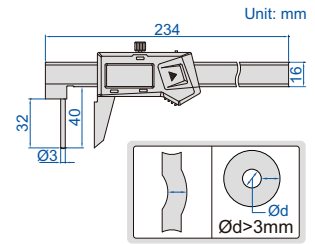
DATA OUTPUT

2

- Non waterproof
- Measure wall thickness of tubes
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel



1161-150A



With data interface (data output cable code 7315-21 need receiver page 4, 7302-21 page 12, optional)

| Code | Range | Accuracy |
|-----------|--------------|----------|
| 1161-150A | 0-150mm/0-6" | ±0.05mm |

Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

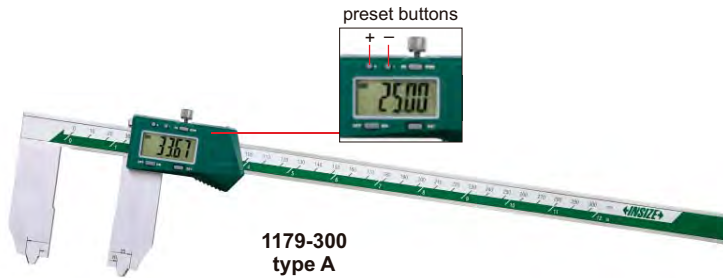
| Code | Range | Accuracy |
|-------------|--------------|----------|
| 1161-150AWL | 0-150mm/0-6" | ±0.05mm |

DIGITAL RTJ RING GROOVE CALIPERS

DATA OUTPUT

- Non waterproof
- Angle of RTJ ring groove: 23°
- Measure ring grooves of flange
- Resolution: 0.01mm/0.0005"
- Button function: on/off, set, zero, mm/inch, data preset
- Battery CR2032
- Made of stainless steel

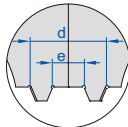
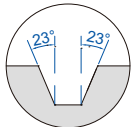
preset buttons



1179-300 type A

applicable for RTJ ring grooves with angle 23°

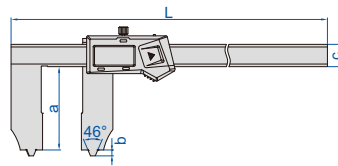
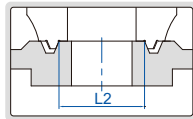
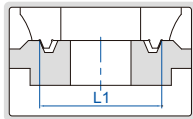
d and e need to be added on the reading



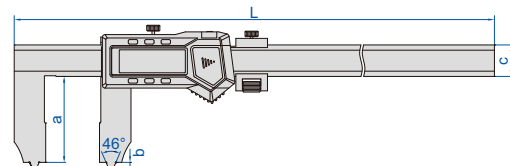
1179-600 type B

measure outside diameter of RTJ ring groove

measure inside diameter of RTJ ring groove



type A



type B

With data interface

(mm)

| Code | Range (inside diameter of RTJ ring groove) | Range (outside diameter of RTJ ring groove) | Accuracy | Type | L | a | b | c | d | e | Data output cable (optional) |
|-----------|--|---|----------|------|------|------|-----|----|----|----|---|
| 1179-300 | 10-300mm/0.4-12" | 25-300mm/1-12" | ±0.06mm | A | 410 | 63.5 | 4.5 | 17 | 25 | 10 | 7315-21 need receiver page 4, 7302-21 page 12 |
| 1179-600 | 10-600mm/0.4-24" | 25-600mm/1-24" | ±0.07mm | B | 770 | 65.5 | 4.5 | 24 | 25 | 10 | |
| 1179-1000 | 15-1000mm/0.6-40" | 30-1000mm/1.2-40" | ±0.09mm | B | 1220 | 90 | 5 | 31 | 30 | 15 | 7315-22 need receiver page 4, 7302-22 page 12 |

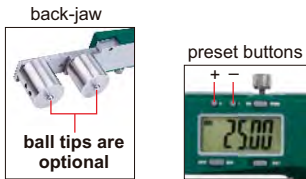
Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

(mm)

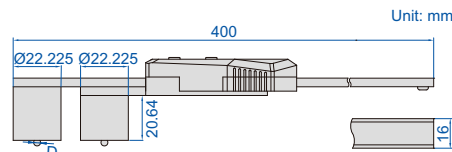
| Code | Range (inside diameter of RTJ ring groove) | Range (outside diameter of RTJ ring groove) | Accuracy | Type | L | a | b | c | d | e |
|------------|--|---|----------|------|-----|------|-----|----|----|----|
| 1179-300WL | 10-300mm/0.4-12" | 25-300mm/1-12" | ±0.06mm | A | 410 | 63.5 | 4.5 | 17 | 25 | 10 |
| 1179-600WL | 10-600mm/0.4-24" | 25-600mm/1-24" | ±0.07mm | B | 770 | 65.5 | 4.5 | 24 | 25 | 10 |

DIGITAL CALIPERS WITH INTERCHANGEABLE BALL TIPS

DATA OUTPUT



1527-3001



- Non waterproof
- Resolution 0.01mm/0.0005"
- Buttons: on/off, set, mm/inch, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel
- Optional accessory: ball tips

With data interface (data output cable code 7315-21 need receiver page 4, 7302-21 page 12, optional)

| Code | Range | Accuracy |
|-----------|------------------|----------|
| 1527-3001 | (22.22+D)~300mm* | ±0.03mm |

Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range | Accuracy |
|-------------|------------------|----------|
| 1527-3001WL | (22.22+D)~300mm* | ±0.03mm |

*"D" is the diameter of ball tips.

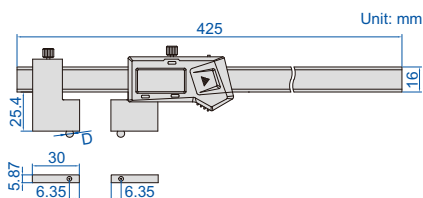
Ball tips (optional, supplied in pair)



| Code | Diameter (D) | Accuracy of diameter | Type | Material |
|-----------|-------------------|----------------------|------|-----------------|
| 1527-T101 | 1/16" (Ø1.5875mm) | ±0.005mm | A | ruby |
| 1527-T102 | 1/8" (Ø3.175mm) | ±0.005mm | B | stainless steel |
| 1527-T103 | 3/16" (Ø4.7625mm) | ±0.005mm | B | stainless steel |
| 1527-T104 | 1/4" (Ø6.35mm) | ±0.005mm | B | stainless steel |
| 1527-T105 | 3/8" (Ø9.525mm) | ±0.005mm | B | stainless steel |
| 1527-T106 | 1/2" (Ø12.7mm) | ±0.005mm | B | stainless steel |

DATA OUTPUT

DIGITAL CALIPERS WITH INTERCHANGEABLE BALL TIPS



ball tips are optional

1528-3001



- Non waterproof
- Resolution 0.01mm/0.0005"
- Buttons: on/off, set, mm/inch, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel
- Optional accessory: ball tips

With data interface (data output cable code 7315-21 need receiver page 4, 7302-21 page 12, optional)

| Code | Range | Accuracy |
|-----------|-----------------|----------|
| 1528-3001 | (12.7+D)~300mm* | ±0.03mm |

Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range | Accuracy |
|-------------|-----------------|----------|
| 1528-3001WL | (12.7+D)~300mm* | ±0.03mm |

*"D" is the diameter of ball tips.

Ball tips (optional, supplied in pair)



| Code | Diameter (D) | Accuracy of diameter | Type | Material |
|-----------|-------------------|----------------------|------|-----------------|
| 1527-T101 | 1/16" (Ø1.5875mm) | ±0.005mm | A | ruby |
| 1527-T102 | 1/8" (Ø3.175mm) | ±0.005mm | B | stainless steel |
| 1527-T103 | 3/16" (Ø4.7625mm) | ±0.005mm | B | stainless steel |
| 1527-T104 | 1/4" (Ø6.35mm) | ±0.005mm | B | stainless steel |
| 1527-T105 | 3/8" (Ø9.525mm) | ±0.005mm | B | stainless steel |
| 1527-T106 | 1/2" (Ø12.7mm) | ±0.005mm | B | stainless steel |

DIGITAL CRIMP HEIGHT CALIPERS

- Non waterproof
- Measure crimp height
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, meet DIN862
- Made of stainless steel



1165-150A

With data interface (data output cable code 7315-21 need receiver page 4, 7302-21 page 12, optional)

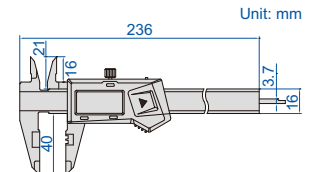
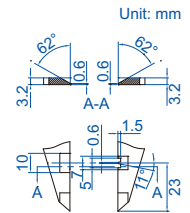
| Code | Range | Accuracy |
|-----------|--------------|----------|
| 1165-150A | 0-150mm/0-6" | ±0.03mm |

Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range | Accuracy |
|-------------|--------------|----------|
| 1165-150AWL | 0-150mm/0-6" | ±0.03mm |

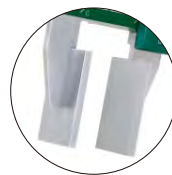
RELATIVE PRODUCT: CRIMP HEIGHT MICROMETER (CODE 3266-25BA, 3566-25BA)

DATA OUTPUT



DIGITAL CALIPERS WITH LARGE MEASURING FACES

- Non waterproof
- Measure diameter of wire ropes, and thickness of soft materials like rubber, sponge, etc.
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel



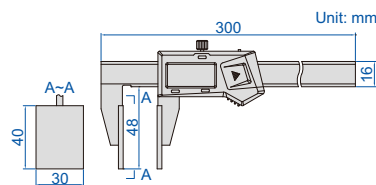
1172-200

With data interface (data output cable code 7315-21 need receiver page 4, 7302-21 page 12, optional)

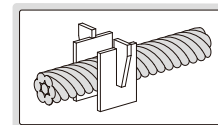
| Code | Range | Accuracy |
|----------|--------------|----------|
| 1172-200 | 0-200mm/0-8" | ±0.07mm |

Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

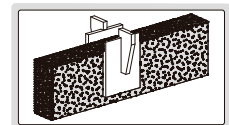
| Code | Range | Accuracy |
|------------|--------------|----------|
| 1172-200WL | 0-200mm/0-8" | ±0.07mm |



measure diameter of wire ropes



measure thickness of rubber, sponge, etc.



DATA OUTPUT

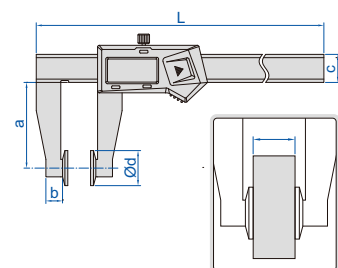
DIGITAL CALIPERS WITH DISK FACES

- Non waterproof
- Measure thickness of soft sheets
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel



1533-150

DATA OUTPUT



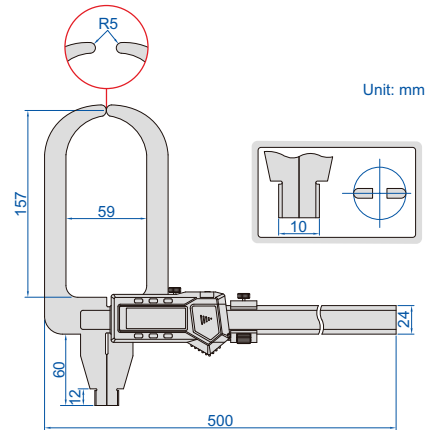
With data interface

| Code | Range | Accuracy | L | a | b | c | Ød | Data output cable (optional) |
|----------|---------------|----------|-----|-----|------|----|----|---|
| 1533-150 | 0-150mm/0-6" | ±0.04mm | 245 | 50 | 11 | 16 | 20 | 7315-21 need receiver page 4, 7302-21 page 12 |
| 1533-200 | 0-200mm/0-8" | ±0.05mm | 310 | 80 | 11 | 16 | 30 | 7315-21 need receiver page 4, 7302-21 page 12 |
| 1533-500 | 0-500mm/0-20" | ±0.07mm | 680 | 150 | 12.5 | 24 | 50 | 7315-22 need receiver page 4, 7302-22 page 12 |

Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required) (mm)

| Code | Range | Accuracy | L | a | b | c | Ød |
|------------|---------------|----------|-----|-----|------|----|----|
| 1533-150WL | 0-150mm/0-6" | ±0.04mm | 245 | 50 | 11 | 16 | 20 |
| 1533-200WL | 0-200mm/0-8" | ±0.05mm | 310 | 80 | 11 | 16 | 30 |
| 1533-500WL | 0-500mm/0-20" | ±0.07mm | 680 | 150 | 12.5 | 24 | 50 |

DATA OUTPUT
DIGITAL WALL THICKNESS CALIPERS

1536-300


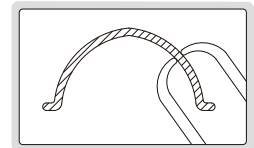
With data interface (data output cable code 7315-22 need receiver page 4, 7302-22 page 12, optional)

| Code | Range | Accuracy |
|----------|---------------|----------|
| 1536-300 | 0-300mm/0-12" | ±0.05mm |

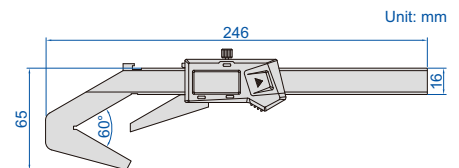
Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range | Accuracy |
|------------|---------------|----------|
| 1536-300WL | 0-300mm/0-12" | ±0.05mm |

- Non waterproof
- Measure wall thickness of helmets, domes and curved pots
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch, ABS, data preset
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel


DIRECT READING, CALCULATION IS NOT REQUIRED
DATA OUTPUT
DIGITAL V SHAPE CALIPER

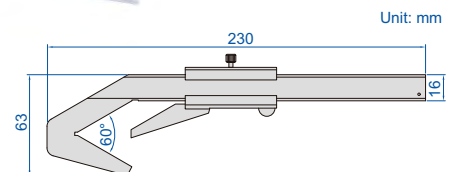
- Non waterproof
- Measure outside diameter of three number of flutes (such as taps, reamers, end mills and gears)
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Battery CR2032
- Automatic power off, move the digital unit to turn on power
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code 7315-1529 need receiver, 7302-1529)


1539-3


| Code | Range | Accuracy |
|--------|--------------------------|----------|
| 1539-3 | Ø4-Ø40mm/0.16"-1.58" DIA | ±0.03mm |

V SHAPE VERNIER CALIPER

- Measure outside diameter of three number of flutes (such as taps, reamers, end mills and gears)
- Made of stainless steel
- Satin chrome plated reading surface


1273-403


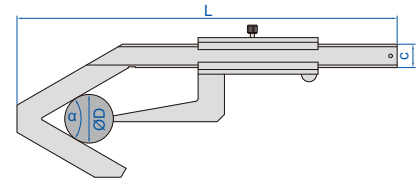
| Code | Range | Graduation | Accuracy |
|----------|---------|------------|----------|
| 1273-403 | Ø4-40mm | 0.05mm | ±0.05mm |

V SHAPE VERNIER CALIPERS

- Measure outside diameter of odd number of flutes (such as taps, reamers, end mills and gears)
- Made of stainless steel
- Satin chrome plated reading surface
- Optional accessory: 4mm pin gage (code **4110-4D00**), Ø50mm calibration cylinder (code **6316-50**)



1229-3



| Code | Range (ØD) | Graduation | Accuracy | Flutes | Angle α | L | c |
|---------|------------|------------|----------|--------|---------|-------|------|
| 1229-3 | Ø4-60mm | 0.02mm | ±0.04mm | 3 | 60° | 260mm | 16mm |
| 1229-35 | Ø50-200mm | 0.02mm | ±0.06mm | 3 | 60° | 516mm | 20mm |
| 1229-5 | Ø4-60mm | 0.02mm | ±0.04mm | 5 | 108° | 210mm | 16mm |
| 1229-55 | Ø50-200mm | 0.02mm | ±0.06mm | 5 | 108° | 360mm | 20mm |

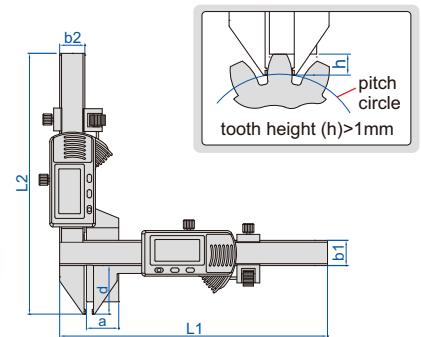
DIGITAL GEAR TOOTH CALIPERS

ATTENTION:
NO DATA OUTPUT

- Non waterproof
- Resolution: 0.01mm/0.0005"
- Carbide tips
- Measure the tooth thickness by positioning the tooth height (for tooth height > 1mm)
- Buttons: zero, on/off, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel

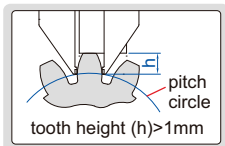


1181-M25A



| Code | Range | Accuracy of height measurement | Accuracy of thickness measurement | Total accuracy | L1 | L2 | a | b1 | b2 | d |
|-----------|---------|--------------------------------|-----------------------------------|----------------|-------|---------|--------|------|------|--------|
| 1181-M25A | M1-25mm | ±0.03mm | ±0.03mm | ±0.04mm | 170mm | 165.5mm | 21mm | 16mm | 16mm | 30.5mm |
| 1181-M50A | M5-50mm | ±0.03mm | ±0.03mm | ±0.04mm | 220mm | 190mm | 50.5mm | 16mm | 16mm | 55mm |

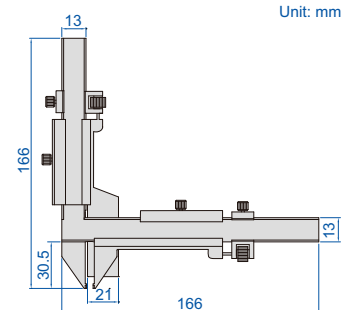
GEAR TOOTH VERNIER CALIPER



- Carbide tips
- Measure the tooth thickness by positioning the tooth height (for tooth height > 1mm)
- Made of stainless steel
- Satin chrome plated reading surface



1281-M26A



| Code | Range | Graduation | Accuracy of height measurement | Accuracy of thickness measurement | Total accuracy |
|-----------|---------|------------|--------------------------------|-----------------------------------|----------------|
| 1281-M26A | M1-26mm | 0.02mm | ±0.03mm | ±0.03mm | ±0.04mm |

REFER TO PAGE 212
FOR DETAILS



1189-150B

DIGITAL ARC RADIUS CALIPERS

REFER TO PAGE 441
FOR DETAILS



1166-150A

DIGITAL SCRIBING CALIPERS

- Non waterproof
- Measure thickness of disk brakes
- Resolution 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel

DIGITAL DISK BRAKE CALIPERS

RELATIVE PRODUCT: DISK BRAKE
MICROMETER (CODE 3288-, 3588-)

DATA
OUTPUT



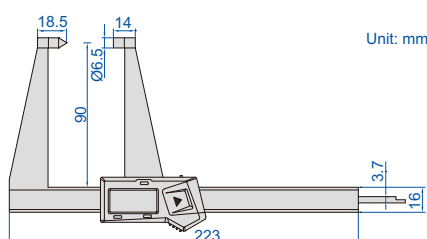
1162-125A

With data interface (data output cable
code 7315-21 need receiver page 4,
7302-21 page 12, optional)

| Code | Range | Accuracy |
|-----------|--------------|----------|
| 1162-125A | 0-125mm/0-5" | ±0.05mm |

Built-in wireless
(receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range | Accuracy |
|-------------|--------------|----------|
| 1162-125AWL | 0-125mm/0-5" | ±0.05mm |



DATA
OUTPUT

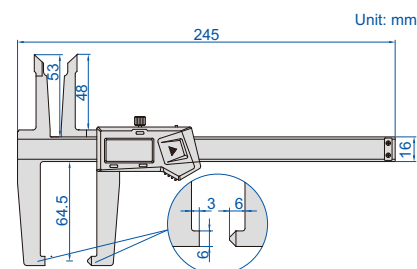
RELATIVE PRODUCT: DISK BRAKE
MICROMETER (CODE 3288-, 3588-)

DIGITAL DISK BRAKE AND PAD CALIPERS

- Non waterproof
- Measure thickness of disk brakes and pad wear
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel



1167-150A



With data interface (data output cable
code 7315-21 need receiver page 4,
7302-21 page 12, optional)

| Code | Range | Accuracy |
|-----------|--------------|----------|
| 1167-150A | 0-150mm/0-6" | ±0.07mm |

Built-in wireless
(receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range | Accuracy |
|-------------|--------------|----------|
| 1167-150AWL | 0-150mm/0-6" | ±0.07mm |



DIGITAL DRUM BRAKE CALIPERS

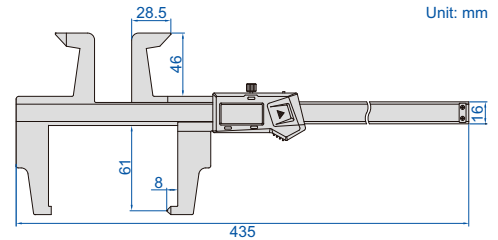
RELATIVE PRODUCT: DISK BRAKE MICROMETER (CODE 3288-, 3588-)

DATA OUTPUT



1168-300A

- Non waterproof
- Measure internal and external diameter of drum brakes
- Resolution 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel



With data interface (data output cable code 7315-21 need receiver page 4, 7302-21 page 12, optional)

| Code | Range | Accuracy |
|-----------|---------------|----------|
| 1168-300A | 0-300mm/0-12" | ±0.07mm |

Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range | Accuracy |
|-------------|---------------|----------|
| 1168-300AWL | 0-300mm/0-12" | ±0.07mm |



DIGITAL DRUM BRAKE CALIPER

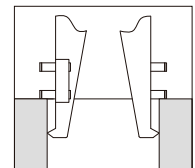
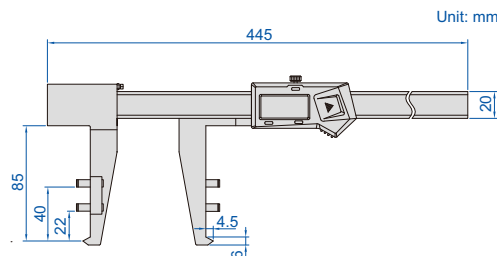
DATA OUTPUT

calibration block (included)



1538-300

- Non waterproof
- Measure internal diameter of drum brakes
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code 7315-22 need receiver page 4, 7302-22 page 12)



| Code | Range | Accuracy |
|----------|------------------|----------|
| 1538-300 | 30-300mm/1.2-12" | ±0.05mm |



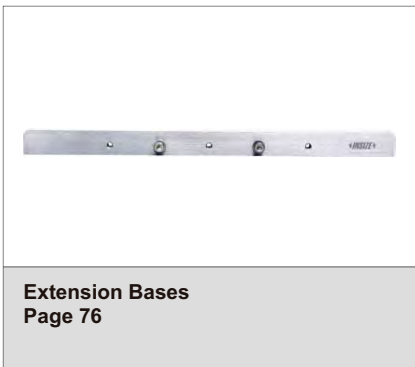
Digital Depth Gages
Page 68-73



Dial Depth Gages
Page 73



Vernier Depth Gages
Page 74-76



Extension Bases
Page 76



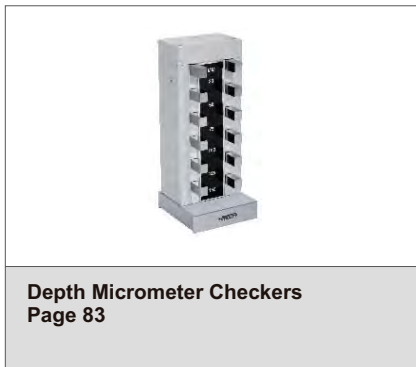
Mini Depth Gages
Page 76-77



Depth Gages
Page 78-81



Depth Micrometers
Page 82-83



Depth Micrometer Checkers
Page 83

IP67 WATERPROOF DIGITAL DEPTH GAGES

ATTENTION:
NO DATA OUTPUT

IP67
WATERPROOF

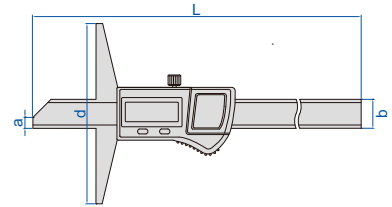
3



1543-150

- IP67 dust/waterproof
- Resolution: 0.01mm/0.0005"
- Button function: zero, on/off, mm/inch
- Battery CR2032
- Automatic power off
- Meet DIN862
- Made of stainless steel

| Code | Range | Accuracy | L | a | b | d |
|----------|---------------|----------|-------|-----|------|-------|
| 1543-150 | 0-150mm/0-6" | ±0.03mm | 235mm | 5mm | 16mm | 100mm |
| 1543-200 | 0-200mm/0-8" | ±0.03mm | 285mm | 5mm | 16mm | 100mm |
| 1543-300 | 0-300mm/0-12" | ±0.03mm | 387mm | 5mm | 16mm | 100mm |



IP67 WATERPROOF DIGITAL DEPTH GAGES

IP67
WATERPROOF

ATTENTION: NO
DATA OUTPUT

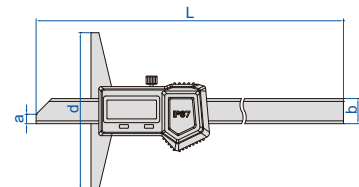
ATTENTION: IT IS NECESSARY TO SET
ZERO AFTER POWER ON EACH TIME

- IP67 dust/waterproof
- Resolution: 0.01mm/0.0005"
- Button function: zero, on/off, mm/inch, ABS/REL, hold
- Meet DIN862
- Battery CR2032
- Made of stainless steel



1149-150

| Code | Range | Accuracy | L | a | b | d |
|----------|---------------|----------|-------|-----|------|-------|
| 1149-150 | 0-150mm/0-6" | ±0.03mm | 240mm | 6mm | 16mm | 100mm |
| 1149-200 | 0-200mm/0-8" | ±0.03mm | 290mm | 6mm | 16mm | 100mm |
| 1149-300 | 0-300mm/0-12" | ±0.03mm | 390mm | 6mm | 16mm | 150mm |



DATA
OUTPUT

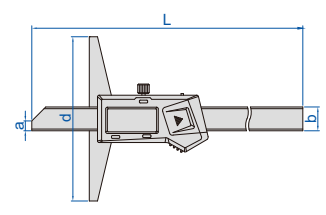
POPULAR
MODEL

DIGITAL DEPTH GAGES (STANDARD TYPE)



1141-150A

- Non waterproof
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Meet DIN862 (except 0-500mm/0-20", 0-1000mm/0-40", 0-1500mm/0-60")
- Battery CR2032
- Made of stainless steel



With data interface

(mm)

| Code | Range | Resolution | Accuracy | L | a | b | d | Data output cable (optional) |
|-------------|----------------|----------------|----------|------|---|------|-----|---|
| 1141-150A | 0-150mm/0-6" | 0.01mm/0.0005" | ±0.03mm | 230 | 6 | 14.5 | 100 | 7315-21 need receiver page 4, 7302-21 page 12 |
| 1141-200A | 0-200mm/0-8" | 0.01mm/0.0005" | ±0.03mm | 280 | 6 | 14.5 | 100 | 7315-21 need receiver page 4, 7302-21 page 12 |
| 1141-300A | 0-300mm/0-12" | 0.01mm/0.0005" | ±0.03mm | 380 | 6 | 14.5 | 150 | 7315-21 need receiver page 4, 7302-21 page 12 |
| 1141-500A | 0-500mm/0-20" | 0.01mm/0.0005" | ±0.05mm | 585 | 7 | 15 | 150 | 7315-22 need receiver page 4, 7302-22 page 12 |
| 1141-5001A | 0-500mm/0-20" | 0.01mm/0.0005" | ±0.05mm | 585 | 7 | 15 | 200 | 7315-22 need receiver page 4, 7302-22 page 12 |
| 1141-1000A | 0-1000mm/0-40" | 0.01mm/0.0005" | ±0.07mm | 1188 | 7 | 18 | 150 | 7315-22 need receiver page 4, 7302-22 page 12 |
| 1141-10001A | 0-1000mm/0-40" | 0.01mm/0.0005" | ±0.07mm | 1188 | 7 | 18 | 200 | 7315-22 need receiver page 4, 7302-22 page 12 |
| 1141-10002A | 0-1000mm/0-40" | 0.01mm/0.0005" | ±0.07mm | 1188 | 7 | 18 | 250 | 7315-22 need receiver page 4, 7302-22 page 12 |
| 1141-10003A | 0-1000mm/0-40" | 0.01mm/0.0005" | ±0.07mm | 1188 | 7 | 18 | 300 | 7315-22 need receiver page 4, 7302-22 page 12 |
| 1141-1500A | 0-1500mm/0-60" | 0.01mm/0.0005" | ±0.11mm | 1695 | 7 | 18 | 200 | 7315-22 need receiver page 4, 7302-22 page 12 |

Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range | Resolution | Accuracy | L | a | b | d |
|--------------|---------------|----------------|----------|-------|-----|--------|-------|
| 1141-150AWL | 0-150mm/0-6" | 0.01mm/0.0005" | ±0.03mm | 230mm | 6mm | 14.5mm | 100mm |
| 1141-200AWL | 0-200mm/0-8" | 0.01mm/0.0005" | ±0.03mm | 280mm | 6mm | 14.5mm | 100mm |
| 1141-300AWL | 0-300mm/0-12" | 0.01mm/0.0005" | ±0.03mm | 380mm | 6mm | 14.5mm | 150mm |
| 1141-500AWL | 0-500mm/0-20" | 0.01mm/0.0005" | ±0.05mm | 585mm | 7mm | 15mm | 150mm |
| 1141-5001AWL | 0-500mm/0-20" | 0.01mm/0.0005" | ±0.05mm | 585mm | 7mm | 15mm | 200mm |

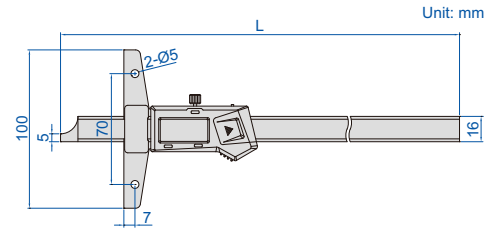
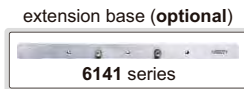
DIGITAL DEPTH GAGES WITH MOUNTING HOLES FOR EXTENSION BASE

DATA
OUTPUT



1147-300

- Non waterproof
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Meet DIN862
- Battery CR2032
- Made of stainless steel
- Optional accessory:
extension base (code 6141)



With data interface (data output cable code 7315-21 need receiver page 4, 7302-21 page 12, optional)

| Code | Range | Accuracy | L |
|----------|---------------|----------|-------|
| 1147-150 | 0-150mm/0-6" | ±0.03mm | 237mm |
| 1147-200 | 0-200mm/0-8" | ±0.03mm | 287mm |
| 1147-300 | 0-300mm/0-12" | ±0.03mm | 403mm |
| 1147-500 | 0-500mm/0-20" | ±0.05mm | 605mm |
| 1147-700 | 0-700mm/0-28" | ±0.06mm | 805mm |

Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range | Accuracy | L |
|------------|---------------|----------|-------|
| 1147-150WL | 0-150mm/0-6" | ±0.03mm | 237mm |
| 1147-200WL | 0-200mm/0-8" | ±0.03mm | 287mm |
| 1147-300WL | 0-300mm/0-12" | ±0.03mm | 403mm |
| 1147-500WL | 0-500mm/0-20" | ±0.05mm | 605mm |
| 1147-700WL | 0-700mm/0-28" | ±0.06mm | 805mm |

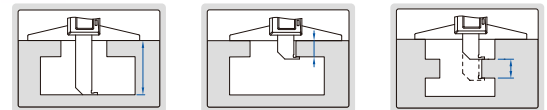
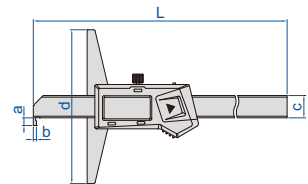
DIGITAL HOOK DEPTH GAGES

DATA
OUTPUT



1142-150A

- Non waterproof
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel



With data interface

| Code | Range | Accuracy | L | d | a | b | c | Data output cable (optional) |
|-------------|----------------|----------|------|-----|----|---|------|---|
| 1142-150A | 0-150mm/0-6" | ±0.03mm | 230 | 100 | 5 | 2 | 14.5 | 7315-21 need receiver page 4, 7302-21 page 12 |
| 1142-200A | 0-200mm/0-8" | ±0.03mm | 280 | 100 | 5 | 2 | 14.5 | 7315-21 need receiver page 4, 7302-21 page 12 |
| 1142-300A | 0-300mm/0-12" | ±0.04mm | 380 | 150 | 5 | 2 | 14.5 | 7315-21 need receiver page 4, 7302-21 page 12 |
| 1142-500A | 0-500mm/0-20" | ±0.05mm | 585 | 150 | 8 | 3 | 15 | 7315-22 need receiver page 4, 7302-22 page 12 |
| 1142-5001A | 0-500mm/0-20" | ±0.05mm | 585 | 200 | 8 | 3 | 15 | 7315-22 need receiver page 4, 7302-22 page 12 |
| 1142-1000A | 0-1000mm/0-40" | ±0.07mm | 1188 | 150 | 10 | 4 | 18 | 7315-22 need receiver page 4, 7302-22 page 12 |
| 1142-10001A | 0-1000mm/0-40" | ±0.07mm | 1188 | 200 | 10 | 4 | 18 | 7315-22 need receiver page 4, 7302-22 page 12 |
| 1142-10002A | 0-1000mm/0-40" | ±0.07mm | 1188 | 250 | 10 | 4 | 18 | 7315-22 need receiver page 4, 7302-22 page 12 |

Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range | Accuracy | L | d | a | b | c |
|--------------|---------------|----------|-------|-------|-----|-----|--------|
| 1142-150AWL | 0-150mm/0-6" | ±0.03mm | 230mm | 100mm | 5mm | 2mm | 14.5mm |
| 1142-200AWL | 0-200mm/0-8" | ±0.03mm | 280mm | 100mm | 5mm | 2mm | 14.5mm |
| 1142-300AWL | 0-300mm/0-12" | ±0.04mm | 380mm | 150mm | 5mm | 2mm | 14.5mm |
| 1142-500AWL | 0-500mm/0-20" | ±0.05mm | 585mm | 150mm | 8mm | 3mm | 15mm |
| 1142-5001AWL | 0-500mm/0-20" | ±0.05mm | 585mm | 200mm | 8mm | 3mm | 15mm |

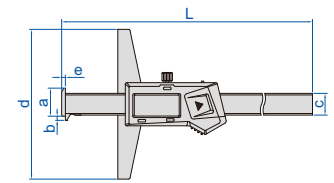
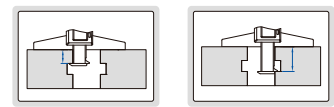
DATA OUTPUT

DIGITAL DOUBLE HOOK DEPTH GAGES

- Non waterproof
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Meet DIN862
- Battery CR2032
- Made of stainless steel



1144-150A



(mm)

With data interface

| Code | Range | Accuracy | L | d | a | b | c | e | Data output cable (optional) |
|-------------|----------------|----------|------|-----|------|-----|------|-----|---|
| 1144-150A | 0-150mm/0-6" | ±0.03mm | 233 | 100 | 21.5 | 3.5 | 14.5 | 2.5 | 7315-21 need receiver page 4, 7302-21 page 12 |
| 1144-200A | 0-200mm/0-8" | ±0.03mm | 283 | 100 | 21.5 | 3.5 | 14.5 | 2.5 | 7315-21 need receiver page 4, 7302-21 page 12 |
| 1144-300A | 0-300mm/0-12" | ±0.03mm | 383 | 150 | 21.5 | 3.5 | 14.5 | 2.5 | 7315-21 need receiver page 4, 7302-21 page 12 |
| 1144-500A | 0-500mm/0-20" | ±0.05mm | 585 | 150 | 25 | 5 | 15 | 3 | 7315-22 need receiver page 4, 7302-22 page 12 |
| 1144-5001A | 0-500mm/0-20" | ±0.05mm | 585 | 200 | 25 | 5 | 15 | 3 | 7315-22 need receiver page 4, 7302-22 page 12 |
| 1144-1000A | 0-1000mm/0-40" | ±0.07mm | 1188 | 150 | 32 | 7 | 18 | 4 | 7315-22 need receiver page 4, 7302-22 page 12 |
| 1144-10001A | 0-1000mm/0-40" | ±0.07mm | 1188 | 200 | 32 | 7 | 18 | 4 | 7315-22 need receiver page 4, 7302-22 page 12 |
| 1144-10002A | 0-1000mm/0-40" | ±0.07mm | 1188 | 250 | 32 | 7 | 18 | 4 | 7315-22 need receiver page 4, 7302-22 page 12 |

Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range | Accuracy | L | d | a | b | c | e |
|--------------|---------------|----------|-------|-------|--------|-------|--------|-------|
| 1144-150AWL | 0-150mm/0-6" | ±0.03mm | 233mm | 100mm | 21.5mm | 3.5mm | 14.5mm | 2.5mm |
| 1144-200AWL | 0-200mm/0-8" | ±0.03mm | 283mm | 100mm | 21.5mm | 3.5mm | 14.5mm | 2.5mm |
| 1144-300AWL | 0-300mm/0-12" | ±0.03mm | 383mm | 150mm | 21.5mm | 3.5mm | 14.5mm | 2.5mm |
| 1144-500AWL | 0-500mm/0-20" | ±0.05mm | 585mm | 150mm | 25mm | 5mm | 15mm | 3mm |
| 1144-5001AWL | 0-500mm/0-20" | ±0.05mm | 585mm | 200mm | 25mm | 5mm | 15mm | 3mm |

DATA OUTPUT

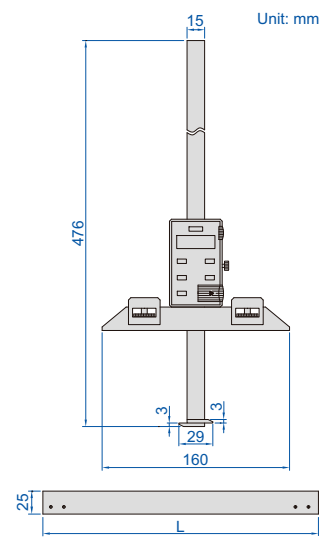
DIGITAL DOUBLE HOOK DEPTH GAGE

- Non waterproof
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch, ABS/INC, data hold, TOL, set
- ABS/INC is for absolute and incremental measurement
- TOL is for tolerance measurement
- Made of stainless steel
- LR44 battery, data output
- Supplied with gage block for zero setting
- Optional accessory: extension base, data output cable (code 7302-SPC7 page 13, keyboard format), wireless data transmission (transmitter code 7315-1150 need receiver page 6)

| Code | Range | Accuracy |
|----------|---------------|----------|
| 1540-300 | 0-300mm/0-12" | ±0.04mm |



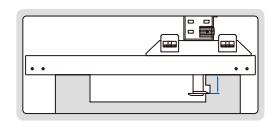
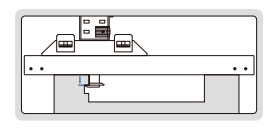
1540-300



Extension base (optional)

| Code | L |
|-----------|-------|
| 1540-L300 | 300mm |
| 1540-L400 | 400mm |
| 1540-L500 | 500mm |
| 1540-L600 | 600mm |
| 1540-L800 | 800mm |

gage block for zero setting (included)



DIGITAL DEPTH GAGES WITH ROUND DEPTH BAR

MEASURE WIDTH AND DEPTH OF GROOVES INSIDE BORE

MEASURE DEPTH OF SMALL HOLES (>Ø4mm)

DATA OUTPUT

3

- Non waterproof
- Resolution: 0.01mm/0.0005"
- Supplied with three interchangeable points (flat, spherical, disk)
- Buttons: on/off, set, mm/inch, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel
- Optional accessory: extension base (code 6141, for 1148-120, 1148-120WL, 1148-200, 1148-200WL, 1148-300 and 1148-300WL)

preset buttons



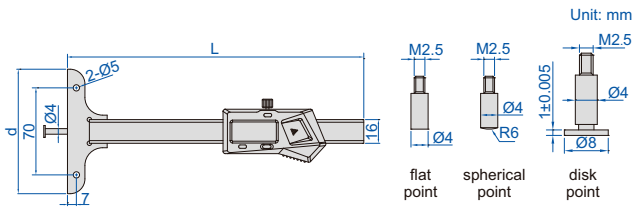
1148-100S



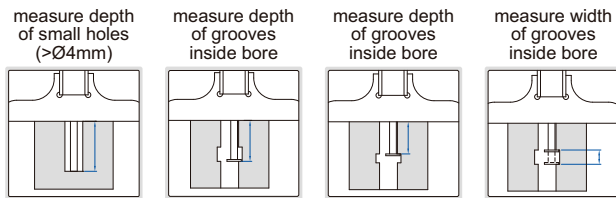
1148-120



1148-200



flat point spherical point disk point



With data interface (data output cable code 7315-21 need receiver page 4, 7302-21 page 12, optional)

| Code | Range * | Accuracy | L | d | Remark |
|-----------|----------------|----------|-------|-------|--|
| 1148-100S | 0-100mm/0-4" | ±0.02mm | 200mm | 45mm | |
| 1148-100 | 0-100mm/0-4" | ±0.02mm | 200mm | 85mm | |
| 1148-120 | 0-120mm/0-4.7" | ±0.03mm | 300mm | 101mm | one-hand use, with mounting holes for extension base |
| 1148-200 | 0-200mm/0-8" | ±0.03mm | 300mm | 101mm | with mounting holes for extension base |
| 1148-300 | 0-300mm/0-12" | ±0.04mm | 400mm | 101mm | with mounting holes for extension base |

one-hand use of 1148-120 and 1148-120WL



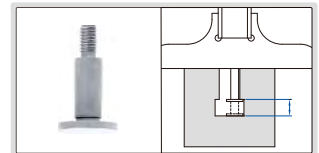
extension base for 1148-120, 1148-120WL, 1148-200, 1148-200WL, 1148-300 and 1148-300WL (optional)



Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range * | Accuracy | L | d | Remark |
|-------------|----------------|----------|-------|-------|--|
| 1148-100SWL | 0-100mm/0-4" | ±0.02mm | 200mm | 45mm | |
| 1148-100WL | 0-100mm/0-4" | ±0.02mm | 200mm | 85mm | |
| 1148-120WL | 0-120mm/0-4.7" | ±0.03mm | 300mm | 101mm | one-hand use, with mounting holes for extension base |
| 1148-200WL | 0-200mm/0-8" | ±0.03mm | 300mm | 101mm | with mounting holes for extension base |
| 1148-300WL | 0-300mm/0-12" | ±0.04mm | 400mm | 101mm | with mounting holes for extension base |

1148-P103 (optional), measure width of bottom grooves inside blind hole

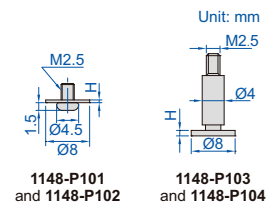


*When disk points are used, the range is reduced by 10mm

OPTIONAL DISK POINTS

| Code | Description | H | Remark |
|-----------|------------------|-------------|-------------------------------|
| 1148-P101 | 0.5mm disk point | 0.5±0.005mm | for narrow grooves |
| 1148-P102 | 0.7mm disk point | 0.7±0.005mm | for narrow grooves |
| 1148-P103 | 1mm disk point | 1±0.005mm | for grooves inside blind hole |
| 1148-P104 | 0.5mm disk point | 0.5±0.005mm | for grooves inside blind hole |

1148-P101 (optional)



1148-P101 and 1148-P102

1148-P103 and 1148-P104

SHOCK PROOF

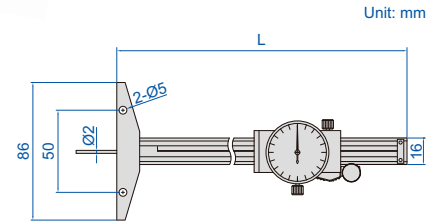
DIAL DEPTH GAGES WITH ROUND BAR

3



1341-100

- Shockproof dial indicator
- Dial indicator graduation: 0.02mm
- Made of stainless steel



| Code | Range | Accuracy | L |
|----------|---------|----------|-------|
| 1341-100 | 0-100mm | ±0.02mm | 181mm |
| 1341-200 | 0-200mm | ±0.03mm | 284mm |

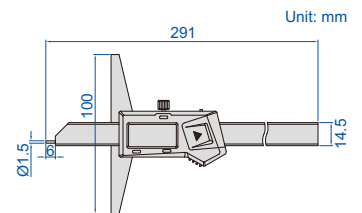
DATA OUTPUT

DIGITAL POINT DEPTH GAGES

- Non waterproof
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Meet DIN862
- Battery CR2032
- Made of stainless steel



1143-200A

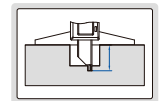


With data interface (data output cable code 7315-21 need receiver page 4, 7302-21 page 12, optional)

Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range | Accuracy |
|-----------|--------------|----------|
| 1143-200A | 0-200mm/0-8" | ±0.03mm |

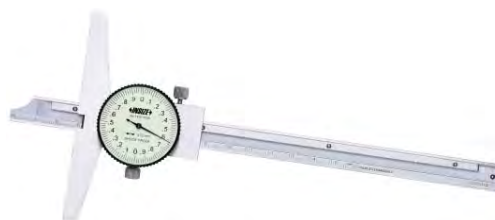
| Code | Range | Accuracy |
|-------------|--------------|----------|
| 1143-200AWL | 0-200mm/0-8" | ±0.03mm |



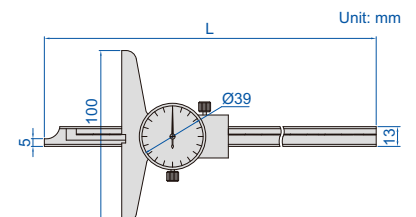
SHOCK PROOF

DIAL DEPTH GAGES

- Shockproof dial indicator
- Made of stainless steel



1340-150



| Code | Range | Graduation | Accuracy | L |
|----------|---------|------------|----------|-------|
| 1340-150 | 0-150mm | 0.02mm | ±0.03mm | 232mm |
| 1340-200 | 0-200mm | 0.02mm | ±0.03mm | 282mm |
| 1340-300 | 0-300mm | 0.02mm | ±0.04mm | 382mm |

VERNIER DEPTH GAGES (STANDARD TYPE)

POPULAR MODEL

3

- Made of stainless steel
- Satin chrome plated reading surface



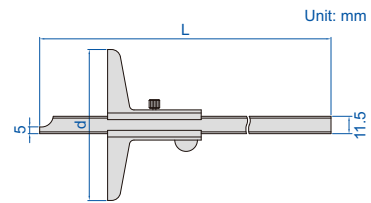
1240-2001

Graduation 0.05mm

| Code | Range | Accuracy | L | d |
|----------|---------|----------|-------|-------|
| 1240-150 | 0-150mm | ±0.05mm | 245mm | 100mm |
| 1240-200 | 0-200mm | ±0.05mm | 282mm | 100mm |
| 1240-300 | 0-300mm | ±0.08mm | 382mm | 100mm |
| 1240-500 | 0-500mm | ±0.09mm | 585mm | 150mm |

Graduation 0.02mm

| Code | Range | Accuracy | L | d |
|-----------|---------|----------|-----------------|-------|
| 1240-1501 | 0-150mm | ±0.03mm | 245mm | 100mm |
| 1240-2001 | 0-200mm | ±0.03mm | 282mm | 100mm |
| 1240-3001 | 0-300mm | ±0.04mm | 382mm <td 100mm | |
| 1240-5001 | 0-500mm | ±0.05mm | 585mm | 150mm |

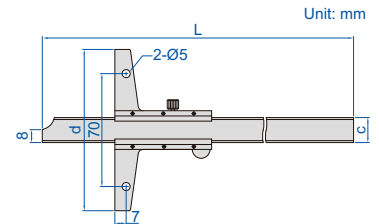


VERNIER DEPTH GAGES

WITH MOUNTING HOLES FOR EXTENSION BASE



1247-2001



- Made of stainless steel
- Satin chrome plating finish on reading surface
- Optional accessory: extension base (code 6141)

extension base (optional)



| Range | L | c | d |
|----------|--------|------|-------|
| 0-150mm | 240mm | 16mm | 100mm |
| 0-200mm | 290mm | 16mm | 100mm |
| 0-300mm | 390mm | 16mm | 100mm |
| 0-600mm | 704mm | 16mm | 150mm |
| 0-1000mm | 1124mm | 16mm | 200mm |

| Code | Range | Accuracy | Graduation |
|-----------|----------|----------|------------|
| 1247-150 | 0-150mm | ±0.05mm | 0.05mm |
| 1247-200 | 0-200mm | ±0.05mm | 0.05mm |
| 1247-300 | 0-300mm | ±0.08mm | 0.05mm |
| 1247-600 | 0-600mm | ±0.10mm | 0.05mm |
| 1247-1000 | 0-1000mm | ±0.15mm | 0.05mm |

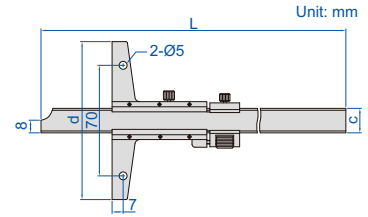
| Code | Range | Accuracy | Graduation |
|-----------|----------|----------|------------|
| 1247-1501 | 0-150mm | ±0.03mm | 0.02mm |
| 1247-2001 | 0-200mm | ±0.03mm | 0.02mm |
| 1247-3001 | 0-300mm | ±0.04mm | 0.02mm |
| 1247-6001 | 0-600mm | ±0.05mm | 0.02mm |
| 1247-1001 | 0-1000mm | ±0.07mm | 0.02mm |

WITH MOUNTING HOLES FOR EXTENSION BASE

VERNIER DEPTH GAGES WITH FINE ADJUSTMENT



1249-1501



- With fine adjustment
- Made of stainless steel
- Satin chrome plating finish on reading surface
- Optional accessory: extension base (code 6141)

extension base (optional)



6141 series

Graduation 0.02mm

| Code | Range | Accuracy |
|-----------|---------|----------|
| 1249-1501 | 0-150mm | ±0.03mm |
| 1249-2001 | 0-200mm | ±0.03mm |
| 1249-3001 | 0-300mm | ±0.04mm |

Graduation 0.05mm

| Code | Range | Accuracy |
|----------|---------|----------|
| 1249-150 | 0-150mm | ±0.05mm |
| 1249-200 | 0-200mm | ±0.05mm |
| 1249-300 | 0-300mm | ±0.08mm |

| Range | L | c | d |
|---------|-------|------|-------|
| 0-150mm | 256mm | 16mm | 100mm |
| 0-200mm | 306mm | 16mm | 100mm |
| 0-300mm | 406mm | 16mm | 100mm |

WITH MOUNTING HOLES FOR EXTENSION BASE

VERNIER HOOK DEPTH GAGES

extension base (optional)



6141 series

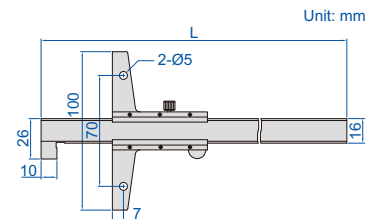


1248-1501

- Made of stainless steel
- Satin chrome plating finish on reading surface
- Optional accessory: extension base (code 6141)

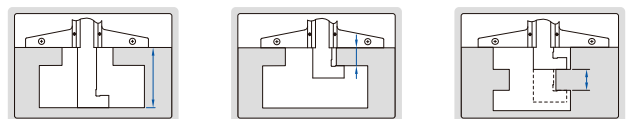
Graduation 0.05mm

| Code | Range | Accuracy | L |
|----------|---------|----------|-------|
| 1248-150 | 0-150mm | ±0.05mm | 266mm |
| 1248-200 | 0-200mm | ±0.05mm | 316mm |
| 1248-300 | 0-300mm | ±0.08mm | 416mm |



Graduation 0.02mm

| Code | Range | Accuracy | L |
|-----------|---------|----------|-------|
| 1248-1501 | 0-150mm | ±0.03mm | 266mm |
| 1248-2001 | 0-200mm | ±0.03mm | 316mm |
| 1248-3001 | 0-300mm | ±0.04mm | 416mm |



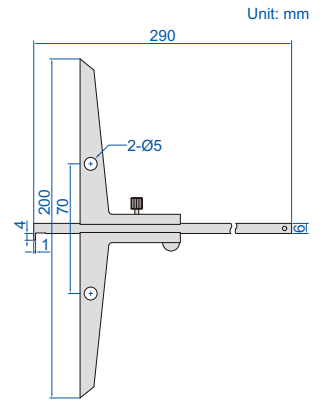
VERNIER HOOK DEPTH GAGE

3



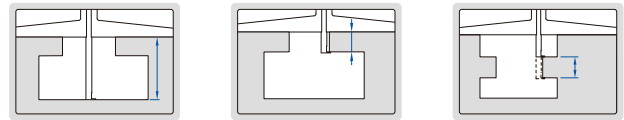
1243-2001

- Graduation 0.02mm
- Made of stainless steel
- Satin chrome plating finish on reading surface



Unit: mm

| Code | Range | Accuracy |
|-----------|---------|----------|
| 1243-2001 | 0-200mm | ±0.04mm |

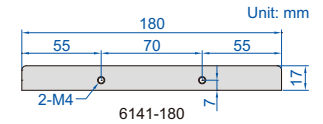


EXTENSION BASES

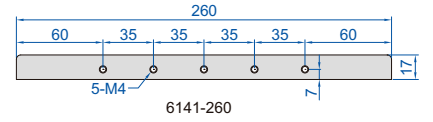
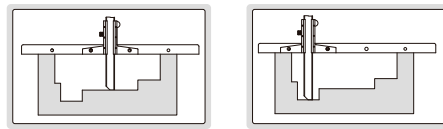


6141-260

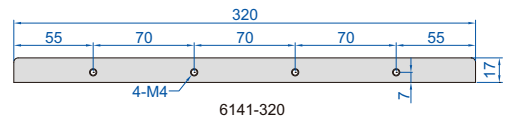
- Supplied with two screws
- Made of stainless steel
- Suitable for depth gages series 1147, 1148, 1247, 1248 and 1249



6141-180

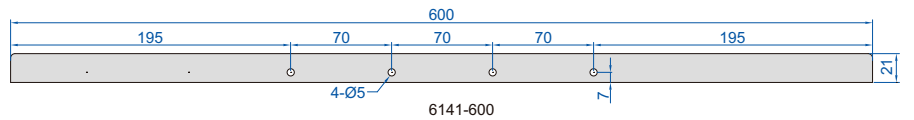


6141-260



6141-320

| Code | Length |
|----------|--------|
| 6141-180 | 180mm |
| 6141-260 | 260mm |
| 6141-320 | 320mm |
| 6141-600 | 600mm |



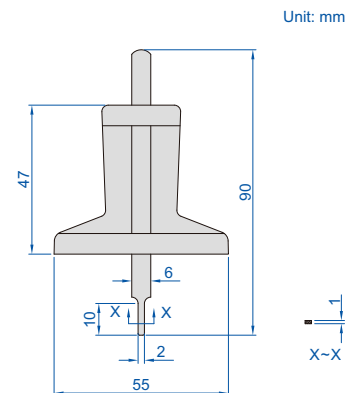
6141-600

MINI VERNIER DEPTH GAGE

- Graduation: 0.1mm
- Made of stainless steel



1244-30



Unit: mm

X-X

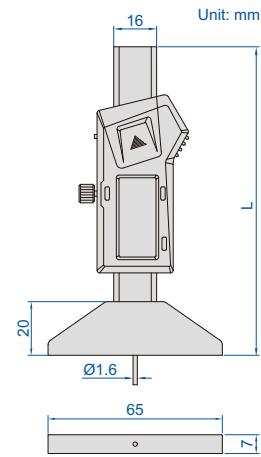
| Code | Range | Accuracy |
|---------|--------|----------|
| 1244-30 | 0-30mm | ±0.10mm |

DATA OUTPUT

MINI DIGITAL DEPTH GAGES WITH ROUND BAR



- Non waterproof
- Measure depth of small groove and hole
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, set, mm/inch, preset (+,-)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel



1140-25

With data interface (data output cable code 7315-21 need receiver page 4, 7302-21 page 12, optional)

| Code | Range | Accuracy | L |
|----------|--------------|----------|-------|
| 1140-25 | 0-25mm/0-1" | ±0.02mm | 114mm |
| 1140-50 | 0-50mm/0-2" | ±0.02mm | 140mm |
| 1140-100 | 0-100mm/0-4" | ±0.02mm | 190mm |
| 1140-150 | 0-150mm/0-6" | ±0.03mm | 236mm |

Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

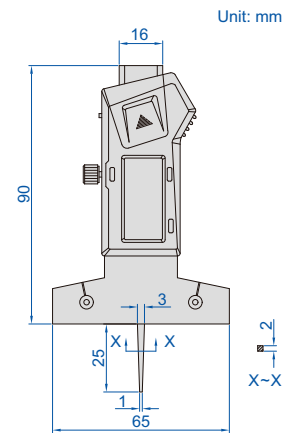
| Code | Range | Accuracy | L |
|------------|--------------|----------|-------|
| 1140-25WL | 0-25mm/0-1" | ±0.02mm | 114mm |
| 1140-50WL | 0-50mm/0-2" | ±0.02mm | 140mm |
| 1140-100WL | 0-100mm/0-4" | ±0.02mm | 190mm |
| 1140-150WL | 0-150mm/0-6" | ±0.03mm | 236mm |

MINI DIGITAL DEPTH GAGES

DATA OUTPUT



- Non waterproof
- Measure depth of small groove and hole, also measure depth of tire tread
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Supplied with zero set surface
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel



1145-25A

With data interface (data output cable code 7315-21 need receiver page 4, 7302-21 page 12, optional)

| Code | Range | Accuracy |
|----------|-------------|----------|
| 1145-25A | 0-25mm/0-1" | ±0.03mm |

Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range | Accuracy |
|------------|-------------|----------|
| 1145-25AWL | 0-25mm/0-1" | ±0.03mm |

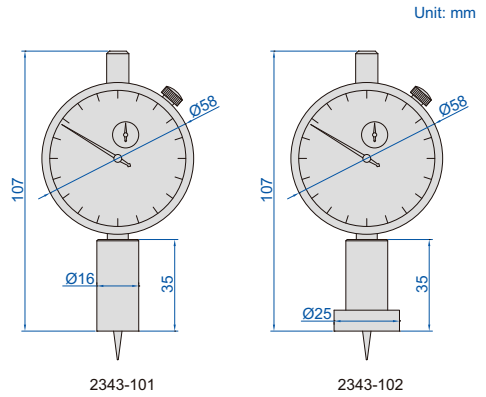
DIAL DEPTH GAGES

3

- Accuracy: $\pm 0.017\text{mm}$
- Stainless steel base
- Pointed tip

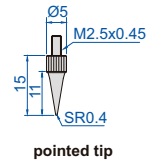


2343-102



Unit: mm

| Code | Range | Dial indicator stroke | Dial indicator graduation | Base |
|----------|--------|-----------------------|---------------------------|-------|
| 2343-101 | 0-10mm | 10mm | 0.01mm | Ø16mm |
| 2343-102 | 0-10mm | 10mm | 0.01mm | Ø25mm |



pointed tip

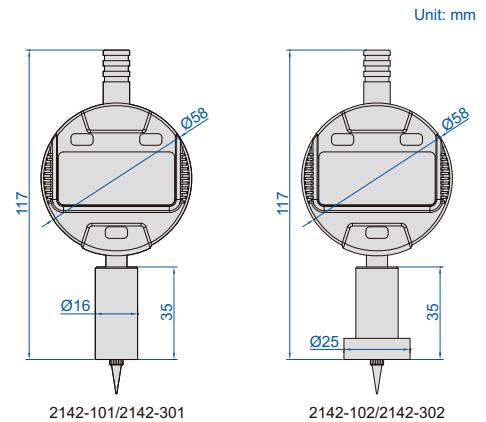
DIGITAL DEPTH GAGES

DATA OUTPUT

- Button function: on/off, zero, mm/inch, ABS, data preset, change measuring direction
- CR2032 battery, automatic power off (time is adjustable)
- Data output
- Stainless steel base
- Pointed tip
- Optional accessory: data output cable (code 7315-50M need receiver page 5, 7302-40M page 13)

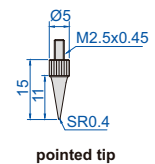


2142-102



Unit: mm

| Code | Range | Digital indicator stroke | Digital indicator resolution | Accuracy | Base |
|----------|-----------------|--------------------------|------------------------------|---------------------|-------|
| 2142-101 | 0-12.7mm/0-0.5" | 12.7mm/0.5" | 0.01mm/0.0005" | $\pm 20\mu\text{m}$ | Ø16mm |
| 2142-102 | 0-12.7mm/0-0.5" | 12.7mm/0.5" | 0.01mm/0.0005" | $\pm 20\mu\text{m}$ | Ø25mm |
| 2142-301 | 0-12.7mm/0-0.5" | 12.7mm/0.5" | 0.001mm/0.00005" | $\pm 5\mu\text{m}$ | Ø16mm |
| 2142-302 | 0-12.7mm/0-0.5" | 12.7mm/0.5" | 0.001mm/0.00005" | $\pm 5\mu\text{m}$ | Ø25mm |



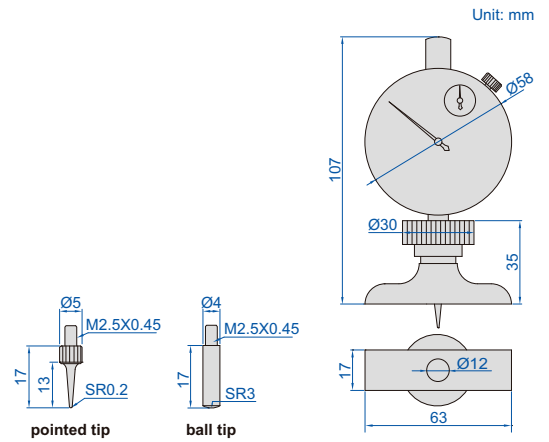
pointed tip

DIAL DEPTH GAGE

- Accuracy: $\pm 0.017\text{mm}$
- Stainless steel base
- Supplied with pointed tip and ball tip



2341-101A



| Code | Range | Dial indicator stroke | Dial indicator graduation |
|-----------|--------|-----------------------|---------------------------|
| 2341-101A | 0-10mm | 10mm | 0.01mm |

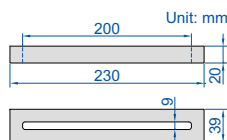
DIAL DEPTH GAGES



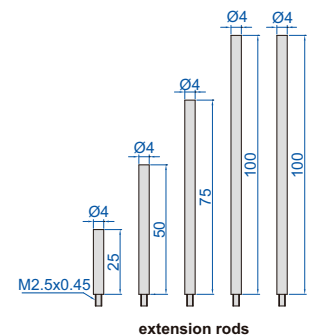
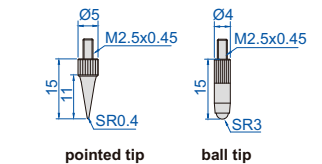
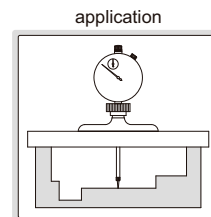
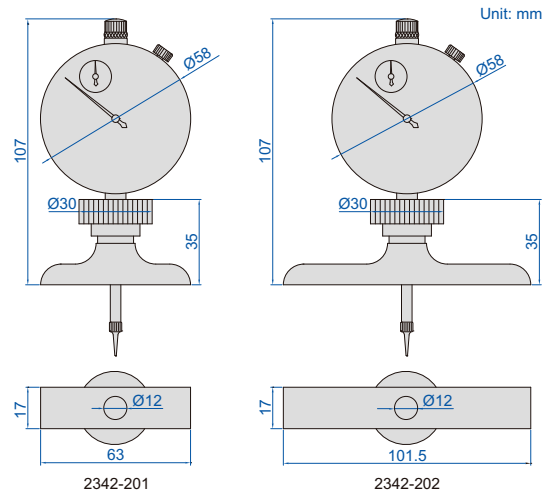
2342-202



2141-10 (optional),
can be customized
according to workpieces



- Dial indicator graduation: 0.01mm
- Accuracy: $\pm 0.03\text{mm}$
- Stainless steel base
- Extension rods: 25mm (1 pc), 50mm (1 pc), 75mm (1 pc), 100mm (2 pcs)
- Supplied with pointed tip and ball tip
- Optional accessory: granite extension holder (code 2141-10)



| Code | Range | Dial indicator stroke | Base |
|----------|---------|-----------------------|------------|
| 2342-201 | 0-300mm | 30mm | 63x17mm |
| 2342-202 | 0-300mm | 30mm | 101.5x17mm |

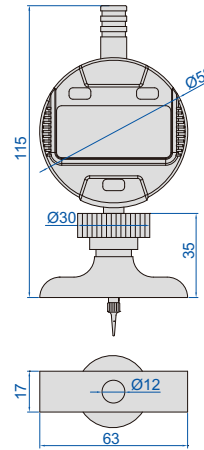
DIGITAL DEPTH GAGES

DATA OUTPUT

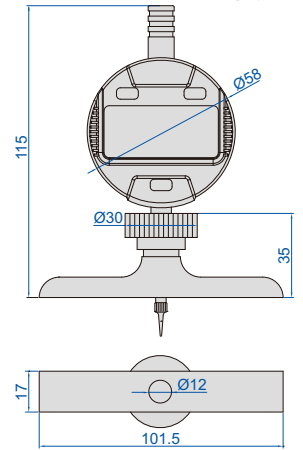
3



2141-202A



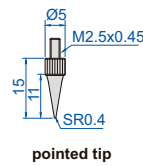
2141-201A/2141-301



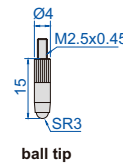
2141-202A/2141-302

Unit: mm

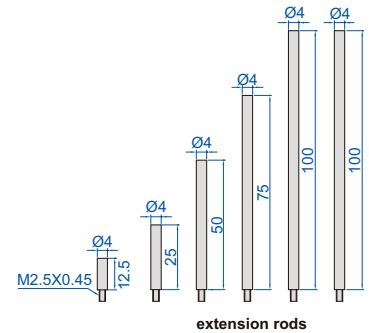
- Button function: on/off, zero, mm/inch, ABS, data preset, change measuring direction
- CR2032 battery, automatic power off (time is adjustable)
- Data output
- Stainless steel base
- Extension rods: 12.5mm (1 pc), 25mm (1 pc), 50mm (1 pc), 75mm (1 pc), 100mm (2 pcs)
- Supplied with pointed tip and ball tip
- Optional accessory: data output cable (code 7315-50M need receiver page 5, 7302-40M page 13), granite extension holder (code 2141-10)



pointed tip



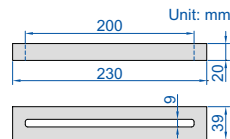
ball tip



extension rods

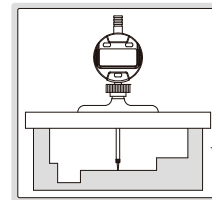


2141-10 (optional), can be customized according to workpieces



Unit: mm

application



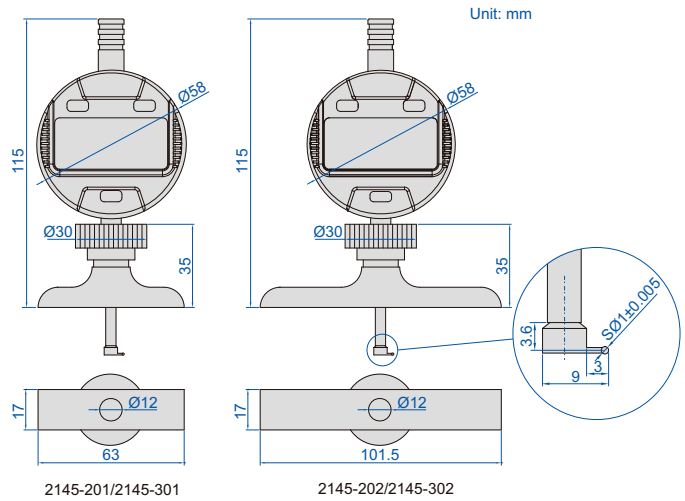
| Code | Range | Digital indicator stroke | Digital indicator resolution | Accuracy | Base |
|-----------|---------------|--------------------------|------------------------------|----------|------------|
| 2141-201A | 0-300mm/0-12" | 12.7mm/0.5" | 0.01mm/0.0005" | ±20µm | 63x17mm |
| 2141-202A | 0-300mm/0-12" | 12.7mm/0.5" | 0.01mm/0.0005" | ±20µm | 101.5x17mm |
| 2141-301 | 0-300mm/0-12" | 12.7mm/0.5" | 0.001mm/0.00005" | ±5µm | 63x17mm |
| 2141-302 | 0-300mm/0-12" | 12.7mm/0.5" | 0.001mm/0.00005" | ±5µm | 101.5x17mm |

DATA OUTPUT

DIGITAL GROOVE GAGES



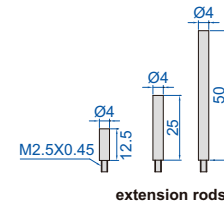
2145-202



2145-201/2145-301

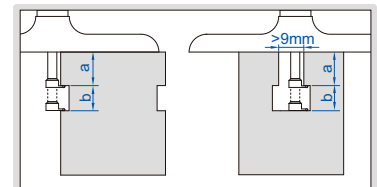
2145-202/2145-302

- Button function: on/off, zero, mm/inch, absolute/incremental measurement, data preset, change measuring direction
- CR2032 battery, automatic power off (time is adjustable)
- Data output
- Stainless steel base
- Supplied with extension rods: 12.5mm (1 pc), 25mm (1 pc), 50mm (1 pc)
- Supplied with groove point
- Optional accessory: data output cable (code **7315-50M** need receiver page 5, **7302-40M** page 13)



extension rods

measure width (b) and depth (a) of groove



| Code | Range (a) | Digital indicator stroke (b) | Digital indicator resolution | Accuracy | Base |
|----------|----------------|------------------------------|------------------------------|----------|------------|
| 2145-201 | 0-85mm/0-3.35" | 12.7mm/0.5" | 0.01mm/0.0005" | ±20µm | 63x17mm |
| 2145-202 | 0-85mm/0-3.35" | 12.7mm/0.5" | 0.01mm/0.0005" | ±20µm | 101.5x17mm |
| 2145-301 | 0-85mm/0-3.35" | 12.7mm/0.5" | 0.001mm/0.00005" | ±5µm | 63x17mm |
| 2145-302 | 0-85mm/0-3.35" | 12.7mm/0.5" | 0.001mm/0.00005" | ±5µm | 101.5x17mm |

DATA OUTPUT

DIGITAL DEPTH GAGE (60° KNIFE EDGE BASE)

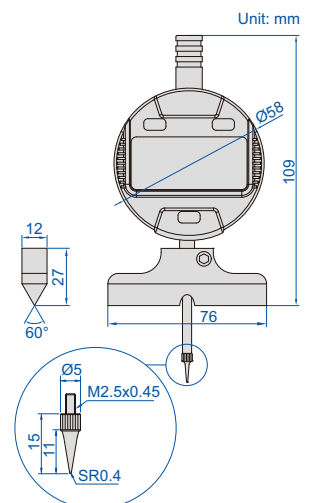
- Button function: on/off, zero, inch/mm, ABS, data preset, change measuring direction
- CR2032 battery, automatic power off (time is adjustable)
- Data output
- Stainless steel base with 60° knife edge
- Optional accessory: data output cable (code **7315-50M** need receiver page 5, **7302-40M** page 13)



front view

side view

2143-101



| Code | Range | Digital indicator stroke | Digital indicator resolution | Accuracy |
|----------|-----------------|--------------------------|------------------------------|----------|
| 2143-101 | 0-12.7mm/0-0.5" | 12.7mm/0.5" | 0.01mm/0.0005" | ±20µm |

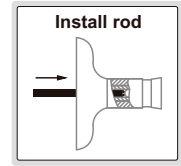
DIGITAL DEPTH MICROMETERS

IP65
WATERPROOF

DATA
OUTPUT

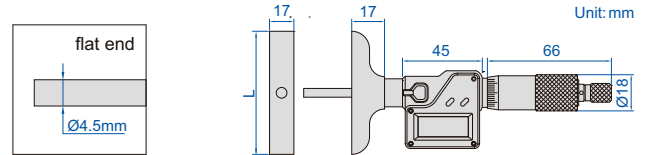
3

- Resolution: 0.001mm/0.00005"
- Micrometer head accuracy: $\pm 3\mu\text{m}$
- Rod accuracy: $\pm(2+L/75)\mu\text{m}$, L is the measuring range in mm
- Button function: on/off, set, mm/inch, data transmit
- IP65 dust/waterproof
- Data output
- Automatic power off
- Rods with flat end
- Ratchet stop
- Optional accessory: data output cable
(code 7315-31 need receiver page 4, 7302-31 page 12)

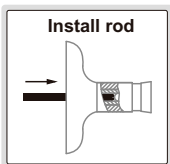


3540-50

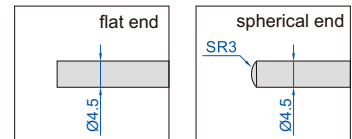
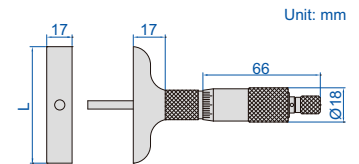
| Code | Range | Rods | L |
|-----------|---------------|--------|---------|
| 3540-25 | 0-25mm/0-1" | 1 pc | 101.5mm |
| 3540-50 | 0-50mm/0-2" | 2 pcs | 101.5mm |
| 3540-100 | 0-100mm/0-4" | 4 pcs | 101.5mm |
| 3540-150 | 0-150mm/0-6" | 6 pcs | 101.5mm |
| 3540-300 | 0-300mm/0-12" | 12 pcs | 101.5mm |
| 3540-B25 | 0-25mm/0-1" | 1 pc | 63mm |
| 3540-B50 | 0-50mm/0-2" | 2 pcs | 63mm |
| 3540-B100 | 0-100mm/0-4" | 4 pcs | 63mm |
| 3540-B150 | 0-150mm/0-6" | 6 pcs | 63mm |
| 3540-B300 | 0-300mm/0-12" | 12 pcs | 63mm |



DEPTH MICROMETERS



- Meet DIN863-2
- Graduation: 0.01mm
- Micrometer head accuracy: $\pm 3\mu\text{m}$
- Rod accuracy: $\pm(2+L/75)\mu\text{m}$, L is the measuring range in mm
- Rods with flat or spherical end
- Ratchet stop



3240-100

Flat end

| Code | Range | Rods | L |
|-----------|---------|--------|---------|
| 3240-25 | 0-25mm | 1 pc | 101.5mm |
| 3240-50 | 0-50mm | 2 pcs | 101.5mm |
| 3240-75 | 0-75mm | 3 pcs | 101.5mm |
| 3240-100 | 0-100mm | 4 pcs | 101.5mm |
| 3240-150 | 0-150mm | 6 pcs | 101.5mm |
| 3240-200 | 0-200mm | 8 pcs | 101.5mm |
| 3240-300 | 0-300mm | 12 pcs | 101.5mm |
| 3240-B25 | 0-25mm | 1 pc | 63mm |
| 3240-B50 | 0-50mm | 2 pcs | 63mm |
| 3240-B100 | 0-100mm | 4 pcs | 63mm |
| 3240-B150 | 0-150mm | 6 pcs | 63mm |
| 3240-B300 | 0-300mm | 12 pcs | 63mm |

Spherical end

| Code | Range | Rods | L |
|------------|---------|--------|---------|
| 3240-25S | 0-25mm | 1 pc | 101.5mm |
| 3240-50S | 0-50mm | 2 pcs | 101.5mm |
| 3240-100S | 0-100mm | 4 pcs | 101.5mm |
| 3240-150S | 0-150mm | 6 pcs | 101.5mm |
| 3240-300S | 0-300mm | 12 pcs | 101.5mm |
| 3240-B25S | 0-25mm | 1 pc | 63mm |
| 3240-B50S | 0-50mm | 2 pcs | 63mm |
| 3240-B100S | 0-100mm | 4 pcs | 63mm |
| 3240-B150S | 0-150mm | 6 pcs | 63mm |
| 3240-B300S | 0-300mm | 12 pcs | 63mm |

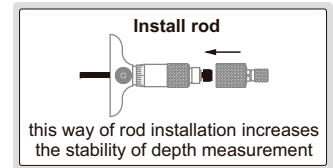
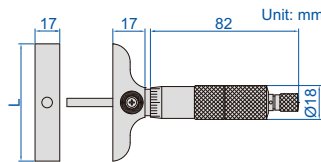
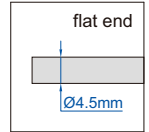
- Meet DIN863-2
- Graduation: 0.01mm
- Micrometer head accuracy: $\pm 3\mu\text{m}$
- Rod accuracy: $\pm (2+L/75)\mu\text{m}$, L is the measuring range in mm
- Rods with flat end
- Ratchet stop

DEPTH MICROMETERS

| Code | Range | Rods | L |
|-----------|---------|--------|---------|
| 3241-25 | 0-25mm | 1 pc | 101.5mm |
| 3241-50 | 0-50mm | 2 pcs | 101.5mm |
| 3241-75 | 0-75mm | 3 pcs | 101.5mm |
| 3241-100 | 0-100mm | 4 pcs | 101.5mm |
| 3241-150 | 0-150mm | 6 pcs | 101.5mm |
| 3241-200 | 0-200mm | 8 pcs | 101.5mm |
| 3241-300 | 0-300mm | 12 pcs | 101.5mm |
| 3241-B25 | 0-25mm | 1 pc | 63mm |
| 3241-B50 | 0-50mm | 2 pcs | 63mm |
| 3241-B100 | 0-100mm | 4 pcs | 63mm |
| 3241-B150 | 0-150mm | 6 pcs | 63mm |
| 3241-B300 | 0-300mm | 12 pcs | 63mm |



3241-100

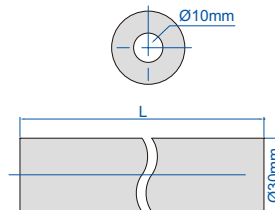


CYLINDER GAGE BLOCKS FOR DEPTH MICROMETERS

| Code | Length (L) |
|-----------|------------|
| 4179-25* | 25mm |
| 4179-50* | 50mm |
| 4179-75* | 75mm |
| 4179-100* | 100mm |
| 4179-125* | 125mm |
| 4179-150* | 150mm |
| 4179-175* | 175mm |
| 4179-200* | 200mm |
| 4179-225* | 225mm |
| 4179-250* | 250mm |
| 4179-275* | 275mm |



4179-25



application

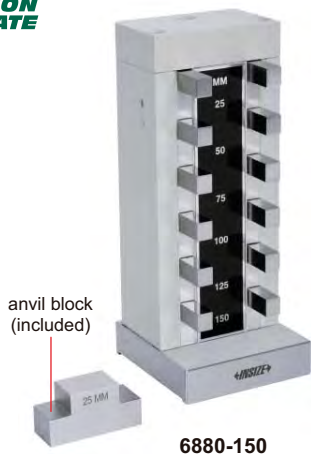


- Made of special alloy steel, hardness HRC64, high stability, wear resistance and easy combination
- Meet ISO3650 grade 1

* Supplied with manufacturer inspection certificate



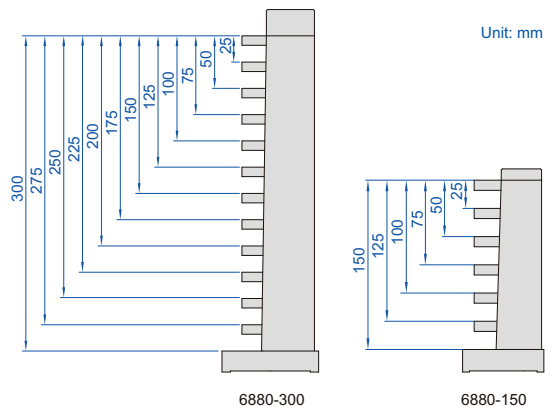
DEPTH MICROMETER CHECKERS



6880-150



application



6880-300

6880-150

| Code | Size | Range (mm) | Accuracy |
|-----------|---------|---|--------------------|
| 6880-150* | 0-150mm | 25, 50, 75, 100, 125, 150 | $\pm 2\mu\text{m}$ |
| 6880-300* | 0-300mm | 25, 50, 75, 100, 125, 150, 175, 200, 225, 250, 275, 300 | $\pm 3\mu\text{m}$ |

- To check depth micrometers and set zero
- Constructed with steel gage blocks
- Supplied with anvil block

* Supplied with manufacturer inspection certificate



Digital Height Gages
Page 85-87



Dial Indicator Stands
Page 87



Height Gages
Page 88-92

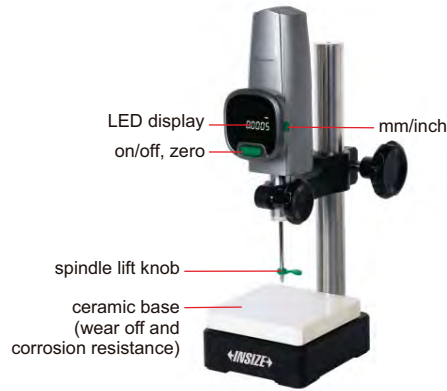


Height Gage Checkers
Page 92

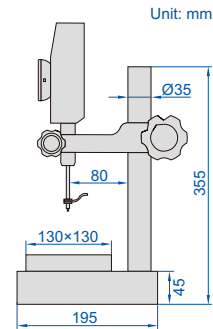


DATA
OUTPUT

HIGH PRECISION DIGITAL HEIGHT GAGES



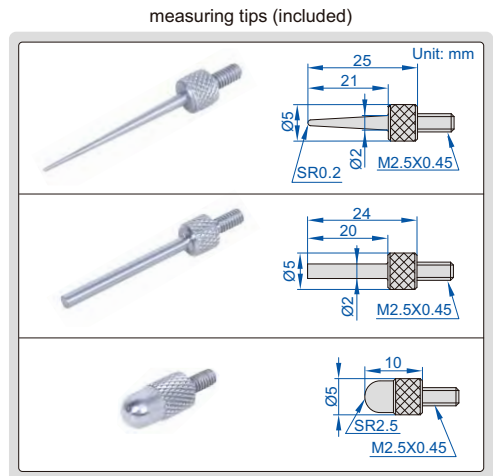
1155-505



power supplied by charge pal



data transmitted to Excel without software; short press the foot switch to transmit data, long press to zero



- High stability, high precision, high response speed (5000mm/s)
- High brightness LED display
- Ceramic base flatness: 1µm

| Code | Range | Resolution | Accuracy (20°C) | Measuring force | Output | Power supply |
|----------|--------|--|-----------------|-----------------|--------|----------------------------------|
| 1155-505 | 0~50mm | 0.5µm/0.00002" (can switch to: 1µm/0.00005") | 1.5µm | 0.8~1.2N | USB | 5V/1A (adapter or charge pal) |
| 1155-510 | 0~50mm | 0.1µm/0.000005" (can switch to: 1µm/0.00005") | 1µm | 0.8~1.2N | USB | 5V/1A (adapter or charge pal) |

STANDARD DELIVERY

| | |
|-----------|------|
| Main unit | 1 pc |
|-----------|------|

OPTIONAL ACCESSORY

| | |
|---|------------|
| Contact point | code 6282 |
| Charge pal | 1155-5-POB |
| Data output cable (including foot switch) | 1155-5-FOS |

DIGITAL HEIGHT GAGES

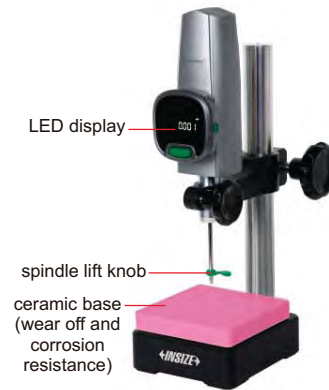
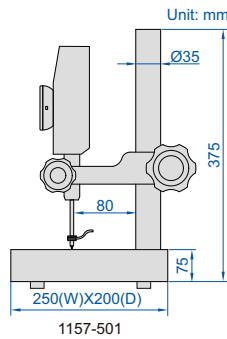
DATA
OUTPUT



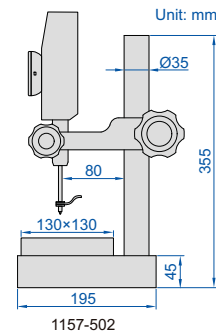
4



1157-501

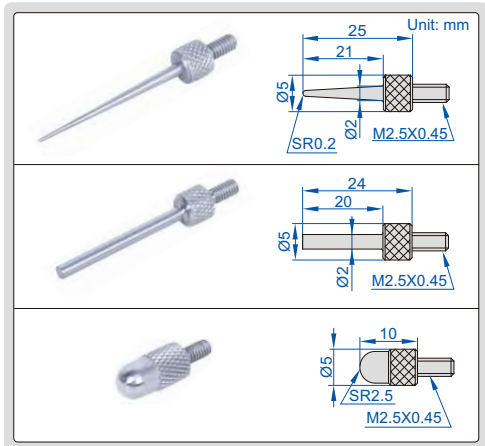


1157-502



- Buttons: on/off, zero, mm/inch, mix/min/mix-min
- High response speed (5000mm/s)
- High brightness LED display

measuring tips (included)



power supplied by charge pal



data transmitted to Excel without software;
short press the foot switch to transmit data,
long press to zero

| Code | Range | Resolution | Accuracy (20°C) | Measuring force | Output | Power supply | Base |
|----------|--------|--------------|-----------------|-----------------|--------|-------------------------------|-------------------------|
| 1157-501 | 0~50mm | 1µm/0.00005" | 3µm | 0.8~1.2N | USB | 5V/1A (adapter or charge pal) | granite (flatness: 2µm) |
| 1157-502 | 0~50mm | 1µm/0.00005" | 3µm | 0.8~1.2N | USB | 5V/1A (adapter or charge pal) | ceramic (flatness: 1µm) |

OPTIONAL ACCESSORY

| | |
|---|------------|
| Contact point | code 6282 |
| Charge pal | 1155-5-POB |
| Data output cable (including foot switch) | 1155-5-FOS |

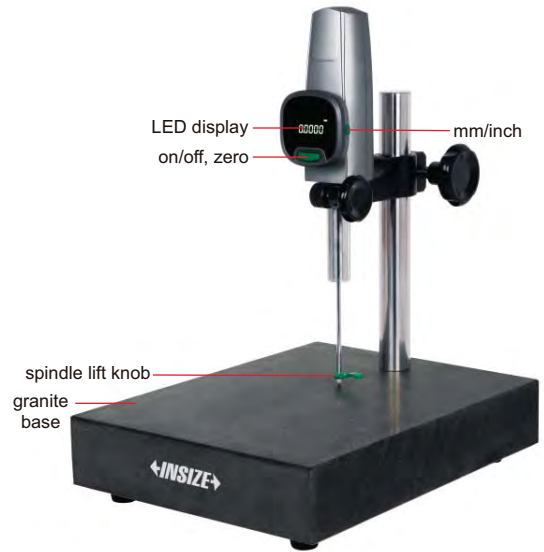
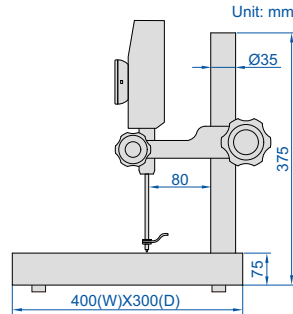
STANDARD DELIVERY

| | |
|-----------|------|
| Main unit | 1 pc |
|-----------|------|

DATA OUTPUT

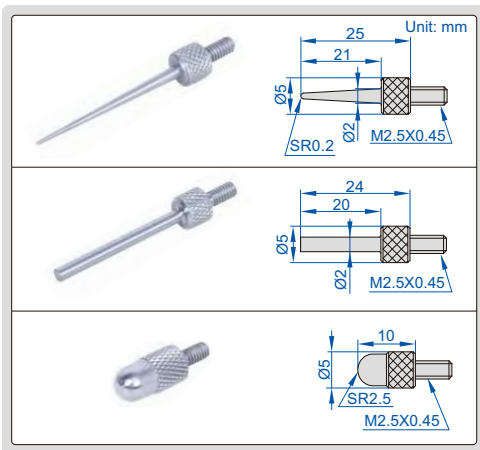
LARGE RANGE DIGITAL HEIGHT GAGE

- High stability, high precision, high response speed (5000mm/s)
- High brightness LED display
- Granite base flatness: 3µm



1158-100

measuring tips (included)



power supplied by charge pal



data transmitted to Excel without software; short press the foot switch to transmit data, long press to zero

| Code | Range | Resolution | Accuracy (20°C) | Measuring force | Output | Power supply |
|----------|---------|--|-----------------|-----------------|--------|----------------------------------|
| 1158-100 | 0~100mm | 0.1µm/0.000005" (can switch to: 1µm/0.00005") | 3µm | 0.8~1.2N | USB | 5V/1A (adapter or charge pal) |

STANDARD DELIVERY

| | |
|-----------|------|
| Main unit | 1 pc |
|-----------|------|

OPTIONAL ACCESSORY

| | |
|---|------------|
| Contact point | code 6282 |
| Charge pal | 1155-5-POB |
| Data output cable (including foot switch) | 1155-5-FOS |

DIAL INDICATOR STANDS

REFER TO PAGE 273~275 FOR DETAILS



6862-1001



6864-250T



6867-250

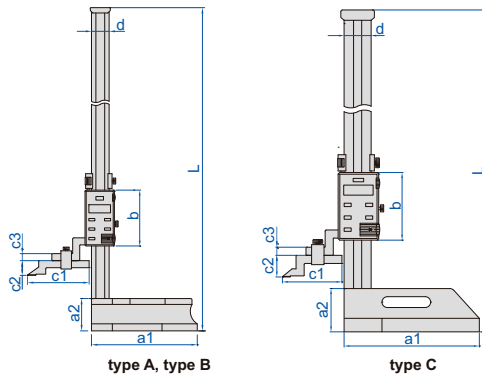
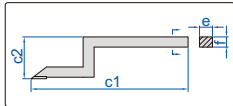
DIGITAL HEIGHT GAGES

DATA
OUTPUT

4

- Non waterproof
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch, ABS/INC, data hold, TOL, set
- ABS/INC is for absolute and incremental measurement
- TOL is for tolerance measurement
- Carbide tipped scriber
- Made of stainless steel (except the base)
- LR44 battery, data output
- Supplied with dial test indicator holder
- Supplied with dust cover (except 1150-1500/2000)
- Optional accessory: data output cable (code **7302-SPC7** page 13, keyboard format), wireless data transmission (transmitter code **7315-1150** need receiver page 6), clamp for protractors (code **2372-CLAMP**, for 1150-300)

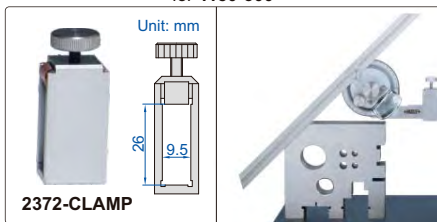
scriber (included)



type A, type B

type C

clamp for protractors (optional)
for 1150-300



2372-CLAMP

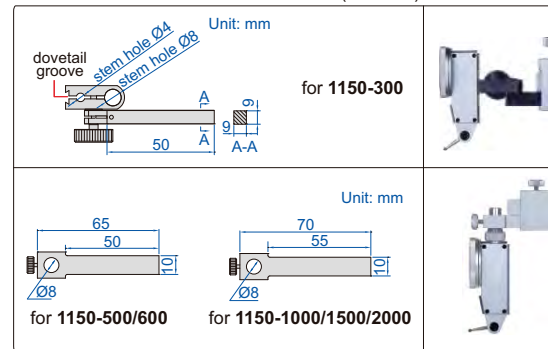


1150-1000

1150-500

1150-300

dial test indicator holder (included)

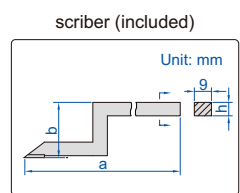
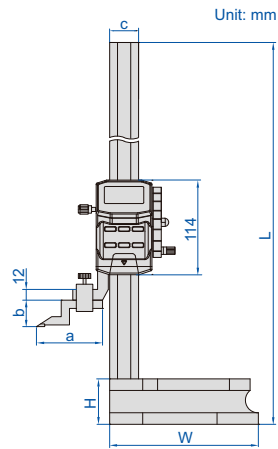


| Code | Range | Type | Accuracy | L | a1 | a2 | b | c1 | c2 | c3 | d | e | f |
|-----------|----------------|------|----------|--------|-------|------|-------|-------|------|------|------|------|------|
| 1150-300 | 0-300mm/0-12" | A | ±0.04mm | 485mm | 138mm | 45mm | 95mm | 80mm | 30mm | 10mm | 28mm | 9mm | 9mm |
| 1150-500 | 0-500mm/0-20" | B | ±0.06mm | 720mm | 180mm | 55mm | 95mm | 103mm | 25mm | 12mm | 30mm | 10mm | 12mm |
| 1150-600 | 0-600mm/0-24" | B | ±0.06mm | 820mm | 180mm | 55mm | 95mm | 103mm | 25mm | 12mm | 30mm | 10mm | 12mm |
| 1150-1000 | 0-1000mm/0-40" | C | ±0.08mm | 1275mm | 250mm | 80mm | 125mm | 110mm | 39mm | 15mm | 50mm | 10mm | 15mm |
| 1150-1500 | 0-1500mm/0-60" | C | ±0.12mm | 1790mm | 280mm | 80mm | 125mm | 110mm | 39mm | 15mm | 50mm | 10mm | 15mm |
| 1150-2000 | 0-2000mm/0-80" | C | ±0.16mm | 2290mm | 280mm | 80mm | 125mm | 110mm | 39mm | 15mm | 50mm | 10mm | 15mm |

DIGITAL HEIGHT GAGES WITH DRIVING WHEEL

**DATA
OUTPUT**

- Non waterproof
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch, preset +, preset -, ABS/INC
- Automatic power off, move the digital unit to turn on power
- Carbide tipped scriber
- Made of stainless steel
- Battery CR2032
- Data output
- Supplied with dust cover
- With dial test indicator holder
- Optional accessory: data output cable (code **7302-22** page 12), wireless data transmission (transmitter code **7315-22 need receiver** page 4), clamp for protractors (code **2372-CLAMP**)



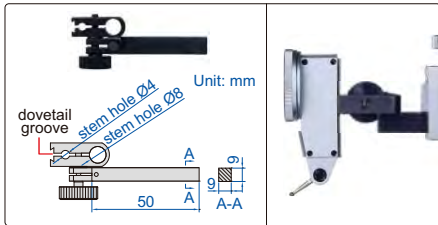
1156-300

front

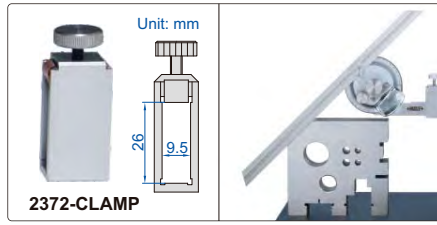
1156-1000

side

dial test indicator holder (included)



clamp for protractors (optional)

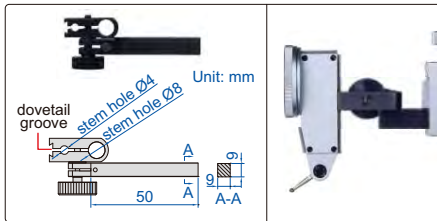


| Code | Range | Accuracy | L | W | H | a | b | c | h |
|-------------------|----------------|----------|--------|-------|------|------|------|------|------|
| 1156-300* | 0-300mm/0-12" | ±0.03mm | 515mm | 180mm | 55mm | 80mm | 30mm | 35mm | 9mm |
| 1156-600* | 0-600mm/0-24" | ±0.05mm | 815mm | 180mm | 55mm | 80mm | 30mm | 35mm | 9mm |
| 1156-1000* | 0-1000mm/0-40" | ±0.07mm | 1220mm | 265mm | 70mm | 92mm | 48mm | 40mm | 12mm |

*Supplied with manufacturer inspection certificate

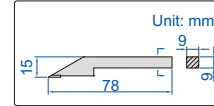
DIGITAL HEIGHT GAGES

dial test indicator holder (included)

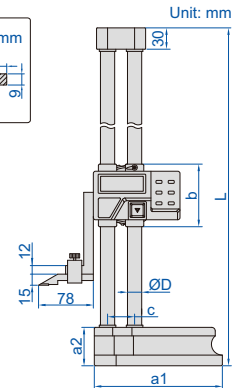


1151-300A

scraper (included)

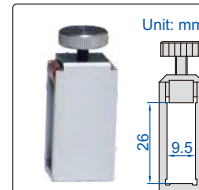


driving wheel on the back



- Non waterproof
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch, data hold, ABS/INC, preset
- ABS/INC is for absolute and incremental measurement
- Automatic power off, move the digital unit to turn on power
- Carbide tipped scriber
- Made of stainless steel
- Battery CR2032, data output
- With driving wheel
- With dial indicator holder
- Supplied with dust cover
- Optional accessory: data output cable (code 7302-1151 page 13, keyboard format), wireless data transmission (transmitter code 7315-1151 need receiver page 6), clamp for protractors (code 2372-CLAMP)

clamp for protractors (optional)



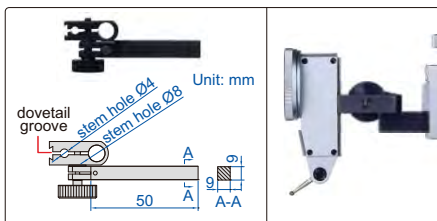
2372-CLAMP



| Code | Range | Accuracy | L | a1 | a2 | b | c | ØD |
|-----------|---------------|----------|-----|-----|----|----|----|----|
| 1151-300A | 0-300mm/0-12" | ±0.04mm | 475 | 135 | 43 | 84 | 33 | 15 |
| 1151-450A | 0-450mm/0-18" | ±0.05mm | 660 | 180 | 54 | 88 | 38 | 20 |
| 1151-600A | 0-600mm/0-24" | ±0.05mm | 810 | 180 | 54 | 88 | 38 | 20 |

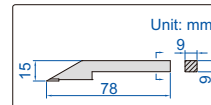
DIAL HEIGHT GAGES

dial test indicator holder (included)

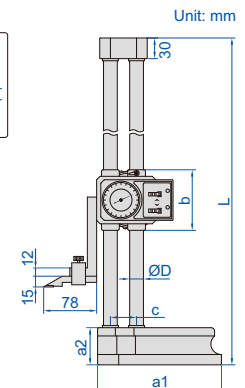


1351-300

scraper (included)



driving wheel on the back



- Dial indicator graduation: 0.01mm
- One counter reads in the plus direction and another in the minus direction, so incremental measurement can be made in either direction
- Carbide tipped scriber
- Made of stainless steel (except the base)
- With driving wheel
- With dial test indicator holder
- Supplied with dust cover
- Optional accessory: clamp for protractors (code 2372-CLAMP)

clamp for protractors (optional)



2372-CLAMP



| Code | Range | Accuracy | L | a1 | a2 | b | c | ØD |
|----------|---------|----------|-----|-----|----|----|----|----|
| 1351-300 | 0-300mm | ±0.04mm | 475 | 135 | 43 | 84 | 33 | 15 |
| 1351-450 | 0-450mm | ±0.05mm | 660 | 180 | 54 | 88 | 38 | 20 |
| 1351-600 | 0-600mm | ±0.05mm | 810 | 180 | 54 | 88 | 38 | 20 |

DATA OUTPUT

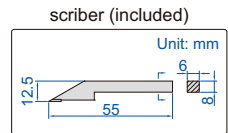
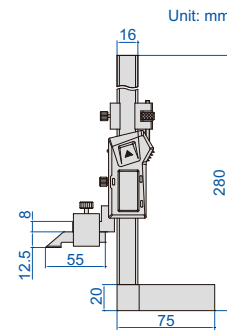
- Non waterproof
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Carbide tipped scriber
- With fine adjustment
- Made of stainless steel
- Battery CR2032
- Optional accessory: dial test indicator holder (code **7151-CL1**)

With data interface (data output cable code **7315-21** need receiver page 4, **7302-21** page 12, optional)

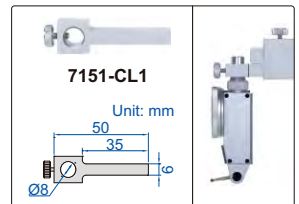
| Code | Range | Accuracy |
|-----------------|--------------|----------|
| 1154-150 | 0-150mm/0-6" | ±0.03mm |

Built-in wireless (receiver code **7315-2/3/6/7/8/9** is required)

| Code | Range | Accuracy |
|-------------------|--------------|----------|
| 1154-150WL | 0-150mm/0-6" | ±0.03mm |



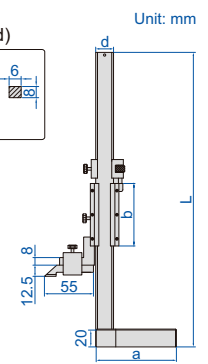
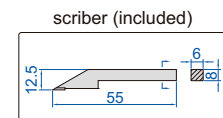
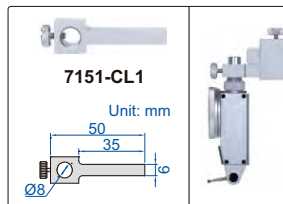
dial test indicator holder (optional)



MINI VERNIER HEIGHT GAGES

- Graduation: 0.02mm/0.001"
- Carbide tipped scriber
- Made of stainless steel (except the base)
- Satin chrome plated scale
- Optional accessory: dial test indicator holder (code **7151-CL1**)

dial test indicator holder (optional)

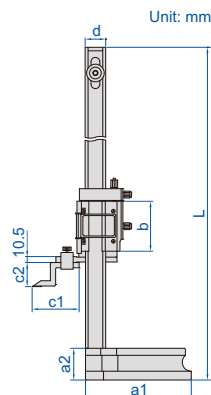
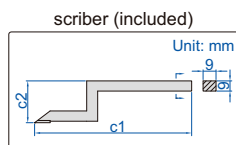


1253-200

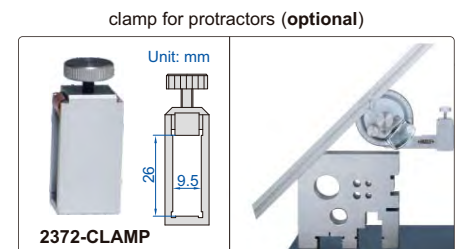
| Code | Range | Accuracy | L | a | b | d |
|-----------------|--------------|----------|-----|----|----|----|
| 1253-150 | 0-150mm/0-6" | ±0.03mm | 265 | 75 | 57 | 16 |
| 1253-200 | 0-200mm/0-8" | ±0.03mm | 325 | 90 | 70 | 20 |

VERNIER HEIGHT GAGES

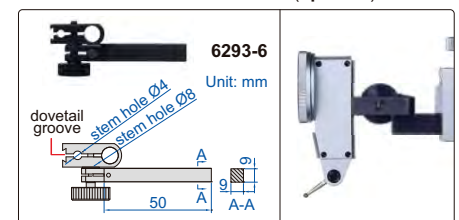
- Graduation: 0.02mm/0.001"
- Adjustable main scale to set zero
- Carbide tipped scriber
- Made of stainless steel (except the base)
- Satin chrome plated scale
- Supplied with magnifier
- With fine adjustment
- Supplied with dust cover
- Optional accessory: dial test indicator holder (code **6293-6**), clamp for protractors (code **2372-CLAMP**)



1250-300



dial test indicator holder (optional)



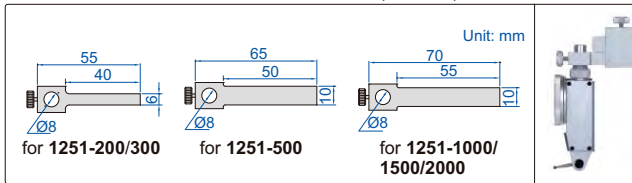
| Code | Range | Accuracy | L | a1 | a2 | b | c1 | c2 | d |
|-----------------|---------------|----------|-----|-----|----|----|----|----|----|
| 1250-300 | 0-300mm/0-12" | ±0.04mm | 545 | 135 | 43 | 75 | 80 | 30 | 28 |
| 1250-450 | 0-450mm/0-18" | ±0.05mm | 720 | 180 | 54 | 85 | 80 | 41 | 35 |
| 1250-600 | 0-600mm/0-24" | ±0.05mm | 870 | 180 | 54 | 85 | 80 | 41 | 35 |

VERNIER HEIGHT GAGES (BASIC TYPE)

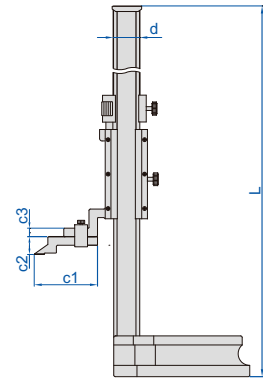
- Graduation: 0.02mm/0.001"
- Carbide tipped scriber
- Made of stainless steel (except the base)
- Satin chrome plated scale
- With dial test indicator holder
- Supplied with dust cover

POPULAR MODEL

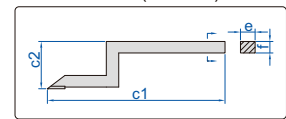
dial test indicator holder (included)



1251-200



scriber (included)



| Code | Range | Accuracy | L | c1 | c2 | c3 | d | e | f |
|-----------|----------------|----------|------|-----|----|----|----|----|----|
| 1251-200 | 0-200mm/0-8" | ±0.03mm | 370 | 76 | 25 | 10 | 23 | 6 | 8 |
| 1251-300 | 0-300mm/0-12" | ±0.04mm | 470 | 76 | 25 | 10 | 23 | 6 | 8 |
| 1251-500 | 0-500mm/0-20" | ±0.05mm | 720 | 105 | 25 | 12 | 30 | 10 | 12 |
| 1251-1000 | 0-1000mm/0-40" | ±0.07mm | 1275 | 110 | 39 | 15 | 50 | 10 | 15 |
| 1251-1500 | 0-1500mm/0-60" | ±0.11mm | 1790 | 110 | 39 | 15 | 50 | 10 | 15 |
| 1251-2000 | 0-2000mm/0-80" | ±0.14mm | 2290 | 110 | 39 | 15 | 50 | 10 | 15 |

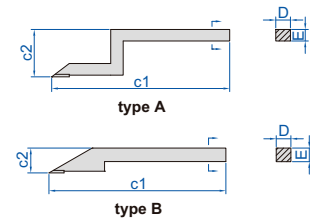
SCRIBERS FOR HEIGHT GAGES

- Carbide tipped

| Code | For height gages | Type | c1 | c2 | D | E |
|-----------|---|------|-------|--------|------|------|
| 7150-SC2 | 1150-500, 1150-600 | A | 103mm | 25mm | 10mm | 12mm |
| 7150-SC3 | 1150-1000, 1150-1500, 1150-2000 | A | 110mm | 39mm | 10mm | 15mm |
| 7150-SC4 | 1351-300, 1351-450, 1351-600, 1151-300A, 1151-450A, 1151-600A | B | 78mm | 15mm | 9mm | 9mm |
| 7150-SC6 | 1250-300, 1156-300, 1156-600, 1150-300 | A | 80mm | 30mm | 9mm | 9mm |
| 7150-SC7 | 1250-450, 1250-600 | A | 80mm | 41mm | 9mm | 9mm |
| 7150-SC9 | 1253-150, 1253-200, 1154-150 | B | 55mm | 12.5mm | 6mm | 8mm |
| 7150-SC10 | 1156-1000 | A | 92mm | 48mm | 9mm | 12mm |



7150-SC3



CALIPER/HEIGHT GAGE CHECKERS

REFER TO PAGE 332 FOR DETAILS

horizontal use



vertical use



6884-300



Carbon Fiber Comparison Gages
Page 94



Comparison Gages
Page 95-96



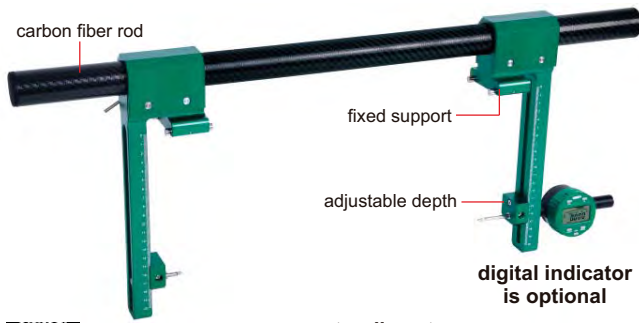
Internal And External Diameter
Comparison Instruments
Page 97-98



Outside Diameter Measuring Stands
Page 99

CARBON FIBER COMPARISON GAGES

CARBON FIBER RODS, LIGHT WEIGHT, NOT EASY TO DEFORM, NO TEMPERATURE EXPAND, SUITABLE FOR THIN-WALL WORKPIECES AND LARGE-SIZE WORKPIECES



measure outer diameter



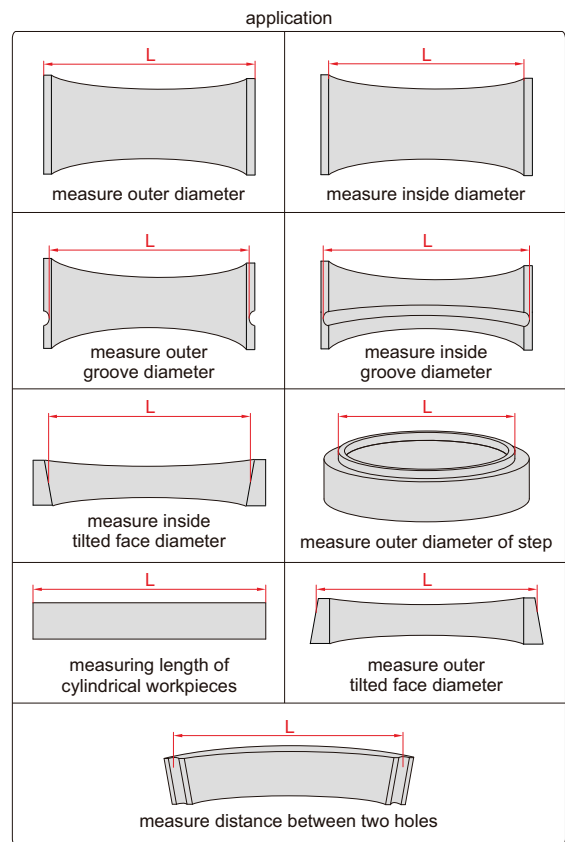
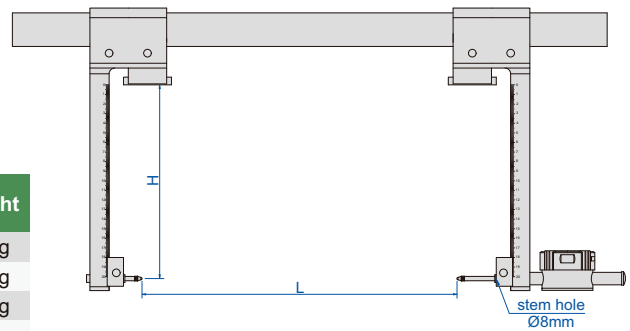
measure inside diameter, minimum diameter is 220mm

2931-D1000B



- Measure outer diameter, inside diameter, holes distance and cylindrical workpiece length
- Carbon fiber rods, light weight, not easy to deform, no temperature expand
- Optional accessory: cylinder gage blocks (code 4001), digital indicators (code 2138-25SP/2139-25SP/2103-25SP/2104-25SP)

| Code | Maximum measuring range (L) | Measuring depth (H) | Repeatability | Weight |
|-------------|-----------------------------|---------------------|---------------|--------|
| 2931-D1000A | 1000mm | 0-100mm | 5µm | 2.0kg |
| 2931-D1000B | 1000mm | 0-200mm | 10µm | 2.3kg |
| 2931-D1000C | 1000mm | 0-300mm | 25µm | 2.6kg |
| 2931-D1500A | 1500mm | 0-100mm | 8µm | 2.3kg |
| 2931-D1500B | 1500mm | 0-200mm | 15µm | 2.6kg |
| 2931-D1500C | 1500mm | 0-300mm | 30µm | 2.9kg |
| 2931-D2000A | 2000mm | 0-100mm | 10µm | 2.6kg |
| 2931-D2000B | 2000mm | 0-200mm | 20µm | 2.9kg |
| 2931-D2000C | 2000mm | 0-300mm | 35µm | 3.2kg |
| 2931-D2500A | 2500mm | 0-100mm | 12µm | 2.9kg |
| 2931-D2500B | 2500mm | 0-200mm | 25µm | 3.2kg |
| 2931-D2500C | 2500mm | 0-300mm | 50µm | 3.5kg |
| 2931-D3000A | 3000mm | 0-100mm | 14µm | 3.2kg |
| 2931-D3000B | 3000mm | 0-200mm | 30µm | 3.5kg |
| 2931-D3000C | 3000mm | 0-300mm | 60µm | 3.8kg |
| 2931-D4000A | 4000mm | 0-100mm | 16µm | 3.8kg |
| 2931-D4000B | 4000mm | 0-200mm | 35µm | 4.1kg |
| 2931-D4000C | 4000mm | 0-300mm | 65µm | 4.4kg |
| 2931-D5000A | 5000mm | 0-100mm | 25µm | 4.4kg |
| 2931-D5000B | 5000mm | 0-200mm | 40µm | 4.7kg |
| 2931-D5000C | 5000mm | 0-300mm | 70µm | 5.0kg |
| 2931-D6000A | 6000mm | 0-100mm | 28µm | 8.4kg |
| 2931-D6000B | 6000mm | 0-200mm | 50µm | 8.8kg |
| 2931-D6000C | 6000mm | 0-300mm | 80µm | 9.2kg |
| 2931-D7000A | 7000mm | 0-100mm | 30µm | 9.2kg |
| 2931-D7000B | 7000mm | 0-200mm | 55µm | 9.6kg |
| 2931-D7000C | 7000mm | 0-300mm | 100µm | 10kg |
| 2931-D8000A | 8000mm | 0-100mm | 32µm | 10kg |
| 2931-D8000B | 8000mm | 0-200mm | 60µm | 10.4kg |
| 2931-D8000C | 8000mm | 0-300mm | 110µm | 10.8kg |
| 2931-D9000A | 9000mm | 0-100mm | 35µm | 10.7kg |
| 2931-D9000B | 9000mm | 0-200mm | 70µm | 11.1kg |
| 2931-D9000C | 9000mm | 0-300mm | 120µm | 11.5kg |



**CUSTOMIZABLE MEASURING
JAWS AND POINTS**

COMPARISON GAGES



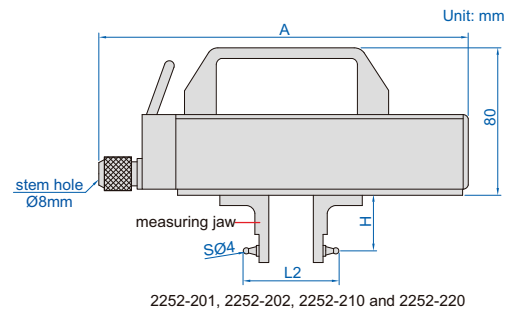
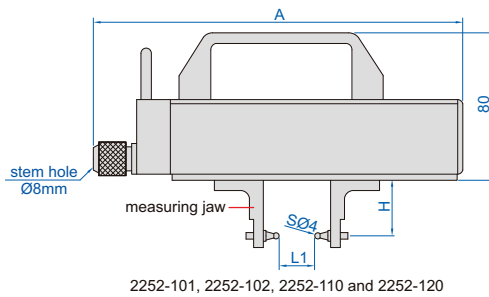
digital indicator
is optional

measure external diameter
2252-110



digital indicator
is optional

measure internal diameter
2252-220



- Measure external diameter, internal diameter and over-pin diameter of gears
- Total range of movable point: 8mm, effective range of movable point: ±2mm
- Optional accessory: digital indicator (code 2138-10F), gage block grade 1 (4101-B series)

Measure external diameter

| Code | Range of external diameter (L1) | Accuracy* | Repeatability | A | H |
|----------|---------------------------------|-----------|---------------|-------|------|
| 2252-101 | 0-100mm/0-4" | ±5µm | 1µm | 245mm | 40mm |
| 2252-102 | 0-170mm/0-6.6" | ±5µm | 1µm | 315mm | 40mm |
| 2252-110 | 0-100mm/0-4" | ±5µm | 2µm | 245mm | 60mm |
| 2252-120 | 0-170mm/0-6.6" | ±5µm | 2µm | 315mm | 60mm |

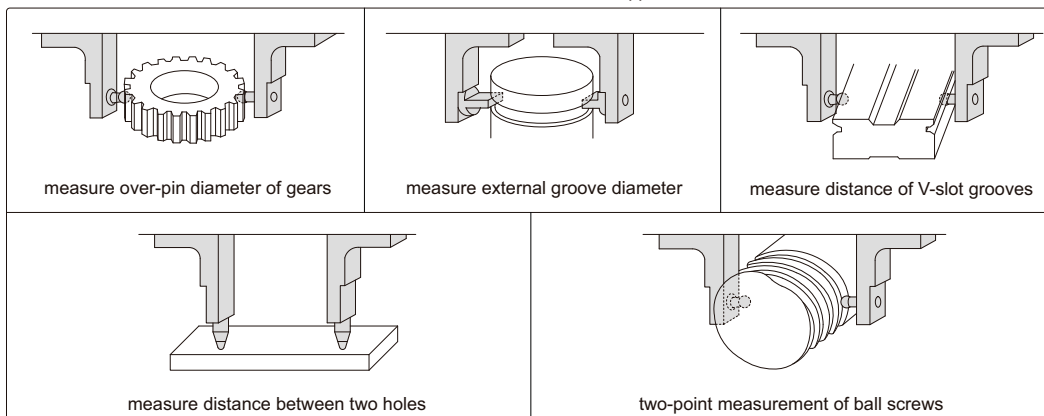
Measure internal diameter

| Code | Range of external diameter (L2) | Accuracy* | Repeatability | A | H |
|----------|---------------------------------|-----------|---------------|-------|------|
| 2252-201 | 20-130mm/0.8-5.1" | ±5µm | 1µm | 195mm | 40mm |
| 2252-202 | 20-200mm/0.8-7.8" | ±5µm | 1µm | 265mm | 40mm |
| 2252-210 | 20-130mm/0.8-5.1" | ±5µm | 2µm | 195mm | 60mm |
| 2252-220 | 20-200mm/0.8-7.8" | ±5µm | 2µm | 265mm | 60mm |

*Within ±2mm effective range



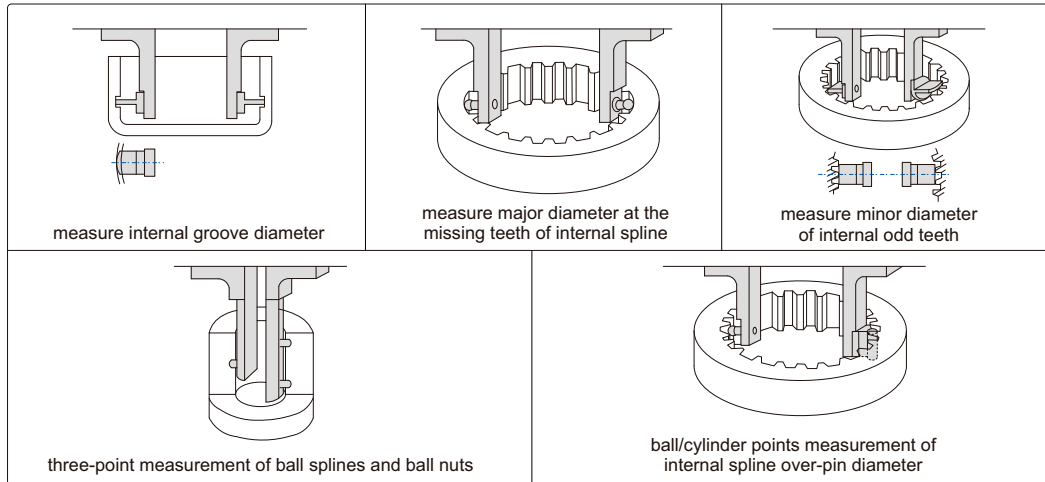
external diameter measurement application



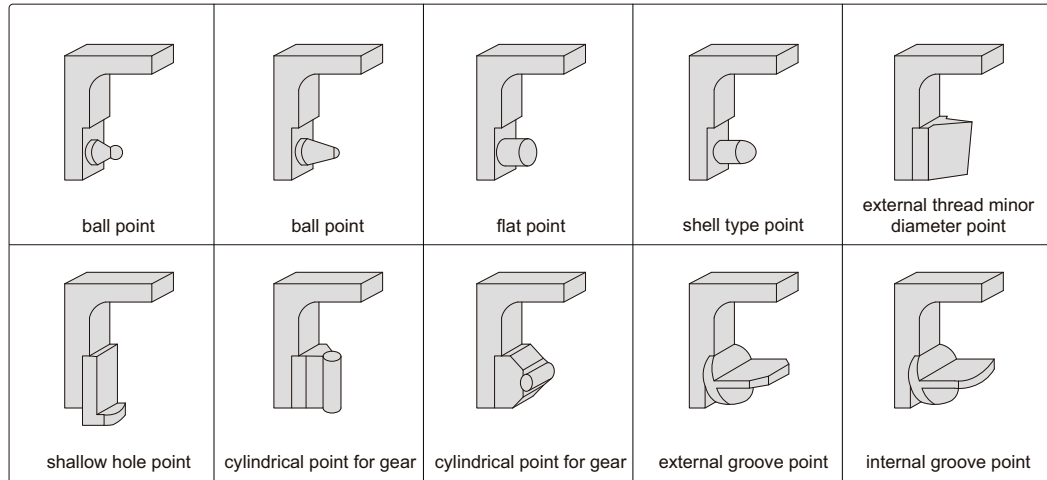
To be continued

Continued from previous page

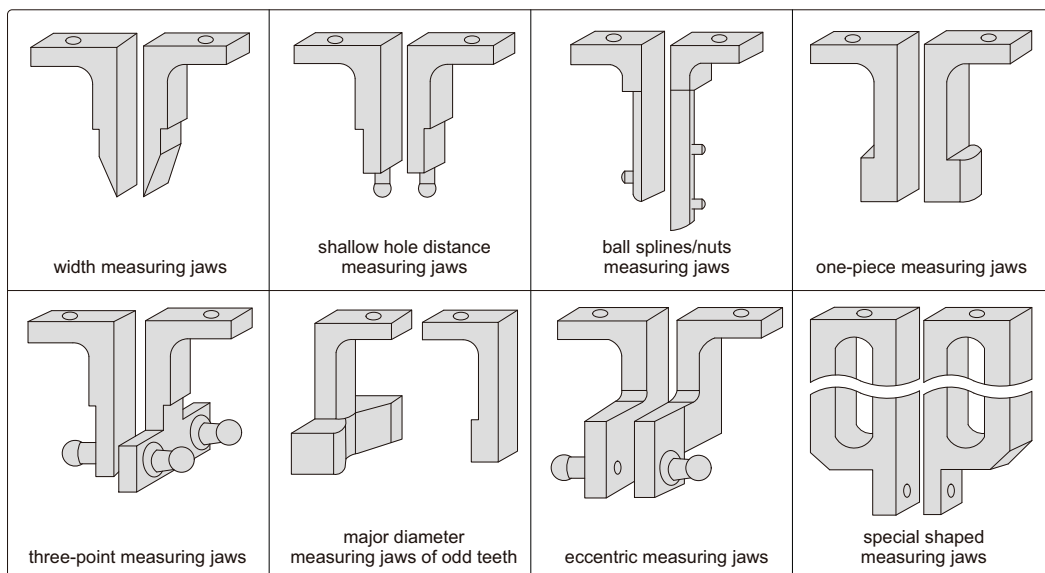
internal diameter measurement application



customizable points



customizable measuring jaws

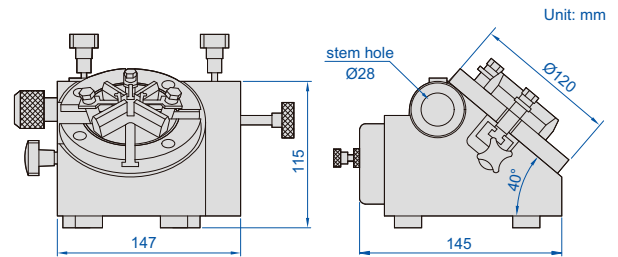




INTERNAL AND EXTERNAL DIAMETER COMPARISON INSTRUMENT



- Measure internal/external diameter, variation and taper
- Total range of movable point: 2mm, effective range of movable point: ± 0.1 mm
- Groove probes and disc probes are included
- Optional accessory: $\varnothing 28$ mm/ $\varnothing 8$ mm bush (code **6843-B8**), cross table, 0.001mm digital/dial indicators, high precision digital indicators (code **2140-6**, **2140-6WL**)



| Code | Applicable holding stem | Range of internal diameter | Range of external diameter | Accuracy | Repeatability |
|-----------------|-------------------------|----------------------------|----------------------------|----------------|---------------|
| 6844-100 | $\varnothing 28$ mm | 20-100mm/0.8-3.9" | 15-80mm/0.6-3.1" | ± 0.001 mm | 0.001mm |

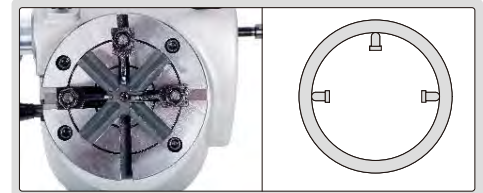
cross table (working with groove probes)



disc probes (included)



groove probes to measure small internal diameter and internal groove diameter



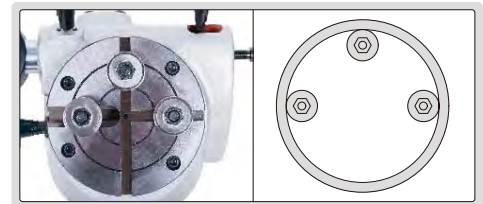
Cross table

| Code | L | Remark |
|------------------|-------|----------|
| 6844-T40 | 40mm | included |
| 6844-T80 | 80mm | optional |
| 6844-T100 | 100mm | optional |

groove probe (included)



disc probes to measure large internal diameter



$\varnothing 28$ mm/ $\varnothing 8$ mm bush (optional)

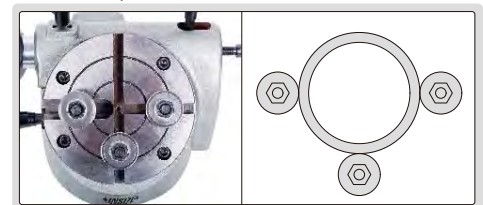


Code
6843-B8

application



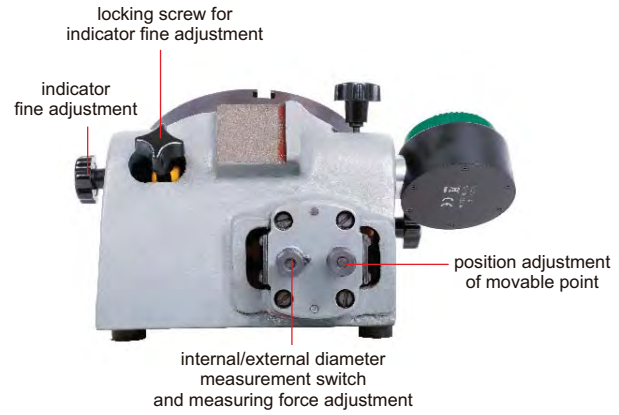
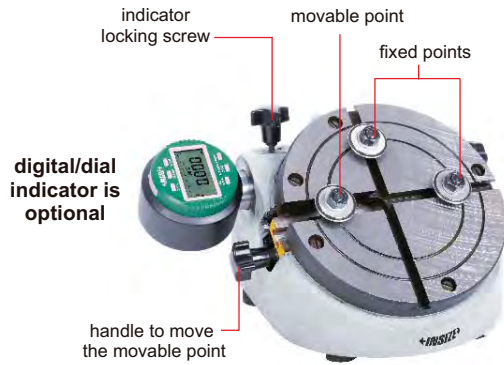
disc probes to measure external diameter



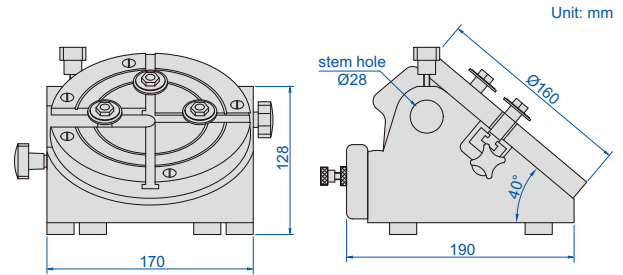
INTERNAL AND EXTERNAL DIAMETER COMPARISON INSTRUMENT



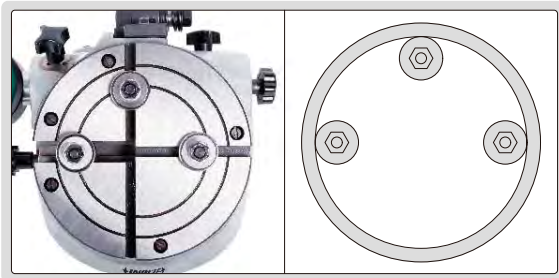
5



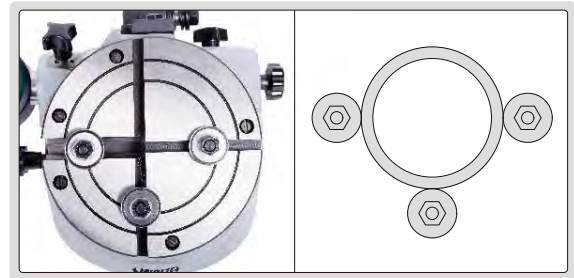
- Measure internal/external diameter, variation and taper
- Total range of movable point: 2mm, effective range of movable point: ± 0.1 mm
- Optional accessory: $\varnothing 28$ mm/ $\varnothing 8$ mm bush (code 6843-B8), 0.001mm digital/dial indicators, high precision digital indicators (code 2140-6, 2140-6WL)



internal diameter measurement



external diameter measurement



| Code | Applicable holding stem | Range of internal diameter | Range of external diameter | Accuracy | Repeatability |
|----------|-------------------------|----------------------------|----------------------------|----------------|---------------|
| 6843-140 | $\varnothing 28$ mm | 50-140mm/2-5.5" | 30-120mm/1.2-4.7" | ± 0.001 mm | 0.001mm |

$\varnothing 28$ mm/ $\varnothing 8$ mm bush (optional)



Code

6843-B8

application

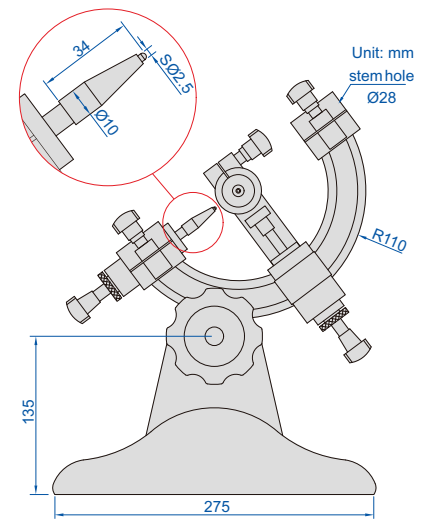




OUTSIDE DIAMETER MEASURING STAND



6847-50



- To measure diameter and roundness of cylinders and steel balls
- Supplied with measuring base (code 6847-A100)
- Optional accessory: Ø28mm/Ø8mm bush (code 6843-B8), 0.001mm digital/dial indicators, high precision digital indicators (code 2140-6, 2140-6WL), gage blocks (4101 series, for zero setting of cylinders), custom plug gages (for zero setting of cylinders), ceramic standard balls (4190 series, for zero setting of steel balls)

Measuring base

| Code | Diameter | Remark |
|-----------|----------|----------|
| 6847-A10 | 10mm | optional |
| 6847-A20 | 20mm | optional |
| 6847-A30 | 30mm | optional |
| 6847-A40 | 40mm | optional |
| 6847-A50 | 50mm | optional |
| 6847-A60 | 60mm | optional |
| 6847-A70 | 70mm | optional |
| 6847-A75 | 75mm | optional |
| 6847-A80 | 80mm | optional |
| 6847-A90 | 90mm | optional |
| 6847-A100 | 100mm | included |

| Code | Range of outside diameter | Accuracy | Repeatability |
|---------|---------------------------|----------|---------------|
| 6847-50 | 1.5-50mm/0.06-2" | ±0.001mm | 0.0005mm |

Ø28mm/Ø8mm bush (optional)



Code
6843-B8

application





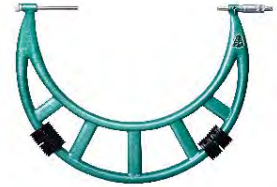
Digital Micrometers/Snap Gages
Page 102-105



Digital Micrometers
Page 106-111



Outside Micrometers
Page 112-117



Large Outside Micrometers
Page 117-121



Limit Micrometers
Page 121



Indicating Micrometers
Page 122



Micrometers With Dial Indicator
Page 123-125



Groove Micrometers
Page 125



3-wires
Page 126



Screw Thread Micrometers
Page 127-130



Gear Tooth Micrometers
Page 131-133



Point Micrometers
Page 134-135



Gear Root Diameter Micrometers
Page 136



Blade Micrometers
Page 137-139



Crimp Height Micrometers
Page 140



Spline Micrometers
Page 140-142



Tube Micrometers
Page 143-145



Disk Brake Micrometers
Page 146



Sheet Metal Micrometers
Page 146-147



Interchangeable Anvil Micrometers
Page 147-148



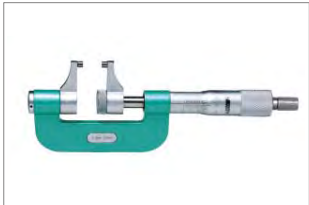
Large Anvil Micrometers
Page 148



V-anvil Micrometers
Page 149



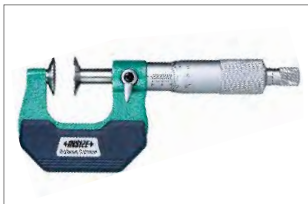
Universal Micrometers
Page 150



Caliper Type Micrometers
Page 151



Jaw Type Micrometers
Page 152



Disk Micrometers
Page 153-156



Sheet Metal Micrometers
Page 157



Micrometers For Hot Plate
Page 157



Hub Micrometers
Page 157



Wire Micrometers
Page 158



Can Seam Micrometers
Page 158



Optical Parallels
Page 158



Parallelism Inspect Devices For Outside Micrometers
Page 159



Micrometer Measuring Force Detectors
Page 159



Micrometer Inspection Gage Block Sets
Page 159



Micrometer Stands
Page 159-160



Micrometer Setting Standards
Page 161



Micrometer Lapping Machines
Page 162-163



Micrometer Heads
Page 163-167

DIGITAL MICROMETERS/SNAP GAGES

ONE TURN OF SLEEVE MAKES 10MM SPINDLE FEED, PRESS THE FORK, THE SPINDLE RETRACTS 3MM

MEASUREMENT ACCURACY IS NOT AFFECTED BY THE USE OF SLEEVE

IP65 WATERPROOF

DATA OUTPUT

ABSOLUTE ENCODER, THE ORIGINAL DATA REMAINS AFTER POWER OFF

ATTENTION: RECHARGEABLE BATTERY, FOR 24 HOURS CONTINUOUS WORKING

NON-ROTATING SPINDLE



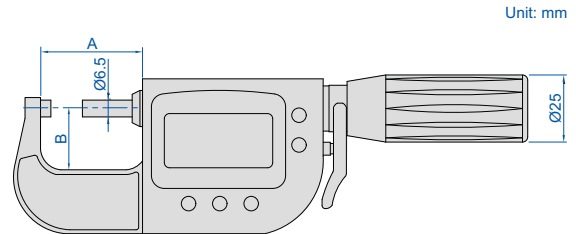
POPULAR MODEL



6



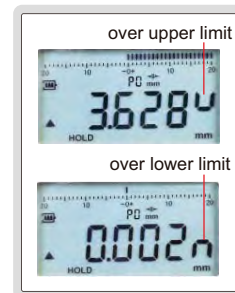
3358-25



Unit: mm

- Absolute encoder, the original data remains after power off
- Resolution: 0.001mm/0.00005"
- One turn of sleeve makes 10mm spindle feed
- Measurement accuracy is not affected by the use of sleeve
- Press the fork, the spindle retracts 3mm
- Carbide spindle and anvil
- Measuring force 5-10N
- Button function: data output, tolerance, data preset, data hold, measuring direction change, max./min./TIR, power off time, on/off, zero, mm/inch
- Supplied with gage blocks for zero setting (except 0-25mm/0-1")
- Power: rechargeable battery, for 24 hours continuous working

alarm when over tolerance



wireless receiver 2134-R1, 2134-R2 (optional)



With data interface

Optional accessory:
wireless transmitter, code 7315-3350 need receiver page 6
data output cable (keyboard format), code 7302-3350 page 13

| Code | Range | Accuracy | Repeatability | Measuring faces | | A | B |
|------------|---------------|----------|---------------|-----------------|-------------|-------|--------|
| | | | | flatness | parallelism | | |
| 3358-25 * | 0-25mm/0-1" | 2µm | 1µm | 0.5µm | 1.2µm | 38mm | 24mm |
| 3358-50 * | 25-50mm/1-2" | 2µm | 1µm | 0.5µm | 1.2µm | 64mm | 32.5mm |
| 3358-75 * | 50-75mm/2-3" | 3µm | 1µm | 0.5µm | 1.8µm | 89mm | 46mm |
| 3358-100 * | 75-100mm/3-4" | 3µm | 1µm | 0.5µm | 1.8µm | 114mm | 60mm |

Built-in wireless

Optional accessory:
wireless receiver (keyboard format, connect up to 15 digital indicators), code 2134-R1
wireless receiver (serial port format, connect up to 15 digital indicators), code 2134-R2

| Code | Range | Accuracy | Repeatability | Measuring faces | | A | B |
|--------------|---------------|----------|---------------|-----------------|-------------|-------|--------|
| | | | | flatness | parallelism | | |
| 3358-25WL * | 0-25mm/0-1" | 2µm | 1µm | 0.5µm | 1.2µm | 38mm | 24mm |
| 3358-50WL * | 25-50mm/1-2" | 2µm | 1µm | 0.5µm | 1.2µm | 64mm | 32.5mm |
| 3358-75WL * | 50-75mm/2-3" | 3µm | 1µm | 0.5µm | 1.8µm | 89mm | 46mm |
| 3358-100WL * | 75-100mm/3-4" | 3µm | 1µm | 0.5µm | 1.8µm | 114mm | 60mm |

*Supplied with manufacturer inspection certificate



HIGH PRECISION DIGITAL MICROMETERS/SNAP GAGES

ONE TURN OF SLEEVE MAKES 10MM SPINDLE FEED, PRESS THE FORK, THE SPINDLE RETRACTS 3MM

MEASUREMENT ACCURACY IS NOT AFFECTED BY THE USE OF SLEEVE

IP65 WATERPROOF

DATA OUTPUT

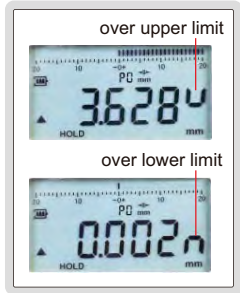
ABSOLUTE ENCODER, THE ORIGINAL DATA REMAINS AFTER POWER OFF

ATTENTION: RECHARGEABLE BATTERY, FOR 24 HOURS CONTINUOUS WORKING

NON-ROTATING SPINDLE

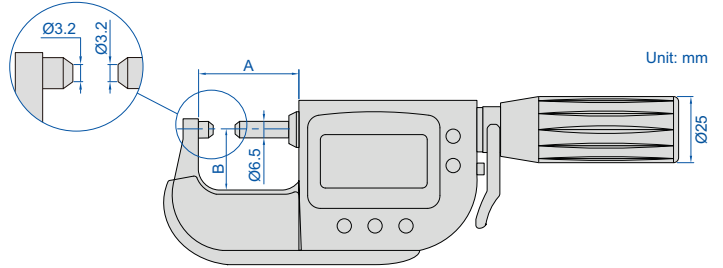


alarm when over tolerance



3359-25

wireless receiver 2134-R1, 2134-R2 (optional)



- Absolute encoder, the original data remains after power off
- Resolution: 0.0001mm/0.00001"
- One turn of sleeve makes 10mm spindle feed
- Measurement accuracy is not affected by the use of sleeve
- Press the fork, the spindle retracts 3mm
- Carbide spindle and anvil
- Measuring force 5-10N
- Button function: data output, tolerance, data preset, data hold, measuring direction change, max./min./TIR, power off time, on/off, zero, mm/inch
- Power: rechargeable battery, for 24 hours continuous working

With data interface

Optional accessory:
wireless transmitter, code 7315-3350 need receiver page 6
data output cable (keyboard format), code 7302-3350 page 13

| Code | Range | Accuracy | Repeatability | Measuring faces | | A | B |
|----------|-------------|----------|---------------|-----------------|-------------|------|------|
| | | | | flatness | parallelism | | |
| 3359-25* | 0-25mm/0-1" | ±0.5µm | 0.3µm | 0.3µm | 0.6µm | 38mm | 24mm |

Built-in wireless

Optional accessory:
wireless receiver (keyboard format, connect up to 15 digital indicators), code 2134-R1
wireless receiver (serial port format, connect up to 15 digital indicators), code 2134-R2

| Code | Range | Accuracy | Repeatability | Measuring faces | | A | B |
|------------|-------------|----------|---------------|-----------------|-------------|------|------|
| | | | | flatness | parallelism | | |
| 3359-25WL* | 0-25mm/0-1" | ±0.5µm | 0.3µm | 0.3µm | 0.6µm | 38mm | 24mm |

*Supplied with manufacturer inspection certificate

HIGH PRECISION DIGITAL MICROMETERS/SNAP GAGES (ADVANCED TYPE)

ONE TURN OF SLEEVE MAKES 5MM SPINDLE FEED, PRESS THE FORK, THE SPINDLE RETRACTS 3MM

MEASUREMENT ACCURACY IS NOT AFFECTED BY THE USE OF SLEEVE

IP65
WATERPROOF

DATA
OUTPUT

ATTENTION: RECHARGEABLE BATTERY, FOR 24 HOURS CONTINUOUS WORKING

NON-ROTATING
SPINDLE

ABSOLUTE ENCODER, THE ORIGINAL
DATA REMAINS AFTER POWER OFF

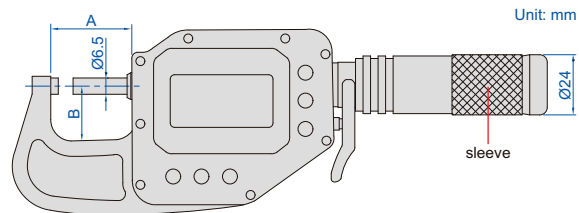


6

- Absolute encoder, the original data remains after power off
- Adjustable resolution: 0.0002mm/0.00001"
0.001mm/0.00005"
0.01mm/0.0005"
- One turn of sleeve makes 5mm spindle feed
- Measurement accuracy is not affected by the use of sleeve
- Press the fork, the spindle retracts 3mm
- Linear ball bearings for ten million times use
- Carbide spindle and anvil
- Measuring force 7-10N
Customizable measuring force range 2-12N
Attention: small measuring force will reduce the dustproof and waterproof level
- Button function: data output, tolerance, data preset, data hold, measuring direction change, max./min./TIR, power off time, on/off, zero, mm/inch, adjust resolution
- Supplied with gage blocks for zero setting (except 0-25mm/0-1")
- Power: rechargeable battery, for 24 hours continuous working



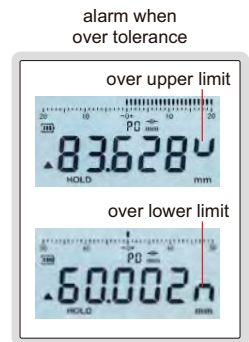
3350-25



With data interface

Optional accessory:
wireless transmitter, code **7315-3350** need receiver page 6
data output cable (keyboard format), code **7302-3350** page 13

| Code | Range | Accuracy | Repeatability | Measuring faces | | A | B |
|-------------------|------------------|----------|---------------|-----------------|-------------|-------|------|
| | | | | flatness | parallelism | | |
| 3350-25 * | 0-25mm/0-1" | 1.4µm | 0.6µm | 0.5µm | 1µm | 38mm | 24mm |
| 3350-50 * | 25-50mm/1-2" | 1.6µm | 1µm | 0.5µm | 1µm | 63mm | 28mm |
| 3350-75 * | 50-75mm/2-3" | 1.8µm | 1µm | 0.5µm | 1µm | 88mm | 45mm |
| 3350-100 * | 75-100mm/3-3.95" | 2µm | 1µm | 0.5µm | 1µm | 113mm | 57mm |



Built-in wireless

Optional accessory:
wireless receiver (keyboard format, connect up to 15 digital indicators), code **2134-R1**
wireless receiver (serial port format, connect up to 15 digital indicators), code **2134-R2**

| Code | Range | Accuracy | Repeatability | Measuring faces | | A | B |
|---------------------|------------------|----------|---------------|-----------------|-------------|-------|------|
| | | | | flatness | parallelism | | |
| 3350-25WL * | 0-25mm/0-1" | 1.4µm | 0.6µm | 0.5µm | 1µm | 38mm | 24mm |
| 3350-50WL * | 25-50mm/1-2" | 1.6µm | 1µm | 0.5µm | 1µm | 63mm | 28mm |
| 3350-75WL * | 50-75mm/2-3" | 1.8µm | 1µm | 0.5µm | 1µm | 88mm | 45mm |
| 3350-100WL * | 75-100mm/3-3.95" | 2µm | 1µm | 0.5µm | 1µm | 113mm | 57mm |

wireless receiver
2134-R1, 2134-R2 (optional)



*Supplied with manufacturer inspection certificate



IP65
WATERPROOF

ABSOLUTE ENCODER, THE ORIGINAL
DATA REMAINS AFTER POWER OFF

ONE TURN OF SLEEVE MAKES 5MM SPINDLE FEED,
PRESS THE FORK, THE SPINDLE RETRACTS 3MM

ATTENTION: RECHARGEABLE BATTERY,
FOR 24 HOURS CONTINUOUS WORKING

NON-ROTATING
SPINDLE

DATA
OUTPUT

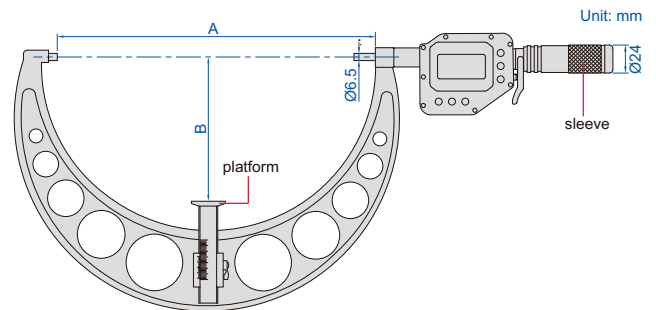
MEASUREMENT ACCURACY IS NOT
AFFECTED BY THE USE OF SLEEVE



HIGH PRECISION DIGITAL MICROMETERS/SNAP GAGES



3351-275



- Absolute encoder, the original data remains after power off
- Adjustable resolution: 0.0002mm/0.00001" (when the reading exceeds 100mm, the resolution is automatically switched to 0.001mm/0.0005" 0.01mm/0.0005")
- One turn of sleeve makes 5mm spindle feed
- Measurement accuracy is not affected by the use of sleeve
- Press the fork, the spindle retracts 3mm
- Linear ball bearings for ten million times use
- Carbide spindle and anvil
- Measuring force 5-8N
Customizable measuring force range 2-12N
Attention: small measuring force will reduce the dustproof and waterproof level
- Button function: data output, tolerance, data preset, data hold, measuring direction change, max./min./TIR, power off time, on/off, zero, mm/inch, adjust resolution
- Supplied with gage blocks for zero setting
- Power: rechargeable battery, for 24 hours continuous working

6

With data interface

Optional accessory:
wireless transmitter, code **7315-3350** need receiver page 6
data output cable (keyboard format), code **7302-3350** page 13

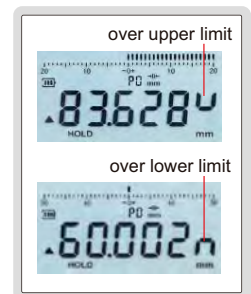


gage blocks for zero setting (included)



| Code | Range | Accuracy | Repeatability | Measuring faces | | A | B |
|------------|------------------|----------|---------------|-----------------|-------------|-------|---------|
| | | | | flatness | parallelism | | |
| 3351-125 * | 100-125mm/4-5" | 3µm | 1µm | 0.5µm | 2µm | 128mm | 62.5mm |
| 3351-150 * | 125-150mm/5-6" | 3µm | 1µm | 0.5µm | 2µm | 153mm | 75mm |
| 3351-175 * | 150-175mm/6-7" | 4µm | 1µm | 0.5µm | 2.5µm | 178mm | 87.5mm |
| 3351-200 * | 175-200mm/7-8" | 4µm | 1µm | 0.5µm | 2.5µm | 203mm | 100mm |
| 3351-225 * | 200-225mm/8-9" | 5µm | 1µm | 0.5µm | 3µm | 228mm | 112.5mm |
| 3351-250 * | 225-250mm/9-10" | 5µm | 1µm | 0.5µm | 3µm | 253mm | 125mm |
| 3351-275 * | 250-275mm/10-11" | 6µm | 1µm | 0.5µm | 3.5µm | 278mm | 137.5mm |
| 3351-300 * | 275-300mm/11-12" | 6µm | 1µm | 0.5µm | 3.5µm | 303mm | 150mm |

alarm when over tolerance



Built-in wireless

Optional accessory:
wireless receiver (keyboard format, connect up to 15 digital indicators), code **2134-R1**
wireless receiver (serial port format, connect up to 15 digital indicators), code **2134-R2**

| Code | Range | Accuracy | Repeatability | Measuring faces | | A | B |
|--------------|------------------|----------|---------------|-----------------|-------------|-------|---------|
| | | | | flatness | parallelism | | |
| 3351-125WL * | 100-125mm/4-5" | 3µm | 1µm | 0.5µm | 2µm | 128mm | 62.5mm |
| 3351-150WL * | 125-150mm/5-6" | 3µm | 1µm | 0.5µm | 2µm | 153mm | 75mm |
| 3351-175WL * | 150-175mm/6-7" | 4µm | 1µm | 0.5µm | 2.5µm | 178mm | 87.5mm |
| 3351-200WL * | 175-200mm/7-8" | 4µm | 1µm | 0.5µm | 2.5µm | 203mm | 100mm |
| 3351-225WL * | 200-225mm/8-9" | 5µm | 1µm | 0.5µm | 3µm | 228mm | 112.5mm |
| 3351-250WL * | 225-250mm/9-10" | 5µm | 1µm | 0.5µm | 3µm | 253mm | 125mm |
| 3351-275WL * | 250-275mm/10-11" | 6µm | 1µm | 0.5µm | 3.5µm | 278mm | 137.5mm |
| 3351-300WL * | 275-300mm/11-12" | 6µm | 1µm | 0.5µm | 3.5µm | 303mm | 150mm |

wireless receiver
2134-R1, 2134-R2 (optional)



* Supplied with manufacturer inspection certificate

NON-ROTATING SPINDLE DIGITAL MICROMETERS

INSIZE PLUS
MADE IN EUROPE

**INSPECTION
CERTIFICATE**

QUICK MEASUREMENT
ONE TURN OF SLEEVE OR RATCHET
STOP MAKES 2mm SPINDLE FEED

LEVER FORCE MEASURING DEVICE
SUITABLE FOR MASS MEASUREMENT

IP65
WATERPROOF

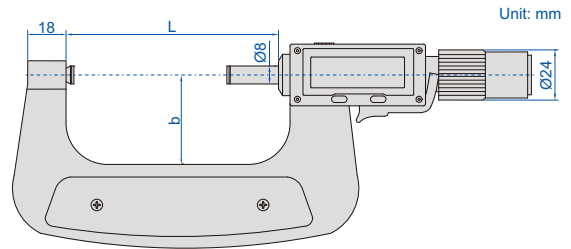
NON-ROTATING
SPINDLE

DATA
OUTPUT

6



3632-80A



Unit: mm

- Adjustable resolution: 0.01mm/0.0005", 0.001mm/0.00005", 0.0005mm/0.00002"
- Repeatability: 1µm
- Measuring force: 5-10N
- Lever force measuring device, suitable for mass measurement
- No-rotating spindle, suitable for measuring cylindrical workpiece
- Quick measurement: one turn of sleeve or ratchet stop makes 2mm spindle feed
- Carbide measuring faces
- Data output
- Button function: mm/inch, max./min. value tracking, preset value, hold, on/off, zero
- Ratchet sets force measurement
- CR2032 battery, automatic power off
- Supplied with setting standards (except 0-30mm/0-1.18")
- Optional accessory: data output cable (code 7315-80 need receiver page 5, 7302-80)

lever force measuring device

press the lever force measuring device, the spindle retracted 1.5mm (MAX). release the force measuring device, the spindle extends, contacts the measured workpiece, and the measured force is constant

spindle retraction
1.5mm (MAX)



push down

(mm)

| Code | Range | Accuracy | | L | b |
|-------------|------------------------|-------------|-------------|-----|-------|
| | | stroke≤25mm | stroke>25mm | | |
| 3632-30A * | 0-30mm/0-1.18" | ±2µm | ±3µm | 38 | 24 |
| 3632-55A * | 25-55mm/0.98-2.17" | ±2µm | ±3µm | 63 | 30.5 |
| 3632-80A * | 50-80mm/1.97-3.15" | ±3µm | ±4µm | 88 | 44 |
| 3632-105A * | 75-105mm/2.95-4.13" | ±3µm | ±4µm | 113 | 57 |
| 3632-130A * | 100-130mm/3.94-5.12" | ±3µm | ±5µm | 138 | 70 |
| 3632-155A * | 125-155mm/4.92-6.1" | ±3µm | ±5µm | 163 | 83 |
| 3632-180A * | 150-180mm/5.91-7.09" | ±4µm | ±6µm | 188 | 96 |
| 3632-205A * | 175-205mm/6.89-8.07" | ±4µm | ±6µm | 213 | 109 |
| 3632-230A * | 200-230mm/7.87-9.06" | ±4µm | ±6µm | 238 | 122 |
| 3632-255A * | 225-255mm/8.86-10.04" | ±4µm | ±6µm | 268 | 135 |
| 3632-280A * | 250-280mm/9.84-11.02" | ±5µm | ±7µm | 293 | 147.5 |
| 3632-305A * | 275-305mm/10.83-12.01" | ±5µm | ±7µm | 318 | 160 |

*Supplied with manufacturer inspection certificate

HIGH PRECISION NON-ROTATING SPINDLE DIGITAL MICROMETERS

INSIZE PLUS
MADE IN EUROPE

QUICK MEASUREMENT
ONE TURN OF SLEEVE OR RATCHET
STOP MAKES 2MM SPINDLE FEED

ATTENTION: SETTING
STANDARDS ARE NOT INCLUDED

IP65
WATERPROOF

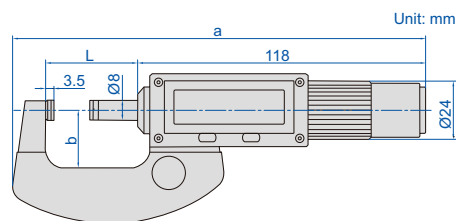
NON-ROTATING
SPINDLE

DATA
OUTPUT

STROKE
30mm



3661-30



- Adjustable resolution: 0.01mm/0.0005", 0.001mm/0.00005", 0.0005mm/0.00002"
- Repeatability: 0.5µm
- Measuring force: 5-10N
- Flatness of measuring faces: 0.3µm
- Parallelism of measuring faces: 0.5µm
- Ratchet stop
- Non-rotating spindle, suitable for cylinders
- Quick measurement: one turn of sleeve or ratchet stop makes 2mm spindle feed
- Carbide measuring faces
- Data output
- Button function: mm/inch, max./min. value tracking, preset value, hold, on/off, zero
- CR2032 battery
- Automatic power off, turn the sleeve to turn on
- Optional accessory: setting standards (code **7386**), data output cable (code **7315-80 need receiver** page 5, **7302-80**)

(mm)

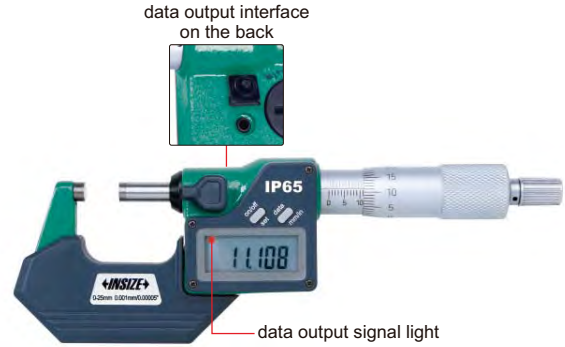
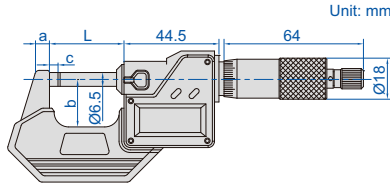
| Code | Range | Accuracy | | L | a | b |
|----------|------------------------|--------------|--------------|-----|-----|-------|
| | | stroke ≤25mm | stroke >25mm | | | |
| 3661-30 | 0-30mm/0-1.18" | ±2µm | ±3µm | 38 | 169 | 24 |
| 3661-55 | 25-55mm/0.98-2.17" | ±2µm | ±3µm | 63 | 195 | 30.5 |
| 3661-80 | 50-80mm/1.97-3.15" | ±3µm | ±4µm | 88 | 228 | 44 |
| 3661-105 | 75-105mm/2.95-4.13" | ±3µm | ±4µm | 113 | 257 | 57 |
| 3661-130 | 100-130mm/3.94-5.12" | ±3µm | ±5µm | 138 | 289 | 70 |
| 3661-155 | 125-155mm/4.92-6.1" | ±3µm | ±5µm | 163 | 315 | 83 |
| 3661-180 | 150-180mm/5.91-7.09" | ±4µm | ±6µm | 188 | 340 | 96 |
| 3661-205 | 175-205mm/6.89-8.07" | ±4µm | ±6µm | 213 | 363 | 109 |
| 3661-230 | 200-230mm/7.87-9.06" | ±4µm | ±6µm | 238 | 388 | 122 |
| 3661-255 | 225-255mm/8.86-10.04" | ±4µm | ±6µm | 268 | 429 | 135 |
| 3661-280 | 250-280mm/9.84-11.02" | ±5µm | ±7µm | 293 | 454 | 147.5 |
| 3661-305 | 275-305mm/10.83-12.01" | ±5µm | ±7µm | 318 | 479 | 160 |

WATERPROOF DIGITAL OUTSIDE MICROMETERS (WITH DATA OUTPUT)

POPULAR MODEL

DATA OUTPUT IP65 WATERPROOF

INSPECTION CERTIFICATE



3101-25A

- IP65 dust/waterproof
- Button function: on/off, set, mm/inch, data transmit
- Automatic power off
- Carbide measuring faces
- Supplied with spherical anvil
- Setting standards are included (except 0-25mm/0-1")
- Optional accessory: data output cable (code 7315-31 need receiver page 4, 7302-31 page 12)

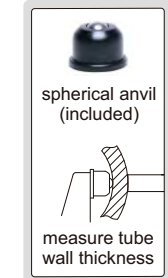
Metric/Inch type (ratchet stop)

| Code | Range | Resolution | Accuracy | L | a | b | c | (mm) |
|------------|------------------|------------------|----------|-------|----|-------|-----|------|
| 3101-25A* | 0-25mm/0-1" | 0.001mm/0.00005" | ±2µm | 34.5 | 6 | 25 | 3 | |
| 3101-50A* | 25-50mm/1-2" | 0.001mm/0.00005" | ±2µm | 59.5 | 8 | 32 | 3 | |
| 3101-75A* | 50-75mm/2-3" | 0.001mm/0.00005" | ±3µm | 84.5 | 8 | 44.5 | 3 | |
| 3101-100A* | 75-100mm/3-4" | 0.001mm/0.00005" | ±3µm | 109.5 | 8 | 57 | 3 | |
| 3101-125A | 100-125mm/4-5" | 0.001mm/0.00005" | ±3µm | 135 | 10 | 70 | 3 | |
| 3101-150A | 125-150mm/5-6" | 0.001mm/0.00005" | ±3µm | 160.5 | 10 | 82 | 3 | |
| 3101-175A | 150-175mm/6-7" | 0.001mm/0.00005" | ±4µm | 186 | 12 | 94.5 | 5.5 | |
| 3101-200A | 175-200mm/7-8" | 0.001mm/0.00005" | ±4µm | 211.5 | 12 | 107 | 5.5 | |
| 3101-225A | 200-225mm/8-9" | 0.001mm/0.00005" | ±4µm | 236 | 23 | 129.5 | 5.5 | |
| 3101-250A | 225-250mm/9-10" | 0.001mm/0.00005" | ±4µm | 261.5 | 23 | 142.5 | 5.5 | |
| 3101-275A | 250-275mm/10-11" | 0.001mm/0.0001" | ±5µm | 287 | 23 | 155 | 5.5 | |
| 3101-300A | 275-300mm/11-12" | 0.001mm/0.0001" | ±5µm | 312.5 | 23 | 167.5 | 5.5 | |



Metric/Inch type (friction thimble)

| Code | Range | Resolution | Accuracy | L | a | b | c | (mm) |
|------------|-------------|------------------|----------|------|---|----|---|------|
| 3101-25FA* | 0-25mm/0-1" | 0.001mm/0.00005" | ±2µm | 34.5 | 6 | 25 | 3 | |



Metric type (ratchet stop)

| Code | Range | Resolution | Accuracy | L | a | b | c | (mm) |
|-------------|----------|------------|----------|-------|---|------|---|------|
| 3101-25AJ* | 0-25mm | 0.001mm | ±2µm | 34.5 | 6 | 25 | 3 | |
| 3101-50AJ* | 25-50mm | 0.001mm | ±2µm | 59.5 | 8 | 32 | 3 | |
| 3101-75AJ* | 50-75mm | 0.001mm | ±3µm | 84.5 | 8 | 44.5 | 3 | |
| 3101-100AJ* | 75-100mm | 0.001mm | ±3µm | 109.5 | 8 | 57 | 3 | |

Set (ratchet stop type)

| Code | Range | Micrometers included | Packaging |
|-------------|-----------------|--|-----------------|
| 3101-753A* | 0-75mm/0-3" | 3101-25A, 3101-50A, 3101-75A | blow mould case |
| 3101-1004A* | 0-100mm/0-4" | 3101-25A, 3101-50A, 3101-75A, 3101-100A | blow mould case |
| 3101-1506A | 0-150mm/0-6" | 3101-25A, 3101-50A, 3101-75A, 3101-100A, 3101-125A, 3101-150A | aluminum box |
| 3101-3006A | 150-300mm/6-12" | 3101-175A, 3101-200A, 3101-225A, 3101-250A, 3101-275A, 3101-300A | aluminum box |



3101-753A

3101-1506A

*Supplied with manufacturer inspection certificate

WATERPROOF DIGITAL OUTSIDE MICROMETERS (WITHOUT DATA OUTPUT)

IP65
WATERPROOF

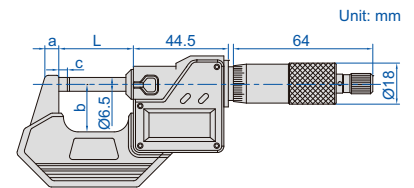
ATTENTION: NO
DATA OUTPUT

INSPECTION
CERTIFICATE



3108-25A

- Resolution 0.001mm/0.00005"
- IP65 dust/waterproof
- Button function: on/off, set, mm/inch, ABS/INC
- No data output
- Automatic power off
- Carbide measuring faces
- Supplied with spherical anvil
- Setting standards are included (except 0-25mm/0-1")



Ratchet stop type

(mm)

| Code | Range | Accuracy | L | a | b | c |
|------------|----------------|----------|-------|----|------|-----|
| 3108-25A* | 0-25mm/0-1" | ±2µm | 34.5 | 6 | 25 | 3 |
| 3108-50A* | 25-50mm/1-2" | ±2µm | 59.5 | 8 | 32 | 3 |
| 3108-75A* | 50-75mm/2-3" | ±3µm | 84.5 | 8 | 44.5 | 3 |
| 3108-100A* | 75-100mm/3-4" | ±3µm | 109.5 | 8 | 57 | 3 |
| 3108-125A | 100-125mm/4-5" | ±3µm | 135 | 10 | 70 | 3 |
| 3108-150A | 125-150mm/5-6" | ±3µm | 160.5 | 10 | 82 | 3 |
| 3108-175A | 150-175mm/6-7" | ±4µm | 186 | 12 | 94.5 | 5.5 |
| 3108-200A | 175-200mm/7-8" | ±4µm | 211.5 | 12 | 107 | 5.5 |



Friction thimble type

(mm)

| Code | Range | Accuracy | L | a | b | c |
|------------|-------------|----------|------|---|----|---|
| 3108-25FA* | 0-25mm/0-1" | ±2µm | 34.5 | 6 | 25 | 3 |



3108-753A



3108-1506A

Set

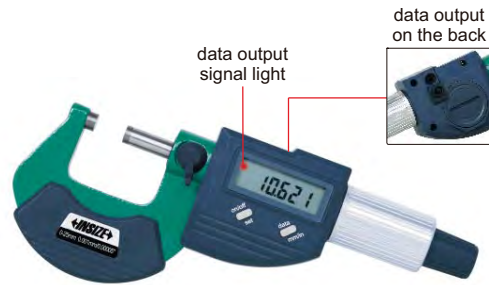
| Code | Range | Micrometers included | Packaging |
|-------------|--------------|--|-----------------|
| 3108-753A* | 0-75mm/0-3" | 3108-25A, 3108-50A, 3108-75A | blow mould case |
| 3108-1004A* | 0-100mm/0-4" | 3108-25A, 3108-50A, 3108-75A, 3108-100A | blow mould case |
| 3108-1506A | 0-150mm/0-6" | 3108-25A, 3108-50A, 3108-75A, 3108-100A, 3108-125A, 3108-150A | aluminum box |

*Supplied with manufacturer inspection certificate

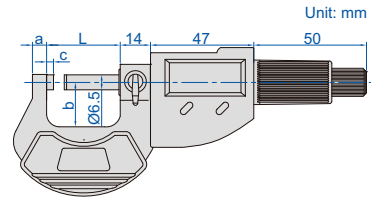
DIGITAL OUTSIDE MICROMETERS (BASIC TYPE, WITH DATA OUTPUT)



DATA OUTPUT



3102-25



- Resolution 0.001mm/0.00005"
- Button function: on/off, set, mm/inch, data transmit
- Automatic power off
- Carbide measuring faces
- Friction thimble
- Supplied with spherical anvil
- Setting standards are included (except 0-25mm/0-1")
- Optional accessory: data output cable (code 7315-30 need receiver page 4, 7302-30 page 12)

| Individual | | (mm) | | | | |
|------------|----------------|----------|-----|----|-----|-----|
| Code | Range | Accuracy | L | a | b | c |
| 3102-25 * | 0-25mm/0-1" | ±2µm | 32 | 6 | 24 | 3 |
| 3102-50 * | 25-50mm/1-2" | ±2µm | 57 | 8 | 32 | 3 |
| 3102-75 * | 50-75mm/2-3" | ±3µm | 82 | 8 | 45 | 3 |
| 3102-100 * | 75-100mm/3-4" | ±3µm | 107 | 10 | 57 | 3 |
| 3102-125 | 100-125mm/4-5" | ±3µm | 133 | 10 | 70 | 3 |
| 3102-150 | 125-150mm/5-6" | ±3µm | 158 | 10 | 82 | 3 |
| 3102-175 | 150-175mm/6-7" | ±4µm | 183 | 12 | 95 | 5.5 |
| 3102-200 | 175-200mm/7-8" | ±4µm | 209 | 12 | 107 | 5.5 |



3102-753A



3102-1506A

Set

| Code | Range | Micrometers included | Packaging |
|--------------|--------------|---|-----------------|
| 3102-753A * | 0-75mm/0-3" | 3102-25, 3102-50, 3102-75 | blow mould case |
| 3102-1004A * | 0-100mm/0-4" | 3102-25, 3102-50, 3102-75, 3102-100 | blow mould case |
| 3102-1506A | 0-150mm/0-6" | 3102-25, 3102-50, 3102-75, 3102-100, 3102-125, 3102-150 | aluminum box |

*Supplied with manufacturer inspection certificate

POPULAR MODEL

DIGITAL OUTSIDE MICROMETERS (BASIC TYPE, WITHOUT DATA OUTPUT)

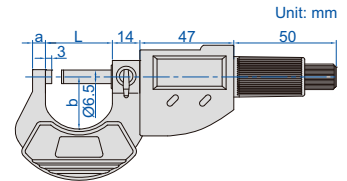
INSPECTION CERTIFICATE

ATTENTION: NO DATA OUTPUT

- Resolution 0.001mm/0.00005"
- Button function: on/off, set, mm/inch, ABS/INC
- No data output
- Automatic power off
- Carbide measuring faces
- Friction thimble
- Supplied with spherical anvil
- Setting standards are included (except 0-25mm/0-1")



3109-25A



Individual

| Code | Range | Accuracy | L | a | b |
|------------|------------------|----------|-------|------|-------|
| 3109-25A* | 0-25mm/0-1" | ±2µm | 32mm | 6mm | 28mm |
| 3109-50A* | 25-50mm/1-2" | ±2µm | 57mm | 8mm | 37mm |
| 3109-75A* | 50-75mm/2-3" | ±3µm | 82mm | 8mm | 50mm |
| 3109-100A* | 75-100mm/3-4" | ±3µm | 107mm | 10mm | 61mm |
| 3109-125A | 100-125mm/4-5" | ±3µm | 132mm | 10mm | 73mm |
| 3109-150A | 125-150mm/5-6" | ±3µm | 157mm | 10mm | 85mm |
| 3109-175A | 150-175mm/6-7" | ±4µm | 182mm | 20mm | 104mm |
| 3109-200A | 175-200mm/7-8" | ±4µm | 207mm | 20mm | 117mm |
| 3109-225A | 200-225mm/8-9" | ±4µm | 234mm | 20mm | 130mm |
| 3109-250A | 225-250mm/9-10" | ±4µm | 260mm | 20mm | 143mm |
| 3109-275A | 250-275mm/10-11" | ±5µm | 285mm | 20mm | 155mm |
| 3109-300A | 275-300mm/11-12" | ±5µm | 310mm | 20mm | 168mm |



Set

| Code | Range | Micrometers included | Packaging |
|-------------|-----------------|--|-----------------|
| 3109-753A* | 0-75mm/0-3" | 3109-25A, 3109-50A, 3109-75A | blow mould case |
| 3109-1004A* | 0-100mm/0-4" | 3109-25A, 3109-50A, 3109-75A, 3109-100A | blow mould case |
| 3109-1506A | 0-150mm/0-6" | 3109-25A, 3109-50A, 3109-75A, 3109-100A, 3109-125A, 3109-150A | aluminum box |
| 3109-3006A | 150-300mm/6-12" | 3109-175A, 3109-200A, 3109-225A, 3109-250A, 3109-275A, 3109-300A | aluminum box |

*Supplied with manufacturer inspection certificate



3109-753A



3109-1506A

DATA OUTPUT

IP65 WATERPROOF

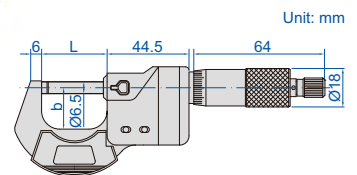
INSPECTION CERTIFICATE

DIGITAL VERTICAL MICROMETERS

- Measure the thickness of plates for easy reading
- Resolution 0.001mm/0.00005"
- IP65 dust/waterproof
- Button function: on/off, set, mm/inch, ABS/INC
- Data output
- Automatic power off
- Carbide spindle tip
- Ratchet stop
- Supplied with setting standards (except 0-25mm/0-1")
- Optional accessory: data output cable (code 7315-30 need receiver page 4, 7302-30 page 12)

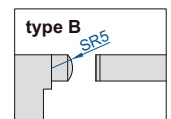
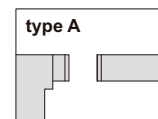


3565-25A



| Code | Range | Type | Accuracy | L | b |
|------------|--------------|------|----------|--------|------|
| 3565-25A* | 0-25mm/0-1" | A | ±2µm | 34.5mm | 25mm |
| 3565-50A* | 25-50mm/1-2" | A | ±2µm | 59.5mm | 32mm |
| 3565-25BA* | 0-25mm/0-1" | B | ±2µm | 34.5mm | 25mm |
| 3565-50BA* | 25-50mm/1-2" | B | ±2µm | 59.5mm | 32mm |

*Supplied with manufacturer inspection certificate



OUTSIDE MICROMETERS

INSIZE PLUS
MADE IN EUROPE

- Carbide measuring faces
- Graduation: 0.01mm
- Meet DIN863-1
- Friction thimble
- Optional accessory: setting standards (code **7386**)

| Code | Range | Accuracy | L | b |
|--------------------|-----------|----------|-----------------|-------|
| 3701-25A * | 0-25mm | 4µm | 37mm | 24mm |
| 3701-50A * | 25-50mm | 4µm | 62mm | 34mm |
| 3701-75A * | 50-75mm | 5µm | 87mm | 46mm |
| 3701-100A * | 75-100mm | 5µm | 112mm | 60mm |
| 3701-125A * | 100-125mm | 6µm | 139mm | 72mm |
| 3701-150A * | 125-150mm | 6µm | 164mm | 85mm |
| 3701-175A * | 150-175mm | 7µm | 190mm | 97mm |
| 3701-200A * | 175-200mm | 7µm | 215mm | 110mm |
| 3701-225A * | 200-225mm | 8µm | 240mm <td 122mm | |
| 3701-250A * | 225-250mm | 8µm | 264mm | 135mm |
| 3701-275A * | 250-275mm | 9µm | 290mm | 148mm |
| 3701-300A * | 275-300mm | 9µm | 315mm | 160mm |

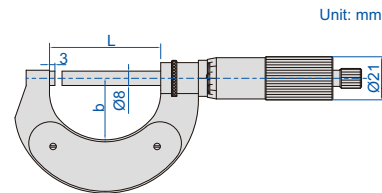
*Supplied with manufacturer inspection certificate

ATTENTION: SETTING
STANDARDS ARE NOT INCLUDED

INSPECTION
CERTIFICATE



3701-25A



OUTSIDE MICROMETERS WITH 50mm RANGE

INSIZE PLUS
MADE IN EUROPE

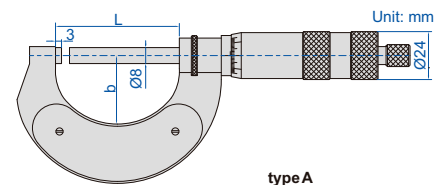
- Graduation 0.01mm
- Ratchet stop
- One turn of sleeve makes 1mm spindle feed
- Carbide measuring faces
- Optional accessory: setting standards (code **7386**)

ATTENTION: SETTING
STANDARDS ARE NOT INCLUDED

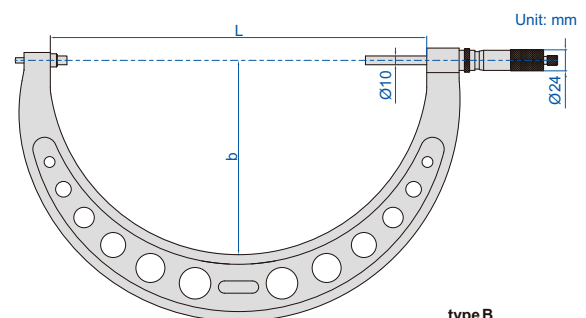
LIGHT
WEIGHT



3682-50



type A



type B

(mm)

| Code | Range | Type | Accuracy | L | b | Weight |
|------------------|------------|------|----------|------|-----|--------|
| 3682-50 | 0-50mm | A | 4µm | 62 | 34 | 0.46kg |
| 3682-100 | 50-100mm | A | 5µm | 112 | 60 | 0.62kg |
| 3682-150 | 100-150mm | A | 6µm | 164 | 85 | 0.78kg |
| 3682-200 | 150-200mm | A | 7µm | 215 | 110 | 1.03kg |
| 3682-250 | 200-250mm | A | 8µm | 264 | 135 | 1.25kg |
| 3682-300 | 250-300mm | A | 9µm | 315 | 160 | 1.45kg |
| 3682-350 | 300-350mm | B | 10µm | 370 | 190 | 1.50kg |
| 3682-400 | 350-400mm | B | 11µm | 430 | 220 | 1.80kg |
| 3682-450 | 400-450mm | B | 12µm | 475 | 250 | 2.15kg |
| 3682-500 | 450-500mm | B | 13µm | 530 | 273 | 2.30kg |
| 3682-550 | 500-550mm | B | 14µm | 570 | 291 | 2.40kg |
| 3682-600 | 550-600mm | B | 14µm | 630 | 323 | 3.00kg |
| 3682-650 | 600-650mm | B | 16µm | 675 | 351 | 3.30kg |
| 3682-700 | 650-700mm | B | 16µm | 730 | 378 | 3.70kg |
| 3682-750 | 700-750mm | B | 18µm | 785 | 401 | 3.90kg |
| 3682-800 | 750-800mm | B | 18µm | 830 | 423 | 4.10kg |
| 3682-850 | 800-850mm | B | 20µm | 885 | 440 | 4.30kg |
| 3682-900 | 850-900mm | B | 20µm | 930 | 473 | 4.90kg |
| 3682-950 | 900-950mm | B | 22µm | 980 | 503 | 5.80kg |
| 3682-1000 | 950-1000mm | B | 22µm | 1030 | 520 | 6.10kg |

ATTENTION: SETTING STANDARDS ARE NOT INCLUDED

OUTSIDE MICROMETERS (GRADUATION 0.005mm)

INSIZE PLUS
MADE IN EUROPE

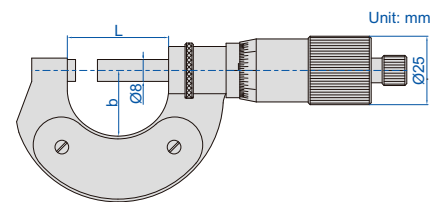
- Graduation 0.005mm
- Friction thimble
- One turn of sleeve makes 0.5mm spindle feed
- Carbide measuring faces
- Optional accessory: setting standards (code 7386)



3681-25

| Code | Range | Accuracy | L | b |
|----------|-----------|----------|-----|-----|
| 3681-25 | 0-25mm | 4μm | 37 | 24 |
| 3681-50 | 25-50mm | 4μm | 62 | 34 |
| 3681-75 | 50-75mm | 5μm | 87 | 46 |
| 3681-100 | 75-100mm | 5μm | 112 | 60 |
| 3681-125 | 100-125mm | 6μm | 139 | 72 |
| 3681-150 | 125-150mm | 6μm | 164 | 85 |
| 3681-175 | 150-175mm | 7μm | 190 | 97 |
| 3681-200 | 175-200mm | 7μm | 215 | 110 |
| 3681-225 | 200-225mm | 8μm | 240 | 122 |
| 3681-250 | 225-250mm | 8μm | 264 | 135 |
| 3681-275 | 250-275mm | 9μm | 290 | 148 |
| 3681-300 | 275-300mm | 9μm | 315 | 160 |

(mm)



OUTSIDE MICROMETERS

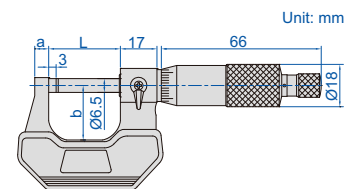
- Graduation 0.01mm
- Carbide measuring faces
- Meet DIN863-1
- Supplied with setting standards (except 0-25mm)

Individual

| Code | Range | Accuracy | L | a | b |
|-------------|-----------|----------|-------|-----|-------|
| 3202-25A * | 0-25mm | 4μm | 32mm | 6mm | 24mm |
| 3202-50A * | 25-50mm | 4μm | 57mm | 8mm | 32mm |
| 3202-75A * | 50-75mm | 5μm | 82mm | 8mm | 45mm |
| 3202-100A * | 75-100mm | 5μm | 107mm | 8mm | 57mm |
| 3202-125A | 100-125mm | 6μm | 133mm | 8mm | 70mm |
| 3202-150A | 125-150mm | 6μm | 125mm | 8mm | 82mm |
| 3202-175A | 150-175mm | 7μm | 183mm | 8mm | 95mm |
| 3202-200A | 175-200mm | 7μm | 209mm | 8mm | 107mm |



3202-25A



Set

| Code | Range | Micrometers included |
|--------------|---------|---|
| 3202-753A * | 0-75mm | 3202-25A, 3202-50A, 3202-75A |
| 3202-1004A * | 0-100mm | 3202-25A, 3202-50A, 3202-75A, 3202-100A |
| 3202-1506A | 0-150mm | 3202-25A, 3202-50A, 3202-75A, 3202-100A, 3202-125A, 3202-150A |

* Supplied with manufacturer inspection certificate

OUTSIDE MICROMETERS

POPULAR MODEL

INSPECTION CERTIFICATE



3203-25A



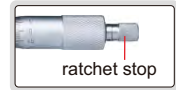
3203-50A



3203-1004A



3203-3006A



ratchet stop

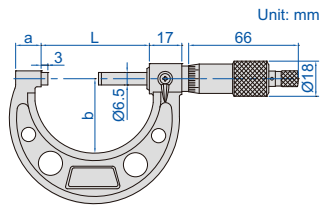


friction thimble for one hand operation



6

- Graduation: metric 0.01mm
inch 0.0001"
- Carbide measuring faces
- Meet DIN863-1
- Supplied with setting standards (except 0-25mm and 0-1")



Unit: mm

Metric (ratchet stop type)

| Code | Range | Accuracy | L | a | b |
|------------|-----------|----------|-------|--------|-------|
| 3203-25A* | 0-25mm | ±2µm | 32mm | 9mm | 28mm |
| 3203-50A* | 25-50mm | ±2µm | 57mm | 14mm | 38mm |
| 3203-75A* | 50-75mm | ±2µm | 82mm | 15mm | 49mm |
| 3203-100A* | 75-100mm | ±3µm | 107mm | 15mm | 60mm |
| 3203-125A | 100-125mm | ±3µm | 133mm | 16.5mm | 73mm |
| 3203-150A | 125-150mm | ±3µm | 158mm | 16.5mm | 85mm |
| 3203-175A | 150-175mm | ±4µm | 183mm | 19.4mm | 104mm |
| 3203-200A | 175-200mm | ±4µm | 209mm | 19.4mm | 117mm |
| 3203-225A | 200-225mm | ±4µm | 234mm | 19.4mm | 130mm |
| 3203-250A | 225-250mm | ±5µm | 260mm | 19.4mm | 142mm |
| 3203-275A | 250-275mm | ±5µm | 285mm | 19.4mm | 155mm |
| 3203-300A | 275-300mm | ±5µm | 310mm | 19.4mm | 168mm |

Inch (ratchet stop type)

| Code | Range | Accuracy | L | a | b |
|----------|--------|-----------|---------|--------|--------|
| 3203-1A* | 0-1" | ±0.0001" | 1.260" | 0.354" | 1.102" |
| 3203-2A* | 1-2" | ±0.0001" | 2.244" | 0.551" | 1.496" |
| 3203-3A* | 2-3" | ±0.0001" | 3.228" | 0.591" | 1.929" |
| 3203-4A* | 3-4" | ±0.00015" | 4.213" | 0.591" | 2.362" |
| 3203-5A* | 4-5" | ±0.00015" | 5.236" | 0.650" | 2.874" |
| 3203-6A* | 5-6" | ±0.00015" | 6.220" | 0.650" | 3.346" |
| 3203-7A | 6-7" | ±0.0002" | 7.205" | 0.764" | 4.094" |
| 3203-8A | 7-8" | ±0.0002" | 8.228" | 0.764" | 4.606" |
| 3203-9A | 8-9" | ±0.0002" | 9.213" | 0.764" | 5.118" |
| 3203-10A | 9-10" | ±0.00025" | 10.236" | 0.764" | 5.591" |
| 3203-11A | 10-11" | ±0.00025" | 11.220" | 0.764" | 6.102" |
| 3203-12A | 11-12" | ±0.00025" | 12.205" | 0.764" | 6.614" |

Metric micrometer set (ratchet stop type)

| Code | Range | Micrometers included | Packaging |
|-------------|-----------|---|-----------------|
| 3203-753A* | 0-75mm | 3203-25A, 3203-50A, 3203-75A | blow mould case |
| 3203-1004A* | 0-100mm | 3203-25A, 3203-50A, 3203-75A, 3203-100A | blow mould case |
| 3203-1506A | 0-150mm | 3203-25A, 3203-50A, 3203-75A, 3203-100A, 3203-125A, 3203-150A | blow mould case |
| 3203-3006A | 150-300mm | 3203-175A, 3203-200A, 3203-225A, 3203-250A, 3203-275A, 3203-300A | aluminum box |
| 3203-3012A | 0-300mm | 3203-25A, 3203-50A, 3203-75A, 3203-100A, 3203-125A, 3203-150A, 3203-175A, 3203-200A, 3203-225A, 3203-250A, 3203-275A, 3203-300A | aluminum box |

Inch micrometer set (ratchet stop type)

| Code | Range | Micrometers included | Packaging |
|------------|-------|---|-----------------|
| 3203-33A* | 0-3" | 3203-1A, 3203-2A, 3203-3A | blow mould case |
| 3203-44A* | 0-4" | 3203-1A, 3203-2A, 3203-3A, 3203-4A | blow mould case |
| 3203-66A* | 0-6" | 3203-1A, 3203-2A, 3203-3A, 3203-4A, 3203-5A, 3203-6A | blow mould case |
| 3203-126A | 6-12" | 3203-7A, 3203-8A, 3203-9A, 3203-10A, 3203-11A, 3203-12A | aluminum box |
| 3203-1212A | 0-12" | 3203-1A, 3203-2A, 3203-3A, 3203-4A, 3203-5A, 3203-6A, 3203-7A, 3203-8A, 3203-9A, 3203-10A, 3203-11A, 3203-12A | aluminum box |

Inch (friction thimble type)

| Code | Range | Accuracy | L | a | b |
|-----------|-------|----------|--------|--------|--------|
| 3203-1FA* | 0-1" | ±0.0001" | 1.260" | 0.354" | 1.102" |
| 3203-2FA* | 1-2" | ±0.0001" | 2.244" | 0.551" | 1.496" |
| 3203-3FA* | 2-3" | ±0.0001" | 2.244" | 0.591" | 1.929" |

*Supplied with manufacturer inspection certificate

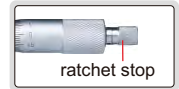


1µm GRADUATION OUTSIDE MICROMETERS

- Graduation 0.001mm
- Carbide measuring faces
- Meet DIN863-1
- Supplied with setting standards (except 0-25mm)

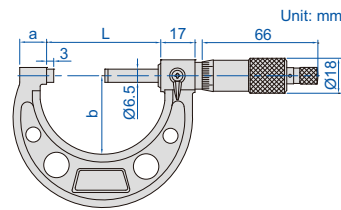


3210-25A



Ratchet stop type (mm)

| Code | Range | Accuracy | L | a | b |
|-------------|-----------|----------|-----|------|-----|
| 3210-25A * | 0-25mm | 4µm | 32 | 9 | 28 |
| 3210-50A * | 25-50mm | 4µm | 57 | 14 | 38 |
| 3210-75A * | 50-75mm | 5µm | 82 | 15 | 49 |
| 3210-100A * | 75-100mm | 5µm | 107 | 15 | 60 |
| 3210-125A | 100-125mm | 6µm | 133 | 16.5 | 73 |
| 3210-150A | 125-150mm | 6µm | 158 | 16.5 | 85 |
| 3210-175A | 150-175mm | 7µm | 183 | 19.4 | 104 |
| 3210-200A | 175-200mm | 7µm | 209 | 19.4 | 117 |



Friction thimble type (mm)

| Code | Range | Accuracy | L | a | b |
|-------------|---------|----------|----|----|----|
| 3210-25FA * | 0-25mm | 4µm | 32 | 9 | 28 |
| 3210-50FA * | 25-50mm | 4µm | 57 | 14 | 38 |

*Supplied with manufacturer inspection certificate

Micrometer set (ratchet stop type)

| Code | Range | Micrometers included |
|--------------|---------|---|
| 3210-753A * | 0-75mm | 3210-25A, 3210-50A, 3210-75A |
| 3210-1004A * | 0-100mm | 3210-25A, 3210-50A, 3210-75A, 3210-100A |
| 3210-1506A | 0-150mm | 3210-25A, 3210-50A, 3210-75A, 3210-100A, 3210-125A, 3210-150A |



OUTSIDE MICROMETERS WITH COUNTER

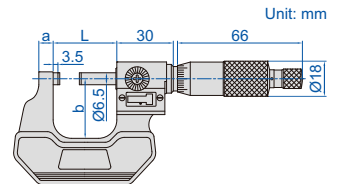
- Counter resolution: 0.01mm
- Thimble graduation: 0.01mm
- Carbide measuring faces
- Meet DIN863-1
- Ratchet stop
- Supplied with setting standards (except 0-25mm)



3400-25

| Code | Range | Accuracy | L | a | b |
|------------|-----------|----------|---------|------|---------|
| 3400-25 * | 0-25mm | 4µm | 32mm | 6mm | 26mm |
| 3400-50 * | 25-50mm | 4µm | 57mm | 8mm | 32mm |
| 3400-75 * | 50-75mm | 5µm | 82mm | 8mm | 44.5mm |
| 3400-100 * | 75-100mm | 5µm | 107mm | 8mm | 57mm |
| 3400-125 * | 100-125mm | 6µm | 132.4mm | 17mm | 71.8mm |
| 3400-150 * | 125-150mm | 6µm | 157.8mm | 17mm | 84mm |
| 3400-175 * | 150-175mm | 7µm | 185mm | 20mm | 98.5mm |
| 3400-200 * | 175-200mm | 7µm | 210.4mm | 20mm | 111mm |
| 3400-225 * | 200-225mm | 8µm | 236mm | 20mm | 124mm |
| 3400-250 * | 225-250mm | 8µm | 261mm | 20mm | 136.5mm |
| 3400-275 * | 250-275mm | 9µm | 287mm | 20mm | 149mm |
| 3400-300 * | 275-300mm | 9µm | 312mm | 20mm | 162mm |

*Supplied with manufacturer inspection certificate



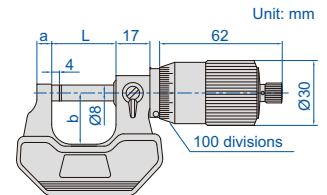
QUICK FEEDING OUTSIDE MICROMETERS

- Graduation 0.01mm
- 1mm feeding of each turn
- Friction thimble
- Carbide measuring faces
- Meet DIN863-1
- Supplied with setting standards (except 0-25mm)

| Code | Range | Accuracy | L | a | b |
|-----------|-----------|----------|-------|-----|-------|
| 3208-25B | 0-25mm | 4μm | 32mm | 6mm | 24mm |
| 3208-50B | 25-50mm | 4μm | 57mm | 8mm | 32mm |
| 3208-75B | 50-75mm | 5μm | 82mm | 8mm | 45mm |
| 3208-100B | 75-100mm | 5μm | 107mm | 8mm | 57mm |
| 3208-125B | 100-125mm | 6μm | 133mm | 8mm | 70mm |
| 3208-150B | 125-150mm | 6μm | 158mm | 8mm | 82mm |
| 3208-175B | 150-175mm | 7μm | 183mm | 8mm | 95mm |
| 3208-200B | 175-200mm | 7μm | 209mm | 8mm | 107mm |



3208-25B

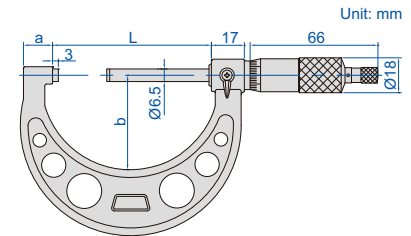


LONG SPINDLE OUTSIDE MICROMETERS

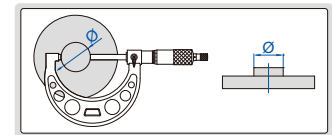
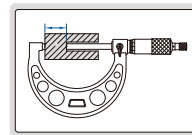
- Graduation 0.01mm
- Carbide measuring faces
- Meet DIN863-1
- Ratchet stop
- Supplied with setting standards (except 0-25mm)



3209-25



| Code | Range | Accuracy | L | a | b |
|----------|----------|----------|-------|--------|------|
| 3209-25 | 0-25mm | 4μm | 57mm | 14mm | 38mm |
| 3209-50 | 25-50mm | 4μm | 82mm | 15mm | 49mm |
| 3209-75 | 50-75mm | 5μm | 107mm | 15mm | 60mm |
| 3209-100 | 75-100mm | 5μm | 133mm | 16.5mm | 73mm |



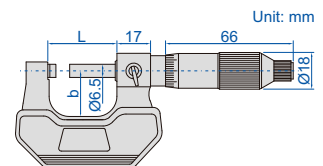
NON MAGNETIC MICROMETERS

- Suitable for magnetic materials
- Graduation: 0.01mm
- Non magnetic carbide measuring faces
- Ratchet stop



3231-25A

| Code | Range | Accuracy | L | b |
|-----------|----------|----------|-------|------|
| 3231-25A | 0-25mm | 4μm | 32mm | 24mm |
| 3231-50A | 25-50mm | 4μm | 57mm | 32mm |
| 3231-75A | 50-75mm | 5μm | 82mm | 45mm |
| 3231-100A | 75-100mm | 5μm | 105mm | 57mm |



OUTSIDE MICROMETERS FOR LEFT OR RIGHT HANDERS

- Graduation 0.01mm
- Graduations on two sides
- Ratchet stop
- Carbide measuring faces
- Meet DIN863-1
- Supplied with setting standards (except 0-25mm)

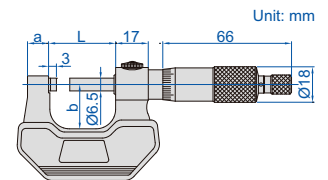


front



back

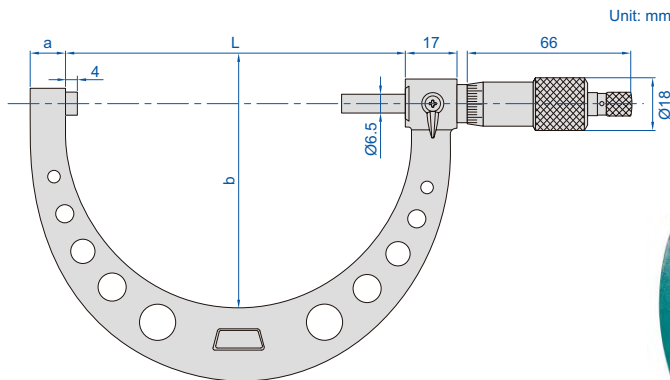
3236-25B



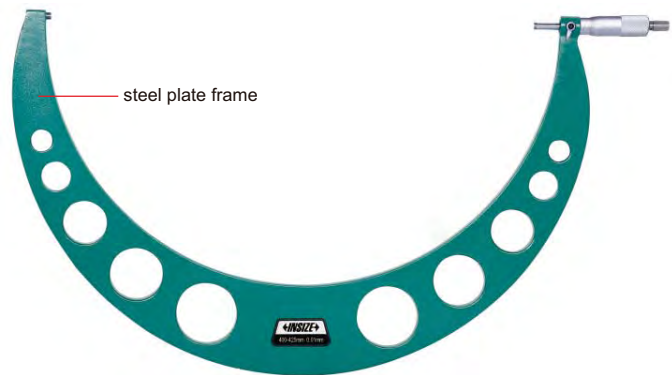
(mm)

| Code | Range | Accuracy | L | a | b |
|-----------|-----------|-----------|-----|---|-----|
| 3236-25B | 0-25mm | 4 μ m | 32 | 6 | 24 |
| 3236-50B | 25-50mm | 4 μ m | 57 | 8 | 32 |
| 3236-75B | 50-75mm | 5 μ m | 82 | 8 | 45 |
| 3236-100B | 75-100mm | 5 μ m | 107 | 8 | 57 |
| 3236-125B | 100-125mm | 6 μ m | 133 | 8 | 70 |
| 3236-150B | 125-150mm | 6 μ m | 158 | 8 | 82 |
| 3236-175B | 150-175mm | 7 μ m | 183 | 8 | 95 |
| 3236-200B | 175-200mm | 7 μ m | 209 | 8 | 107 |

OUTSIDE MICROMETERS



Unit: mm



steel plate frame

3216-425

- Graduation: 0.01mm
- Carbide measuring faces
- Meet DIN863-1
- Ratchet stop
- Supplied with setting standards

(mm)

| Code | Range | Accuracy | L | a | b |
|----------|-----------|------------|-----|----|-----|
| 3216-325 | 300-325mm | 10 μ m | 338 | 20 | 176 |
| 3216-350 | 325-350mm | 10 μ m | 364 | 20 | 192 |
| 3216-375 | 350-375mm | 11 μ m | 389 | 20 | 202 |
| 3216-400 | 375-400mm | 11 μ m | 414 | 20 | 217 |
| 3216-425 | 400-425mm | 12 μ m | 440 | 20 | 226 |
| 3216-450 | 425-450mm | 12 μ m | 465 | 20 | 241 |
| 3216-475 | 450-475mm | 13 μ m | 491 | 20 | 255 |
| 3216-500 | 475-500mm | 13 μ m | 516 | 20 | 268 |



setting standard (included)

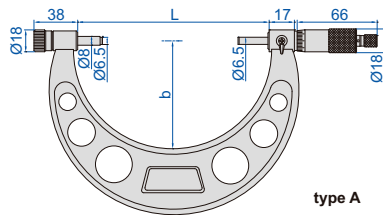
OUTSIDE MICROMETERS WITH INTERCHANGEABLE ANVILS



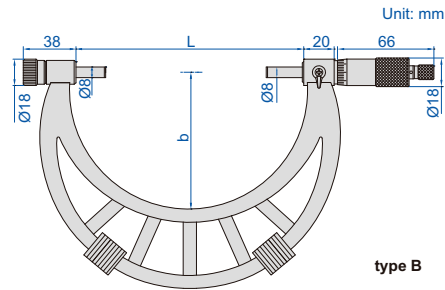
3206-150A



3206-400



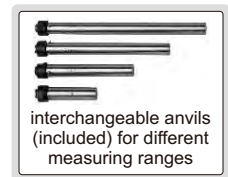
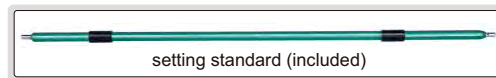
type A



type B

Unit: mm

- Graduation 0.01mm
- Ratchet stop
- Meet DIN863-3
- Carbide measuring faces
- Supplied with setting standards



(mm)

| Code | Range | Type | Accuracy | L | b | Setting standard (included) |
|-----------|------------|------|----------|------|-----|------------------------------|
| 3206-50A | 0-50mm | A | 4µm | 58 | 35 | 25 |
| 3206-100A | 0-100mm | A | 5µm | 108 | 57 | 25, 50, 75 |
| 3206-150A | 0-150mm | A | 6µm | 158 | 82 | 25, 50, 75, 100, 125 |
| 3206-151A | 50-150mm | A | 6µm | 158 | 82 | 50, 75, 100, 125 |
| 3206-200A | 100-200mm | A | 7µm | 208 | 114 | 100, 125, 150, 175 |
| 3206-300A | 150-300mm | A | 9µm | 308 | 165 | 150, 175, 200, 225, 250, 275 |
| 3206-301A | 200-300mm | A | 9µm | 308 | 165 | 200, 225, 250, 275 |
| 3206-400 | 300-400mm | B | 11µm | 409 | 224 | 325, 375 |
| 3206-500 | 400-500mm | B | 13µm | 509 | 275 | 425, 475 |
| 3206-600 | 500-600mm | B | 14µm | 609 | 321 | 525, 575 |
| 3206-700 | 600-700mm | B | 16µm | 709 | 371 | 625, 675 |
| 3206-800 | 700-800mm | B | 18µm | 809 | 426 | 725, 775 |
| 3206-900 | 800-900mm | B | 20µm | 909 | 476 | 825, 875 |
| 3206-1000 | 900-1000mm | B | 22µm | 1009 | 576 | 925, 975 |

IP65
WATERPROOF

DATA
OUTPUT

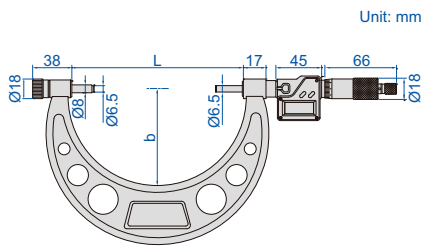
DIGITAL OUTSIDE MICROMETERS WITH INTERCHANGEABLE ANVILS



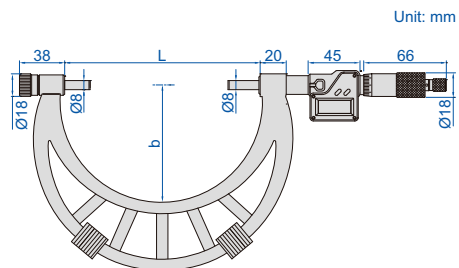
3506-100A



3506-400A

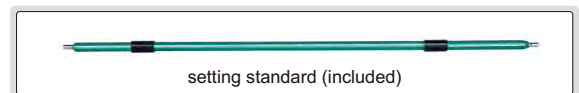
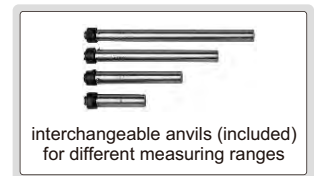


type A



type B

- Resolution 0.001mm/0.0001"
(resolution of **3506-100A** and **3506-150A** is 0.001mm/0.00005")
- IP65 dust/waterproof
- Button function: on/off, set, mm/inch, data transmit
- Data output
- Automatic power off
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards
- Optional accessory: data output cable (code **7315-31** need receiver page 4, **7302-31** page 12)



(mm)

| Code | Range | Type | Accuracy | L | b | Setting standard (included) |
|-------------------|-------------------|------|----------|------|-----|------------------------------|
| 3506-100A | 0-100mm/0-4" | A | ±5µm | 105 | 57 | 25, 50, 75 |
| 3506-150A | 0-150mm/0-6" | A | ±6µm | 155 | 82 | 25, 50, 75, 100, 125 |
| 3506-300A | 150-300mm/6-12" | A | ±8µm | 305 | 165 | 150, 175, 200, 225, 250, 275 |
| 3506-301A | 200-300mm/8-12" | A | ±8µm | 305 | 165 | 200, 225, 250, 275 |
| 3506-400A | 300-400mm/12-16" | B | ±9µm | 405 | 224 | 325, 375 |
| 3506-500A | 400-500mm/16-20" | B | ±11µm | 505 | 275 | 425, 475 |
| 3506-600A | 500-600mm/20-24" | B | ±12µm | 605 | 321 | 525, 575 |
| 3506-700A | 600-700mm/24-28" | B | ±13µm | 705 | 371 | 625, 675 |
| 3506-800A | 700-800mm/28-32" | B | ±15µm | 805 | 426 | 725, 775 |
| 3506-900A | 800-900mm/32-36" | B | ±16µm | 905 | 476 | 825, 875 |
| 3506-1000A | 900-1000mm/36-40" | B | ±17µm | 1005 | 576 | 925, 975 |

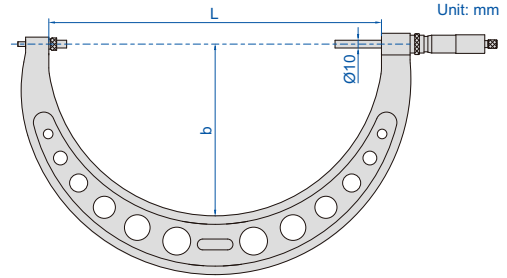
OUTSIDE MICROMETERS WITH INTERCHANGEABLE ANVILS

INSIZE PLUS
MADE IN EUROPE

ATTENTION: SETTING
STANDARDS ARE NOT INCLUDED

LIGHT
WEIGHT

QUICK MEASUREMENT
ONE TURN OF SLEEVE OR RATCHET
STOP MAKES 1MM SPINDLE FEED



3675-300

- Graduation 0.01mm
- Ratchet stop
- Meet DIN863-3
- Carbide measuring faces
- Light weight
- Optional accessory: setting standards (code 7386)

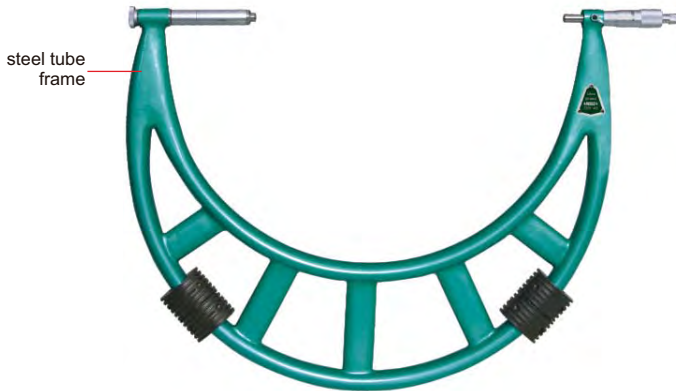
interchangeable anvil (included)
for different measuring ranges



| Code | Range | Accuracy | L | b | Weight |
|-----------|-------------|----------|------|------|--------|
| 3675-200 | 100-200mm | 6μm | 240 | 122 | 1.2kg |
| 3675-300 | 200-300mm | 6μm | 325 | 165 | 1.5kg |
| 3675-400 | 300-400mm | 7μm | 430 | 220 | 1.9kg |
| 3675-500 | 400-500mm | 8μm | 530 | 273 | 2.4kg |
| 3675-600 | 500-600mm | 9μm | 630 | 323 | 3.1kg |
| 3675-700 | 600-700mm | 9μm | 730 | 378 | 3.8kg |
| 3675-800 | 700-800mm | 9μm | 830 | 423 | 4.2kg |
| 3675-900 | 800-900mm | 10μm | 930 | 473 | 5kg |
| 3675-1000 | 900-1000mm | 10μm | 1030 | 520 | 6.2kg |
| 3675-1100 | 1000-1100mm | 11μm | 1135 | 585 | 7.6kg |
| 3675-1200 | 1100-1200mm | 11μm | 1230 | 635 | 8.6kg |
| 3675-1300 | 1200-1300mm | 12μm | 1335 | 685 | 9.7kg |
| 3675-1400 | 1300-1400mm | 12μm | 1430 | 735 | 11.3kg |
| 3675-1500 | 1400-1500mm | 13μm | 1530 | 780 | 12.5kg |
| 3675-1600 | 1500-1600mm | 18μm | 1660 | 840 | 13.6kg |
| 3675-1700 | 1600-1700mm | 19μm | 1765 | 890 | 14.9kg |
| 3675-1800 | 1700-1800mm | 20μm | 1870 | 940 | 16.2kg |
| 3675-1900 | 1800-1900mm | 21μm | 1970 | 1000 | 17.5kg |
| 3675-2000 | 1900-2000mm | 22μm | 2075 | 1055 | 18.8kg |

(mm)

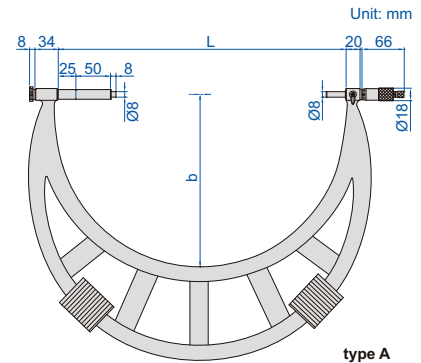
OUTSIDE MICROMETERS WITH EXTENSION ANVIL COLLAR



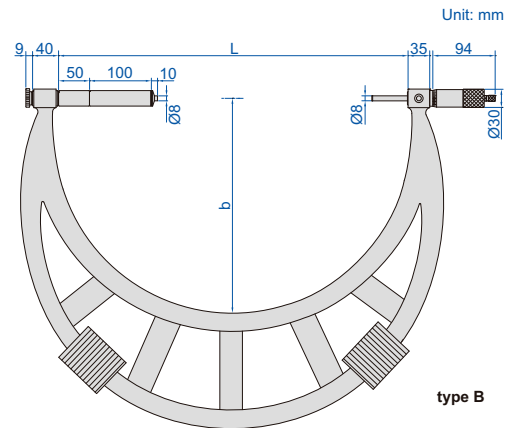
3205-400



- Graduation 0.01mm
- Adjust collars for different measuring ranges
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards



type A



type B

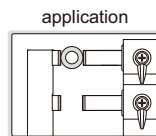
(mm)

| Code | Range | Type | Accuracy | L | b | Setting standard (included) |
|-----------|-------------|------|----------|------|------|-----------------------------|
| 3205-400 | 300-400mm | A | 11µm | 410 | 250 | 325, 375 |
| 3205-500 | 400-500mm | A | 13µm | 510 | 295 | 425, 475 |
| 3205-600 | 500-600mm | A | 14µm | 610 | 345 | 525, 575 |
| 3205-700 | 600-700mm | A | 16µm | 710 | 395 | 625, 675 |
| 3205-800 | 700-800mm | A | 18µm | 810 | 445 | 725, 775, |
| 3205-900 | 800-900mm | A | 20µm | 910 | 495 | 825, 875 |
| 3205-1000 | 900-1000mm | A | 22µm | 1010 | 545 | 925, 975 |
| 3205-1200 | 1000-1200mm | B | 22µm | 1210 | 645 | 1050, 1150 |
| 3205-1400 | 1200-1400mm | B | 24µm | 1410 | 745 | 1250, 1350 |
| 3205-1600 | 1400-1600mm | B | 28µm | 1610 | 845 | 1450, 1550 |
| 3205-1800 | 1600-1800mm | B | 31µm | 1810 | 945 | 1650, 1750 |
| 3205-2000 | 1800-2000mm | B | 34µm | 2010 | 1045 | 1850, 1950 |

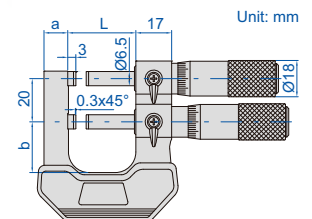


adjust collars for different measuring ranges

- Used as Go/No-Go gage by setting upper and lower limits
- Graduation 0.002mm
- Carbide measuring faces
- Supplied with setting standard (except 0-25mm)



3235-25A



| Code | Range | Accuracy | L | a | b |
|----------|---------|----------|------|------|------|
| 3235-25A | 0-25mm | 4µm | 32mm | 12mm | 24mm |
| 3235-50A | 25-50mm | 4µm | 57mm | 15mm | 32mm |

LIMIT MICROMETERS

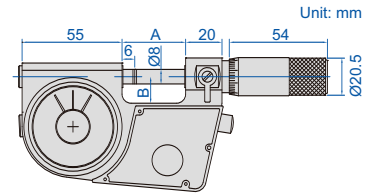
INDICATING MICROMETERS

INSIZE PLUS
MADE IN EUROPE

INSPECTION
CERTIFICATE

ATTENTION: SETTING
STANDARDS ARE NOT INCLUDED

- Meet DIN863-3
- Carbide measuring faces
- Measuring force 5-10N
- Dial can be adjusted
- Optional accessory: gage blocks grade 0 (4101-A series), for zero setting

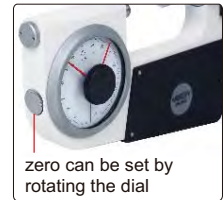


3333-25

(mm)

| Code | Micrometer head | | | Dial indicator | | | A | B |
|-------------|-----------------|------------|----------|----------------|------------|----------|------|------|
| | range | graduation | accuracy | range | graduation | accuracy | | |
| 3333-25 * | 0-25mm | 0.01mm | 4µm | ±0.07mm | 1µm | ±1µm | 35.5 | 15 |
| 3333-252 * | 0-25mm | 0.01mm | 4µm | ±0.14mm | 2µm | ±2µm | 35.5 | 15 |
| 3333-50 * | 25-50mm | 0.01mm | 4µm | ±0.07mm | 1µm | ±1µm | 60.5 | 25 |
| 3333-502 * | 25-50mm | 0.01mm | 4µm | ±0.14mm | 2µm | ±2µm | 60.5 | 25 |
| 3333-75 * | 50-75mm | 0.01mm | 4µm | ±0.07mm | 1µm | ±1µm | 88 | 37.5 |
| 3333-752 * | 50-75mm | 0.01mm | 4µm | ±0.14mm | 2µm | ±2µm | 88 | 37.5 |
| 3333-100 * | 75-100mm | 0.01mm | 4µm | ±0.07mm | 1µm | ±1µm | 111 | 50 |
| 3333-1002 * | 75-100mm | 0.01mm | 4µm | ±0.14mm | 2µm | ±2µm | 111 | 50 |
| 3333-125 * | 100-125mm | 0.01mm | 4µm | ±0.07mm | 1µm | ±1µm | 136 | 62.5 |
| 3333-1252 * | 100-125mm | 0.01mm | 4µm | ±0.14mm | 2µm | ±2µm | 136 | 62.5 |
| 3333-150 * | 125-150mm | 0.01mm | 4µm | ±0.07mm | 1µm | ±1µm | 161 | 75 |
| 3333-1502 * | 125-150mm | 0.01mm | 4µm | ±0.14mm | 2µm | ±2µm | 161 | 75 |
| 3333-175 * | 150-175mm | 0.01mm | 4µm | ±0.14mm | 2µm | ±2µm | 186 | 88 |
| 3333-200 * | 175-200mm | 0.01mm | 4µm | ±0.14mm | 2µm | ±2µm | 211 | 101 |
| 3333-225 * | 200-225mm | 0.01mm | 4µm | ±0.14mm | 2µm | ±2µm | 236 | 113 |
| 3333-250 * | 225-250mm | 0.01mm | 4µm | ±0.14mm | 2µm | ±2µm | 261 | 126 |
| 3333-275 * | 250-275mm | 0.01mm | 4µm | ±0.14mm | 2µm | ±2µm | 286 | 138 |
| 3333-300 * | 275-300mm | 0.01mm | 4µm | ±0.14mm | 2µm | ±2µm | 311 | 151 |

*Supplied with manufacturer inspection certificate



6

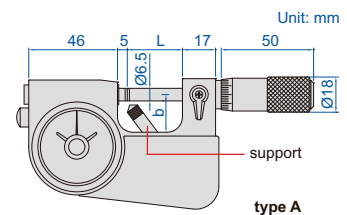
INDICATING MICROMETERS

ATTENTION: SETTING
STANDARDS ARE NOT INCLUDED

- Meet DIN863-3
- Micrometer head graduation: 0.002mm
- Dial indicator: range ±0.04mm, graduation 0.001mm, accuracy 0.001mm
- Carbide measuring faces
- Optional accessory: gage blocks grade 0 (4101-A series), for zero setting



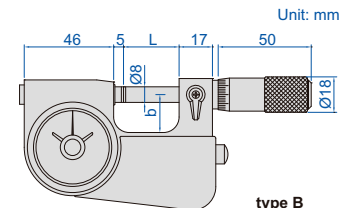
3332-25



type A



3332-25B



type B

(mm)

| Code | Micrometer head range | Micrometer head accuracy | Type | L | b | Remark |
|----------|-----------------------|--------------------------|------|-------|----|-----------------|
| 3332-25 | 0-25mm | 4µm | A | 28.5 | 19 | with support |
| 3332-50 | 25-50mm | 4µm | A | 53.5 | 30 | with support |
| 3332-75 | 50-75mm | 5µm | A | 78.5 | 45 | without support |
| 3332-100 | 75-100mm | 5µm | A | 103.5 | 57 | without support |
| 3332-25B | 0-25mm | 4µm | B | 28.5 | 19 | without support |

ATTENTION: SETTING STANDARDS ARE NOT INCLUDED

LIGHT WEIGHT

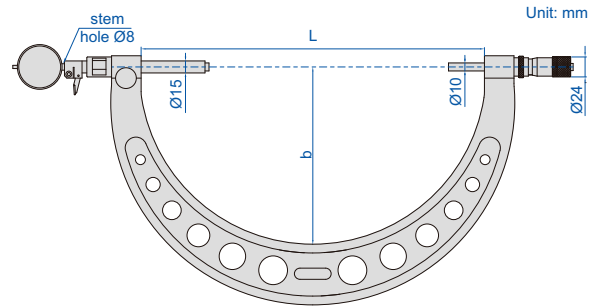
MICROMETERS WITH DIAL INDICATOR

INSIZE PLUS
MADE IN EUROPE

digital indicator is optional



3685-300



- Graduation 0.01mm
- Anvil with vernier graduation, convenient adjustment for different measuring ranges
- Meet DIN863-3
- Carbide measuring faces
- Anvil retracting range: 2.5mm
- Optional accessory: dial/digital indicators, setting standards (code **7386**)

anvil with vernier graduation, can be adjusted for different measuring ranges



Range 100mm

(mm)

| Code | Range | Micrometer head accuracy | L | b | Weight |
|-----------|------------|--------------------------|------|-----|--------|
| 3685-300 | 200-300mm | 6µm | 320 | 165 | 1.7kg |
| 3685-400 | 300-400mm | 7µm | 430 | 220 | 2.1kg |
| 3685-500 | 400-500mm | 8µm | 530 | 273 | 2.6kg |
| 3685-600 | 500-600mm | 9µm | 630 | 323 | 3.3kg |
| 3685-700 | 600-700mm | 9µm | 730 | 378 | 4.0kg |
| 3685-800 | 700-800mm | 9µm | 830 | 423 | 4.4kg |
| 3685-900 | 800-900mm | 10µm | 930 | 473 | 5.2kg |
| 3685-1000 | 900-1000mm | 10µm | 1030 | 520 | 6.4kg |

Range 200mm

(mm)

| Code | Range | Micrometer head accuracy | L | b | Weight |
|-----------|-------------|--------------------------|------|------|--------|
| 3685-402 | 200-400mm | 7µm | 430 | 220 | 2.2kg |
| 3685-602 | 400-600mm | 9µm | 630 | 323 | 3.4kg |
| 3685-802 | 600-800mm | 9µm | 830 | 423 | 4.5kg |
| 3685-1002 | 800-1000mm | 10µm | 1030 | 520 | 6.5kg |
| 3685-1202 | 1000-1200mm | 11µm | 1230 | 635 | 8.9kg |
| 3685-1402 | 1200-1400mm | 12µm | 1430 | 735 | 11.6kg |
| 3685-1602 | 1400-1600mm | 18µm | 1660 | 840 | 13.9kg |
| 3685-1802 | 1600-1800mm | 20µm | 1870 | 940 | 16.5kg |
| 3685-2002 | 1800-2000mm | 22µm | 2075 | 1055 | 19.1kg |

MICROMETERS WITH DIAL INDICATOR

INSIZE PLUS
MADE IN EUROPE

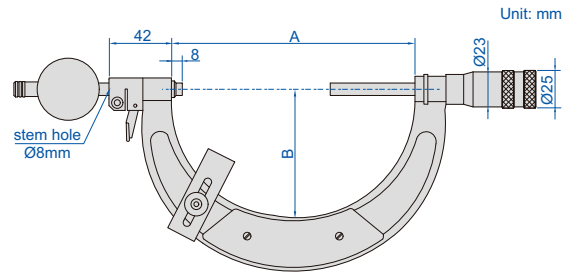
ATTENTION: SETTING
STANDARDS ARE NOT INCLUDED

INSPECTION
CERTIFICATE

digital indicator
is optional



3346-25



6

(mm)

| Code | Micrometer head range | Micrometer head graduation | Micrometer head accuracy | A | B |
|-----------|-----------------------|----------------------------|--------------------------|-----|-----|
| 3346-25* | 0-25mm | 5µm | 4µm | 37 | 24 |
| 3346-50* | 25-50mm | 5µm | 4µm | 62 | 34 |
| 3346-75* | 50-75mm | 5µm | 5µm | 87 | 46 |
| 3346-100* | 75-100mm | 5µm | 5µm | 112 | 60 |
| 3346-150* | 100-150mm | 5µm | 6µm | 164 | 85 |
| 3346-200* | 150-200mm | 5µm | 7µm | 215 | 110 |
| 3346-250* | 200-250mm | 5µm | 8µm | 264 | 135 |
| 3346-300* | 250-300mm | 5µm | 9µm | 315 | 160 |

* Supplied with manufacturer inspection certificate

- Anvil retracting range: 2.5mm
- Carbide measuring faces
- Parallelism of measuring faces: 1µm
- Optional accessory: dial indicator (code 2890-1F), digital indicator, gage blocks grade 1 (4101-B series), for zero setting

MICROMETERS WITH DIAL INDICATOR

ATTENTION: NOT SUITABLE
FOR 0.001MM DIAL INDICATORS

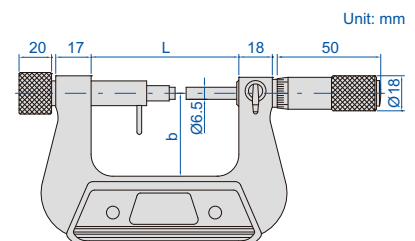
- Meet DIN863-3
- Micrometer head graduation 0.01mm
- Anvil retracting range: 8mm
- Carbide measuring faces
- Supplied with setting standards (except 0-25mm)
- Optional accessory: dial indicators (graduation 0.01mm), digital indicators (resolution 0.01mm/0.0005")



digital indicator
is optional

3331-25A

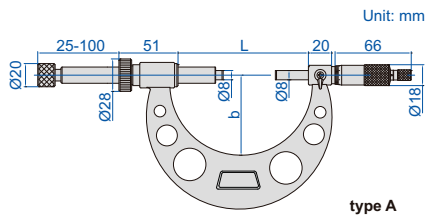
| Code | Micrometer head range | Micrometer head accuracy | L | b |
|-----------|-----------------------|--------------------------|---------|--------|
| 3331-25A | 0-25mm | 4µm | 67mm | 38mm |
| 3331-50A | 25-50mm | 4µm | 92.4mm | 50mm |
| 3331-75A | 50-75mm | 5µm | 117.6mm | 62mm |
| 3331-100A | 75-100mm | 5µm | 143mm | 70mm |
| 3331-125A | 100-125mm | 6µm | 168.2mm | 82mm |
| 3331-150A | 125-150mm | 6µm | 192mm | 94.5mm |
| 3331-175A | 150-175mm | 7µm | 217mm | 107mm |



ATTENTION: NOT SUITABLE FOR 0.001MM DIAL INDICATORS



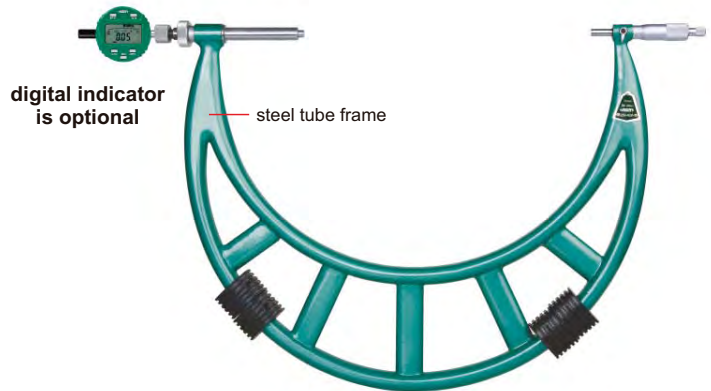
3296-100A



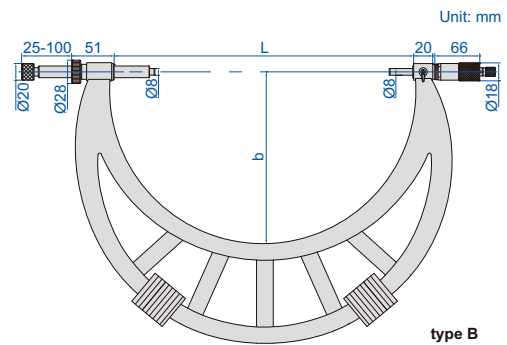
type A

| Code | Range | Type | Accuracy | L | b |
|------------|------------|------|----------|------|-----|
| 3296-100A | 0-100mm | A | 6µm | 115 | 68 |
| 3296-200A | 100-200mm | A | 7µm | 215 | 120 |
| 3296-300A | 200-300mm | A | 8µm | 315 | 170 |
| 3296-400A | 300-400mm | B | 9µm | 415 | 225 |
| 3296-500A | 400-500mm | B | 10µm | 515 | 275 |
| 3296-600A | 500-600mm | B | 11µm | 615 | 325 |
| 3296-700A | 600-700mm | B | 12µm | 715 | 375 |
| 3296-800A | 700-800mm | B | 13µm | 815 | 430 |
| 3296-900A | 800-900mm | B | 14µm | 915 | 480 |
| 3296-1000A | 900-1000mm | B | 15µm | 1015 | 530 |

MICROMETERS WITH DIAL INDICATOR



3296-400A



type B

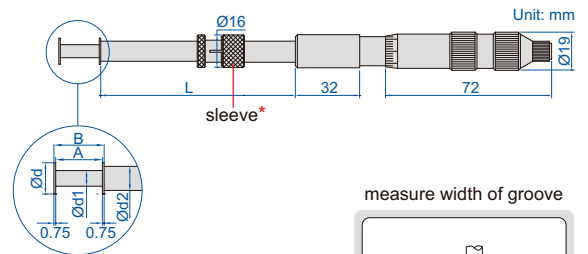
- Meet DIN863-3
- Graduation 0.01mm
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards
- Optional accessory: dial indicators (graduation 0.01mm) digital indicators (resolution 0.01mm/0.0005")

GROOVE MICROMETERS



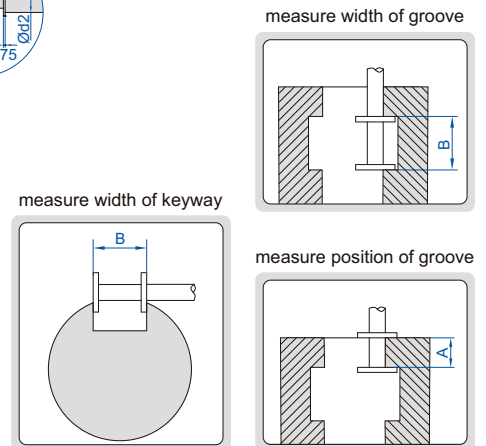
3287-50B

- Measure width of grooves inside bores
- Graduation 0.01mm
- Two graduations for inside and outside measurements
- Non-rotating spindle
- Two-directional ratchet stop



| Code | Range (outside A) | Range (inside B) | Accuracy | L | Ød | Ød1 | Ød2 |
|------------|-------------------|------------------|----------|-----|-----|-----|-----|
| 3287-25B | 0-25mm | 1.6-26.5mm | 10µm | 120 | 13 | 6.5 | 10 |
| 3287-50B | 25-50mm | 26.5-51.5mm | 10µm | 120 | 13 | 6.5 | 10 |
| 3287-75B | 50-75mm | 51.5-76.5mm | 10µm | 120 | 13 | 6.5 | 10 |
| 3287-100B | 75-100mm | 76.5-101.5mm | 10µm | 120 | 13 | 6.5 | 10 |
| 3287-125B | 100-125mm | 101.5-126.5mm | 15µm | 120 | 13 | 6.5 | 10 |
| 3287-150B | 125-150mm | 126.5-151.5mm | 15µm | 120 | 13 | 6.5 | 10 |
| 3287-251B* | 0-25mm | 1.6-26.5mm | 10µm | 90 | 6.5 | 3 | 5 |

*3287-251B does not have sleeve



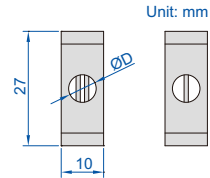
3-WIRES



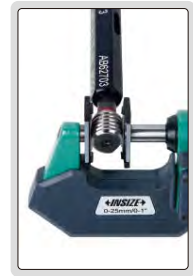
- Used with standard outside micrometers to measure pitch diameter of screw threads
- Diameter accuracy: $\pm 0.5\mu\text{m}$
- Cylindricity: $1\mu\text{m}$
- Hardness: HRC60
- Supplied with manufacturer inspection certificate



7382-19



application



For outside micrometers with spindle $\text{Ø}6.35\text{mm}$ (ØD)

| Code | Pin gage diameter | Applicable pitch |
|----------|---|----------------------|
| 7382-11 | $\text{Ø}0.170\text{mm}$ | 0.2mm, 0.25mm, 0.3mm |
| 7382-12 | $\text{Ø}0.195\text{mm}$ | 0.35mm |
| 7382-13 | $\text{Ø}0.220\text{mm}$ | 0.4mm |
| 7382-14 | $\text{Ø}0.250\text{mm}$ | 0.45mm |
| 7382-15 | $\text{Ø}0.290\text{mm}$ | 0.5mm |
| 7382-16 | $\text{Ø}0.335\text{mm}$ | 0.6mm |
| 7382-17 | $\text{Ø}0.390\text{mm}$ | 0.7mm |
| 7382-18 | $\text{Ø}0.455\text{mm}$ | 0.75mm, 0.8mm |
| 7382-19 | $\text{Ø}0.530\text{mm}$ | 0.9mm |
| 7382-110 | $\text{Ø}0.620\text{mm}$ | 1.0mm |
| 7382-111 | $\text{Ø}0.725\text{mm}$ | 1.25mm |
| 7382-112 | $\text{Ø}0.895\text{mm}$ | 1.5mm |
| 7382-113 | $\text{Ø}1.100\text{mm}$ | 1.75mm, 2.0mm |
| 7382-114 | $\text{Ø}1.350\text{mm}$ | 2.5mm |
| 7382-115 | $\text{Ø}1.650\text{mm}$ | 3.0mm |
| 7382-116 | $\text{Ø}2.050\text{mm}$ | 3.5mm |
| 7382-117 | $\text{Ø}2.550\text{mm}$ | 4mm, 4.5mm |
| 7382-118 | $\text{Ø}3.200\text{mm}$ | 5mm, 5.5mm, 6mm |
| 7382-1S | 18 pairs/set, including all above 3-wires | |

For outside micrometers with spindle $\text{Ø}6.50\text{mm}$ (ØD)

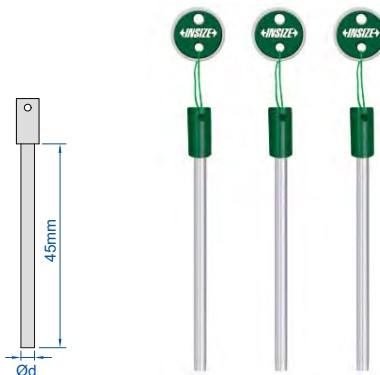
| Code | Pin gage diameter | Applicable pitch |
|----------|---|----------------------|
| 7382-21 | $\text{Ø}0.170\text{mm}$ | 0.2mm, 0.25mm, 0.3mm |
| 7382-22 | $\text{Ø}0.195\text{mm}$ | 0.35mm |
| 7382-23 | $\text{Ø}0.220\text{mm}$ | 0.4mm |
| 7382-24 | $\text{Ø}0.250\text{mm}$ | 0.45mm |
| 7382-25 | $\text{Ø}0.290\text{mm}$ | 0.5mm |
| 7382-26 | $\text{Ø}0.335\text{mm}$ | 0.6mm |
| 7382-27 | $\text{Ø}0.390\text{mm}$ | 0.7mm |
| 7382-28 | $\text{Ø}0.455\text{mm}$ | 0.75mm, 0.8mm |
| 7382-29 | $\text{Ø}0.530\text{mm}$ | 0.9mm |
| 7382-210 | $\text{Ø}0.620\text{mm}$ | 1.0mm |
| 7382-211 | $\text{Ø}0.725\text{mm}$ | 1.25mm |
| 7382-212 | $\text{Ø}0.895\text{mm}$ | 1.5mm |
| 7382-213 | $\text{Ø}1.100\text{mm}$ | 1.75mm, 2.0mm |
| 7382-214 | $\text{Ø}1.350\text{mm}$ | 2.5mm |
| 7382-215 | $\text{Ø}1.650\text{mm}$ | 3.0mm |
| 7382-216 | $\text{Ø}2.050\text{mm}$ | 3.5mm |
| 7382-217 | $\text{Ø}2.550\text{mm}$ | 4mm, 4.5mm |
| 7382-218 | $\text{Ø}3.200\text{mm}$ | 5mm, 5.5mm, 6mm |
| 7382-2S | 18 pairs/set, including all above 3-wires | |

6

3-WIRES



CUSTOMIZABLE DIAMETER Ød



7394-75A

- $\text{Ød} \leq 0.3\text{mm}$, made of alloy steel, hardness HRC60;
- $\text{Ød} > 0.3\text{mm}$, made of carbide, hardness HRA90
- Diameter accuracy: $\pm 0.5\mu\text{m}$
- Cylindricity: $\pm 0.5\mu\text{m}$
- Supplied with manufacturer inspection certificate

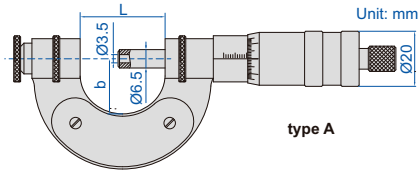
| Code | Diameter (Ød) | Applicable pitch |
|-----------|--------------------------|----------------------|
| 7394-60A* | 0.170mm | 0.2mm, 0.25mm, 0.3mm |
| 7394-61A* | 0.195mm | 0.35mm |
| 7394-62A* | 0.220mm | 0.4mm |
| 7394-63A* | 0.250mm | 0.45mm |
| 7394-64A* | 0.290mm | 0.5mm |
| 7394-65A | 0.335mm | 0.6mm |
| 7394-66A | 0.390mm | 0.7mm |
| 7394-67A | 0.455mm | 0.75mm, 0.8mm |
| 7394-68A | 0.530mm | 0.9mm |
| 7394-69A | 0.620mm | 1.0mm |
| 7394-70A | 0.725mm | 1.25mm |
| 7394-71A | 0.895mm | 1.5mm |
| 7394-72A | 1.100mm | 1.75mm, 2.0mm |
| 7394-73A | 1.350mm | 2.5mm |
| 7394-74A | 1.650mm | 3.0mm |
| 7394-75A | 2.050mm | 3.5mm |
| 7394-76A | 2.550mm | 4mm, 4.5mm |
| 7394-77A | 3.200mm | 5mm, 5.5mm, 6mm |

*Made of alloy steel

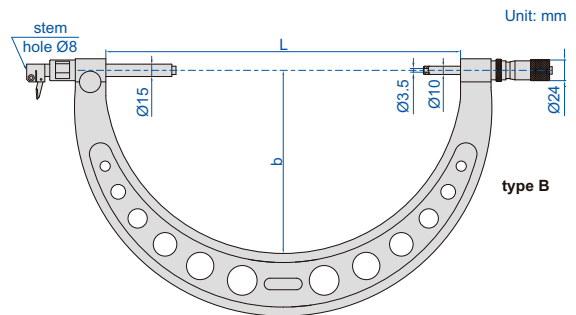
EXTERNAL SCREW THREAD MICROMETERS



3680-50



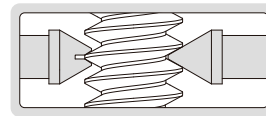
3680-4001



- Measure pitch diameter of screw threads
- Graduation 0.01mm
- Optional accessory: setting standards (code **7384**), external tread tips (code **7390**), dial/digital indicators (only for type B)

Type A (ratchet stop) (mm)

| Code | Range | Accuracy | L | b |
|------------|-----------|----------|-----|-----|
| 3680-25 * | 0-25mm | 4µm | 37 | 24 |
| 3680-50 * | 25-50mm | 4µm | 62 | 34 |
| 3680-75 * | 50-75mm | 4µm | 87 | 46 |
| 3680-100 * | 75-100mm | 4µm | 112 | 60 |
| 3680-125 * | 100-125mm | 5µm | 139 | 72 |
| 3680-150 * | 125-150mm | 5µm | 164 | 85 |
| 3680-200 * | 150-200mm | 7µm | 215 | 110 |
| 3680-250 * | 200-250mm | 7µm | 264 | 135 |
| 3680-300 * | 250-300mm | 7µm | 315 | 160 |



Type B (without ratchet stop) (mm)

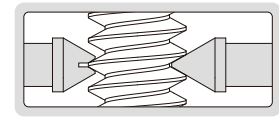
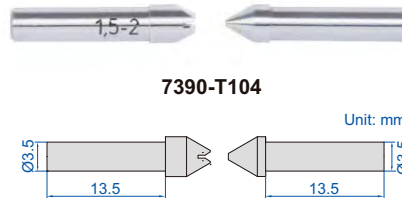
| Code | Range | Left anvil retracting stroke | Micrometer head accuracy | L | b |
|--------------|-------------|------------------------------|--------------------------|------|------|
| 3680-3001 * | 200-300mm | 2.5mm | 6µm | 320 | 165 |
| 3680-4001 * | 300-400mm | 2.5mm | 7µm | 430 | 220 |
| 3680-5001 * | 400-500mm | 2.5mm | 8µm | 530 | 273 |
| 3680-6001 * | 500-600mm | 2.5mm | 9µm | 630 | 323 |
| 3680-7001 * | 600-700mm | 2.5mm | 9µm | 730 | 378 |
| 3680-8001 * | 700-800mm | 2.5mm | 9µm | 830 | 423 |
| 3680-9001 * | 800-900mm | 2.5mm | 10µm | 930 | 473 |
| 3680-10001 * | 900-1000mm | 2.5mm | 10µm | 1030 | 520 |
| 3680-4002 * | 200-400mm | 2.5mm | 7µm | 430 | 220 |
| 3680-6002 * | 400-600mm | 2.5mm | 9µm | 630 | 323 |
| 3680-8002 * | 600-800mm | 2.5mm | 9µm | 830 | 423 |
| 3680-10002 * | 800-1000mm | 2.5mm | 10µm | 1030 | 520 |
| 3680-12002 * | 1000-1200mm | 2.5mm | 11µm | 1230 | 635 |
| 3680-14002 * | 1200-1400mm | 2.5mm | 12µm | 1430 | 735 |
| 3680-16002 * | 1400-1600mm | 2.5mm | 18µm | 1660 | 840 |
| 3680-18002 * | 1600-1800mm | 2.5mm | 20µm | 1870 | 940 |
| 3680-20002 * | 1800-2000mm | 2.5mm | 22µm | 2075 | 1055 |

* Supplied with manufacturer inspection certificate

MEASURING TIPS FOR EXTERNAL SCREW THREAD MICROMETERS

INSIZE PLUS
MADE IN EUROPE

- Supplied in pair
- Made of hardened steel
- Suitable for 3680 series micrometers



60° thread angle

| Code | Pitch |
|-----------|----------------------|
| 7390-T101 | 0.35-0.5mm/ 72-48TPI |
| 7390-T102 | 0.6-0.8mm/ 44-32TPI |
| 7390-T103 | 0.9-1.25mm/ 28-18TPI |
| 7390-T104 | 1.5-2mm/ 16-11TPI |
| 7390-T105 | 2.5-3.5mm/ 10-7TPI |
| 7390-T106 | 4-6mm/ 6-4TPI |

55° thread angle

| Code | Pitch |
|-----------|----------|
| 7390-T201 | 60-48TPI |
| 7390-T202 | 40-32TPI |
| 7390-T203 | 28-22TPI |
| 7390-T204 | 20-16TPI |
| 7390-T205 | 14-11TPI |
| 7390-T206 | 10-7TPI |
| 7390-T207 | 6-4TPI |

30° thread angle

| Code | Pitch |
|-----------|---------|
| 7390-T301 | 1.5mm |
| 7390-T302 | 2mm |
| 7390-T303 | 3mm |
| 7390-T304 | 4mm |
| 7390-T305 | 5-6mm |
| 7390-T306 | 7-8mm |
| 7390-T307 | 9-10mm |
| 7390-T308 | 12-14mm |

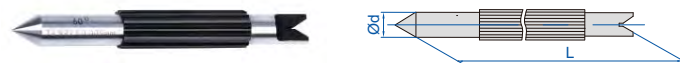
6

SETTING STANDARDS FOR EXTERNAL SCREW THREAD MICROMETERS

INSIZE PLUS
MADE IN EUROPE

ATTENTION: WHEN PITCH <0.4MM OR >63.5 TPI,
SETTING STANDARDS CANNOT BE USED TO SET ZERO,
A CALIBRATED WORK PIECE CAN BE USED INSTEAD

TIPS FOR TRAPEZOIDAL, ACME
THREAD ARE ALSO AVAILABLE



7384-A100

- Made of hardened steel
- Deviation (difference between the ordered size and the size marked on the setting standard when supplied): $\pm 20\mu\text{m}$
For example, the ordered size is 25mm, the size marked on the setting standard when supplied may be 25.015mm

60° thread angle (mm)

| Code | L | Ød | Accuracy |
|-----------|-----|-----|----------------------|
| 7384-A25 | 25 | 7.8 | $\pm 2.5\mu\text{m}$ |
| 7384-A50 | 50 | 7.8 | $\pm 3\mu\text{m}$ |
| 7384-A75 | 75 | 7.8 | $\pm 3.5\mu\text{m}$ |
| 7384-A100 | 100 | 7.8 | $\pm 4\mu\text{m}$ |
| 7384-A125 | 125 | 7.8 | $\pm 4.5\mu\text{m}$ |
| 7384-A150 | 150 | 7.8 | $\pm 5\mu\text{m}$ |
| 7384-A175 | 175 | 7.8 | $\pm 5.5\mu\text{m}$ |
| 7384-A200 | 200 | 7.8 | $\pm 6\mu\text{m}$ |
| 7384-A225 | 225 | 10 | $\pm 6.5\mu\text{m}$ |
| 7384-A250 | 250 | 10 | $\pm 7\mu\text{m}$ |
| 7384-A275 | 275 | 10 | $\pm 7.5\mu\text{m}$ |
| 7384-A300 | 300 | 10 | $\pm 8\mu\text{m}$ |

55° thread angle (mm)

| Code | L | Ød | Accuracy |
|-----------|-----|-----|----------------------|
| 7384-B25 | 25 | 7.8 | $\pm 2.5\mu\text{m}$ |
| 7384-B50 | 50 | 7.8 | $\pm 3\mu\text{m}$ |
| 7384-B75 | 75 | 7.8 | $\pm 3.5\mu\text{m}$ |
| 7384-B100 | 100 | 7.8 | $\pm 4\mu\text{m}$ |
| 7384-B125 | 125 | 7.8 | $\pm 4.5\mu\text{m}$ |
| 7384-B150 | 150 | 7.8 | $\pm 5\mu\text{m}$ |
| 7384-B175 | 175 | 7.8 | $\pm 5.5\mu\text{m}$ |
| 7384-B200 | 200 | 7.8 | $\pm 6\mu\text{m}$ |
| 7384-B225 | 225 | 10 | $\pm 6.5\mu\text{m}$ |
| 7384-B250 | 250 | 10 | $\pm 7\mu\text{m}$ |
| 7384-B275 | 275 | 10 | $\pm 7.5\mu\text{m}$ |
| 7384-B300 | 300 | 10 | $\pm 8\mu\text{m}$ |

NON-ROTATING SPINDLE

SCREW THREAD MICROMETERS

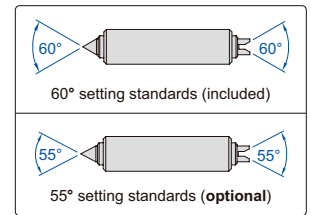
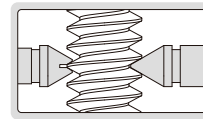


3281-25A
(measuring tips are optional)



3281-S25
(measuring tips are included)

- Measure pitch diameter of screw threads
- Graduation 0.01mm
- Non-rotating spindle
- Ratchet stop
- Supplied with 60° setting standards (except 0-25mm)
- Optional accessory: 55° setting standards



Measuring tips are optional (mm)

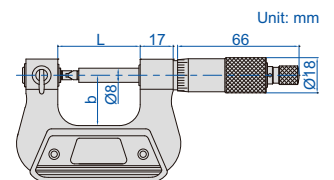
| Code | Range | L | b | 55° setting standard (optional) |
|-----------|-----------|-------|------|---------------------------------|
| 3281-25A | 0-25mm | 42 | 26 | - |
| 3281-50A | 25-50mm | 67 | 38 | 3281-SP1 |
| 3281-75A | 50-75mm | 92 | 50 | 3281-SP2 |
| 3281-100A | 75-100mm | 117.6 | 62 | 3281-SP3 |
| 3281-125A | 100-125mm | 143 | 70 | 3281-SP4 |
| 3281-150A | 125-150mm | 168.2 | 82 | 3281-SP5 |
| 3281-175A | 150-175mm | 192 | 94.5 | 3281-SP6 |
| 3281-200A | 175-200mm | 217 | 107 | 3281-SP7 |
| 3281-225A | 200-225mm | 242 | 130 | 3281-SP8 |
| 3281-250A | 225-250mm | 267 | 142 | 3281-SP9 |
| 3281-275A | 250-275mm | 291 | 155 | 3281-SP10 |
| 3281-300A | 275-300mm | 317 | 167 | 3281-SP11 |

Measuring tips are included (mm)

| Code | Range | L | b | Measuring tips (included) | 55° setting standard (optional) |
|-----------|-----------|-------|------|--|---------------------------------|
| 3281-S25 | 0-25mm | 42 | 26 | 6 pairs of measuring tips: metric and unified thread (60° thread angle) 0.4-0.5mm/64-48TPI, 0.6-0.9mm/44-28TPI, 1-1.75mm/24-14TPI, 2-3mm/13-9TPI, 3.5-5mm/8-5TPI, 5.5-7mm/4.5-3.5TPI | - |
| 3281-S50 | 25-50mm | 67 | 38 | | 3281-SP1 |
| 3281-S75 | 50-75mm | 92 | 50 | | 3281-SP2 |
| 3281-S100 | 75-100mm | 117.6 | 62 | | 3281-SP3 |
| 3281-S125 | 100-125mm | 143 | 70 | | 3281-SP4 |
| 3281-S150 | 125-150mm | 168.2 | 82 | | 3281-SP5 |
| 3281-S175 | 150-175mm | 192 | 94.5 | | 3281-SP6 |
| 3281-S200 | 175-200mm | 217 | 107 | | 3281-SP7 |
| 3281-S225 | 200-225mm | 242 | 130 | | 3281-SP8 |
| 3281-S250 | 225-250mm | 267 | 142 | | 3281-SP9 |
| 3281-S275 | 250-275mm | 291 | 155 | | 3281-SP10 |
| 3281-S300 | 275-300mm | 317 | 167 | | 3281-SP11 |

accuracy of micrometers with tips (mm)

| Pitch | Range | | | | | | | |
|---------|--------|--------|--------|--------|---------|---------|---------|---------|
| | 0-25 | 25-50 | 50-75 | 75-100 | 100-125 | 125-200 | 200-225 | 225-300 |
| 0.4~0.5 | ±0.01 | - | - | - | - | - | - | - |
| 0.6~0.8 | ±0.01 | ±0.013 | - | - | - | - | - | - |
| 1~1.25 | ±0.012 | ±0.015 | ±0.017 | ±0.017 | - | - | - | - |
| 1.5~2.0 | ±0.014 | ±0.017 | ±0.019 | ±0.019 | ±0.020 | ±0.023 | ±0.025 | ±0.028 |
| 2.5~3.5 | ±0.016 | ±0.019 | ±0.021 | ±0.021 | ±0.023 | ±0.025 | ±0.028 | ±0.031 |
| 4.0~7.0 | - | ±0.021 | ±0.023 | ±0.023 | ±0.025 | ±0.028 | ±0.031 | ±0.033 |



DIGITAL SCREW THREAD MICROMETERS

DATA
OUTPUT

NON-ROTATING
SPINDLE



3581-25A
(measuring tips are optional)



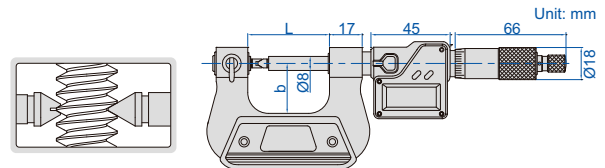
3581-S25
(measuring tips are included)

6

Measuring tips are optional (mm)

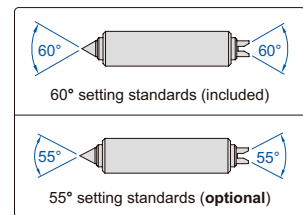
| Code | Range | L | b | 55° setting standard (optional) |
|-----------|------------------|-------|------|---------------------------------|
| 3581-25A | 0-25mm/0-1" | 42 | 26 | — |
| 3581-50A | 25-50mm/1-2" | 67 | 38 | 3281-SP1 |
| 3581-75A | 50-75mm/2-3" | 92 | 50 | 3281-SP2 |
| 3581-100A | 75-100mm/3-4" | 117.6 | 62 | 3281-SP3 |
| 3581-125A | 100-125mm/4-5" | 143 | 70 | 3281-SP4 |
| 3581-150A | 125-150mm/5-6" | 168.2 | 82 | 3281-SP5 |
| 3581-175A | 150-175mm/6-7" | 192 | 94.5 | 3281-SP6 |
| 3581-200A | 175-200mm/7-8" | 217 | 107 | 3281-SP7 |
| 3581-225A | 200-225mm/8-9" | 242 | 130 | 3281-SP8 |
| 3581-250A | 225-250mm/9-10" | 267 | 142 | 3281-SP9 |
| 3581-275A | 250-275mm/10-11" | 291 | 155 | 3281-SP10 |
| 3581-300A | 275-300mm/11-12" | 317 | 167 | 3281-SP11 |

- Measure pitch diameter of screw threads
- Resolution 0.001mm/0.00005"
- Button function: on/off, set, mm/inch, data transmit
- Data output
- Automatic power off
- Non-rotating spindle
- Ratchet stop
- Supplied with 60° setting standards (except 0-25mm/0-1")
- Optional accessory: 55° setting standards, data output cable (code 7315-31 need receiver page 4, 7302-31 page 12)



Measuring tips are included (mm)

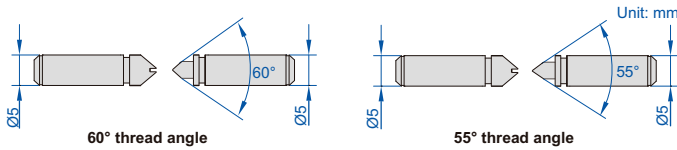
| Code | Range | L | b | Measuring tips (included) | 55° setting standard (optional) |
|-----------|------------------|-------|------|--|---------------------------------|
| 3581-S25 | 0-25mm/0-1" | 42 | 26 | 6 pairs of measuring tips: metric and unified thread (60° thread angle) 0.4-0.5mm/64-48TPI, 0.6-0.9mm/44-28TPI, 1-1.75mm/24-14TPI, 2-3mm/13-9TPI, 3.5-5mm/8-5TPI, 5.5-7mm/4.5-3.5TPI | — |
| 3581-S50 | 25-50mm/1-2" | 67 | 38 | | 3281-SP1 |
| 3581-S75 | 50-75mm/2-3" | 92 | 50 | | 3281-SP2 |
| 3581-S100 | 75-100mm/3-4" | 117.6 | 62 | | 3281-SP3 |
| 3581-S125 | 100-125mm/4-5" | 143 | 70 | | 3281-SP4 |
| 3581-S150 | 125-150mm/5-6" | 168.2 | 82 | | 3281-SP5 |
| 3581-S175 | 150-175mm/6-7" | 192 | 94.5 | | 3281-SP6 |
| 3581-S200 | 175-200mm/7-8" | 217 | 107 | | 3281-SP7 |
| 3581-S225 | 200-225mm/8-9" | 242 | 130 | | 3281-SP8 |
| 3581-S250 | 225-250mm/9-10" | 267 | 142 | | 3281-SP9 |
| 3581-S275 | 250-275mm/10-11" | 291 | 155 | | 3281-SP10 |
| 3581-S300 | 275-300mm/11-12" | 317 | 167 | 3281-SP11 | |



accuracy of micrometers with tips (mm)

| Pitch | Range | | | | | | | |
|---------|--------|--------|--------|--------|---------|---------|---------|---------|
| | 0-25 | 25-50 | 50-75 | 75-100 | 100-125 | 125-200 | 200-225 | 225-300 |
| 0.4-0.5 | ±0.01 | - | - | - | - | - | - | - |
| 0.6-0.8 | ±0.01 | ±0.013 | - | - | - | - | - | - |
| 1-1.25 | ±0.012 | ±0.015 | ±0.017 | ±0.017 | - | - | - | - |
| 1.5-2.0 | ±0.014 | ±0.017 | ±0.019 | ±0.019 | ±0.020 | ±0.023 | ±0.025 | ±0.028 |
| 2.5-3.5 | ±0.016 | ±0.019 | ±0.021 | ±0.021 | ±0.023 | ±0.025 | ±0.028 | ±0.031 |
| 4.0-7.0 | - | ±0.021 | ±0.023 | ±0.023 | ±0.025 | ±0.028 | ±0.031 | ±0.033 |

MEASURING TIPS FOR SCREW THREAD MICROMETERS



7381-T13

- Supplied in pair
- Suitable for 3281, 3581 series micrometers

Metric and unified thread (60° thread angle)

| Code | Pitch |
|----------|---------------------------------------|
| 7381-T11 | 0.4-0.5mm/ 64-48TPI |
| 7381-T12 | 0.6-0.9mm/ 44-28TPI |
| 7381-T13 | 1-1.75mm/ 24-14TPI |
| 7381-T14 | 2-3mm/ 13-9TPI |
| 7381-T15 | 3.5-5mm/ 8-5TPI |
| 7381-T16 | 5.5-7mm/ 4.5-3.5TPI |
| 7381-TS | 6 pairs/set, including all above tips |

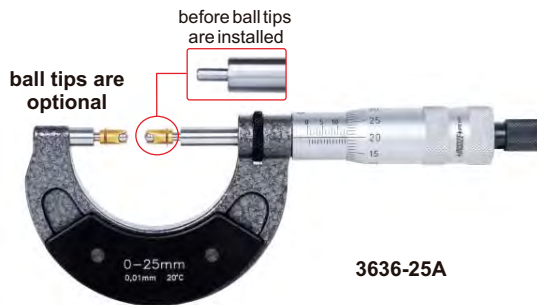
Whitworth thread (55° thread angle)

| Code | Pitch |
|-----------|--|
| 7381-T21 | 60-48TPI |
| 7381-T22 | 48-40TPI |
| 7381-T23 | 40-32TPI |
| 7381-T24 | 32-24TPI |
| 7381-T25 | 24-18TPI |
| 7381-T26 | 18-14TPI |
| 7381-T27 | 14-10TPI |
| 7381-T28 | 10-7TPI |
| 7381-T29 | 7-4.5TPI |
| 7381-T210 | 4.5-3.5TPI |
| 7381-T2S | 10 pairs/set, including all above tips |

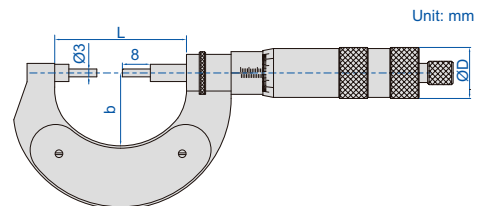


ATTENTION: SETTING STANDARDS ARE NOT INCLUDED

EXTERNAL GEAR TOOTH MICROMETERS

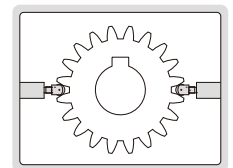


3636-25A



- Meet DIN863-3
- Measure over-pin diameter of gears
- Graduation 0.01mm
- Ratchet stop
- Optional accessory: ball tips (code 7389), cylindrical tips (code 7393), setting standards (code 7386)

cylindrical tips (optional)



| Code | Range | Accuracy | L | b | ØD |
|------------|-----------|----------|-----|-----|----|
| 3636-25A* | 0-25mm | 3µm | 62 | 34 | 20 |
| 3636-50A* | 25-50mm | 3µm | 87 | 46 | 20 |
| 3636-75A* | 50-75mm | 4µm | 112 | 60 | 20 |
| 3636-100A* | 75-100mm | 4µm | 139 | 72 | 20 |
| 3636-125A* | 100-125mm | 5µm | 164 | 85 | 20 |
| 3636-150A* | 125-150mm | 5µm | 190 | 97 | 20 |
| 3636-175A* | 150-175mm | 5µm | 215 | 110 | 20 |
| 3636-200A* | 175-200mm | 5µm | 240 | 122 | 20 |

| Code | Range | Accuracy | L | b | ØD |
|------------|-----------|----------|-----|-----|----|
| 3636-225A* | 200-225mm | 6µm | 264 | 135 | 20 |
| 3636-250A* | 225-250mm | 6µm | 290 | 148 | 20 |
| 3636-300A* | 250-300mm | 6µm | 325 | 165 | 24 |
| 3636-350A* | 300-350mm | 7µm | 370 | 190 | 24 |
| 3636-400A* | 350-400mm | 7µm | 430 | 220 | 24 |
| 3636-450A* | 400-450mm | 8µm | 475 | 250 | 24 |
| 3636-500A* | 450-500mm | 8µm | 530 | 273 | 24 |
| 3636-550A* | 500-550mm | 9µm | 570 | 291 | 24 |
| 3636-600A* | 550-600mm | 9µm | 630 | 323 | 24 |

* Supplied with manufacturer inspection certificate

CYLINDRICAL TIPS FOR GEAR TOOTH MICROMETERS

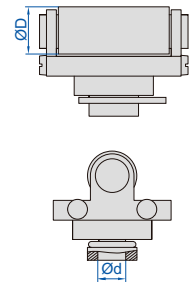
INSIZE PLUS
MADE IN EUROPE

CYLINDRICAL DIAMETER
ØD CAN BE CUSTOMIZED

- Supplied in pair
- Made of hardened steel
- Self-positioning
- Suitable for 3636, 3638, 3678, series micrometers



7393-T5



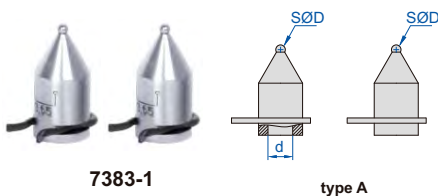
| Code | Diameter of shaft (ØD) | Ød | Accuracy |
|-----------|------------------------|-----|----------|
| 7393-T1 | 1mm | 3mm | ±1µm |
| 7393-T2 | 2mm | 3mm | ±1µm |
| 7393-T3 | 3mm | 3mm | ±1µm |
| 7393-T3D5 | 3.5mm | 3mm | ±1µm |
| 7393-T4 | 4mm | 3mm | ±1µm |
| 7393-T5 | 5mm | 3mm | ±1µm |
| 7393-T6 | 6mm | 3mm | ±1µm |
| 7393-T7 | 7mm | 3mm | ±1µm |
| 7393-T8 | 8mm | 3mm | ±1µm |

6

BALL TIPS FOR GEAR TOOTH MICROMETERS

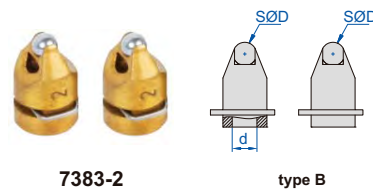
INSIZE PLUS
MADE IN EUROPE

BALL TIPS DIAMETER
SØD CAN BE CUSTOMIZED



7383-1

type A



7383-2

type B

- Supplied in pair
- Made of hardened steel
- Suitable for 3636, 3638, 3678 series micrometers

| Code | Ball dia. (SØD) | d | Accuracy | Type |
|-----------|-----------------|------|----------|------|
| 7383-1 | SØ1mm | Ø3mm | ±1µm | A |
| 7383-1D5 | SØ1.5mm | Ø3mm | ±1µm | B |
| 7383-1D75 | SØ1.75mm | Ø3mm | ±1µm | B |
| 7383-2 | SØ2mm | Ø3mm | ±1µm | B |
| 7383-2D25 | SØ2.25mm | Ø3mm | ±1µm | B |
| 7383-2D5 | SØ2.5mm | Ø3mm | ±1µm | B |
| 7383-3 | SØ3mm | Ø3mm | ±1µm | B |
| 7383-3D5 | SØ3.5mm | Ø3mm | ±1µm | B |
| 7383-4 | SØ4mm | Ø3mm | ±1µm | B |
| 7383-4D5 | SØ4.5mm | Ø3mm | ±1µm | B |
| 7383-5 | SØ5mm | Ø3mm | ±1µm | B |
| 7383-5D5 | SØ5.5mm | Ø3mm | ±1µm | B |
| 7383-6 | SØ6mm | Ø3mm | ±1µm | B |

| Code | Ball dia. (SØD) | d | Accuracy | Type |
|-----------|-----------------|------|----------|------|
| 7383-6D5 | SØ6.5mm | Ø3mm | ±1µm | B |
| 7383-7 | SØ7mm | Ø3mm | ±1µm | B |
| 7383-7D5 | SØ7.5mm | Ø3mm | ±1µm | B |
| 7383-8 | SØ8mm | Ø3mm | ±1µm | B |
| 7383-9 | SØ9mm | Ø3mm | ±1µm | B |
| 7383-10 | SØ10mm | Ø3mm | ±1µm | B |
| 7383-10D5 | SØ10.5mm | Ø3mm | ±1.5µm | B |
| 7383-11 | SØ11mm | Ø3mm | ±1.5µm | B |
| 7383-12 | SØ12mm | Ø3mm | ±1.5µm | B |
| 7383-13 | SØ13mm | Ø3mm | ±1.5µm | B |
| 7383-14 | SØ14mm | Ø3mm | ±1.5µm | B |
| 7383-15 | SØ15mm | Ø3mm | ±1.5µm | B |
| 7383-16 | SØ16mm | Ø3mm | ±1.5µm | B |



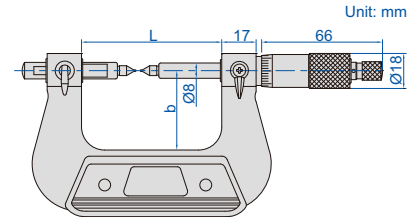
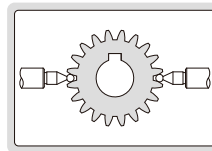
GEAR TOOTH MICROMETERS

- Meet DIN863-3
- Measure over-pin diameter of gears
- Graduation 0.01mm
- Ratchet stop
- Supplied with setting standards (except 0-25mm)
- Optional accessory: ball tips (code 7391)

| Code | Range | Accuracy | L | b |
|----------|-----------|----------|-------|-------|
| 3291-25 | 0-25mm | 4µm | 67 | 38 |
| 3291-50 | 25-50mm | 4µm | 92.4 | 50 |
| 3291-75 | 50-75mm | 5µm | 117.6 | 62 |
| 3291-100 | 75-100mm | 5µm | 143 | 70 |
| 3291-125 | 100-125mm | 6µm | 168.2 | 82 |
| 3291-150 | 125-150mm | 6µm | 192 | 94.5 |
| 3291-175 | 150-175mm | 7µm | 217 | 107 |
| 3291-200 | 175-200mm | 7µm | 242 | 130 |
| 3291-225 | 200-225mm | 8µm | 267 | 142.5 |
| 3291-250 | 225-250mm | 8µm | 292 | 155 |
| 3291-275 | 250-275mm | 9µm | 317 | 167.5 |



3291-25

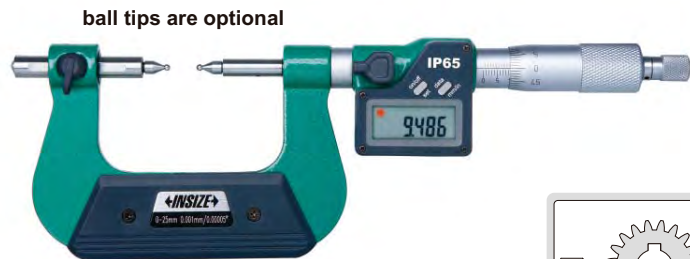


IP65
WATERPROOF

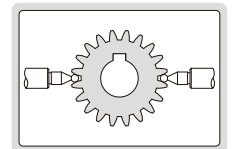
DATA
OUTPUT

DIGITAL GEAR TOOTH MICROMETERS

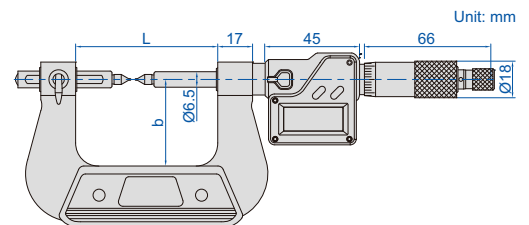
- Measure over-pin diameter of gears
- Resolution 0.001mm/0.00005"
- IP65 dust/waterproof
- Button function: on/off, set, mm/inch, data transmit
- Data output
- Automatic power off
- Ratchet stop
- Supplied with setting standards (except 0-25mm/0-1")
- Optional accessory: ball tips (code 7391), data output cable (code 7315-31 need receiver page 4, 7302-31 page 12)



3591-25A



| Code | Range | Accuracy | L | b |
|-----------|----------------|----------|-------|------|
| 3591-25A | 0-25mm/0-1" | ±4µm | 67 | 38 |
| 3591-50A | 25-50mm/1-2" | ±4µm | 92.4 | 50 |
| 3591-75A | 50-75mm/2-3" | ±5µm | 117.6 | 62 |
| 3591-100A | 75-100mm/3-4" | ±5µm | 143 | 70 |
| 3591-125A | 100-125mm/4-5" | ±6µm | 168.2 | 82 |
| 3591-150A | 125-150mm/5-6" | ±6µm | 192 | 94.5 |
| 3591-175A | 150-175mm/6-7" | ±7µm | 217 | 107 |



BALL TIPS DIAMETER SØD CAN BE CUSTOMIZED WITH SIZES BETWEEN 1.50-6.00MM

BALL TIPS FOR GEAR TOOTH MICROMETERS

- Supplied in pair
- Suitable for 3291, 3591 series micrometers

| Code | Ball dia. (D) |
|---------|---------------|
| 7391-T2 | SØ1.5mm |
| 7391-T3 | SØ2.0mm |
| 7391-T4 | SØ2.5mm |
| 7391-T5 | SØ3.0mm |

| Code | Ball dia. (D) |
|----------|---------------|
| 7391-T6 | SØ3.5mm |
| 7391-T7 | SØ4.0mm |
| 7391-T8 | SØ4.5mm |
| 7391-T9 | SØ5.0mm |
| 7391-T10 | SØ6.0mm |



7391-T5



POINT MICROMETERS

INSIZE PLUS
MADE IN EUROPE

ATTENTION: SETTING STANDARDS ARE NOT INCLUDED

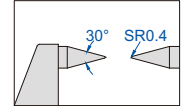
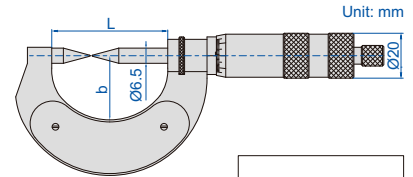
INSPECTION CERTIFICATE

(mm)

| Code | Range | Accuracy | L | b |
|------------|-----------|----------|-----|-----|
| 3659-25A* | 0-25mm | 4μm | 62 | 34 |
| 3659-50A* | 25-50mm | 4μm | 87 | 46 |
| 3659-75A* | 50-75mm | 5μm | 112 | 60 |
| 3659-100A* | 75-100mm | 5μm | 139 | 72 |
| 3659-125A* | 100-125mm | 6μm | 164 | 85 |
| 3659-150A* | 125-150mm | 6μm | 190 | 97 |
| 3659-175A* | 150-175mm | 7μm | 215 | 110 |
| 3659-200A* | 175-200mm | 7μm | 240 | 122 |
| 3659-225A* | 200-225mm | 8μm | 264 | 135 |
| 3659-250A* | 225-250mm | 8μm | 290 | 148 |



3659-25A



- Measure the web thickness of drills, small grooves and keyways
- Graduation: 0.01mm
- Ratchet stop
- Carbide tips
- Optional accessory: setting standards (code 7386)

* Supplied with manufacturer inspection certificate

POINT MICROMETERS

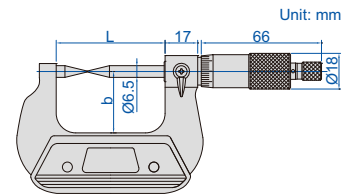
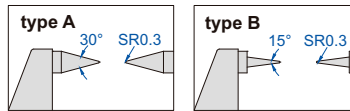
- Measure the web thickness of drills, small grooves and keyways
- Graduation 0.01mm
- Ratchet stop
- Carbide tips
- Supplied with setting standards (except 0-25mm)

(mm)

| Code | Range | Type | Accuracy | L | b |
|------------|----------|------|----------|-------|------|
| 3230-25A | 0-25mm | A | 4μm | 57 | 32 |
| 3230-50A | 25-50mm | A | 4μm | 82 | 44.5 |
| 3230-75A | 50-75mm | A | 5μm | 107 | 57 |
| 3230-100A | 75-100mm | A | 5μm | 132.6 | 69.5 |
| 3230-25BA | 0-25mm | B | 4μm | 57 | 32 |
| 3230-50BA | 25-50mm | B | 4μm | 82 | 44.5 |
| 3230-75BA | 50-75mm | B | 5μm | 107 | 57 |
| 3230-100BA | 75-100mm | B | 5μm | 132.6 | 69.5 |



3230-25A



DIGITAL POINT MICROMETERS

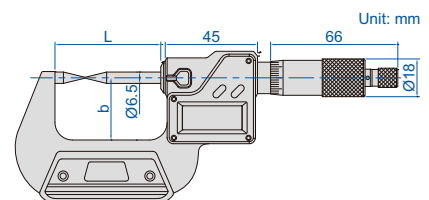
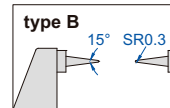
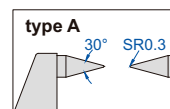
- Measure the web thickness of drills, small grooves and keyways
- Resolution 0.001mm/0.00005"
- IP65 dust/waterproof
- Button function: on/off, set, mm/inch, data transmit
- Data output
- Automatic power off
- Ratchet stop
- Carbide tips
- Supplied with setting standards (except 0-25mm/0-1")
- Optional accessory: data output cable (code 7315-31 need receiver page 4, 7302-31 page 12)

DATA OUTPUT

IP65 WATERPROOF



3530-25A



(mm)

| Code | Range | Type | Accuracy | L | b |
|------------|---------------|------|----------|-------|------|
| 3530-25A | 0-25mm/0-1" | A | ±4μm | 57 | 32 |
| 3530-50A | 25-50mm/1-2" | A | ±4μm | 82 | 44.5 |
| 3530-75A | 50-75mm/2-3" | A | ±5μm | 107 | 57 |
| 3530-100A | 75-100mm/3-4" | A | ±5μm | 132.6 | 69.5 |
| 3530-25BA | 0-25mm/0-1" | B | ±4μm | 57 | 32 |
| 3530-50BA | 25-50mm/1-2" | B | ±4μm | 82 | 44.5 |
| 3530-75BA | 50-75mm/2-3" | B | ±5μm | 107 | 57 |
| 3530-100BA | 75-100mm/3-4" | B | ±5μm | 132.6 | 69.5 |



HIGH PRECISION DIGITAL POINT MICROMETERS/SNAP GAGES

ONE TURN OF SLEEVE MAKES 5MM SPINDLE FEED, PRESS THE FORK, THE SPINDLE RETRACTS 3MM

ABSOLUTE ENCODER, THE ORIGINAL DATA REMAINS AFTER POWER OFF

MEASUREMENT ACCURACY IS NOT AFFECTED BY THE USE OF SLEEVE

NON-ROTATING SPINDLE

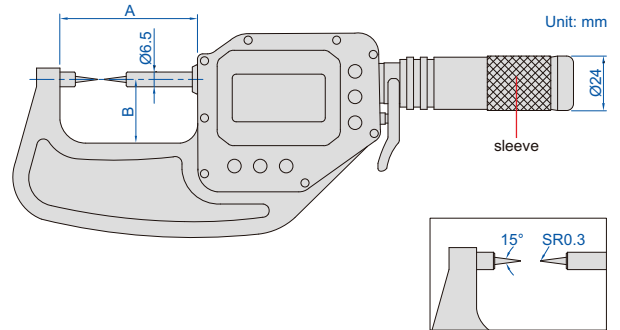
DATA OUTPUT

ATTENTION: RECHARGEABLE BATTERY, FOR 24 HOURS CONTINUOUS WORKING

IP65 WATERPROOF

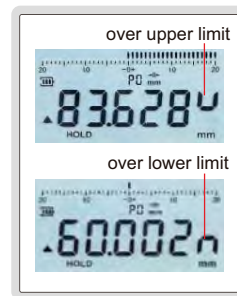


3354-25



- Measure the web thickness of drills, small grooves and keyways
- Absolute encoder, the original data remains after power off
- Adjustable resolution: 0.0002mm/0.00001"
0.001mm/0.00005"
0.01mm/0.0005"
- One turn of sleeve makes 5mm spindle feed
- Measurement accuracy is not affected by the use of sleeve
- Press the fork, the spindle retracts 3mm
- Linear ball bearings for ten million times use
- Carbide spindle and anvil
- Measuring force 7-10N
Customizable measuring force range 2-12N
Attention: small measuring force will reduce the dustproof and waterproof level
- Button function: data output, tolerance, data preset, data hold, measuring direction change, max./min./TIR, power off time, on/off, zero, mm/inch, adjust resolution
- Supplied with gage blocks for zero setting (except 0-25mm/0-1")
- Power: rechargeable battery, for 24 hours continuous working

alarm when over tolerance



wireless receiver 2134-R1, 2134-R2 (optional)



With data interface

Optional accessory:
wireless transmitter, code 7315-3350 need receiver page 6
data output cable (keyboard format), code 7302-3350 page 13

| Code | Range | Accuracy | Repeatability | A | B |
|-----------|--------------|----------|---------------|-------|------|
| 3354-25 * | 0-25mm/0-1" | 2µm | 1µm | 63mm | 25mm |
| 3354-50 * | 25-50mm/1-2" | 2µm | 1µm | 88mm | 42mm |
| 3354-75 * | 50-75mm/2-3" | 2µm | 1µm | 113mm | 56mm |

Built-in wireless

Optional accessory:
wireless receiver (keyboard format, connect up to 15 digital indicators), code 2134-R1
wireless receiver (serial port format, connect up to 15 digital indicators), code 2134-R2

| Code | Range | Accuracy | Repeatability | A | B |
|-------------|--------------|----------|---------------|-------|------|
| 3354-25WL * | 0-25mm/0-1" | 2µm | 1µm | 63mm | 25mm |
| 3354-50WL * | 25-50mm/1-2" | 2µm | 1µm | 88mm | 42mm |
| 3354-75WL * | 50-75mm/2-3" | 2µm | 1µm | 113mm | 56mm |

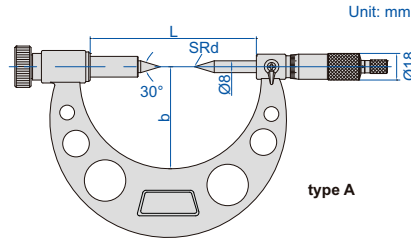
* Supplied with manufacturer inspection certificate

GEAR ROOT DIAMETER MICROMETERS



3297-100

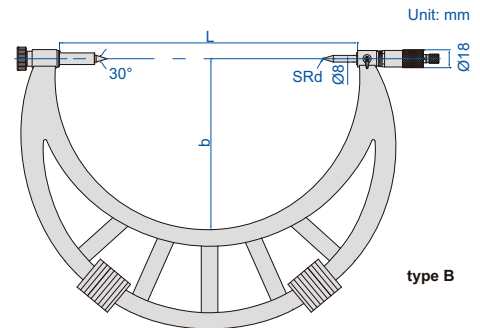
- Measure diameter of gear root circle
- Graduation 0.01mm
- Ratchet stop
- Meet DIN863-3
- Carbide measuring faces
- Supplied with setting standards



type A



3297-300



type B

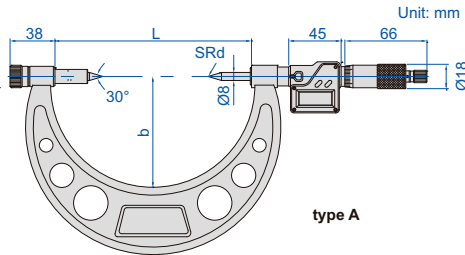
| Code | Range | Type | Accuracy | L | b | SRd |
|----------|-----------|------|----------|------|-----|-----|
| 3297-100 | 5-100mm | A | 5µm | 137 | 72 | 0.4 |
| 3297-200 | 100-200mm | A | 7µm | 237 | 129 | 0.5 |
| 3297-300 | 200-300mm | B | 9µm | 414 | 225 | 0.7 |
| 3297-400 | 300-400mm | B | 11µm | 514 | 275 | 0.7 |
| 3297-500 | 400-500mm | B | 13µm | 614 | 325 | 0.7 |
| 3297-600 | 500-600mm | B | 15µm | 714 | 375 | 0.7 |
| 3297-700 | 600-700mm | B | 16µm | 814 | 425 | 0.7 |
| 3297-800 | 700-800mm | B | 18µm | 914 | 475 | 0.7 |
| 3297-900 | 800-900mm | B | 20µm | 1014 | 525 | 0.7 |

6

DIGITAL GEAR ROOT DIAMETER MICROMETERS

IP65
WATERPROOF

DATA
OUTPUT



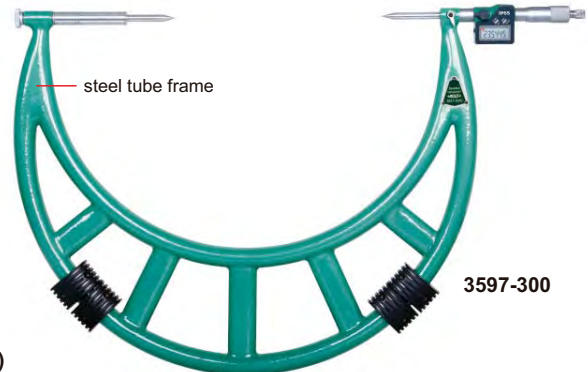
type A

- Measure diameter of gear root circle
- Resolution 0.001mm/0.0001" (resolution of 3597-100 and 3597-200 is 0.001mm/0.00005")
- IP65 dust/waterproof
- Button function: on/off, set, mm/inch, data transmit
- Data output
- Automatic power off
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards
- Optional accessory: data output cable (code 7315-31 need receiver page 4, 7302-31 page 12)

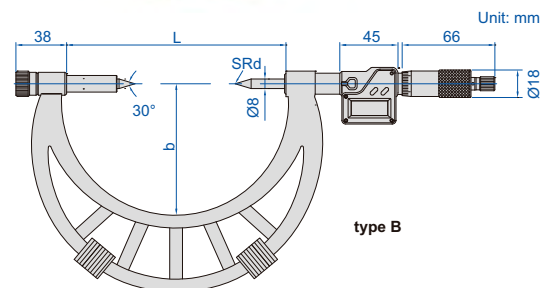
| Code | Range | Type | Accuracy | L | b | SRd |
|----------|-----------|------|----------|------|-----|-----|
| 3597-100 | 5-100mm | A | 3µm | 137 | 72 | 0.4 |
| 3597-200 | 100-200mm | A | 4µm | 237 | 129 | 0.5 |
| 3597-300 | 200-300mm | B | 5µm | 414 | 225 | 0.7 |
| 3597-400 | 300-400mm | B | 6µm | 514 | 275 | 0.7 |
| 3597-500 | 400-500mm | B | 7µm | 614 | 325 | 0.7 |
| 3597-600 | 500-600mm | B | 8µm | 714 | 375 | 0.7 |
| 3597-700 | 600-700mm | B | 8µm | 814 | 425 | 0.7 |
| 3597-800 | 700-800mm | B | 9µm | 914 | 475 | 0.7 |
| 3597-900 | 800-900mm | B | 10µm | 1014 | 525 | 0.7 |



3597-100



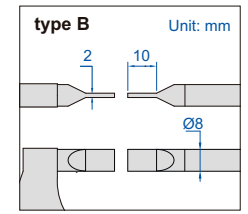
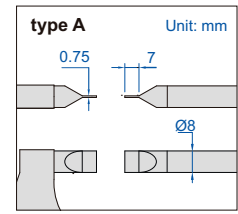
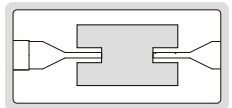
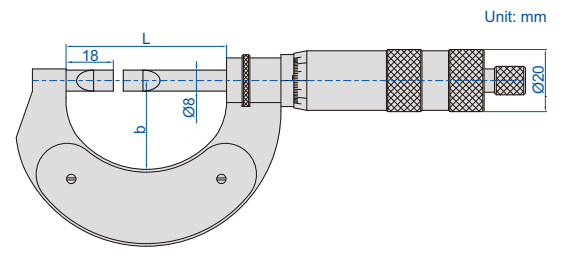
3597-300



type B



3650-25A



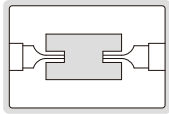
- Meet DIN863-3
- Graduation 0.01mm
- Force: 5-10N
- Optional accessory: setting standards (code 7386)

| Code | Range | Type | Accuracy | L | b |
|------------|-----------|------|----------|-----|-----|
| 3650-25A* | 0-25mm | A | 4µm | 62 | 34 |
| 3650-50A* | 25-50mm | A | 4µm | 87 | 46 |
| 3650-75A* | 50-75mm | B | 5µm | 112 | 60 |
| 3650-100A* | 75-100mm | B | 5µm | 139 | 72 |
| 3650-125A* | 100-125mm | B | 6µm | 164 | 85 |
| 3650-150A* | 125-150mm | B | 6µm | 190 | 97 |
| 3650-175A* | 150-175mm | B | 7µm | 215 | 110 |
| 3650-200A* | 175-200mm | B | 7µm | 240 | 122 |
| 3650-225A* | 200-225mm | B | 8µm | 264 | 135 |
| 3650-250A* | 225-250mm | B | 8µm | 290 | 148 |
| 3650-275A* | 250-275mm | B | 9µm | 315 | 160 |
| 3650-300A* | 275-300mm | B | 9µm | 340 | 174 |

* Supplied with manufacturer inspection certificate

BLADE MICROMETERS

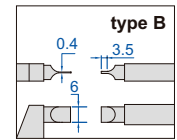
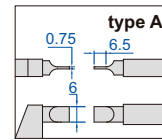
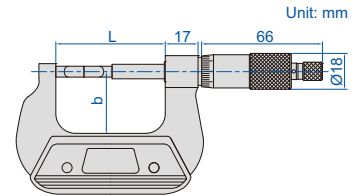
NON-ROTATING SPINDLE



- Meet DIN863-3
- Measure the groove diameter of shafts and keyways
- Graduation 0.01mm
- Non-rotating spindle
- Ratchet stop
- Supplied with setting standards (except 0-25mm)



3232-25A



6

| Type A | | (mm) | | |
|-----------|-----------|----------|-------|-------|
| Code | Range | Accuracy | L | b |
| 3232-25A | 0-25mm | 4µm | 57 | 32 |
| 3232-50A | 25-50mm | 4µm | 82 | 44.5 |
| 3232-75A | 50-75mm | 5µm | 107 | 57 |
| 3232-100A | 75-100mm | 5µm | 132.6 | 69.5 |
| 3232-125A | 100-125mm | 6µm | 158 | 82 |
| 3232-150A | 125-150mm | 6µm | 183.4 | 94.5 |
| 3232-175A | 150-175mm | 7µm | 208.8 | 107 |
| 3232-200A | 175-200mm | 7µm | 234.2 | 129.6 |
| 3232-225A | 200-225mm | 8µm | 259.6 | 142.3 |
| 3232-250A | 225-250mm | 8µm | 285 | 155 |
| 3232-275A | 250-275mm | 9µm | 310.4 | 167.7 |
| 3232-300A | 275-300mm | 9µm | 336.5 | 177.8 |

| Type B | | (mm) | | |
|------------|-----------|----------|-------|-------|
| Code | Range | Accuracy | L | b |
| 3232-25BA | 0-25mm | 4µm | 57 | 32 |
| 3232-50BA | 25-50mm | 4µm | 82 | 44.5 |
| 3232-75BA | 50-75mm | 5µm | 107 | 57 |
| 3232-100BA | 75-100mm | 5µm | 132.6 | 69.5 |
| 3232-125BA | 100-125mm | 6µm | 158 | 82 |
| 3232-150BA | 125-150mm | 6µm | 183.4 | 94.5 |
| 3232-175BA | 150-175mm | 7µm | 208.8 | 107 |
| 3232-200BA | 175-200mm | 7µm | 234.2 | 129.6 |
| 3232-225BA | 200-225mm | 8µm | 259.6 | 142.3 |
| 3232-250BA | 225-250mm | 8µm | 285 | 155 |
| 3232-275BA | 250-275mm | 9µm | 310.4 | 167.7 |
| 3232-300BA | 275-300mm | 9µm | 336.5 | 177.8 |

DIGITAL BLADE MICROMETERS

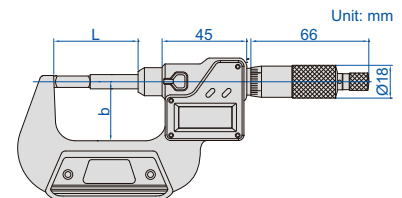
DATA OUTPUT

NON-ROTATING SPINDLE

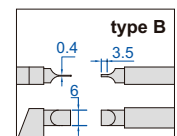
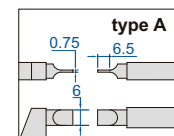
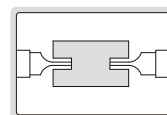
- Measure the groove diameter of shafts and keyways
- Resolution 0.001mm/0.00005"
- Non-rotating spindle
- Button function: on/off, set, mm/inch, data transmit
- Data output
- Automatic power off
- Ratchet stop
- Supplied with setting standards (except 0-25mm/0-1")
- Optional accessory: data output cable (code 7315-31 need receiver page 4, 7302-31 page 12)



3532-25A



| | | (mm) | | | |
|------------|----------------|------|----------|-------|------|
| Code | Range | Type | Accuracy | L | b |
| 3532-25A | 0-25mm/0-1" | A | ±4µm | 57 | 32 |
| 3532-50A | 25-50mm/1-2" | A | ±4µm | 82 | 44.5 |
| 3532-75A | 50-75mm/2-3" | A | ±5µm | 107 | 57 |
| 3532-100A | 75-100mm/3-4" | A | ±5µm | 132.6 | 69.5 |
| 3532-125A | 100-125mm/4-5" | A | ±6µm | 158 | 82 |
| 3532-150A | 125-150mm/5-6" | A | ±6µm | 183.4 | 94.5 |
| 3532-175A | 150-175mm/6-7" | A | ±7µm | 208.8 | 107 |
| 3532-25BA | 0-25mm/0-1" | B | ±4µm | 57 | 32 |
| 3532-50BA | 25-50mm/1-2" | B | ±4µm | 82 | 44.5 |
| 3532-75BA | 50-75mm/2-3" | B | ±5µm | 107 | 57 |
| 3532-100BA | 75-100mm/3-4" | B | ±5µm | 132.6 | 69.5 |
| 3532-125BA | 100-125mm/4-5" | B | ±6µm | 158 | 82 |
| 3532-150BA | 125-150mm/5-6" | B | ±6µm | 183.4 | 94.5 |
| 3532-175BA | 150-175mm/6-7" | B | ±7µm | 208.8 | 107 |





ATTENTION: RECHARGEABLE BATTERY, FOR 24 HOURS CONTINUOUS WORKING

HIGH PRECISION DIGITAL BLADE MICROMETERS/SNAP GAGES

MEASUREMENT ACCURACY IS NOT AFFECTED BY THE USE OF SLEEVE

IP65 WATERPROOF

DATA OUTPUT

ABSOLUTE ENCODER, THE ORIGINAL DATA REMAINS AFTER POWER OFF

NON-ROTATING SPINDLE

ONE TURN OF SLEEVE MAKES 5MM SPINDLE FEED, PRESS THE FORK, THE SPINDLE RETRACTS 3MM

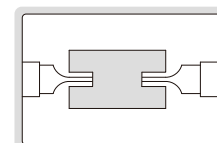
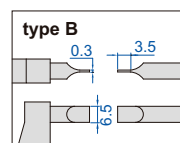
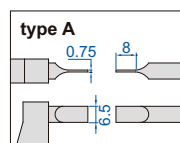
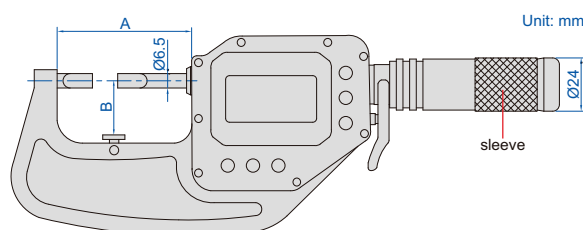


3352-25A



INSPECTION CERTIFICATE

- Measure the groove diameter of shafts and keyways
- Absolute encoder, the original data remains after power off
- Adjustable resolution: 0.0002mm/0.00001"
0.001mm/0.00005"
0.01mm/0.0005"
- One turn of sleeve makes 5mm spindle feed
- Measurement accuracy is not affected by the use of sleeve
- Press the fork, the spindle retracts 3mm
- Linear ball bearings for ten million times use
- Carbide spindle and anvil
- Measuring force 7-10N
Customizable measuring force range 2-12N
Attention: small measuring force will reduce the dustproof and waterproof level
- Button function: data output, tolerance, data preset, data hold, measuring direction change, max./min./TIR, power off time, on/off, zero, mm/inch, adjust resolution
- Supplied with gage blocks for zero setting (except 0-25mm/0-1")
- Power: rechargeable battery, for 24 hours continuous working



With data interface

Optional accessory:
wireless transmitter, code **7315-3350** need receiver page 6
data output cable (keyboard format), code **7302-3350** page 13

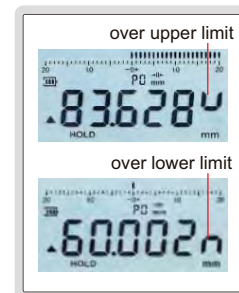
| Code | Range | Type | Accuracy | Repeatability | A | B |
|-----------|--------------|------|----------|---------------|-------|------|
| 3352-25A* | 0-25mm/0-1" | A | 2μm | 1μm | 63mm | 25mm |
| 3352-50A* | 25-50mm/1-2" | A | 2μm | 1μm | 88mm | 42mm |
| 3352-75A* | 50-75mm/2-3" | A | 2μm | 1μm | 113mm | 56mm |
| 3352-25B* | 0-25mm/0-1" | B | 2μm | 1μm | 63mm | 25mm |
| 3352-50B* | 25-50mm/1-2" | B | 2μm | 1μm | 88mm | 42mm |
| 3352-75B* | 50-75mm/2-3" | B | 2μm | 1μm | 113mm | 56mm |

Built-in wireless

Optional accessory:
wireless receiver (keyboard format, connect up to 15 digital indicators), code **2134-R1**
wireless receiver (serial port format, connect up to 15 digital indicators), code **2134-R2**

| Code | Range | Type | Accuracy | Repeatability | A | B |
|-------------|--------------|------|----------|---------------|-------|------|
| 3352-25AWL* | 0-25mm/0-1" | A | 2μm | 1μm | 63mm | 25mm |
| 3352-50AWL* | 25-50mm/1-2" | A | 2μm | 1μm | 88mm | 42mm |
| 3352-75AWL* | 50-75mm/2-3" | A | 2μm | 1μm | 113mm | 56mm |
| 3352-25BWL* | 0-25mm/0-1" | B | 2μm | 1μm | 63mm | 25mm |
| 3352-50BWL* | 25-50mm/1-2" | B | 2μm | 1μm | 88mm | 42mm |
| 3352-75BWL* | 50-75mm/2-3" | B | 2μm | 1μm | 113mm | 56mm |

alarm when over tolerance



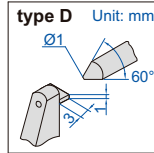
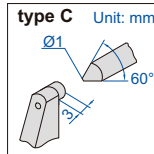
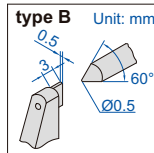
wireless receiver
2134-R1, 2134-R2 (optional)



* Supplied with manufacturer inspection certificate

CRIMP HEIGHT MICROMETERS

- Measure the height of crimp contact
- Graduation 0.01mm
- Ratchet stop
- Supplied with setting standards (except 0-25mm)

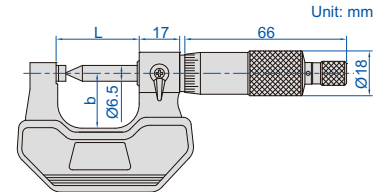


| Code | Range | Type | Accuracy | L | b |
|------------|----------|------|----------|-----|----|
| 3266-25BA | 0-25mm | B | 4µm | 34 | 24 |
| 3266-25CA | 0-25mm | C | 4µm | 34 | 24 |
| 3266-50CA | 25-50mm | C | 4µm | 59 | 32 |
| 3266-75CA | 50-75mm | C | 5µm | 85 | 45 |
| 3266-100CA | 75-100mm | C | 5µm | 110 | 57 |
| 3266-25DA | 0-25mm | D | 4µm | 34 | 24 |



RELATIVE PRODUCT: DIGITAL CRIMP HEIGHT CALIPER (CODE 1165-150A)

3266-25BA



6

DIGITAL CRIMP HEIGHT MICROMETERS

RELATIVE PRODUCT: DIGITAL CRIMP HEIGHT CALIPER (CODE 1165-150A)

DATA OUTPUT

IP65 WATERPROOF

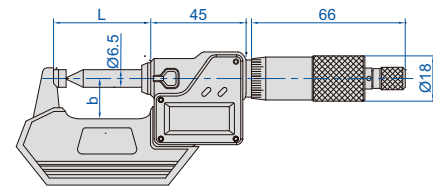
- Measure the height of crimp contact
- Resolution 0.001mm/0.00005"
- IP65 dust/waterproof
- Button function: on/off, set, mm/inch, data transmit
- Data output
- Automatic power off
- Ratchet stop
- Supplied with setting standards (except 0-25mm/0-1")
- Optional accessory: data output cable (code 7315-31 need receiver page 4, 7302-31 page 12)



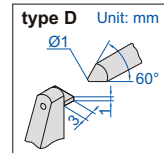
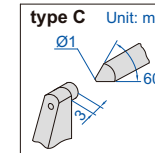
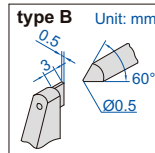
3566-25BA



Unit: mm



| Code | Range | Type | Accuracy | L | b |
|------------|---------------|------|----------|-------|------|
| 3566-25BA | 0-25mm/0-1" | B | ±4µm | 34.5 | 25 |
| 3566-25CA | 0-25mm/0-1" | C | ±4µm | 34.5 | 25 |
| 3566-50CA | 25-50mm/0-1" | C | ±4µm | 59.5 | 32 |
| 3566-75CA | 50-75mm/0-1" | C | ±5µm | 84.5 | 44.5 |
| 3566-100CA | 75-100mm/0-1" | C | ±5µm | 109.5 | 57 |
| 3566-25DA | 0-25mm/0-1" | D | ±4µm | 34.5 | 25 |



SPLINE MICROMETERS

INSIZE PLUS
MADE IN EUROPE

| Code | Range | Accuracy | L | b |
|------------|-----------|----------|-----|-----|
| 3658-25 * | 0-25mm | 4µm | 62 | 34 |
| 3658-50 * | 25-50mm | 4µm | 87 | 46 |
| 3658-75 * | 50-75mm | 5µm | 112 | 60 |
| 3658-100 * | 75-100mm | 5µm | 139 | 72 |
| 3658-125 * | 100-125mm | 6µm | 164 | 85 |
| 3658-150 * | 125-150mm | 6µm | 190 | 97 |
| 3658-175 * | 150-175mm | 7µm | 215 | 110 |
| 3658-200 * | 175-200mm | 7µm | 240 | 122 |
| 3658-225 * | 200-225mm | 8µm | 264 | 135 |
| 3658-250 * | 225-250mm | 8µm | 290 | 148 |

* Supplied with manufacturer inspection certificate

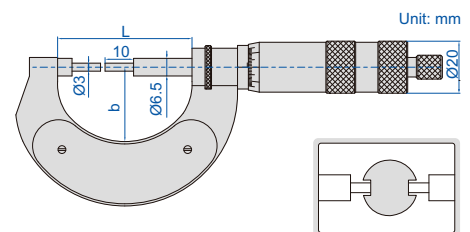


3658-25

INSPECTION CERTIFICATE

ATTENTION: SETTING STANDARDS ARE NOT INCLUDED

- Meet DIN863-3
- Measure splined shafts, slots and keyways
- Graduation 0.01mm
- Ratchet stop
- Carbide measuring faces
- Optional accessory: setting standards (code 7386)

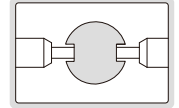


SPLINE MICROMETERS

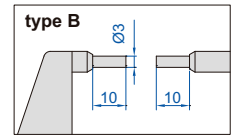
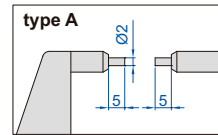
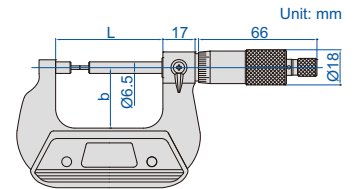
- Meet DIN863-3
- Measure splined shafts, slots and keyways
- Graduation 0.01mm
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards (except 0-25mm)



3233-25BA



| (mm) | | | | | |
|------------|-----------|------|----------|-------|------|
| Code | Range | Type | Accuracy | L | b |
| 3233-25A | 0-25mm | A | 4μm | 57 | 32 |
| 3233-50A | 25-50mm | A | 4μm | 82 | 44.5 |
| 3233-75A | 50-75mm | A | 5μm | 107 | 57 |
| 3233-100A | 75-100mm | A | 5μm | 132.6 | 69.5 |
| 3233-125A | 100-125mm | A | 6μm | 158 | 82 |
| 3233-150A | 125-150mm | A | 6μm | 183.4 | 94.5 |
| 3233-175A | 150-175mm | A | 7μm | 208.8 | 107 |
| 3233-25BA | 0-25mm | B | 4μm | 57 | 32 |
| 3233-50BA | 25-50mm | B | 4μm | 82 | 44.5 |
| 3233-75BA | 50-75mm | B | 5μm | 107 | 57 |
| 3233-100BA | 75-100mm | B | 5μm | 132.6 | 69.5 |
| 3233-125BA | 100-125mm | B | 6μm | 158 | 82 |
| 3233-150BA | 125-150mm | B | 6μm | 183.4 | 94.5 |
| 3233-175BA | 150-175mm | B | 7μm | 208.8 | 107 |



IP65
WATERPROOF

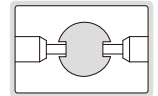
DATA
OUTPUT

DIGITAL SPLINE MICROMETERS

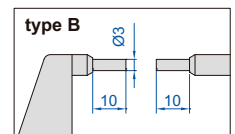
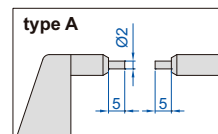
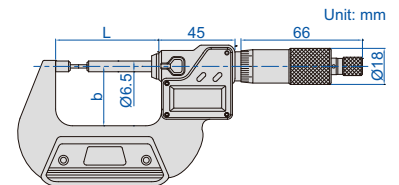
- Measure splined shafts, slots and keyways
- Resolution 0.001mm/0.00005"
- IP65 dust/waterproof
- Button function: on/off, set, mm/inch, data transmit
- Data output
- Automatic power off
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards (except 0-25mm/0-1")
- Optional accessory: data output cable (code 7315-31 need receiver page 4, 7302-31 page 12)



3533-25BA



| (mm) | | | | | |
|------------|----------------|------|----------|-------|------|
| Code | Range | Type | Accuracy | L | b |
| 3533-25A | 0-25mm/0-1" | A | ±4μm | 57 | 32 |
| 3533-50A | 25-50mm/1-2" | A | ±4μm | 82 | 44.5 |
| 3533-75A | 50-75mm/2-3" | A | ±5μm | 107 | 57 |
| 3533-100A | 75-100mm/3-4" | A | ±5μm | 132.6 | 69.5 |
| 3533-125A | 100-125mm/4-5" | A | ±6μm | 158 | 82 |
| 3533-150A | 125-150mm/5-6" | A | ±6μm | 183.4 | 94.5 |
| 3533-175A | 150-175mm/6-7" | A | ±7μm | 208.8 | 107 |
| 3533-25BA | 0-25mm/0-1" | B | ±4μm | 57 | 32 |
| 3533-50BA | 25-50mm/1-2" | B | ±4μm | 82 | 44.5 |
| 3533-75BA | 50-75mm/2-3" | B | ±5μm | 107 | 57 |
| 3533-100BA | 75-100mm/3-4" | B | ±5μm | 132.6 | 69.5 |
| 3533-125BA | 100-125mm/4-5" | B | ±6μm | 158 | 82 |
| 3533-150BA | 125-150mm/5-6" | B | ±6μm | 183.4 | 94.5 |
| 3533-175BA | 150-175mm/6-7" | B | ±7μm | 208.8 | 107 |



HIGH PRECISION DIGITAL SPLINE MICROMETERS/SNAP GAGES

ONE TURN OF SLEEVE MAKES 5MM SPINDLE FEED, PRESS THE FORK, THE SPINDLE RETRACTS 3MM

MEASUREMENT ACCURACY IS NOT AFFECTED BY THE USE OF SLEEVE

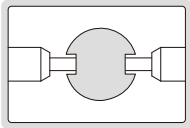
NON-ROTATING SPINDLE

ABSOLUTE ENCODER, THE ORIGINAL DATA REMAINS AFTER POWER OFF

IP65 WATERPROOF

ATTENTION: RECHARGEABLE BATTERY, FOR 24 HOURS CONTINUOUS WORKING

DATA OUTPUT

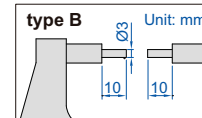
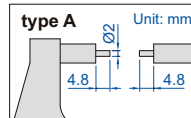
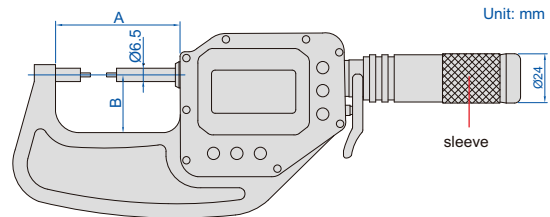


VIDEO



3356-25

- Measure splined shafts, slots and keyways
- Absolute encoder, the original data remains after power off
- Adjustable resolution: 0.0002mm/0.00001"
0.001mm/0.00005"
0.01mm/0.0005"
- One turn of sleeve makes 5mm spindle feed
- Measurement accuracy is not affected by the use of sleeve
- Press the fork, the spindle retracts 3mm
- Linear ball bearings for ten million times use
- Carbide spindle and anvil
- Measuring force 7-10N
Customizable measuring force range 2-12N
Attention: small measuring force will reduce the dustproof and waterproof level
- Button function: data output, tolerance, data preset, data hold, measuring direction change, max./min./TIR, power off time, on/off, zero, mm/inch, adjust resolution
- Supplied with gage blocks for zero setting (except 0-25mm/0-1")
- Power: rechargeable battery, for 24 hours continuous working



With data interface

Optional accessory:
wireless transmitter, code 7315-3350 need receiver page 6
data output cable (keyboard format), code 7302-3350 page 13

| Code | Range | Accuracy | Type | Repeatability | A | B |
|------------|--------------|----------|------|---------------|-------|------|
| 3356-25 * | 0-25mm/0-1" | 2µm | A | 1µm | 63mm | 25mm |
| 3356-50 * | 25-50mm/1-2" | 2µm | A | 1µm | 88mm | 42mm |
| 3356-75 * | 50-75mm/2-3" | 2µm | A | 1µm | 113mm | 56mm |
| 3356-25B * | 0-25mm/0-1" | 2µm | B | 1µm | 63mm | 25mm |
| 3356-50B * | 25-50mm/1-2" | 2µm | B | 1µm | 88mm | 42mm |
| 3356-75B * | 50-75mm/2-3" | 2µm | B | 1µm | 113mm | 56mm |

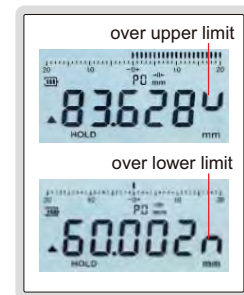
Built-in wireless

Optional accessory:
wireless receiver (keyboard format, connect up to 15 digital indicators), code 2134-R1
wireless receiver (serial port format, connect up to 15 digital indicators), code 2134-R2

| Code | Range | Accuracy | Type | Repeatability | A | B |
|--------------|--------------|----------|------|---------------|-------|------|
| 3356-25WL * | 0-25mm/0-1" | 2µm | A | 1µm | 63mm | 25mm |
| 3356-50WL * | 25-50mm/1-2" | 2µm | A | 1µm | 88mm | 42mm |
| 3356-75WL * | 50-75mm/2-3" | 2µm | A | 1µm | 113mm | 56mm |
| 3356-25BWL * | 0-25mm/0-1" | 2µm | B | 1µm | 63mm | 25mm |
| 3356-50BWL * | 25-50mm/1-2" | 2µm | B | 1µm | 88mm | 42mm |
| 3356-75BWL * | 50-75mm/2-3" | 2µm | B | 1µm | 113mm | 56mm |

* Supplied with manufacturer inspection certificate

alarm when over tolerance



wireless receiver 2134-R1, 2134-R2 (optional)

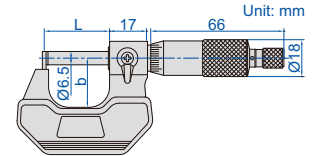
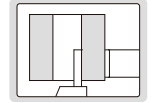


CYLINDRICAL ANVIL TUBE MICROMETERS

- Measure wall thickness of tubes
- Graduation 0.01mm
- Ratchet stop
- Carbide spindle tip
- Supplied with setting standards (except 0-25mm)

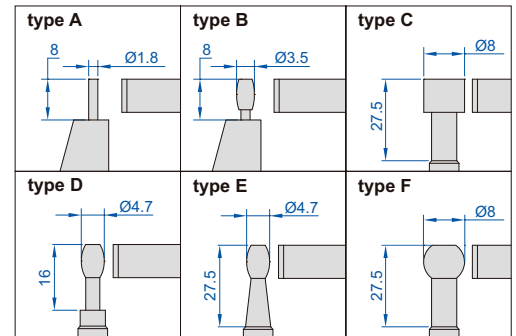


3261-25A



(mm)

| Code | Range | Type | Accuracy | L | b |
|-----------|---------|------|----------|----|----|
| 3261-25A | 0-25mm | A | 6µm | 36 | 25 |
| 3261-50A | 25-50mm | A | 6µm | 61 | 32 |
| 3261-25BA | 0-25mm | B | 6µm | 36 | 25 |
| 3261-50BA | 25-50mm | B | 6µm | 61 | 32 |
| 3261-25CA | 0-25mm | C | 6µm | 36 | 25 |
| 3261-50CA | 25-50mm | C | 6µm | 61 | 32 |
| 3261-25DA | 0-25mm | D | 6µm | 36 | 25 |
| 3261-50DA | 25-50mm | D | 6µm | 61 | 32 |
| 3261-25EA | 0-25mm | E | 6µm | 36 | 25 |
| 3261-50EA | 25-50mm | E | 6µm | 61 | 32 |
| 3261-25FA | 0-25mm | F | 6µm | 36 | 25 |
| 3261-50FA | 25-50mm | F | 6µm | 61 | 32 |



IP65
WATERPROOF

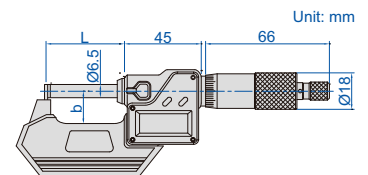
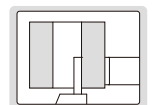
DATA
OUTPUT

DIGITAL CYLINDRICAL ANVIL TUBE MICROMETERS

- Measure wall thickness of tubes
- Resolution 0.001mm/0.00005"
- IP65 dust/waterproof
- Button function: on/off, set, mm/inch, data transmit
- Data output
- Automatic power off
- Ratchet stop
- Carbide spindle tip
- Supplied with setting standards (except 0-25mm/0-1")
- Optional accessory: data output cable (code 7315-31 need receiver page 4, 7302-31 page 12)

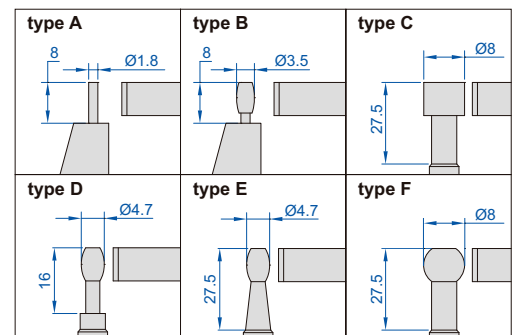


3561-25A



(mm)

| Code | Range | Type | Accuracy | L | b |
|-----------|--------------|------|----------|----|----|
| 3561-25A | 0-25mm/0-1" | A | ±6µm | 36 | 25 |
| 3561-50A | 25-50mm/1-2" | A | ±6µm | 61 | 32 |
| 3561-25BA | 0-25mm/0-1" | B | ±6µm | 36 | 25 |
| 3561-50BA | 25-50mm/1-2" | B | ±6µm | 61 | 32 |
| 3561-25CA | 0-25mm/0-1" | C | ±6µm | 36 | 25 |
| 3561-50CA | 25-50mm/1-2" | C | ±6µm | 61 | 32 |
| 3561-25DA | 0-25mm/0-1" | D | ±6µm | 36 | 25 |
| 3561-50DA | 25-50mm/1-2" | D | ±6µm | 61 | 32 |
| 3561-25EA | 0-25mm/0-1" | E | ±6µm | 36 | 25 |
| 3561-50EA | 25-50mm/1-2" | E | ±6µm | 61 | 32 |
| 3561-25FA | 0-25mm/0-1" | F | ±6µm | 36 | 25 |
| 3561-50FA | 25-50mm/1-2" | F | ±6µm | 61 | 32 |



SPHERICAL ANVIL TUBE MICROMETERS

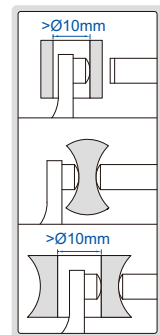
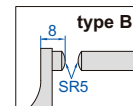
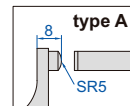
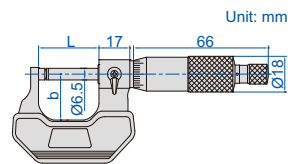
- Meet DIN863-3
- Measure wall thickness of tubes
- Graduation 0.01mm
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards (except 0-25mm)



3260-25A

6

| Code | Range | Type | Accuracy | L | b |
|------------|----------|------|----------|-----|------|
| 3260-25A | 0-25mm | A | 4μm | 32 | 24 |
| 3260-50A | 25-50mm | A | 4μm | 57 | 32 |
| 3260-75A | 50-75mm | A | 5μm | 82 | 44.5 |
| 3260-100A | 75-100mm | A | 5μm | 107 | 57 |
| 3260-25SA | 0-25mm | B | 4μm | 32 | 24 |
| 3260-50SA | 25-50mm | B | 4μm | 57 | 32 |
| 3260-75SA | 50-75mm | B | 5μm | 82 | 44.5 |
| 3260-100SA | 75-100mm | B | 5μm | 107 | 57 |



DIGITAL SPHERICAL ANVIL TUBE MICROMETERS

IP65
WATERPROOF

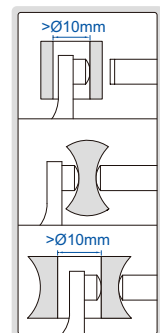
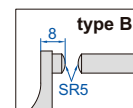
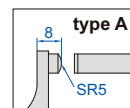
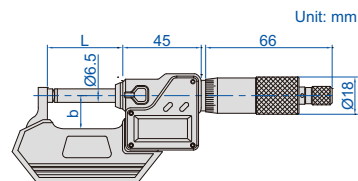
DATA
OUTPUT

- Measure wall thickness of tubes
- Resolution 0.001mm/0.00005"
- IP65 dust/waterproof
- Button function: on/off, set, mm/inch, data transmit
- Data output
- Automatic power off
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards (except 0-25mm/0-1")
- Optional accessory: data output cable
(code 7315-31 need receiver page 4, 7302-31 page 12)



3560-25A

| Code | Range | Type | Accuracy | L | b |
|------------|---------------|------|----------|-----|------|
| 3560-25A | 0-25mm/0-1" | A | ±4μm | 32 | 24 |
| 3560-50A | 25-50mm/1-2" | A | ±4μm | 57 | 32 |
| 3560-75A | 50-75mm/2-3" | A | ±5μm | 82 | 44.5 |
| 3560-100A | 75-100mm/3-4" | A | ±5μm | 107 | 57 |
| 3560-25SA | 0-25mm/0-1" | B | ±4μm | 32 | 24 |
| 3560-50SA | 25-50mm/1-2" | B | ±4μm | 57 | 32 |
| 3560-75SA | 50-75mm/2-3" | B | ±5μm | 82 | 44.5 |
| 3560-100SA | 75-100mm/3-4" | B | ±5μm | 107 | 57 |



HIGH PRECISION DIGITAL SPHERICAL ANVIL TUBE MICROMETERS/SNAP GAGES

IP65
WATERPROOF

NON-ROTATING
SPINDLE

ABSOLUTE ENCODER, THE ORIGINAL
DATA REMAINS AFTER POWER OFF

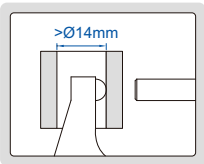
ONE TURN OF SLEEVE MAKES 5MM SPINDLE FEED,
PRESS THE FORK, THE SPINDLE RETRACTS 3MM

MEASUREMENT ACCURACY IS NOT
AFFECTED BY THE USE OF SLEEVE

INSPECTION
CERTIFICATE

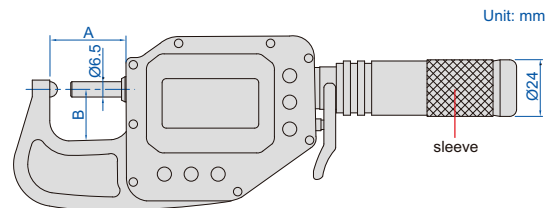
ATTENTION: RECHARGEABLE BATTERY,
FOR 24 HOURS CONTINUOUS WORKING

DATA
OUTPUT

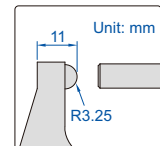


3355-25

- Measure wall thickness of tubes
- Absolute encoder, the original data remains after power off
- Adjustable resolution: 0.0002mm/0.00001"
0.001mm/0.00005"
0.01mm/0.0005"
- One turn of sleeve makes 5mm spindle feed
- Measurement accuracy is not affected by the use of sleeve
- Press the fork, the spindle retracts 3mm
- Linear ball bearings for ten million times use
- Carbide spindle and anvil
- Measuring force 7-10N
Customizable measuring force range 2-12N
Attention: small measuring force will reduce the dustproof and waterproof level
- Button function: data output, tolerance, data preset, data hold, measuring direction change, max./min./TIR, power off time, on/off, zero, mm/inch, adjust resolution
- Supplied with gage blocks for zero setting (except 0-25mm/0-1")
- Power: rechargeable battery, for 24 hours continuous working



Unit: mm



Unit: mm

With data interface

Optional accessory:
wireless transmitter, code **7315-3350** need receiver page 6
data output cable (keyboard format), code **7302-3350** page 13

| Code | Range | Accuracy | Repeatability | A | B |
|-------------------|------------------|----------|---------------|-------|------|
| 3355-25 * | 0-25mm/0-1" | 2µm | 1µm | 38mm | 24mm |
| 3355-50 * | 25-50mm/1-2" | 2µm | 1µm | 63mm | 25mm |
| 3355-75 * | 50-75mm/2-3" | 2µm | 1µm | 88mm | 42mm |
| 3355-100 * | 75-100mm/3-3.95" | 2µm | 1µm | 113mm | 56mm |

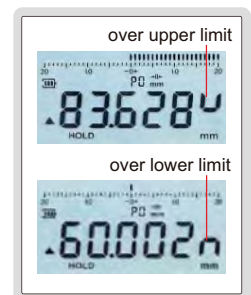
Built-in wireless

Optional accessory:
wireless receiver (keyboard format, connect up to 15 digital indicators), code **2134-R1**
wireless receiver (serial port format, connect up to 15 digital indicators), code **2134-R2**

| Code | Range | Accuracy | Repeatability | A | B |
|---------------------|------------------|----------|---------------|-------|------|
| 3355-25WL * | 0-25mm/0-1" | 2µm | 1µm | 38mm | 24mm |
| 3355-50WL * | 25-50mm/1-2" | 2µm | 1µm | 63mm | 25mm |
| 3355-75WL * | 50-75mm/2-3" | 2µm | 1µm | 88mm | 42mm |
| 3355-100WL * | 75-100mm/3-3.95" | 2µm | 1µm | 113mm | 56mm |

* Supplied with manufacturer inspection certificate

alarm when
over tolerance



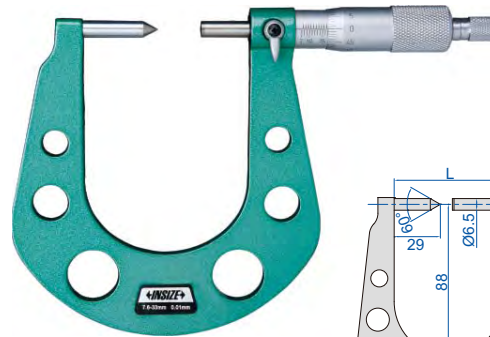
wireless receiver
2134-R1, 2134-R2 (optional)



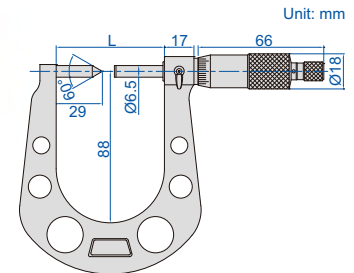
DISK BRAKE MICROMETERS

RELATIVE PRODUCT: DIGITAL DISK BRAKE AND PAD CALIPER
DIGITAL DRUM BRAKE CALIPER (CODE 1162-125A, 1167-150A, 1168-300A)

- Measure thickness of disk brakes
- Graduation 0.01mm
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards



3288-33A



| Code | Range | Accuracy | L |
|----------|----------|----------|--------|
| 3288-33A | 7.6-33mm | 5µm | 64.5mm |
| 3288-50A | 25-50mm | 5µm | 82mm |

6

DIGITAL DISK BRAKE MICROMETERS

RELATIVE PRODUCT: DIGITAL DISK BRAKE AND PAD CALIPER
DIGITAL DRUM BRAKE CALIPER (CODE 1162-125A, 1167-150A, 1168-300A)

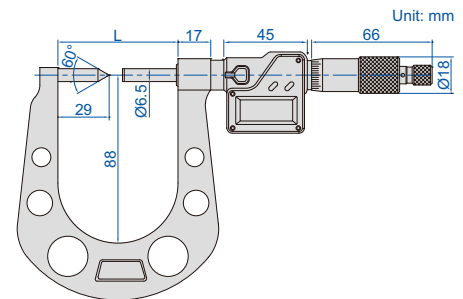
- Measure thickness of disk brakes
- Resolution 0.001mm/0.00005"
- IP65 dust/waterproof
- Button function: on/off, set, mm/inch, data transmit
- Data output
- Automatic power off
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards
- Optional accessory: data output cable (code 7315-31 need receiver page 4, 7302-31 page 12)



3588-33A

IP65
WATERPROOF

DATA
OUTPUT



| Code | Range | Accuracy | L |
|----------|-------------------|----------|--------|
| 3588-33A | 7.6-33mm/0.3-1.3" | ±5µm | 64.5mm |
| 3588-50A | 25-50mm/1-2" | ±5µm | 82mm |

SHEET METAL MICROMETERS

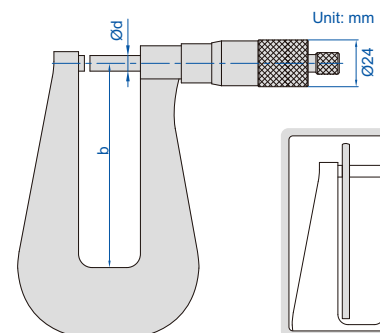
INSIZE PLUS
MADE IN EUROPE

- Deep frame suitable for sheet metal, paper and plastic
- Graduation 0.01mm
- Ratchet stop
- Carbide measuring faces
- Optional accessory: setting standards (code 7386)

ATTENTION: SETTING
STANDARDS ARE NOT INCLUDED



3653-252A



| Code | Range | Accuracy | (mm) | |
|-----------|----------|----------|------|-----|
| | | | b | Ød |
| 3653-251A | 0-25mm | 4µm | 50 | 6.5 |
| 3653-252A | 0-25mm | 5µm | 100 | 8 |
| 3653-253A | 0-25mm | 6µm | 150 | 6.5 |
| 3653-254A | 0-25mm | 8µm | 250 | 6.5 |
| 3653-501A | 25-50mm | 4µm | 50 | 8 |
| 3653-502A | 0-50mm | 4µm | 50 | 8 |
| 3653-503A | 0-50mm | 5µm | 100 | 8 |
| 3653-100A | 50-100mm | 5µm | 100 | 8 |

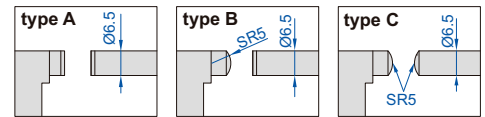
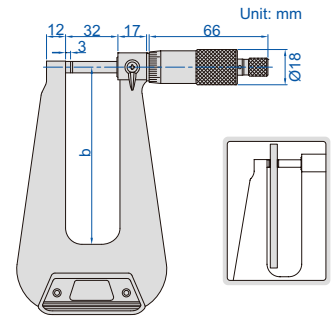
SHEET METAL MICROMETERS

- Deep frame suitable for sheet metal, paper and plastic
- Graduation 0.01mm
- Ratchet stop
- Carbide measuring faces

| Code | Range | Type | Accuracy | b |
|-----------|--------|------|----------|-------|
| 3239-253 | 0-25mm | A | 7µm | 155mm |
| 3239-253F | 0-25mm | B | 7µm | 155mm |
| 3239-254F | 0-25mm | B | 10µm | 310mm |
| 3239-253S | 0-25mm | C | 7µm | 155mm |



3239-253



DATA
OUTPUT

IP65
WATERPROOF

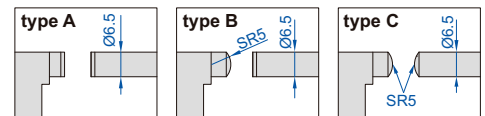
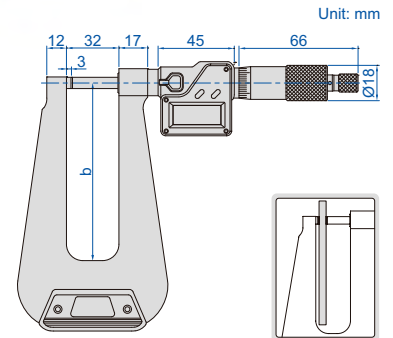
DIGITAL SHEET METAL MICROMETERS

- Deep frame suitable for sheet metal, paper and plastic
- Resolution 0.001mm/0.00005"
- IP65 dust/waterproof
- Button function: on/off, set, mm/inch, data transmit
- Data output
- Automatic power off
- Ratchet stop
- Carbide measuring faces
- Optional accessory: data output cable (code 7315-31 need receiver page 4, 7302-31 page 12)

| Code | Range | Type | Accuracy | b |
|------------|-------------|------|----------|-------|
| 3539-253A | 0-25mm/0-1" | A | ±7µm | 155mm |
| 3539-253FA | 0-25mm/0-1" | B | ±7µm | 155mm |
| 3539-254FA | 0-25mm/0-1" | B | ±10µm | 310mm |
| 3539-253SA | 0-25mm/0-1" | C | ±7µm | 155mm |



3539-253A

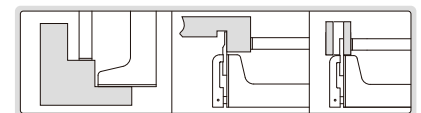
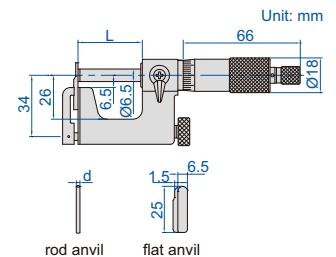


INTERCHANGEABLE ANVIL MICROMETERS

- Measure tube thickness, shoulder edge distance, rivet head height, etc.
- Supplied with flat anvil and rod anvil
- Graduation 0.01mm
- Ratchet stop
- Carbide spindle tip
- Setting standards are included (except 0-25mm)



3262-25A



| Code | Range | Accuracy | L | d |
|----------|---------|----------|--------|------|
| 3262-25A | 0-25mm | 4µm | 28.5mm | Ø3mm |
| 3262-50A | 25-50mm | 4µm | 53.5mm | Ø5mm |

DIGITAL INTERCHANGEABLE ANVIL MICROMETERS

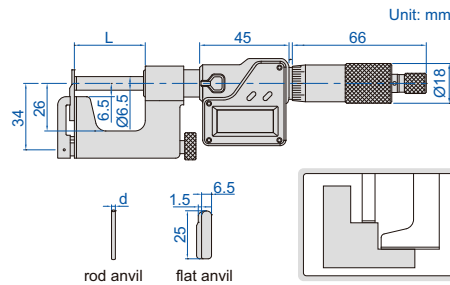
IP65
WATERPROOF

DATA
OUTPUT

- Measure tube thickness, shoulder edge distance, rivet head height, etc.
- Supplied with flat anvil and rod anvil
- Resolution 0.001mm/0.00005"
- IP65 dust/waterproof
- Button function: on/off, set, mm/inch, data transmit
- Data output
- Automatic power off
- Ratchet stop
- Carbide spindle tip
- Setting standards are included (except 0-25mm/0-1")
- Optional accessory: data output cable (code 7315-31 need receiver page 4, 7302-31 page 12)



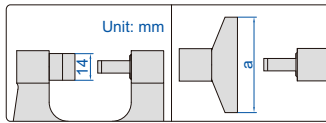
3562-25A



6

| Code | Range | Accuracy | L | d |
|----------|--------------|----------|--------|------|
| 3562-25A | 0-25mm/0-1" | ±4µm | 28.5mm | Ø3mm |
| 3562-50A | 25-50mm/1-2" | ±4µm | 53.5mm | Ø5mm |

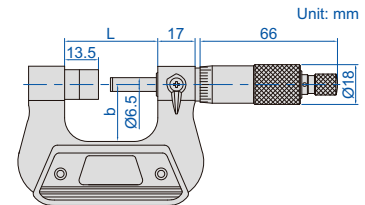
LARGE ANVIL MICROMETERS



3234-25A

- Graduation 0.01mm
- Ratchet stop
- Supplied with setting standards (except 0-25mm)

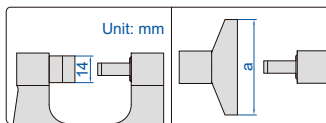
| Code | Range | Accuracy | L | a | b |
|----------|---------|----------|------|------|------|
| 3234-25A | 0-25mm | 4µm | 42mm | 50mm | 26mm |
| 3234-50A | 25-50mm | 4µm | 67mm | 60mm | 38mm |



DIGITAL LARGE ANVIL MICROMETERS

DATA
OUTPUT

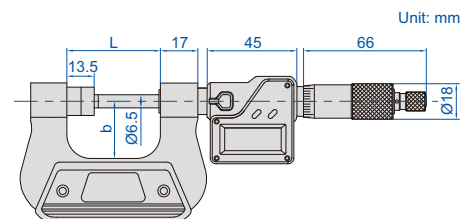
IP65
WATERPROOF



3534-25A

- Resolution 0.001mm/0.00005"
- IP65 dust/waterproof
- Button function: on/off, set, mm/inch, data transmit
- Data output
- Automatic power off
- Ratchet stop
- Supplied with setting standards (except 0-25mm/0-1")
- Optional accessory: data output cable (code 7315-31 need receiver page 4, 7302-31 page 12)

| Code | Range | Accuracy | L | a | b |
|----------|--------------|----------|------|------|------|
| 3534-25A | 0-25mm/0-1" | ±4µm | 42mm | 50mm | 26mm |
| 3534-50A | 25-50mm/1-2" | ±4µm | 67mm | 60mm | 38mm |

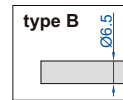
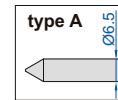
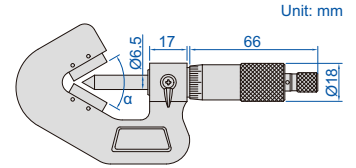


V-ANVIL MICROMETERS



3290-153A

- Measure the diameter of parts or cutting tools with odd grooves, such as taps, reamers and end mills
- Graduation 0.01mm
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards



| Code | Range | Flutes | Accuracy | α | Type |
|-----------|---------|--------|----------|------|------|
| 3290-153A | 1-15mm | 3 | 4μm | 60° | A |
| 3290-203A | 5-20mm | 3 | 4μm | 60° | B |
| 3290-353A | 20-35mm | 3 | 5μm | 60° | B |
| 3290-503A | 35-50mm | 3 | 5μm | 60° | B |
| 3290-653A | 50-65mm | 3 | 6μm | 60° | B |
| 3290-803A | 65-80mm | 3 | 6μm | 60° | B |
| 3290-953A | 80-95mm | 3 | 7μm | 60° | B |
| 3290-255A | 5-25mm | 5 | 4μm | 108° | B |

| Code | Range | Flutes | Accuracy | α | Type |
|------------|----------|--------|----------|------------|------|
| 3290-455A | 25-45mm | 5 | 5μm | 108° | B |
| 3290-655A | 45-65mm | 5 | 6μm | 108° | B |
| 3290-855A | 65-85mm | 5 | 7μm | 108° | B |
| 3290-1055A | 85-105mm | 5 | 8μm | 108° | B |
| 3290-257A | 5-25mm | 7 | 4μm | 128°34'17" | B |
| 3290-457A | 25-45mm | 7 | 5μm | 128°34'17" | B |
| 3290-657A | 45-65mm | 7 | 6μm | 128°34'17" | B |
| 3290-857A | 65-85mm | 7 | 7μm | 128°34'17" | B |

IP65
WATERPROOF

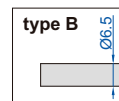
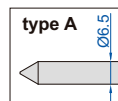
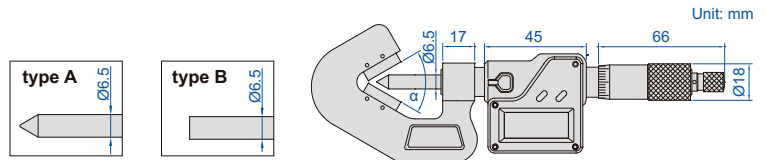
DATA
OUTPUT

DIGITAL V-ANVIL MICROMETERS



3590-153A

- Measure the diameter of parts or cutting tools with odd grooves, such as taps, reamers and end mills
- Resolution 0.001mm/0.00005"
- IP65 dust/waterproof
- Button function: on/off, set, mm/inch, data transmit
- Data output
- Automatic power off
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards
- Optional accessory: data output cable (code 7315-31 need receiver page 4, 7302-31 page 12)



| Code | Range | Flutes | Accuracy | α | Type |
|-----------|------------------|--------|----------|------|------|
| 3590-153A | 1-15mm/0.04-0.6" | 3 | ±4μm | 60° | A |
| 3590-203A | 5-20mm/0.2-0.8" | 3 | ±4μm | 60° | B |
| 3590-353A | 20-35mm/0.8-1.4" | 3 | ±5μm | 60° | B |
| 3590-503A | 35-50mm/1.4-2.0" | 3 | ±5μm | 60° | B |
| 3590-653A | 50-65mm/2.0-2.6" | 3 | ±6μm | 60° | B |
| 3590-803A | 65-80mm/2.6-3.2" | 3 | ±6μm | 60° | B |
| 3590-953A | 80-95mm/3.2-3.6" | 3 | ±6μm | 60° | B |
| 3590-255A | 5-25mm/0.2-1.0" | 5 | ±4μm | 108° | B |

| Code | Range | Flutes | Accuracy | α | Type |
|------------|-------------------|--------|----------|------------|------|
| 3590-455A | 25-45mm/1.0-1.8" | 5 | ±5μm | 108° | B |
| 3590-655A | 45-65mm/1.8-2.6" | 5 | ±6μm | 108° | B |
| 3590-855A | 65-85mm/2.6-3.4" | 5 | ±6μm | 108° | B |
| 3590-1055A | 85-105mm/3.4-4.2" | 5 | ±6μm | 108° | B |
| 3590-257A | 5-25mm/0.2-1.0" | 7 | ±4μm | 128°34'17" | B |
| 3590-457A | 25-45mm/1.0-1.8" | 7 | ±4μm | 128°34'17" | B |
| 3590-657A | 45-65mm/1.8-2.6" | 7 | ±5μm | 128°34'17" | B |
| 3590-857A | 65-85mm/2.6-3.4" | 7 | ±5μm | 128°34'17" | B |

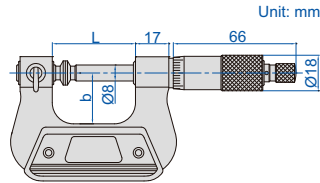
NON-ROTATING SPINDLE UNIVERSAL MICROMETERS

NON-ROTATING
SPINDLE



3280-25A

- Meet DIN863-3
- Graduation 0.01mm
- Non-rotating spindle
- Ratchet stop
- Supplied with 7 pairs of anvil/spindle tip
- Setting standards are included (except 0-25mm)
- Optional accessory: 55° anvil/spindle tip (code **3280-SP1** and **3280-SP2**)



| Anvil/spindle tip (included) | Unit: mm |
|------------------------------|----------|
| Flat | |
| Spherical | |
| Spline | |
| Disk | |
| Blade | |
| Knife-edge | |
| Point | |

| 55° anvil/spindle tip (optional) | Unit: mm |
|------------------------------------|----------|
| Code 3280-SP1 Knife-edge | |
| Code 3280-SP2 Point | |

| Code | Range | Accuracy | L | b |
|------------------|-----------|----------|-------|-------|
| 3280-25A | 0-25mm | 4µm | 42mm | 26mm |
| 3280-50A | 25-50mm | 4µm | 67mm | 38mm |
| 3280-75A | 50-75mm | 5µm | 92mm | 50mm |
| 3280-100A | 75-100mm | 5µm | 118mm | 62mm |
| 3280-125A | 100-125mm | 6µm | 143mm | 70mm |
| 3280-150A | 125-150mm | 6µm | 168mm | 82mm |
| 3280-175A | 150-175mm | 7µm | 192mm | 95mm |
| 3280-200A | 175-200mm | 7µm | 217mm | 107mm |

DIGITAL UNIVERSAL MICROMETERS

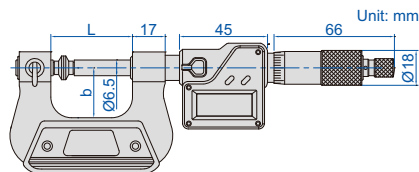
DATA
OUTPUT

NON-ROTATING
SPINDLE



3580-25A

- Resolution 0.001mm/0.00005"
- Non-rotating spindle
- Button function: on/off, set, mm/inch, data transmit
- Data output
- Automatic power off
- Ratchet stop
- Supplied with 7 pairs of anvil/spindle tip
- Setting standards are included (except 0-25mm/0-1")
- Optional accessory: 55° anvil/spindle tip code **3280-SP1** and **3280-SP2**, data output cable (code **7315-31** need receiver page 4, **7302-31** page 12)

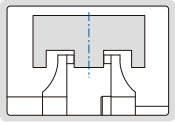


| Code | Range | Accuracy | L | b |
|------------------|----------------|----------|-----|-----|
| 3580-25A | 0-25mm/0-1" | ±4µm | 42 | 26 |
| 3580-50A | 25-50mm/1-2" | ±4µm | 67 | 38 |
| 3580-75A | 50-75mm/2-3" | ±5µm | 92 | 50 |
| 3580-100A | 75-100mm/3-4" | ±5µm | 118 | 62 |
| 3580-125A | 100-125mm/4-5" | ±6µm | 143 | 70 |
| 3580-150A | 125-150mm/5-6" | ±6µm | 168 | 82 |
| 3580-175A | 150-175mm/6-7" | ±7µm | 192 | 95 |
| 3580-200A | 175-200mm/7-8" | ±7µm | 217 | 107 |

| Anvil/spindle tip (included) | Unit: mm |
|------------------------------|----------|
| Flat | |
| Spherical | |
| Spline | |
| Disk | |
| Blade | |
| Knife-edge | |
| Point | |

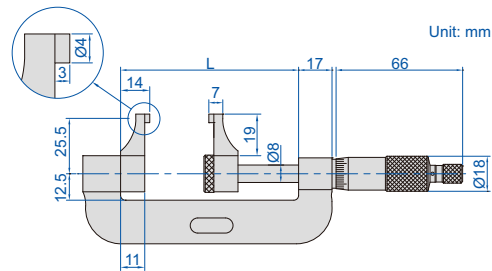
| 55° anvil/spindle tip (optional) | Unit: mm |
|------------------------------------|----------|
| Code 3280-SP1 Knife-edge | |
| Code 3280-SP2 Point | |

CALIPER TYPE MICROMETERS



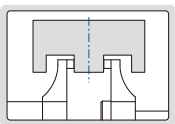
3238-25

- Graduation 0.01mm
- Non-rotating spindle
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards (except 0-25mm)



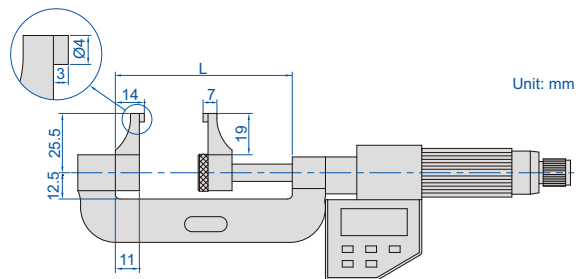
| Code | Range | Accuracy | L |
|----------|----------|----------|-------|
| 3238-25 | 0-25mm | 10µm | 56mm |
| 3238-50 | 25-50mm | 10µm | 81mm |
| 3238-75 | 50-75mm | 11µm | 106mm |
| 3238-100 | 75-100mm | 11µm | 131mm |

DIGITAL CALIPER TYPE MICROMETERS



3538-25

- Resolution: 0.001mm/0.00005"
- Non-rotating spindle
- Buttons: on/off, data set, mm/in, ABS/INC
- Data output
- Automatic power off
- Ratchet friction thimble
- Carbide measuring faces
- Supplied with setting standards (except 0-25mm/0-1")



| Code | Range | Accuracy | L |
|----------|---------------|----------|-------|
| 3538-25 | 0-25mm/0-1" | ±10µm | 56mm |
| 3538-50 | 25-50mm/1-2" | ±10µm | 81mm |
| 3538-75 | 50-75mm/2-3" | ±11µm | 106mm |
| 3538-100 | 75-100mm/3-4" | ±11µm | 131mm |

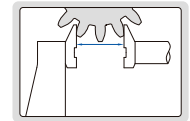
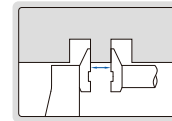
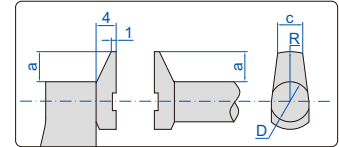
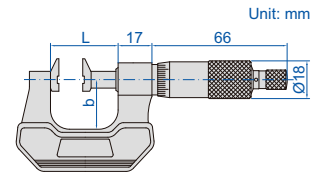
JAW TYPE MICROMETERS

NON-ROTATING SPINDLE

- Graduation 0.01mm
- Non-rotating spindle
- Ratchet stop
- Supplied with setting standards (except 0-25mm)



3283-25A



| Code | Range | Accuracy | L | a | b | c | R | D |
|-----------|-----------|----------|-----|---|-----|---|----|----|
| 3283-25A | 0-25mm | 4μm | 34 | 6 | 24 | 5 | 10 | 8 |
| 3283-50A | 25-50mm | 4μm | 59 | 6 | 32 | 5 | 10 | 8 |
| 3283-75A | 50-75mm | 5μm | 85 | 6 | 45 | 5 | 10 | 8 |
| 3283-100A | 75-100mm | 5μm | 110 | 6 | 57 | 5 | 10 | 8 |
| 3283-125A | 100-125mm | 6μm | 138 | 9 | 70 | 8 | 15 | 12 |
| 3283-150A | 125-150mm | 6μm | 163 | 9 | 82 | 8 | 15 | 12 |
| 3283-175A | 150-175mm | 7μm | 188 | 9 | 95 | 8 | 15 | 12 |
| 3283-200A | 175-200mm | 7μm | 214 | 9 | 107 | 8 | 15 | 12 |

6

DIGITAL JAW TYPE MICROMETERS

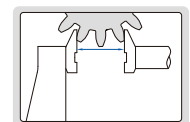
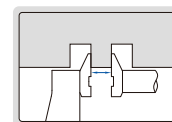
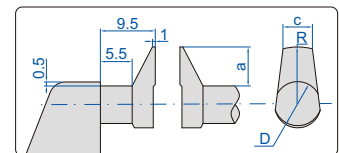
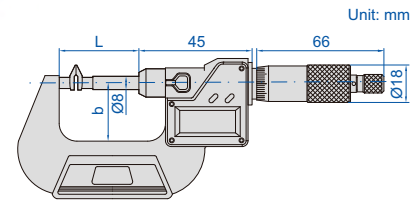
DATA OUTPUT

NON-ROTATING SPINDLE



3583-25A

- Resolution 0.001mm/0.00005"
- Non-rotating spindle
- Button function: on/off, set, mm/inch, data transmit
- Data output
- Automatic power off
- Ratchet stop
- Supplied with setting standards (except 0-25mm/0-1")
- Optional accessory: data output cable (code 7315-31 need receiver page 4, 7302-31 page 12)

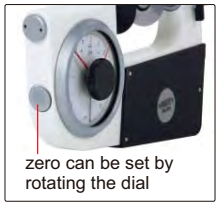


| Code | Range | Accuracy | L | a | b | c | R | D |
|-----------|----------------|----------|-----|------|------|---|----|----|
| 3583-25A | 0-25mm/0-1" | ±4μm | 43 | 6.5 | 32 | 5 | 10 | 8 |
| 3583-50A | 25-50mm/1-2" | ±4μm | 85 | 6.5 | 44.5 | 5 | 10 | 8 |
| 3583-75A | 50-75mm/2-3" | ±5μm | 110 | 6.5 | 57 | 5 | 10 | 8 |
| 3583-100A | 75-100mm/3-4" | ±5μm | 135 | 6.5 | 70 | 5 | 10 | 8 |
| 3583-125A | 100-125mm/4-5" | ±6μm | 160 | 11.5 | 86 | 8 | 15 | 12 |
| 3583-150A | 125-150mm/5-6" | ±6μm | 186 | 11.5 | 94.5 | 8 | 15 | 12 |
| 3583-175A | 150-175mm/6-7" | ±7μm | 211 | 11.5 | 107 | 8 | 15 | 12 |
| 3583-200A | 175-200mm/7-8" | ±7μm | 236 | 11.5 | 120 | 8 | 15 | 12 |

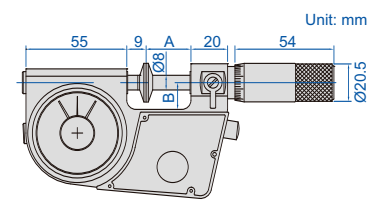


ATTENTION: SETTING STANDARDS ARE NOT INCLUDED

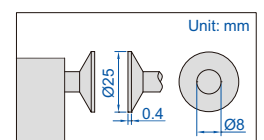
DISK INDICATING MICROMETERS



3338-20

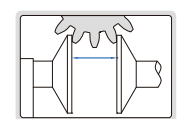


- Meet DIN863-3
- Suitable for measuring the common normal length of spur and helical gears
- Carbide measuring faces
- Measuring force 5-10N
- Optional accessory: gage blocks grade 0 (4101-A series), for zero setting



(mm)

| Code | Micrometer head | | | Dial indicator | | | A | B |
|------------|-----------------|------------|----------|----------------|------------|----------|-------|------|
| | range | graduation | accuracy | range | graduation | accuracy | | |
| 3338-201 * | 0-20mm | 0.01mm | 4µm | ±0.07mm | 1µm | 2µm | 26 | 15 |
| 3338-20 * | 0-20mm | 0.01mm | 4µm | ±0.14mm | 2µm | 4µm | 26 | 15 |
| 3338-451 * | 20-45mm | 0.01mm | 4µm | ±0.07mm | 1µm | 2µm | 51.5 | 25 |
| 3338-45 * | 20-45mm | 0.01mm | 4µm | ±0.14mm | 2µm | 4µm | 51.5 | 25 |
| 3338-701 * | 45-70mm | 0.01mm | 4µm | ±0.07mm | 1µm | 2µm | 76.5 | 37 |
| 3338-70 * | 45-70mm | 0.01mm | 4µm | ±0.14mm | 2µm | 4µm | 76.5 | 37 |
| 3338-951 * | 70-95mm | 0.01mm | 4µm | ±0.07mm | 1µm | 2µm | 101.5 | 52.5 |
| 3338-95 * | 70-95mm | 0.01mm | 4µm | ±0.14mm | 2µm | 4µm | 101.5 | 52.5 |
| 3338-120 * | 95-120mm | 0.01mm | 4µm | ±0.14mm | 2µm | 2µm | 126.5 | 65 |
| 3338-145 * | 120-145mm | 0.01mm | 4µm | ±0.14mm | 2µm | 4µm | 126.5 | 77.5 |



* Supplied with manufacturer inspection certificate

ATTENTION: SETTING STANDARDS ARE NOT INCLUDED

DISK MICROMETERS



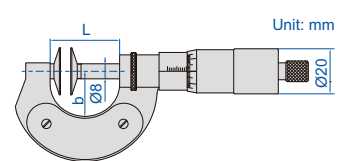
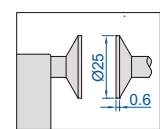
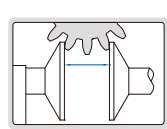
- Graduation: 0.01mm
- Ratchet stop
- One turn of sleeve makes 0.5mm spindle feed
- Optional accessory: setting standards (code 7386)



3676-25

(mm)

| Code | Range | Accuracy | L | b |
|----------|-----------|----------|-----|-----|
| 3676-25 | 0-25mm | 4µm | 37 | 24 |
| 3676-50 | 25-50mm | 4µm | 62 | 34 |
| 3676-75 | 50-75mm | 5µm | 87 | 46 |
| 3676-100 | 75-100mm | 5µm | 112 | 60 |
| 3676-125 | 100-125mm | 6µm | 139 | 72 |
| 3676-150 | 125-150mm | 6µm | 164 | 85 |
| 3676-175 | 150-175mm | 7µm | 190 | 97 |
| 3676-200 | 175-200mm | 7µm | 215 | 110 |
| 3676-225 | 200-225mm | 8µm | 240 | 122 |
| 3676-250 | 225-250mm | 8µm | 264 | 135 |
| 3676-275 | 250-275mm | 9µm | 290 | 148 |
| 3676-300 | 275-300mm | 9µm | 315 | 160 |

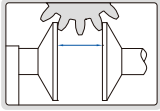


LARGE RANGE DISK MICROMETERS

INSIZE PLUS
MADE IN EUROPE

ATTENTION: SETTING
STANDARDS ARE NOT INCLUDED

LIGHT
WEIGHT



- Graduation: 0.01mm
- Ratchet stop
- Quick measurement, one turn of sleeve makes 1mm spindle feed
- Light weight
- Optional accessory: setting standards (code 7386)

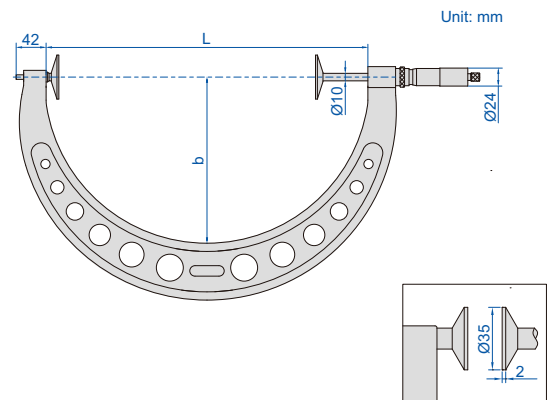


3677-350

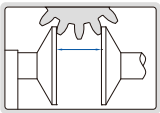
6

(mm)

| Code | Range | Accuracy | L | b | Weight |
|-----------|------------|----------|------|-----|--------|
| 3677-350 | 300-350mm | 8μm | 370 | 190 | 1.65kg |
| 3677-400 | 350-400mm | 8μm | 430 | 220 | 1.95kg |
| 3677-450 | 400-450mm | 9μm | 475 | 250 | 2.30kg |
| 3677-500 | 450-500mm | 9μm | 530 | 273 | 2.45kg |
| 3677-550 | 500-550mm | 10μm | 570 | 291 | 2.55kg |
| 3677-600 | 550-600mm | 10μm | 630 | 323 | 3.15kg |
| 3677-650 | 600-650mm | 10μm | 675 | 351 | 3.45kg |
| 3677-700 | 650-700mm | 10μm | 730 | 378 | 3.85kg |
| 3677-750 | 700-750mm | 10μm | 785 | 401 | 4.05kg |
| 3677-800 | 750-800mm | 10μm | 830 | 423 | 4.25kg |
| 3677-850 | 800-850mm | 11μm | 885 | 440 | 4.45kg |
| 3677-900 | 850-900mm | 11μm | 930 | 473 | 5.05kg |
| 3677-950 | 900-950mm | 11μm | 980 | 503 | 5.95kg |
| 3677-1000 | 950-1000mm | 11μm | 1030 | 520 | 6.25kg |



DISK MICROMETERS



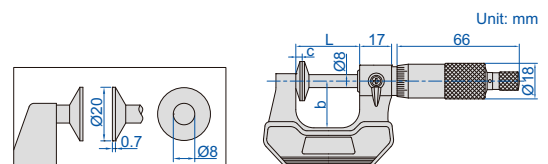
- Measure root tangent length of gear
- Graduation 0.01mm
- Ratchet stop
- Supplied with setting standards



3282-25

(mm)

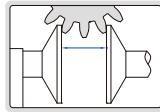
| Code | Range | Accuracy | Parallelism | L | b | c |
|----------|----------|----------|-------------|-----|----|-----|
| 3282-25 | 0-25mm | 4μm | 5μm | 34 | 24 | 3.3 |
| 3282-50 | 25-50mm | 4μm | 5μm | 59 | 32 | 3.3 |
| 3282-75 | 50-75mm | 5μm | 5μm | 85 | 45 | 3.3 |
| 3282-100 | 75-100mm | 5μm | 5μm | 110 | 57 | 3.3 |



NON-ROTATING SPINDLE

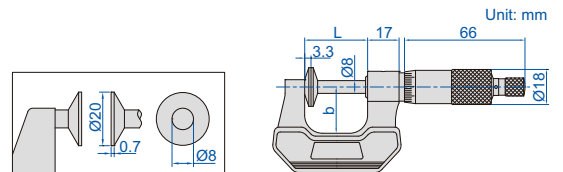
NON-ROTATING SPINDLE DISK MICROMETERS

- Measure root tangent length of gear
- Graduation 0.01mm
- Non-rotating spindle
- Ratchet stop
- Supplied with setting standards



3294-25

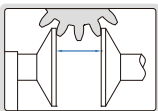
| Code | Range | Accuracy | Parallelism | (mm) | |
|----------|----------|----------|-------------|------|----|
| | | | | L | b |
| 3294-25 | 0-25mm | 4µm | 5µm | 34 | 24 |
| 3294-50 | 25-50mm | 4µm | 5µm | 59 | 32 |
| 3294-75 | 50-75mm | 5µm | 5µm | 85 | 45 |
| 3294-100 | 75-100mm | 5µm | 5µm | 110 | 57 |



DATA OUTPUT

NON-ROTATING SPINDLE

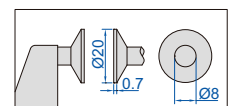
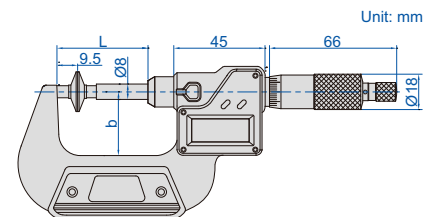
DIGITAL NON-ROTATING SPINDLE DISK MICROMETERS



3594-25A

- Measure root tangent length of gear
- Resolution 0.001mm/0.00005"
- Non-rotating spindle
- Button function: on/off, set, mm/inch, data transmit
- Data output
- Automatic power off
- Ratchet stop
- Supplied with setting standards
- Optional accessory: data output cable (code 7315-31 need receiver page 4, 7302-31 page 12)

| Code | Range | Accuracy | Parallelism | L | b |
|-----------|---------------|----------|-------------|---------|--------|
| 3594-25A | 0-25mm/0-1" | ±4µm | 5µm | 43mm | 32mm |
| 3594-50A | 25-50mm/1-2" | ±4µm | 5µm | 68mm | 44.5mm |
| 3594-75A | 50-75mm/2-3" | ±5µm | 5µm | 93mm | 57mm |
| 3594-100A | 75-100mm/3-4" | ±5µm | 5µm | 118.5mm | 70mm |



HIGH PRECISION DIGITAL DISK MICROMETERS/SNAP GAGES

DATA OUTPUT

NON-ROTATING SPINDLE

ONE TURN OF SLEEVE MAKES 5MM SPINDLE FEED, PRESS THE FORK, THE SPINDLE RETRACTS 3MM

ABSOLUTE ENCODER, THE ORIGINAL DATA REMAINS AFTER POWER OFF

MEASUREMENT ACCURACY IS NOT AFFECTED BY THE USE OF SLEEVE

ATTENTION: RECHARGEABLE BATTERY, FOR 24 HOURS CONTINUOUS WORKING

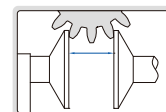
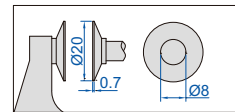
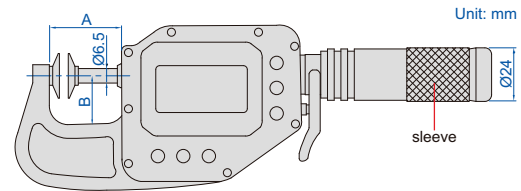
IP65 WATERPROOF



3353-25

6

- Measure root tangent length of gear
- Absolute encoder, the original data remains after power off
- Adjustable resolution: 0.0002mm/0.00001"
 - 0.001mm/0.00005"
 - 0.01mm/0.0005"
- One turn of sleeve makes 5mm spindle feed
- Measurement accuracy is not affected by the use of sleeve
- Press the fork, the spindle retracts 3mm
- Linear ball bearings for ten million times use
- Carbide spindle and anvil
- Measuring force 7-10N
 - Customizable measuring force range 2-12N
 - Attention: small measuring force will reduce the dustproof and waterproof level
- Button function: data output, tolerance, data preset, data hold, measuring direction change, max./min./TIR, power off time, on/off, zero, mm/inch, adjust resolution
- Supplied with gage blocks for zero setting
- Power: rechargeable battery, for 24 hours continuous working



With data interface

Optional accessory:
wireless transmitter, code **7315-3350** need receiver page 6
data output cable (keyboard format), code **7302-3350** page 13

| Code | Range | Accuracy | Repeatability | Parallelism | A | B |
|------------|------------------|----------|---------------|-------------|-------|--------|
| 3353-25 * | 0-25mm/0-1" | 4µm | 1µm | 4µm | 38mm | 24mm |
| 3353-50 * | 25-50mm/1-2" | 4µm | 1µm | 4µm | 63mm | 25mm |
| 3353-75 * | 50-75mm/2-3" | 5µm | 1µm | 5µm | 88mm | 42mm |
| 3353-100 * | 75-100mm/3-3.95" | 5µm | 1µm | 5µm | 113mm | 56mm |
| 3353-125 * | 100-125mm/4-5" | 6µm | 2µm | 6µm | 128mm | 62.5mm |
| 3353-150 * | 125-150mm/5-6" | 6µm | 2µm | 6µm | 153mm | 75mm |

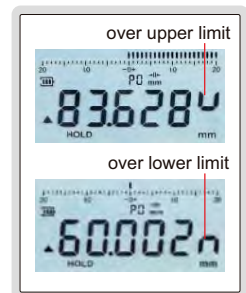
Built-in wireless

Optional accessory:
wireless receiver (keyboard format, connect up to 15 digital indicators), code **2134-R1**
wireless receiver (serial port format, connect up to 15 digital indicators), code **2134-R2**

| Code | Range | Accuracy | Repeatability | Parallelism | A | B |
|--------------|------------------|----------|---------------|-------------|-------|--------|
| 3353-25WL * | 0-25mm/0-1" | 4µm | 1µm | 4µm | 38mm | 24mm |
| 3353-50WL * | 25-50mm/1-2" | 4µm | 1µm | 4µm | 63mm | 25mm |
| 3353-75WL * | 50-75mm/2-3" | 5µm | 1µm | 5µm | 88mm | 42mm |
| 3353-100WL * | 75-100mm/3-3.95" | 5µm | 1µm | 5µm | 113mm | 56mm |
| 3353-125WL * | 100-125mm/4-5" | 6µm | 2µm | 6µm | 128mm | 62.5mm |
| 3353-150WL * | 125-150mm/5-6" | 6µm | 2µm | 6µm | 153mm | 75mm |

* Supplied with manufacturer inspection certificate

alarm when over tolerance



wireless receiver 2134-R1, 2134-R2 (optional)

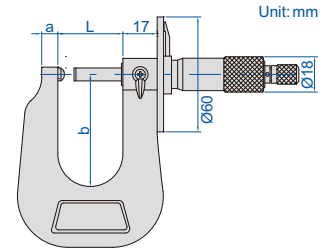
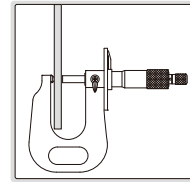


SHEET METAL MICROMETERS

- Meet DIN863-3
- Measure thickness of sheet metal, paper, plastic and rubber parts
- Graduation 0.01mm
- Ratchet stop
- Carbide measuring faces

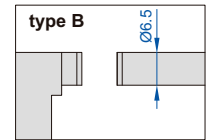
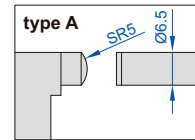


3263-25A



| Code | Range | Type | Accuracy | L | a | b |
|----------|--------|------|----------|----|----|-----|
| 3263-15A | 0-15mm | A | 4µm | 22 | 8 | 50 |
| 3263-25A | 0-25mm | A | 4µm | 32 | 8 | 50 |
| 3263-50A | 0-50mm | A | 5µm | 57 | 12 | 100 |
| 3263-15B | 0-15mm | B | 4µm | 22 | 8 | 50 |
| 3263-25B | 0-25mm | B | 4µm | 32 | 8 | 50 |
| 3263-50B | 0-50mm | B | 5µm | 57 | 12 | 100 |

(mm)



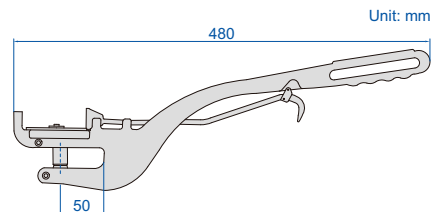
MICROMETERS FOR HOT PLATE

- Measure thickness of hot rolling sheet metal
- Carbide measuring faces
- Supplied with setting standard (except 0-15mm)



3264-15

| Code | Range | Graduation | Accuracy |
|----------|----------|------------|----------|
| 3264-15 | 0-15mm | 0.05mm | 0.05mm |
| 3264-30 | 15-30mm | 0.05mm | 0.05mm |
| 3264-45 | 30-45mm | 0.05mm | 0.05mm |
| 3264-60 | 45-60mm | 0.05mm | 0.05mm |
| 3264-75 | 60-75mm | 0.05mm | 0.05mm |
| 3264-90 | 75-90mm | 0.05mm | 0.05mm |
| 3264-105 | 90-105mm | 0.05mm | 0.05mm |



HUB MICROMETERS

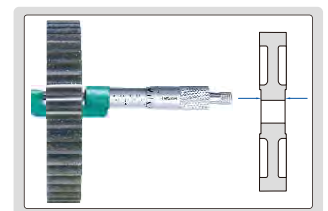
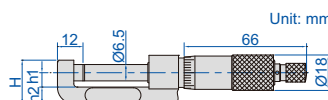
- Meet DIN863-3
- Measure hub thickness and shoulder inside a bore
- Graduation 0.01mm
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards (except 0-25mm)



3292-25

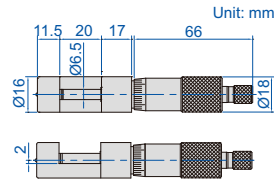
| Code | Range | Accuracy | h1 | h2 | H |
|----------|----------|----------|-----|----|------|
| 3292-25 | 0-25mm | 4µm | 6 | 9 | 18.7 |
| 3292-50 | 25-50mm | 4µm | 6.5 | 11 | 21.2 |
| 3292-75 | 50-75mm | 5µm | 6.5 | 11 | 21.2 |
| 3292-100 | 75-100mm | 5µm | 6.5 | 11 | 21.2 |

(mm)

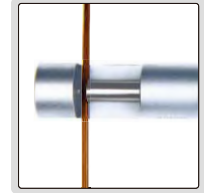


WIRE MICROMETER

- Meet DIN863-3
- Measure diameter of wires and small balls
- Graduation 0.01mm
- Ratchet stop
- Carbide measuring faces



3285-10



| Code | Range | Accuracy |
|---------|--------|----------|
| 3285-10 | 0-10mm | 4µm |

6

CAN SEAM MICROMETERS



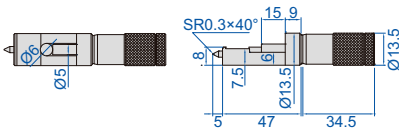
3293-131



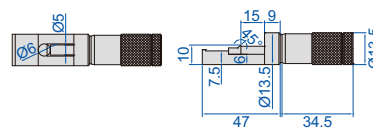
3293-132



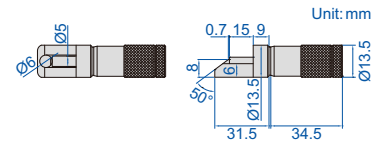
3293-133



3293-131



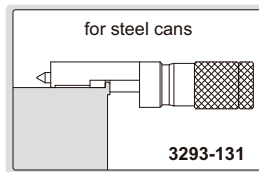
3293-132



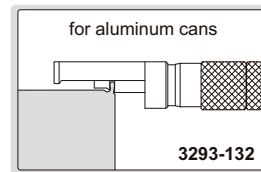
3293-133

- Measure the width, height and depth of can seams
- Graduation 0.01mm

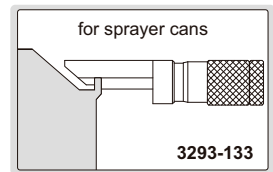
| Code | Range | Accuracy |
|----------|--------|----------|
| 3293-131 | 0-13mm | 4µm |
| 3293-132 | 0-13mm | 4µm |
| 3293-133 | 0-13mm | 4µm |



3293-131



3293-132



3293-133

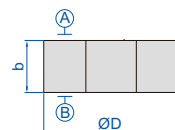
OPTICAL PARALLELS

- Check the flatness and parallelism of measuring faces of micrometer
- Flatness of A and B: 0.1µm
- Parallelism between A and B: 0.6µm



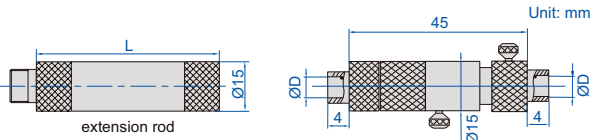
4184-41A

| Code | Parallels included (b) | ØD | Applicable micrometer |
|----------|------------------------------------|------|-----------------------|
| 4184-41A | 15.62mm, 15.75mm, 15.87mm, 16.00mm | 30mm | 0-25mm |
| 4184-42A | 40.62mm, 40.75mm, 40.87mm, 41.00mm | 30mm | 25-50mm |
| 4184-43B | 65.62mm, 65.75mm, 65.87mm, 66.00mm | 40mm | 50-75mm |
| 4184-44B | 90.62mm, 90.75mm, 90.87mm, 91.00mm | 50mm | 75-100mm |



MEASURING TIPS DIAMETER
ØD CAN BE CUSTOMIZED

PARALLELISM INSPECT DEVICES FOR OUTSIDE MICROMETERS



4199-1000



- Check parallelism of outside micrometers
- Simple structure, wide measuring range, high reliability
- Stainless steel measuring tips and extension rod
- Supplied with two kinds of measuring tips

| Code | Range | Measuring tips dia. (ØD) | Extension rod (L) |
|-----------|-----------|--------------------------|---|
| 4199-1000 | 50-1000mm | 6.5mm, 8mm | 15mm, 25mm, 50mm, 100mm (3 pcs), 150mm, 200mm (2 pcs) |
| 4199-2000 | 50-2000mm | 6.5mm, 8mm | 15mm, 25mm, 50mm, 100mm (3 pcs), 150mm, 200mm (7 pcs) |

MICROMETER MEASURING FORCE DETECTOR

- For outside micrometers
0-25mm/0-1", 25-50mm/1-2",
50-75mm/2-3" and 75-100mm/3-4"



6315

| Code | Measuring force |
|------|-----------------|
| 6315 | 5-12N |

REFER TO PAGE
326-327 FOR DETAILS

MICROMETER INSPECTION GAGE BLOCK SETS



4107-10



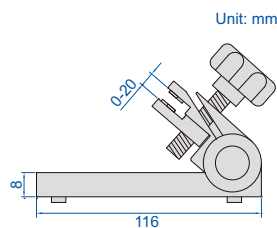
4160-10

MICROMETER STAND

- Suitable for outside micrometers
up to 100mm



6300

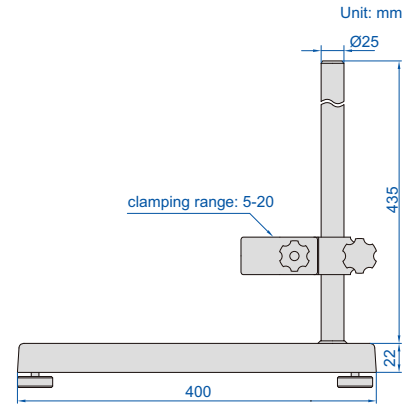


| Code |
|------|
| 6300 |

MICROMETER STAND



6302



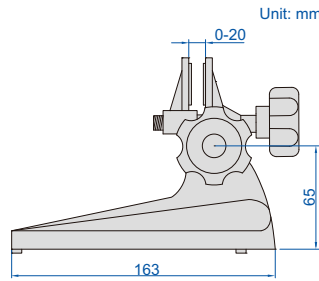
Code
6302

- Suitable for 100-300mm outside micrometers (except 3675 series)

6

MICROMETER STAND

- Suitable for outside micrometers up to 100mm

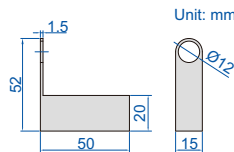


Code
6301



6301

- Suitable for inside micrometers



Code

Description

Applicable products

6301-1

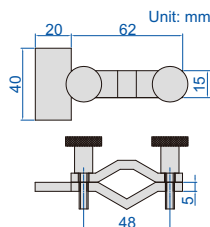
clamp for inside micrometers

all sizes of 3220 series



6301-1

- Suitable for three points internal micrometers



Code

Description

Applicable products

6301-2

clamp for three points internal micrometers

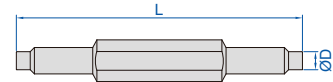
up to 100mm of 3127 and 3227 series



6301-2

MICROMETER SETTING STANDARDS

INSIZE PLUS
MADE IN EUROPE



7386-100

■ Suitable for outside micrometers

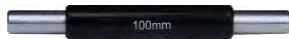
| Code | Length (L) | Accuracy | ØD |
|----------|------------|----------|-------|
| 7386-25 | 25mm | ±1.25µm | 6.5mm |
| 7386-50 | 50mm | ± 1.25µm | 6.5mm |
| 7386-75 | 75mm | ± 1.5µm | 6.5mm |
| 7386-100 | 100mm | ± 2µm | 6.5mm |
| 7386-125 | 125mm | ± 2.5µm | 6.5mm |
| 7386-150 | 150mm | ± 2.5µm | 6.5mm |
| 7386-175 | 175mm | ± 2.5µm | 6.5mm |
| 7386-200 | 200mm | ± 3µm | 6.5mm |
| 7386-225 | 225mm | ± 3µm | 6.5mm |
| 7386-250 | 250mm | ± 3µm | 6.5mm |
| 7386-275 | 275mm | ±3µm | 6.5mm |
| 7386-300 | 300mm | ±3µm | 10mm |
| 7386-325 | 325mm | ±3.5µm | 10mm |
| 7386-350 | 350mm | ±3.5µm | 10mm |
| 7386-375 | 375mm | ±3.5µm | 10mm |
| 7386-400 | 400mm | ±3.5µm | 10mm |

| Code | Length (L) | Accuracy | ØD |
|----------|------------|----------|------|
| 7386-425 | 425mm | ±3.5µm | 10mm |
| 7386-450 | 450mm | ±3.5µm | 10mm |
| 7386-475 | 475mm | ±3.5µm | 10mm |
| 7386-500 | 500mm | ±3.5µm | 10mm |
| 7386-525 | 525mm | ±3.5µm | 10mm |
| 7386-550 | 550mm | ±3.5µm | 10mm |
| 7386-575 | 575mm | ±3.5µm | 10mm |
| 7386-600 | 600mm | ±3.5µm | 10mm |
| 7386-625 | 625mm | ±4µm | 10mm |
| 7386-650 | 650mm | ±4µm | 10mm |
| 7386-675 | 675mm | ±4µm | 10mm |
| 7386-700 | 700mm | ±4µm | 10mm |
| 7386-725 | 725mm | ±4µm | 10mm |
| 7386-750 | 750mm | ±4µm | 10mm |
| 7386-775 | 775mm | ±4µm | 10mm |
| 7386-800 | 800mm | ±4µm | 10mm |
| 7386-825 | 825mm | ±4µm | 10mm |

| Code | Length (L) | Accuracy | ØD |
|-----------|------------|----------|------|
| 7386-850 | 850mm | ±4µm | 10mm |
| 7386-875 | 875mm | ±4µm | 10mm |
| 7386-900 | 900mm | ±5µm | 10mm |
| 7386-925 | 925mm | ±5µm | 10mm |
| 7386-950 | 950mm | ±5µm | 10mm |
| 7386-975 | 975mm | ±5µm | 10mm |
| 7386-1000 | 1000mm | ±5µm | 10mm |
| 7386-1050 | 1050mm | ±5µm | 10mm |
| 7386-1150 | 1150mm | ±6µm | 10mm |
| 7386-1250 | 1250mm | ±7µm | 10mm |
| 7386-1350 | 1350mm | ±7µm | 10mm |
| 7386-1450 | 1450mm | ±7µm | 10mm |
| 7386-1550 | 1550mm | ±9µm | 10mm |
| 7386-1650 | 1650mm | ±10µm | 10mm |
| 7386-1750 | 1750mm | ±10µm | 10mm |
| 7386-1850 | 1850mm | ±11µm | 10mm |
| 7386-1950 | 1950mm | ±12µm | 10mm |

6

MICROMETER SETTING STANDARDS



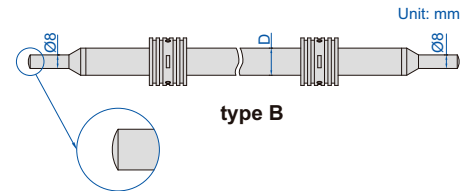
6310-100



type A



6310-300



type B

Unit: mm

| Code | Length | Type | Accuracy | D |
|----------|--------|------|----------|-----|
| 6310-25 | 25 | A | ±1.5µm | Ø7 |
| 6310-50 | 50 | A | ±2µm | Ø7 |
| 6310-75 | 75 | A | ±2.5µm | Ø7 |
| 6310-100 | 100 | A | ±3µm | Ø8 |
| 6310-125 | 125 | A | ±3.5µm | Ø8 |
| 6310-150 | 150 | A | ±4µm | Ø8 |
| 6310-175 | 175 | A | ±4.5µm | Ø8 |
| 6310-200 | 200 | A | ±5µm | Ø8 |
| 6310-225 | 225 | A | ±5.5µm | Ø8 |
| 6310-250 | 250 | A | ±6µm | Ø8 |
| 6310-275 | 275 | A | ±6.5µm | Ø8 |
| 6310-300 | 300 | B | ±7µm | Ø16 |
| 6310-325 | 325 | B | ±7.5µm | Ø16 |
| 6310-350 | 350 | B | ±8µm | Ø16 |
| 6310-375 | 375 | B | ±8.5µm | Ø16 |

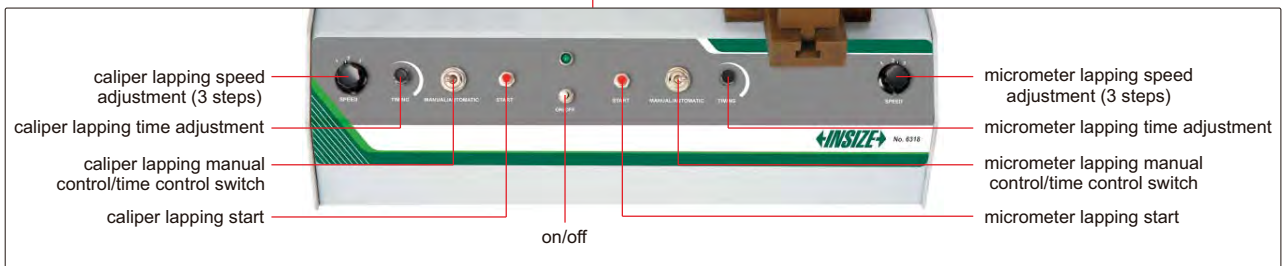
| Code | Length | Type | Accuracy | D |
|----------|--------|------|----------|-----|
| 6310-400 | 400 | B | ±9µm | Ø16 |
| 6310-425 | 425 | B | ±9.5µm | Ø16 |
| 6310-450 | 450 | B | ±10µm | Ø16 |
| 6310-475 | 475 | B | ±10.5µm | Ø16 |
| 6310-500 | 500 | B | ±11µm | Ø16 |
| 6310-525 | 525 | B | ±11.5µm | Ø16 |
| 6310-575 | 575 | B | ±12.5µm | Ø16 |
| 6310-625 | 625 | B | ±13.5µm | Ø16 |
| 6310-675 | 675 | B | ±14.5µm | Ø16 |
| 6310-725 | 725 | B | ±15.5µm | Ø16 |
| 6310-775 | 775 | B | ±16.5µm | Ø16 |
| 6310-825 | 825 | B | ±17.5µm | Ø16 |
| 6310-875 | 875 | B | ±18.5µm | Ø16 |
| 6310-925 | 925 | B | ±19.5µm | Ø16 |
| 6310-975 | 975 | B | ±20.5µm | Ø16 |

| Code | Length | Type | Accuracy | D |
|-----------|--------|------|----------|-----|
| 6310-1050 | 1050 | B | ±22µm | Ø23 |
| 6310-1150 | 1150 | B | ±24µm | Ø23 |
| 6310-1250 | 1250 | B | ±26µm | Ø23 |
| 6310-1350 | 1350 | B | ±28µm | Ø23 |
| 6310-1450 | 1450 | B | ±30µm | Ø23 |
| 6310-1550 | 1550 | B | ±32µm | Ø23 |
| 6310-1650 | 1650 | B | ±34µm | Ø23 |
| 6310-1750 | 1750 | B | ±36µm | Ø23 |
| 6310-1850 | 1850 | B | ±38µm | Ø23 |
| 6310-1950 | 1950 | B | ±40µm | Ø23 |

CALIPER/MICROMETER LAPPING MACHINE CODE 6318



6



lapping measuring surfaces of caliper lower jaws



lapping measuring surfaces of outside micrometer



- For lapping measuring surfaces of caliper lower jaws and outside micrometers
- Suitable for 0-300mm range calipers and 0-100mm range outside micrometers
- Supplied with lapping block and diamond paste for calipers
- Lapping blocks for micrometers are optional, diamond paste is included
- Optional accessory: micrometer lapping blocks

caliper lapping block (included)



micrometer lapping blocks (code: 6307-1, optional)



SPECIFICATION

| | |
|-------------------|---------------|
| Power supply | 220V, 50/60Hz |
| Dimension (L×W×H) | 430×400×210mm |
| Weight | 28kg |

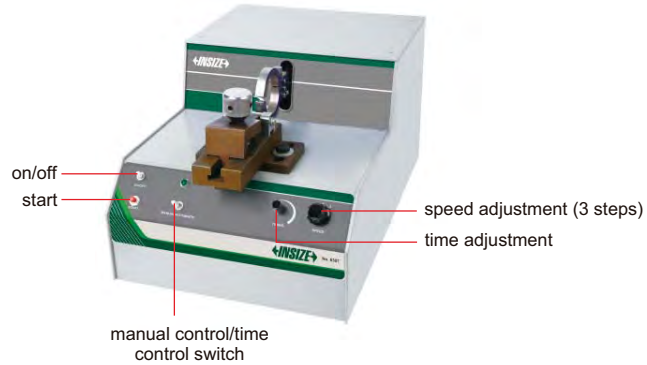
MICROMETER LAPPING BLOCKS (optional)

| Code | For micrometer | Remark |
|--------|----------------|---------------------------|
| 6307-1 | 0~25mm | includes 4 lapping blocks |
| 6307-2 | 25~50mm | includes 4 lapping blocks |
| 6307-3 | 50~75mm | includes 4 lapping blocks |
| 6307-4 | 75~100mm | includes 4 lapping blocks |



MICROMETER LAPPING MACHINE CODE 6307

- Used for lapping micrometer measuring surfaces
- Suitable for 0~100mm outside micrometers
- Supplied with diamond paste
- Optional accessory: micrometer lapping blocks



SPECIFICATION

| | |
|-------------------|---------------|
| Power supply | 220V, 50/60HZ |
| Dimension (L×W×H) | 360×230×210mm |
| Weight | 15kg |

MICROMETER LAPPING BLOCKS (optional)

| Code | For micrometer | Remark |
|--------|----------------|---------------------------|
| 6307-1 | 0~25mm | includes 4 lapping blocks |
| 6307-2 | 25~50mm | includes 4 lapping blocks |
| 6307-3 | 50~75mm | includes 4 lapping blocks |
| 6307-4 | 75~100mm | includes 4 lapping blocks |

micrometer lapping blocks (code: 6307-1, optional)



IP65
WATERPROOF

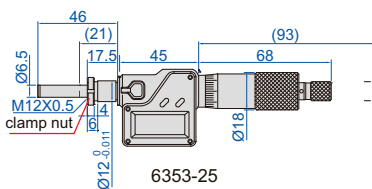
DATA
OUTPUT

DIGITAL MICROMETER HEADS

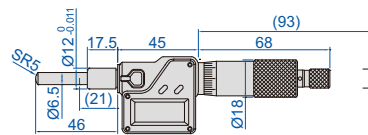
- Resolution: 0.001mm/0.00005"
- IP65 dust/waterproof
- Button function: on/off, set, mm/inch, data transmit
- Data output, automatic power off
- Ratchet stop
- Optional accessory: data output cable (code 7315-31 need receiver page 4, 7302-31 page 12)



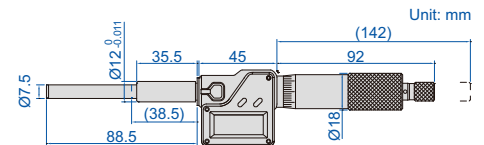
6353-25W



6353-25

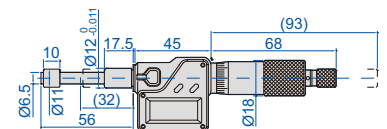


6353-25WS



6353-50W

Unit: mm



6354-25W

Rotating spindle

| Code | Range | Stem | Spindle tip | Accuracy |
|-----------|-------------|----------------|-----------------|----------|
| 6353-25 | 0-25mm/0-1" | with clamp nut | flat (carbide) | ±2µm |
| 6353-25W | 0-25mm/0-1" | plain | flat (carbide) | ±2µm |
| 6353-25S | 0-25mm/0-1" | with clamp nut | spherical (SR5) | ±2µm |
| 6353-25WS | 0-25mm/0-1" | plain | spherical (SR5) | ±2µm |
| 6353-50W | 0-50mm/0-2" | plain | flat (carbide) | ±4µm |

Non-rotating spindle

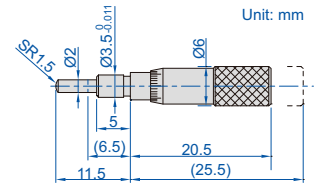
| Code | Range | Stem | Spindle tip | Accuracy |
|----------|-------------|-------|-------------|----------|
| 6354-25W | 0-25mm/0-1" | plain | flat | ±2µm |

SMALL MICROMETER HEAD

- Graduation: 0.02mm



6372-5WS



| Code | Range | Stem | Spindle tip | Accuracy |
|----------|-------|-------|-------------------|----------|
| 6372-5WS | 0-5mm | plain | spherical (SR1.5) | 5µm |

SMALL MICROMETER HEADS

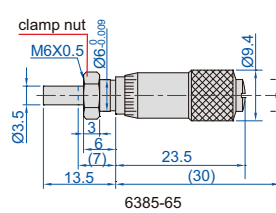
6

- Range: 0-6.5mm
- Graduation: 0.01mm
- Accuracy: 5µm

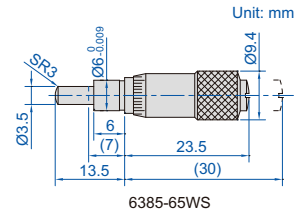


6385-65W

| Code | Stem | Spindle tip |
|-----------|----------------|-----------------|
| 6385-65 | with clamp nut | flat |
| 6385-65W | plain | flat |
| 6385-65S | with clamp nut | spherical (SR3) |
| 6385-65WS | plain | spherical (SR3) |



6385-65

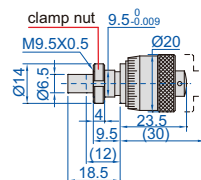


6385-65WS

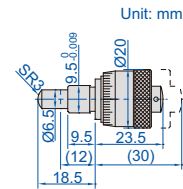
LARGE THIMBLE MICROMETER HEADS



6373-65



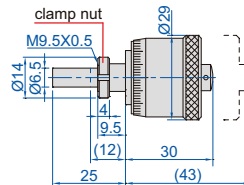
6373-65



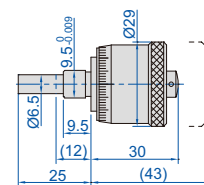
6373-65WS



6373-13



6373-13



6373-13W

| Code | Range | Stem | Spindle tip |
|-----------|---------|----------------|-----------------|
| 6373-65 | 0-6.5mm | with clamp nut | flat |
| 6373-65W | 0-6.5mm | plain | flat |
| 6373-65S | 0-6.5mm | with clamp nut | spherical (SR3) |
| 6373-65WS | 0-6.5mm | plain | spherical (SR3) |
| 6373-13 | 0-13mm | with clamp nut | flat |
| 6373-13W | 0-13mm | plain | flat |

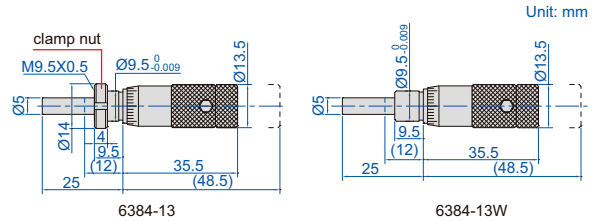
- Meet DIN863-2
- Large thimble diameter for easy reading
- Graduation: 0.01mm
- Accuracy: 3µm

MICROMETER HEADS WITH ZERO ADJUSTABLE THIMBLE

- Meet DIN863-2
- Range: 0-13mm
- Graduation: 0.01mm
- Accuracy: 3µm
- The thimble can be set to zero at any position

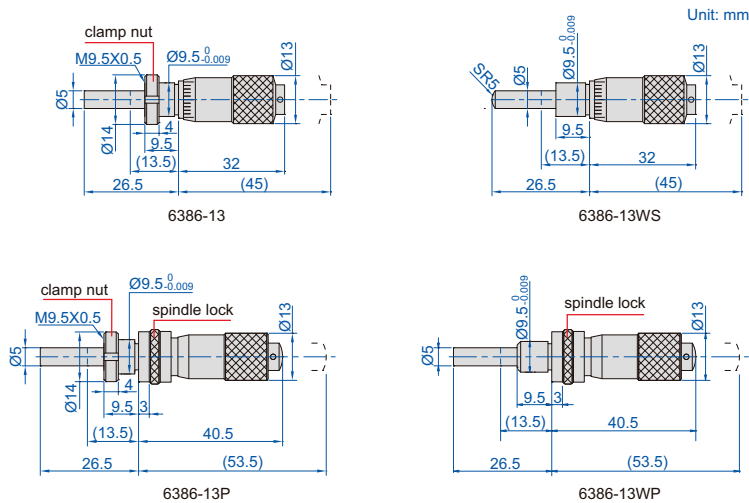


6384-13W



| Code | Stem | Spindle tip |
|----------|----------------|-------------|
| 6384-13 | with clamp nut | flat |
| 6384-13W | plain | flat |

MICROMETER HEADS



6386-13W



6386-13P

| Code | Range | Stem | Spindle tip | Remark | Accuracy |
|-----------|--------|----------------|-----------------|-------------------|----------|
| 6386-13 | 0-13mm | with clamp nut | flat | | 3µm |
| 6386-13W | 0-13mm | plain | flat | | 3µm |
| 6386-13S | 0-13mm | with clamp nut | spherical (SR5) | | 3µm |
| 6386-13WS | 0-13mm | plain | spherical (SR5) | | 3µm |
| 6386-13P | 0-13mm | with clamp nut | flat | with spindle lock | 3µm |
| 6386-13WP | 0-13mm | plain | flat | with spindle lock | 3µm |

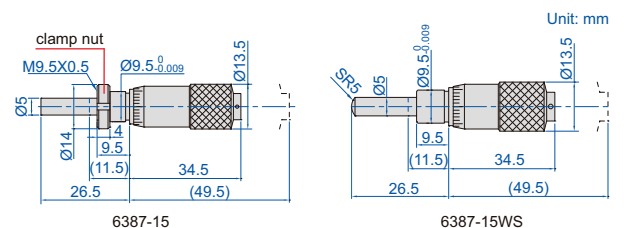
- Meet DIN863-2
- Graduation: 0.01mm

MICROMETER HEADS

- Meet DIN863-2
- Graduation: 0.01mm
- Accuracy: 3µm



6387-15WS

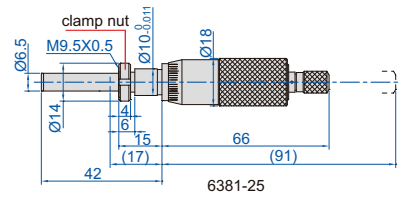


| Code | Range | Stem | Spindle tip |
|-----------|--------|----------------|-----------------|
| 6387-15 | 0-15mm | with clamp nut | flat |
| 6387-15W | 0-15mm | plain | flat |
| 6387-15S | 0-15mm | with clamp nut | spherical (SR5) |
| 6387-15WS | 0-15mm | plain | spherical (SR5) |

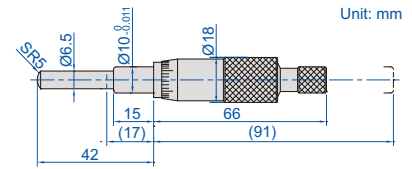
MICROMETER HEADS



6381-25



6381-25

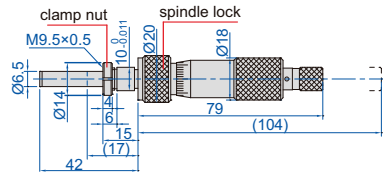


6381-25WS

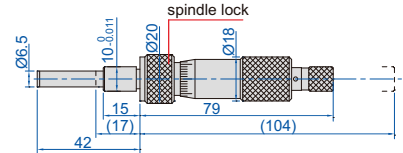
Unit: mm



6381-25P



6381-25P



6381-25WP

6

- Meet DIN863-2
- Graduation: 0.01mm
- Ratchet stop

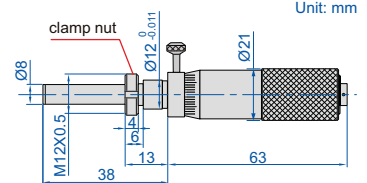
| Code | Range | Stem | Spindle tip | Remark | Accuracy |
|-----------|--------|----------------|-----------------|-------------------|----------|
| 6381-25 | 0-25mm | with clamp nut | flat (carbide) | | 3µm |
| 6381-25W | 0-25mm | plain | flat (carbide) | | 3µm |
| 6381-25S | 0-25mm | with clamp nut | spherical (SR5) | | 3µm |
| 6381-25WS | 0-25mm | plain | spherical (SR5) | | 3µm |
| 6381-25P | 0-25mm | with clamp nut | flat (carbide) | with spindle lock | 3µm |
| 6381-25WP | 0-25mm | plain | flat (carbide) | with spindle lock | 3µm |

MICROMETER HEADS

- Non-rotating spindle
- One turn of sleeve makes 0.05mm spindle feed
- Carbide measuring faces



6389-1A



NON-ROTATING SPINDLE

Unit: mm

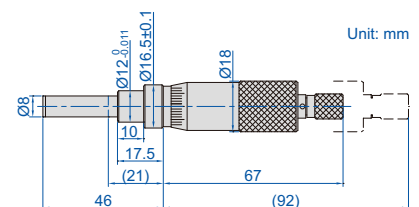
| Code | Range | Graduation | Accuracy | |
|---------|---------|------------|------------|---------------|
| | | | full range | within 0.05mm |
| 6389-1A | 0-2.5mm | 0.001mm | 5µm | 1.5µm |
| 6389-2A | 0-2.5mm | 0.001mm | 7µm | 3µm |

NON-ROTATING SPINDLE MICROMETER HEAD

- Meet DIN863-2
- Graduation: 0.01mm
- Ratchet stop
- Non-rotating spindle



6377-25W



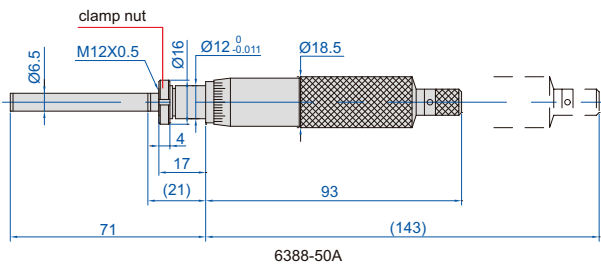
Unit: mm

| Code | Range | Stem | Spindle tip | Accuracy |
|----------|--------|-------|----------------|----------|
| 6377-25W | 0-25mm | plain | flat (carbide) | 3µm |

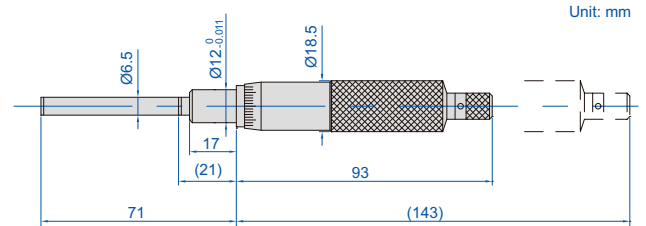
LARGE MICROMETER HEADS



6388-50AW



6388-50A



6388-50AW

Unit: mm

- Graduation: 0.01mm
- Ratchet stop

| Code | Range | Stem | Spindle tip | Accuracy |
|-----------|--------|----------------|----------------|-----------|
| 6388-50A | 0-50mm | with clamp nut | flat (carbide) | 5 μ m |
| 6388-50AW | 0-50mm | plain | flat (carbide) | 5 μ m |

QUICK SPINDLE FEEDING MICROMETER HEADS



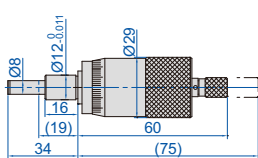
6375-15W



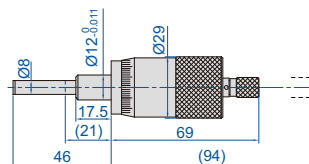
6375-25W



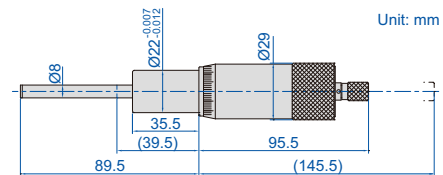
6375-50W



6375-15W



6375-25W



6375-50W

Unit: mm

- Micrometers up to 25mm meet DIN863-2
- Graduation: 0.01mm
- Quick spindle feed of 1mm/rev.
- Ratchet stop

| Code | Range | Stem | Spindle tip | Accuracy |
|----------|--------|-------|----------------|-----------|
| 6375-15W | 0-15mm | plain | flat (carbide) | 3 μ m |
| 6375-25W | 0-25mm | plain | flat (carbide) | 3 μ m |
| 6375-50W | 0-50mm | plain | flat (carbide) | 5 μ m |

07

BORE DIAMETER, CIRCUMFERENCE MEASUREMENT



Inside Micrometers
Page 169-170



Inside Micrometers
Page 170-177



**Three Points Internal
Micrometers**
Page 178-181



**Pistol Grip Three Points
Bore Gages**
Page 182



Bore Plug Gages
Page 183-184



Split Type Dial Bore Gages
Page 185-186



Bore Gages
Page 187-195/197



Gear Bore Gages
Page 196



Bore Gage Setters
Page 198



Carbon Fiber Bore Gages
Page 199



Internal Chamfer Gages
Page 200



Telescoping Gage Sets
Page 200-201



Tape Bore Gages
Page 201-202



Circumference Tapes
Page 203-204

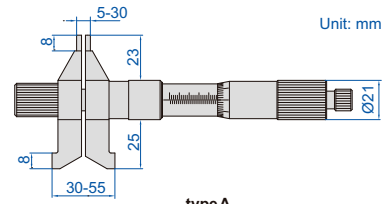
**INSPECTION
CERTIFICATE**

INSIDE MICROMETERS

**INSIZE PLUS
MADE IN EUROPE**



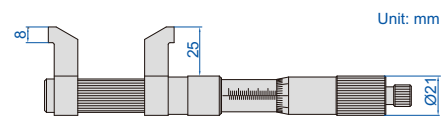
3679-55



type A



3679-75



type B

for type A, the upper jaws and lower jaws can be set zero separately



- Graduation: 0.01mm
- Carbide measuring faces
- Ratchet stop
- Optional accessory: setting ring (code **6312**), caliper/height gage checker (code **6884**)

| Code | Range | Type | Accuracy |
|-------------------|-----------|------|----------|
| 3679-55 * | 5-55mm | A | 4µm |
| 3679-75 * | 50-75mm | B | 5µm |
| 3679-100 * | 75-100mm | B | 6µm |
| 3679-125 * | 100-125mm | B | 7µm |
| 3679-150 * | 125-150mm | B | 8µm |
| 3679-175 * | 150-175mm | B | 9µm |
| 3679-200 * | 175-200mm | B | 9µm |
| 3679-225 * | 200-225mm | B | 10µm |
| 3679-250 * | 225-250mm | B | 10µm |
| 3679-275 * | 250-275mm | B | 12µm |
| 3679-300 * | 275-300mm | B | 12µm |

* Supplied with manufacturer inspection certificate

| Code | Range | Type | Accuracy |
|-------------------|-----------|------|----------|
| 3679-325 * | 300-325mm | B | 15µm |
| 3679-350 * | 325-350mm | B | 15µm |
| 3679-375 * | 350-375mm | B | 16µm |
| 3679-400 * | 375-400mm | B | 16µm |
| 3679-425 * | 400-425mm | B | 17µm |
| 3679-450 * | 425-450mm | B | 17µm |
| 3679-475 * | 450-475mm | B | 18µm |
| 3679-500 * | 475-500mm | B | 18µm |
| 3679-525 * | 500-525mm | B | 19µm |
| 3679-550 * | 525-550mm | B | 19µm |
| 3679-575 * | 550-575mm | B | 20µm |
| 3679-600 * | 575-600mm | B | 20µm |

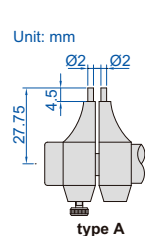
**ATTENTION: LOW PARALLELISM
OF TWO MEASURING FACES**

- Graduation 0.01mm
- Ratchet stop
- Carbide measuring faces
- Optional accessory: setting ring (code **6312**), micrometer stand and clamp (code **6301** and **6301-1**)

micrometer stand with clamp (optional)



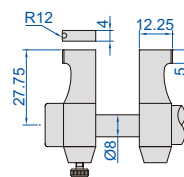
INSIDE MICROMETERS (ECONOMIC TYPE)



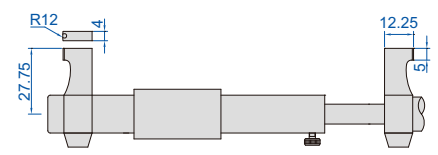
type A



3220-50



type B



type C

| Code | Range | Type | Setting ring | Accuracy |
|-----------------|----------|------|-----------------|----------|
| 3220-30 | 5-30mm | A | 5mm (included) | 7µm |
| 3220-50 | 25-50mm | B | 25mm (included) | 8µm |
| 3220-75 | 50-75mm | B | 50mm (optional) | 9µm |
| 3220-100 | 75-100mm | C | 75mm (optional) | 10µm |

DIGITAL INSIDE MICROMETERS (ECONOMIC TYPE)

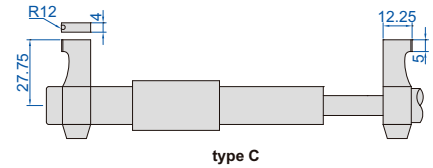
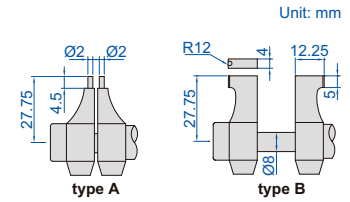
DATA
OUTPUT

ATTENTION: LOW PARALLELISM
OF TWO MEASURING FACES

- Resolution 0.001mm/0.00005"
- Button function: on/off, set, mm/inch, data transmit
- Data output
- Automatic power off
- Ratchet stop
- Carbide measuring faces
- Optional accessory: data output cable (code 7315-31 need receiver page 4, 7302-31 page 12), setting ring (code 6312)



3520-30



| Code | Range | Type | Setting ring | Accuracy |
|----------|-----------------|------|-----------------|----------|
| 3520-30 | 5-30mm/0.2-1.2" | A | 5mm (included) | ±5µm |
| 3520-50 | 25-50mm/1-2" | B | 25mm (included) | ±6µm |
| 3520-75 | 50-75mm/2-3" | B | 50mm (optional) | ±7µm |
| 3520-100 | 75-100mm/3-4" | C | 75mm (optional) | ±8µm |

7 INTERNAL GEAR TOOTH MICROMETERS

INSIZE PLUS
MADE IN EUROPE

INSPECTION
CERTIFICATE

- Measure over-pin diameter of gears
- Graduation: 0.01mm
- Ratchet stop
- Optional accessory: ball tips (code 7383), cylindrical tips (code 7393, only for micrometers with L=8mm)

before ball tips are installed ball tips are optional



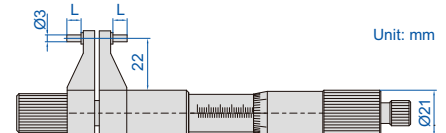
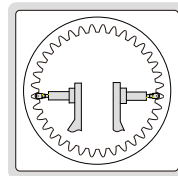
3678-50

cylindrical tips (optional)
(only for micrometers with L=8mm)



| Code | Range | Accuracy | L |
|----------|---------|----------|-----|
| 3678-50* | 25-50mm | 4µm | 6mm |
| 3678-75* | 50-75mm | 5µm | 8mm |

*Supplied with manufacturer inspection certificate



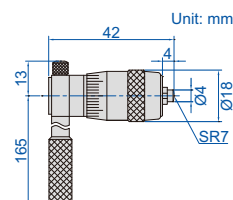
TUBULAR INSIDE MICROMETERS

- Graduation 0.01mm
- Accuracy: $(6+L/50)\mu\text{m}$
L=maximum measuring length (mm)
- Optional accessory: setting ring (code 6312), gage block accessory (code 6881), cylinder gage block (code 4001), caliper/height gage checker (code 6884)



3221-200

| Code | Range | Travel of micrometer head | Extension rods |
|-----------|------------|---------------------------|----------------|
| 3221-32 | 25-32mm | 7mm | — |
| 3221-50 | 25-50mm | 7mm | 2 pcs |
| 3221-63 | 50-63mm | 13mm | — |
| 3221-200 | 50-200mm | 13mm | 6 pcs |
| 3221-300 | 50-300mm | 13mm | 10 pcs |
| 3221-225 | 200-225mm | 25mm | — |
| 3221-500 | 200-500mm | 25mm | 3 pcs |
| 3221-1000 | 200-1000mm | 25mm | 8 pcs |



application





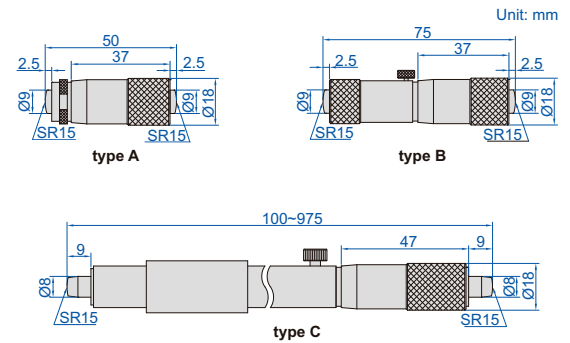
TUBULAR INSIDE MICROMETERS

- Micrometers up to 500mm meet DIN863-4
- Graduation 0.01mm
- Carbide measuring faces
- Optional accessory: gage block accessory (code **6881**), cylinder gage block (code **4001**), caliper/height gage checker (code **6884**)



3229-225

| Code | Range | Type | Accuracy |
|----------|-----------|------|----------|
| 3229-75 | 50-75mm | A | 5μm |
| 3229-100 | 75-100mm | B | 5μm |
| 3229-125 | 100-125mm | C | 6μm |
| 3229-150 | 125-150mm | C | 6μm |
| 3229-175 | 150-175mm | C | 7μm |
| 3229-200 | 175-200mm | C | 7μm |
| 3229-225 | 200-225mm | C | 8μm |
| 3229-250 | 225-250mm | C | 8μm |
| 3229-275 | 250-275mm | C | 9μm |
| 3229-300 | 275-300mm | C | 9μm |
| 3229-325 | 300-325mm | C | 9μm |
| 3229-350 | 325-350mm | C | 9μm |
| 3229-375 | 350-375mm | C | 10μm |
| 3229-400 | 375-400mm | C | 10μm |
| 3229-425 | 400-425mm | C | 10μm |
| 3229-450 | 425-450mm | C | 10μm |
| 3229-475 | 450-475mm | C | 11μm |
| 3229-500 | 475-500mm | C | 11μm |
| 3229-525 | 500-525mm | C | 11μm |
| 3229-550 | 525-550mm | C | 11μm |
| 3229-575 | 550-575mm | C | 11μm |
| 3229-600 | 575-600mm | C | 12μm |
| 3229-625 | 600-625mm | C | 12μm |
| 3229-650 | 625-650mm | C | 12μm |
| 3229-675 | 650-675mm | C | 13μm |
| 3229-700 | 675-700mm | C | 13μm |

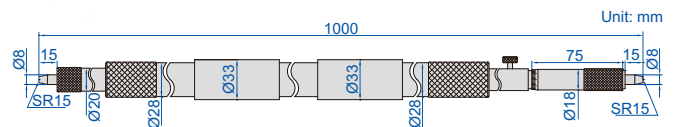


| Code | Range | Type | Accuracy |
|-----------|------------|------|----------|
| 3229-725 | 700-725mm | C | 13μm |
| 3229-750 | 725-750mm | C | 14μm |
| 3229-775 | 750-775mm | C | 14μm |
| 3229-800 | 775-800mm | C | 14μm |
| 3229-825 | 800-825mm | C | 15μm |
| 3229-850 | 825-850mm | C | 15μm |
| 3229-875 | 850-875mm | C | 15μm |
| 3229-900 | 875-900mm | C | 16μm |
| 3229-925 | 900-925mm | C | 16μm |
| 3229-950 | 925-950mm | C | 16μm |
| 3229-975 | 950-975mm | C | 17μm |
| 3229-1000 | 975-1000mm | C | 17μm |

TUBULAR INSIDE MICROMETERS



3224-2000



| Code | Range | Extension rods |
|-----------|-------------|---|
| 3224-2000 | 1000-2000mm | 50mm, 100mm (2 pcs), 200mm, 500mm |
| 3224-3000 | 1000-3000mm | 50mm, 100mm (2 pcs), 200mm, 500mm, 1000mm |
| 3224-4000 | 1000-4000mm | 50mm, 100mm (2 pcs), 200mm, 500mm, 1000mm (2 pcs) |
| 3224-5000 | 1000-5000mm | 50mm, 100mm (2 pcs), 200mm, 500mm, 1000mm (3 pcs) |

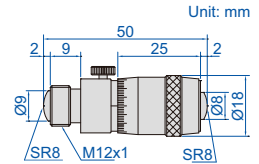
- Micrometer head: 1000-1050mm
- Graduation 0.01mm
- Accuracy: $(7+n+L/50)\mu\text{m}$
n=number of rods
L=maximum measuring length (mm)
- Travel of micrometer head 50mm
- Carbide measuring faces

TUBULAR INSIDE MICROMETERS

- Micrometer head: 50-63mm
- Graduation 0.01mm
- Accuracy: $(3+n+L/50)\mu\text{m}$
n=number of rods
L=maximum measuring length (mm)
- Supplied with setting standards
- Carbide measuring faces



3222-150



| Code | Range | Travel of micrometer head | Extension rods |
|-----------|-----------|---------------------------|---|
| 3222-63 | 50-63mm | 13mm | — |
| 3222-150 | 50-150mm | 13mm | 13mm, 25mm, 50mm |
| 3222-300 | 50-300mm | 13mm | 13mm, 25mm, 50mm (2 pcs), 100mm |
| 3222-500 | 50-500mm | 13mm | 13mm, 25mm, 50mm (2 pcs), 100mm, 200mm |
| 3222-600 | 50-600mm | 13mm | 13mm, 25mm, 50mm, 100mm, 150mm, 200mm |
| 3222-1000 | 50-1000mm | 13mm | 13mm, 25mm, 50mm (2 pcs), 100mm, 200mm (2 pcs), 300mm |
| 3222-1500 | 50-1500mm | 13mm | 13mm, 25mm, 50mm (2 pcs), 100mm, 200mm (3 pcs), 300mm (2 pcs) |

7

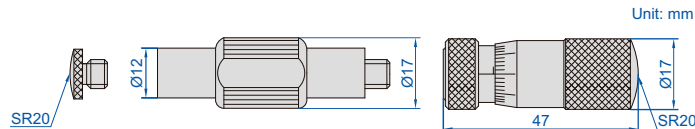
TUBULAR INSIDE MICROMETERS

INSIZE PLUS
MADE IN EUROPE



3684-100

- Micrometer head: 50-75mm
- Graduation: 0.01mm
- Carbide measuring faces



| Code | Range | Accuracy | Travel of micrometer head | Extension rods |
|-----------|-----------|------------------|---------------------------|---|
| 3684-75 | 50-75mm | 5 μm | 25mm | — |
| 3684-100 | 50-100mm | 5 μm | 25mm | 25mm |
| 3684-150 | 50-150mm | 6 μm | 25mm | 25mm, 50mm |
| 3684-250 | 50-250mm | 8 μm | 25mm | 25mm, 50mm, 100mm |
| 3684-300 | 50-300mm | 9 μm | 25mm | 25mm, 50mm (2 pcs), 100mm |
| 3684-350 | 50-350mm | 10 μm | 25mm | 25mm, 50mm, 100mm (2 pcs) |
| 3684-450 | 50-450mm | 10 μm | 25mm | 25mm, 50mm, 100mm, 200mm |
| 3684-650 | 50-650mm | 12 μm | 25mm | 25mm, 50mm, 100mm, 200mm (2 pcs) |
| 3684-850 | 50-850mm | 15 μm | 25mm | 25mm, 50mm, 100mm, 200mm, 400mm |
| 3684-1250 | 50-1250mm | 20 μm | 25mm | 25mm, 50mm, 100mm, 200mm, 400mm (2 pcs) |
| 3684-1450 | 50-1450mm | 22 μm | 25mm | 25mm, 50mm, 100mm, 200mm, 400mm, 600mm |

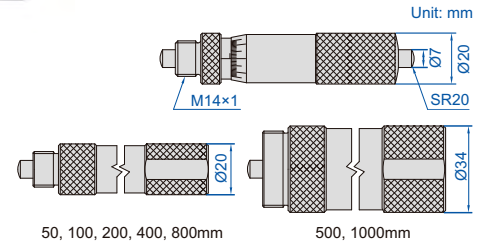


TUBULAR INSIDE MICROMETERS

INSIZE PLUS
MADE IN EUROPE



3683-200



- Micrometer head: 100-150mm
- Graduation: 0.01mm
- Carbide measuring faces
- Heat insulation extension rods

| Code | Range | Accuracy | Travel of micrometer head | Heat insulation extension rods |
|-----------|------------|----------|---------------------------|---|
| 3683-150 | 100-150mm | 6µm | 50mm | — |
| 3683-200 | 100-200mm | 7µm | 50mm | 50mm |
| 3683-300 | 100-300mm | 9µm | 50mm | 50mm, 100mm |
| 3683-500 | 100-500mm | 13µm | 50mm | 50mm, 100mm, 200mm |
| 3683-900 | 100-900mm | 16µm | 50mm | 50mm, 100mm, 200mm, 400mm |
| 3683-1300 | 100-1300mm | 22µm | 50mm | 50mm, 100mm, 200mm, 400mm (2 pcs) |
| 3683-1700 | 100-1700mm | 27µm | 50mm | 50mm, 100mm, 200mm, 400mm, 800mm |
| 3683-2000 | 100-2000mm | 32µm | 50mm | 50mm, 100mm, 200mm (2 pcs), 500mm, 1000mm |
| 3683-2100 | 100-2100mm | 32µm | 50mm | 50mm, 100mm, 200mm, 400mm (2 pcs), 800mm |
| 3683-2500 | 100-2500mm | 40µm | 50mm | 50mm, 100mm, 200mm, 400mm, 800mm (2 pcs) |
| 3683-3000 | 100-3000mm | 50µm | 50mm | 50mm, 100mm, 200mm (2 pcs), 500mm, 1000mm (2 pcs) |
| 3683-4000 | 100-4000mm | 60µm | 50mm | 50mm, 100mm, 200mm (2 pcs), 500mm, 1000mm (3 pcs) |
| 3683-5000 | 100-5000mm | 72µm | 50mm | 50mm, 100mm, 200mm (2 pcs), 500mm, 1000mm (4 pcs) |
| 3683-6000 | 100-6000mm | 90µm | 50mm | 50mm, 100mm, 200mm (2 pcs), 500mm, 1000mm (5 pcs) |

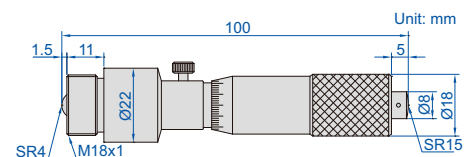
7

TUBULAR INSIDE MICROMETERS

- Micrometer head: 100-125mm
- Graduation 0.01mm
- Accuracy: $(3+n+L/50)\mu\text{m}$
n=number of rods
L=maximum measuring length (mm)
- Travel of micrometer head 25mm
- Supplied with setting standards
- Carbide measuring faces



3225-500



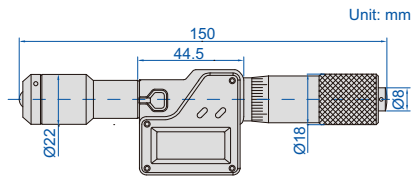
| Code | Range | Extension rods |
|-----------|------------|---|
| 3225-125 | 100-125mm | — |
| 3225-500 | 100-500mm | 25mm, 50mm, 100mm, 200mm |
| 3225-900 | 100-900mm | 25mm, 50mm, 100mm, 200mm, 400mm |
| 3225-1300 | 100-1300mm | 25mm, 50mm, 100mm, 200mm, 400mm (2 pcs) |
| 3225-1700 | 100-1700mm | 25mm, 50mm, 100mm, 200mm, 400mm (3 pcs) |
| 3225-2100 | 100-2100mm | 25mm, 50mm, 100mm, 200mm, 400mm (4 pcs) |

DIGITAL TUBULAR INSIDE MICROMETERS

IP65
WATERPROOF

DATA
OUTPUT

- Micrometer head: 150-175mm
- Resolution: 0.001mm/0.00005"
- Accuracy: $(3+n+L/50)\mu\text{m}$
n=number of rods
L=maximum measuring length (mm)
- Carbide measuring faces
- The diameter of extension rods is 22mm
- IP65 dust/waterproof
- Button function: on/off, set, mm/inch, data transmit
- Data output
- Automatic power off
- Supplied with setting standards
- Optional accessory: data output cable (code 7315-31 need receiver page 4, 7302-31 page 12)



3521-1000

| Code | Range | Travel of micrometer head | Extension rods |
|-----------|------------|---------------------------|---|
| 3521-175 | 150-175mm | 25mm | — |
| 3521-1000 | 150-1000mm | 25mm | 25mm, 50mm (2 pcs), 100mm, 200mm, 400mm |
| 3521-1500 | 150-1500mm | 25mm | 25mm, 50mm (2 pcs), 100mm (2 pcs), 200mm, 400mm (2 pcs) |
| 3521-2000 | 150-2000mm | 25mm | 25mm, 50mm (2 pcs), 100mm, 200mm (2 pcs), 400mm (3 pcs) |

TUBULAR INSIDE MICROMETERS

INSIZE PLUS
MADE IN EUROPE

- Carbide measuring faces for micrometer head and extension rods
- Points of extension rods are spring loaded
- Optional accessory: gage block accessory (code 6881), cylinder gage block (code 4001), caliper/height gage checker (code 6884)



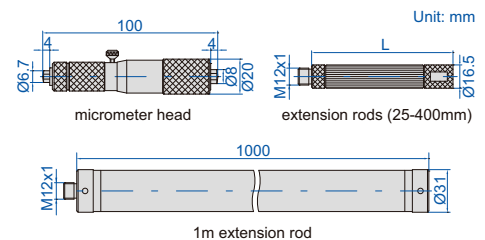
3634-1300

Micrometer head

| Range | Graduation | Accuracy | Weight |
|-----------|------------|--------------------|--------|
| 100-125mm | 0.01mm | $\pm 4\mu\text{m}$ | 154g |

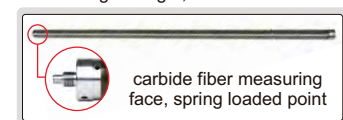
Extension rods

| Length (L) | Accuracy | Weight | Material |
|------------|-----------------------|--------|--------------|
| 25mm | $\pm 1.25\mu\text{m}$ | 37g | steel |
| 50mm | $\pm 1.25\mu\text{m}$ | 65g | steel |
| 100mm | $\pm 2\mu\text{m}$ | 113g | steel |
| 200mm | $\pm 3.5\mu\text{m}$ | 208g | steel |
| 400mm | $\pm 4.5\mu\text{m}$ | 402g | steel |
| 1000mm | $\pm 7.5\mu\text{m}$ | 909g | carbon fiber |



| Code | Range | Extension rods |
|-----------|------------|---|
| 3634-350 | 100-350mm | 25mm, 200mm |
| 3634-500 | 100-500mm | 25mm, 50mm, 100mm, 200mm |
| 3634-1300 | 100-1300mm | 25mm, 50mm, 100mm, 200mm, 400mm (2 pcs) |
| 3634-1500 | 100-1500mm | 25mm, 50mm, 100mm, 200mm (2 pcs), 400mm (2 pcs) |
| 3634-2100 | 100-2100mm | 25mm, 50mm, 100mm, 200mm, 400mm (4 pcs) |
| 3634-3100 | 100-3100mm | 25mm, 50mm, 100mm, 200mm (2 pcs), 400mm, 1000mm (2 pcs) |
| 3634-4100 | 100-4100mm | 25mm, 50mm, 100mm, 200mm (2 pcs), 400mm, 1000mm (3 pcs) |
| 3634-5100 | 100-5100mm | 25mm, 50mm, 100mm, 200mm (2 pcs), 400mm, 1000mm (4 pcs) |
| 3634-6100 | 100-6100mm | 25mm, 50mm, 100mm, 200mm (2 pcs), 400mm, 1000mm (5 pcs) |

1m carbon fiber extension rod, light weight, no deform



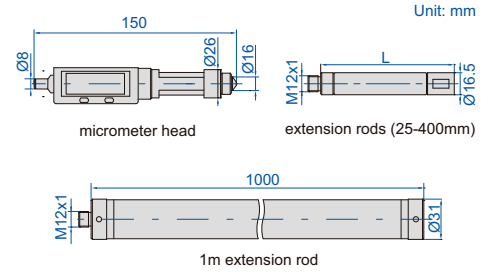
DATA
OUTPUT

SPRING LOADED
MEASURING POINT

DIGITAL NON-ROTATING SPINDLE TUBULAR INSIDE MICROMETERS

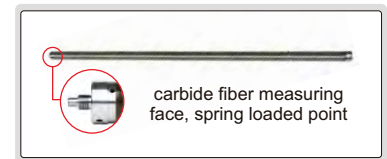
INSIZE PLUS
MADE IN EUROPE

NON-ROTATING
SPINDLE

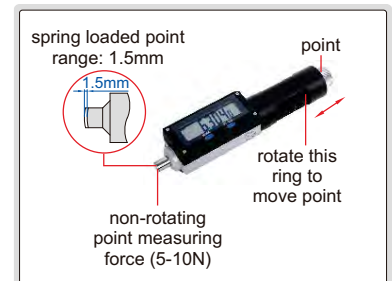


- Carbide measuring faces for micrometer head and extension rods
- Points of extension rods are spring loaded
- Data output
- Button function: mm/inch, max./min. value tracking, preset value, hold, on/off, zero
- CR2032 battery, automatic power off, turn the sleeve to turn on
- Optional accessory: data output cable (code **7315-80** need receiver page 5, **7302-80**), gage block accessory (code **6881**), cylinder gage block (code **4001**), caliper/height gage checker (code **6884**)

1m carbon fiber extension rod,
light weight, no deform



non-rotating spindle, spring loaded point
and max./min. value tracking make it
easy to find the right measuring position



Extension rods

| Length (L) | Accuracy | Weight | Material |
|------------|----------|--------|--------------|
| 25mm | ±1.25µm | 37g | steel |
| 50mm | ±1.25µm | 65g | steel |
| 100mm | ±2µm | 113g | steel |
| 200mm | ±3.5µm | 208g | steel |
| 400mm | ±4.5µm | 402g | steel |
| 1000mm | ±7.5µm | 909g | carbon fiber |

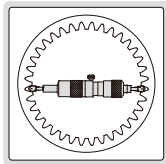
Micrometer head

| Range | Resolution | Accuracy | Repeatability | Measuring force | Weight |
|-----------|---|----------|---------------|-----------------|--------|
| 150-180mm | 0.001mm/0.00005" 0.01mm/0.0005" 0.0005mm/0.00002" (switchable) | ±4µm | 1µm | 5-10N | 275g |

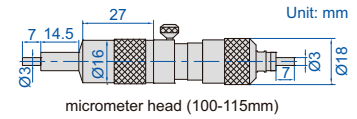
| Code | Range | Extension rods |
|------------------|------------|---|
| 3635-350 | 150-350mm | 25mm, 50mm, 100mm |
| 3635-550 | 150-550mm | 25mm, 50mm, 100mm, 200mm |
| 3635-950 | 150-950mm | 25mm, 50mm, 100mm, 200mm, 400mm |
| 3635-1550 | 150-1550mm | 25mm, 50mm, 100mm, 200mm (2 pcs), 400mm (2 pcs) |
| 3635-2150 | 150-2150mm | 25mm, 50mm, 100mm, 200mm, 400mm (4 pcs) |
| 3635-3150 | 150-3150mm | 25mm, 50mm, 100mm, 200mm (2 pcs), 400mm, 1000mm (2 pcs) |
| 3635-4150 | 150-4150mm | 25mm, 50mm, 100mm, 200mm (2 pcs), 400mm, 1000mm (3 pcs) |
| 3635-5150 | 150-5150mm | 25mm, 50mm, 100mm, 200mm (2 pcs), 400mm, 1000mm (4 pcs) |
| 3635-6150 | 150-6150mm | 25mm, 50mm, 100mm, 200mm (2 pcs), 400mm, 1000mm (5 pcs) |

INTERNAL GEAR TOOTH MICROMETERS

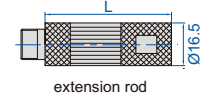
INSIZE PLUS
MADE IN EUROPE



3638-200



micrometer head (100-115mm)



extension rod

- Measure over-pin diameter of gears
- Points of extension rods are spring loaded
- Optional accessory: ball tips (code 7383)

Micrometer head

| Range | Graduation | Accuracy |
|-----------|------------|----------|
| 100-115mm | 0.01mm | ±4µm |
| 150-175mm | 0.01mm | ±4µm |

Extension rod

| Length (L) | Accuracy |
|------------|----------|
| 15mm | ±1µm |
| 25mm | ±1.25µm |
| 30mm | ±1.25µm |
| 50mm | ±1.25µm |
| 100mm | ±2µm |
| 200mm | ±3.5µm |
| 400mm | ±4.5µm |

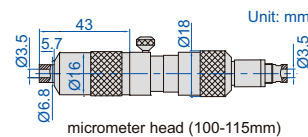
| Code | Range | Micrometer head | Extension rod (L) |
|-----------|------------|-----------------|--|
| 3638-200 | 100-205mm | 100-115mm | 15mm, 25mm, 50mm |
| 3638-500 | 100-505mm | 100-115mm | 15mm, 25mm, 50mm, 100mm, 200mm |
| 3638-900 | 100-905mm | 100-115mm | 15mm, 25mm, 50mm, 100mm, 200mm, 400mm |
| 3638-1100 | 150-1150mm | 150-175mm | 25mm, 50mm, 100mm, 200mm, 200mm, 400mm |

INTERNAL SCREW THREAD MICROMETERS

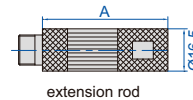
INSIZE PLUS
MADE IN EUROPE



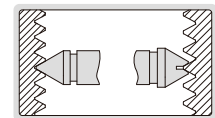
3641-200



micrometer head (100-115mm)



extension rod



- Measure pitch diameter of screw thread
- Points of extension rods are spring loaded
- Optional accessory: measuring tips for internal screw thread micrometer (code 7385, L=13.5mm)

Micrometer head

| Range | Graduation | Accuracy |
|-----------|------------|----------|
| 100-115mm | 0.01mm | ±4µm |
| 150-175mm | 0.01mm | ±4µm |

Extension rod

| Length (A) | Accuracy |
|------------|----------|
| 15mm | ±1µm |
| 25mm | ±1.25µm |
| 50mm | ±1.25µm |
| 100mm | ±2µm |
| 200mm | ±3.5µm |
| 400mm | ±4.5µm |

| Code | Range | Micrometer head | Extension rod (A) | Applicable tips |
|-----------|------------|-----------------|--|----------------------|
| 3641-200 | 100-205mm | 100-115mm | 15mm, 25mm, 50mm | stem length L=13.5mm |
| 3641-500 | 100-505mm | 100-115mm | 15mm, 25mm, 50mm, 100mm, 200mm | stem length L=13.5mm |
| 3641-900 | 100-905mm | 100-115mm | 15mm, 25mm, 50mm, 100mm, 200mm, 400mm | stem length L=13.5mm |
| 3641-1100 | 150-1150mm | 150-175mm | 25mm, 50mm, 100mm, 200mm, 200mm, 400mm | stem length L=13.5mm |



TIPS FOR TRAPEZOIDAL, ACME
THREAD ARE ALSO AVAILABLE

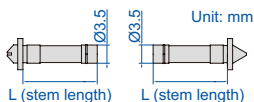
MEASURING TIPS FOR INTERNAL SCREW THREAD MICROMETERS

INSIZE PLUS
MADE IN EUROPE

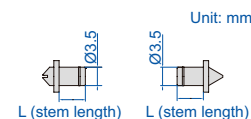
- Supplied in pair
- Made of hardened steel
- Suitable for **3641** series micrometers



7385-T106A



7385-T106B



60° thread angle

| Code | | Applicable pitch (mm) |
|------------|------------|-----------------------|
| L=13.5mm | L=5mm | |
| 7385-T101A | 7385-T101B | 0.35 |
| 7385-T102A | 7385-T102B | 0.4/0.45 |
| 7385-T103A | 7385-T103B | 0.5/0.6 |
| 7385-T104A | 7385-T104B | 0.7/0.75/0.8 |
| 7385-T105A | 7385-T105B | 1/1.25 |
| 7385-T106A | 7385-T106B | 1.5/1.75 |
| 7385-T107A | 7385-T107B | 2.0/2.5 |
| 7385-T108A | 7385-T108B | 3.0/3.5 |
| 7385-T109A | 7385-T109B | 4.0/4.5/5.0 |
| 7385-T110A | 7385-T110B | 5.5/6.0 |

55° thread angle

| Code | | Applicable pitch (TPI) |
|------------|------------|------------------------|
| L=13.5mm | L=5mm | |
| 7385-T201A | 7385-T201B | 60/48 |
| 7385-T202A | 7385-T202B | 40/32 |
| 7385-T203A | 7385-T203B | 28/26/24/22 |
| 7385-T204A | 7385-T204B | 20/19/18/16 |
| 7385-T205A | 7385-T205B | 14/12/11 |
| 7385-T206A | 7385-T206B | 10/9/8 |
| 7385-T207A | 7385-T207B | 7/6 |
| 7385-T208A | 7385-T208B | 5/4.5/4 |
| 7385-T209A | 7385-T209B | 3.5/3.25/3/2.875/2.75 |
| 7385-T210A | 7385-T210B | 2.625/2.5/2 |

7

INTERNAL SCREW THREAD MICROMETERS

- Graduation: 0.01mm
- Optional accessory: measuring tips for internal screw thread micrometer (code 7321)



measuring tips for screw thread (optional)

measuring tips for screw thread (optional)

3226-1001

measuring tips for internal screw thread micrometer (optional)



| Code | Range |
|-----------|-----------|
| 3226-1001 | 75-100mm |
| 3226-1251 | 100-125mm |
| 3226-1501 | 125-150mm |
| 3226-1751 | 150-175mm |
| 3226-2001 | 175-200mm |

| Code | Range |
|-----------|-----------|
| 3226-2251 | 200-225mm |
| 3226-2501 | 225-250mm |
| 3226-2751 | 250-275mm |
| 3226-3001 | 275-300mm |

MEASURING TIPS FOR INTERNAL SCREW THREAD MICROMETERS

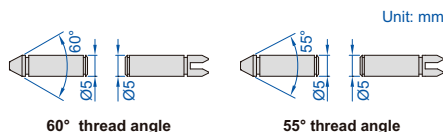
- Supplied in pair
- Suitable for **3226** series micrometers



7321-T1S

Metric and unified screw (60° thread angle)

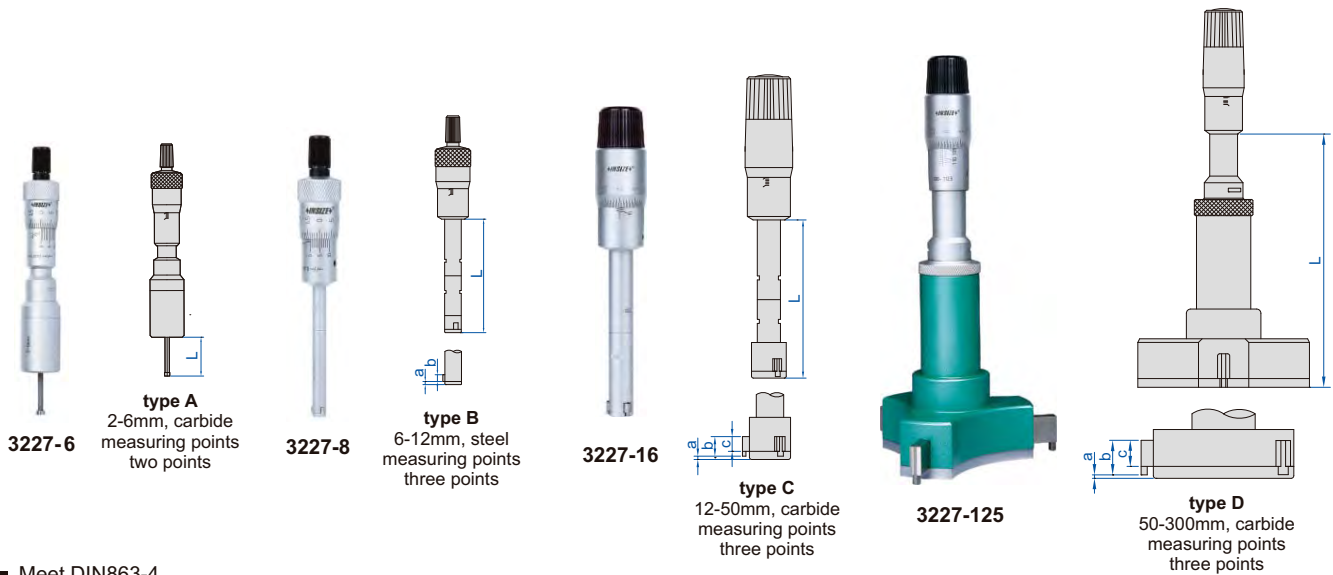
| Code | Pitch |
|----------|---------------------------------------|
| 7321-T11 | 0.4-0.5mm/64-48TPI |
| 7321-T12 | 0.6-0.9mm/44-28TPI |
| 7321-T13 | 1-1.75mm/24-14TPI |
| 7321-T14 | 2-3mm/13-9TPI |
| 7321-T15 | 3.5-5mm/8-5TPI |
| 7321-T16 | 5.5-7mm /4.5-3.5TPI |
| 7321-T1S | 6 pairs/set, including all above tips |



Whitworth screw (55° thread angle)

| Code | Pitch |
|-----------|--|
| 7321-T21 | 60-48TPI |
| 7321-T22 | 48-40TPI |
| 7321-T23 | 40-32TPI |
| 7321-T24 | 32-24TPI |
| 7321-T25 | 24-18TPI |
| 7321-T26 | 18-14TPI |
| 7321-T27 | 14-10TPI |
| 7321-T28 | 10-7TPI |
| 7321-T29 | 7-4.5TPI |
| 7321-T210 | 4.5-3.5TPI |
| 7321-T2S | 10 pairs/set, including all above tips |

TWO POINTS/THREE POINTS INTERNAL MICROMETERS



- Meet DIN863-4
- 2-12mm: graduation 0.001mm
12-300mm: graduation 0.005mm
- Ratchet stop
- Optional accessory: setting rings (code **6312**),
micrometer stand and clamp (code **6301** and **6301-2**)

Individual

(mm)

| Code | Range | Type | Accuracy | Setting ring | Extension rod (included) | L | a | b | c |
|------------|-----------|------------------|----------|-----------------|--------------------------|------|-----|------|------|
| 3227-2 * | 2-2.5mm | A (two points) | 6µm | Ø2.5 (included) | — | 12 | — | — | — |
| 3227-3 * | 2.5-3mm | A (two points) | 6µm | Ø2.5 (included) | — | 12 | — | — | — |
| 3227-4 * | 3-4mm | A (two points) | 6µm | Ø4 (included) | — | 22 | — | — | — |
| 3227-5 * | 4-5mm | A (two points) | 6µm | Ø5 (included) | — | 22 | — | — | — |
| 3227-6 * | 5-6mm | A (two points) | 6µm | Ø6 (included) | — | 22 | — | — | — |
| 3227-8 * | 6-8mm | B (three points) | 4µm | Ø6 (included) | 100 | 54.5 | 1.5 | 2.5 | — |
| 3227-10 * | 8-10mm | B (three points) | 4µm | Ø8 (included) | 100 | 54.5 | 1.5 | 2.5 | — |
| 3227-12 * | 10-12mm | B (three points) | 4µm | Ø10 (included) | 100 | 54.5 | 1.5 | 2.5 | — |
| 3227-16 * | 12-16mm | C (three points) | 4µm | Ø16 (included) | 150 | 80 | 0.5 | 6 | 4.5 |
| 3227-20 * | 16-20mm | C (three points) | 4µm | Ø16 (included) | 150 | 80 | 0.5 | 6 | 4.5 |
| 3227-25 * | 20-25mm | C (three points) | 4µm | Ø25 (included) | 150 | 90 | 0.5 | 8 | 6 |
| 3227-30 * | 25-30mm | C (three points) | 4µm | Ø25 (included) | 150 | 90 | 0.5 | 8 | 6 |
| 3227-40 * | 30-40mm | C (three points) | 4µm | Ø40 (included) | 150 | 97 | 0.5 | 14 | 12 |
| 3227-50 * | 40-50mm | C (three points) | 5µm | Ø40 (included) | 150 | 97 | 0.5 | 14 | 12 |
| 3227-63 * | 50-63mm | D (three points) | 5µm | Ø62 (included) | 150 | 114 | 0.5 | 17.5 | 14.5 |
| 3227-75 * | 62-75mm | D (three points) | 5µm | Ø62 (included) | 150 | 114 | 0.5 | 17.5 | 14.5 |
| 3227-88 * | 75-88mm | D (three points) | 5µm | Ø87 (included) | 150 | 114 | 0.5 | 17.5 | 14.5 |
| 3227-100 * | 87-100mm | D (three points) | 5µm | Ø87 (included) | 150 | 114 | 0.5 | 17.5 | 14.5 |
| 3227-125 * | 100-125mm | D (three points) | 6µm | optional | 150 | 140 | 0.9 | 29 | 25 |
| 3227-150 * | 125-150mm | D (three points) | 6µm | optional | 150 | 140 | 0.9 | 29 | 25 |
| 3227-175 * | 150-175mm | D (three points) | 7µm | optional | 150 | 140 | 0.9 | 29 | 25 |
| 3227-200 * | 175-200mm | D (three points) | 7µm | optional | 150 | 140 | 0.9 | 29 | 25 |
| 3227-225 | 200-225mm | D (three points) | 8µm | optional | 150 | 140 | 0.9 | 29 | 25 |
| 3227-250 | 225-250mm | D (three points) | 8µm | optional | 150 | 140 | 0.9 | 29 | 25 |
| 3227-275 | 250-275mm | D (three points) | 9µm | optional | 150 | 140 | 0.9 | 29 | 25 |
| 3227-300 | 275-300mm | D (three points) | 9µm | optional | 150 | 140 | 0.9 | 29 | 25 |

To be continued

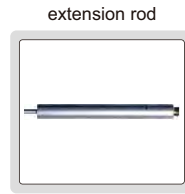
Continued from previous page



micrometer stand with clamp (optional)



setting ring
2-100mm: included
100-300mm: optional



extension rod
included



3227-504

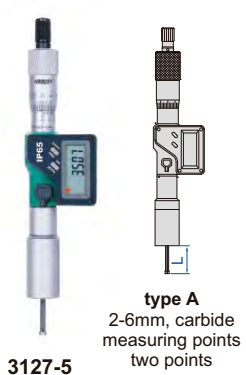
Set

| Code | Range | Micrometers included | Setting ring (included) | Extension rod (included) |
|-------------|----------|-------------------------------------|-------------------------|--------------------------|
| 3227-232 * | 2-3mm | 2-2.5mm, 2.5-3mm | Ø2.5mm | — |
| 3227-363 * | 3-6mm | 3-4mm, 4-5mm, 5-6mm | Ø4mm, Ø5mm, Ø6mm | — |
| 3227-123 * | 6-12mm | 6-8mm, 8-10mm, 10-12mm | Ø6mm, Ø8mm, Ø10mm | 100mm |
| 3227-202 * | 12-20mm | 12-16mm, 16-20mm | Ø16mm | 150mm |
| 3227-504 * | 20-50mm | 20-25mm, 25-30mm, 30-40mm, 40-50mm | Ø25mm, Ø40mm | 150mm |
| 3227-1004 * | 50-100mm | 50-63mm, 62-75mm, 75-88mm, 87-100mm | Ø62mm, Ø87mm | 150mm |

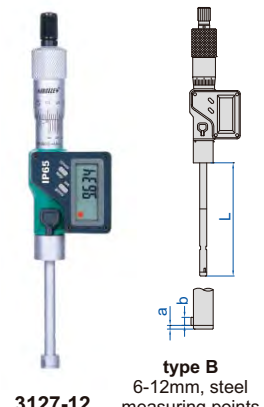
* Supplied with manufacturer inspection certificate



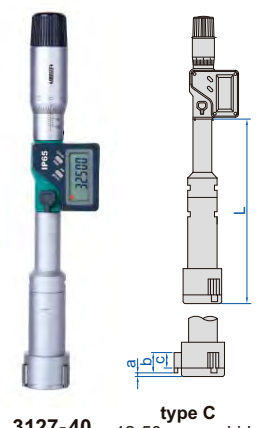
DIGITAL TWO POINTS/THREE POINTS INTERNAL MICROMETERS



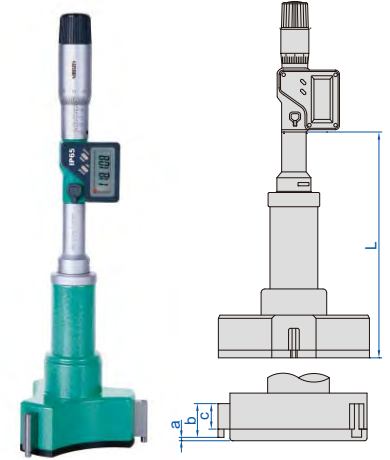
3127-5
type A
2-6mm, carbide measuring points two points



3127-12
type B
6-12mm, steel measuring points three points



3127-40
type C
12-50mm, carbide measuring points three points



3127-125
type D
50-300mm, carbide measuring points three points

- Resolution 0.001mm/0.0005" (resolution of 3127-275 and 3127-300 is 0.001mm/0.0001")
- IP65 dust/waterproof
- Buttons: on/off, set, mm/inch, data transmit
- Data output
- Automatic power off
- Ratchet stop
- Optional accessory: data output cable (code 7315-31 need receiver page 4, 7302-31 page 12), setting ring (code 6312), micrometer stand and clamp (code 6301 and 6301-2)

To be continued

Continued from previous page

micrometer stand
with clamp (optional)



setting ring



2-100mm: included
100-300mm: **optional**

extension rod



included



3127-202

7

Individual

(mm)

| Code | Range | Type | Accuracy | Setting ring | Extension rod (included) | L | a | b | c |
|-----------|------------------------|------------------|----------|-----------------|--------------------------|-----|-----|------|------|
| 3127-2* | 2-2.5mm/0.08-0.10" | A (two points) | 6µm | Ø2.5 (included) | — | 12 | — | — | — |
| 3127-3* | 2.5-3mm/0.10-0.12" | A (two points) | 6µm | Ø2.5 (included) | — | 12 | — | — | — |
| 3127-4* | 3-4mm/0.12-0.16" | A (two points) | 6µm | Ø4 (included) | — | 22 | — | — | — |
| 3127-5* | 4-5mm/0.16-0.20" | A (two points) | 6µm | Ø5 (included) | — | 22 | — | — | — |
| 3127-6* | 5-6mm/0.20-0.24" | A (two points) | 6µm | Ø6 (included) | — | 22 | — | — | — |
| 3127-8* | 6-8mm/0.24-0.31" | B (three points) | 4µm | Ø6 (included) | 100 | 57 | 1.5 | 2.5 | — |
| 3127-10* | 8-10mm/0.31-0.39" | B (three points) | 4µm | Ø8 (included) | 100 | 57 | 1.5 | 2.5 | — |
| 3127-12* | 10-12mm/0.39-0.47" | B (three points) | 4µm | Ø10 (included) | 100 | 57 | 1.5 | 2.5 | — |
| 3127-16* | 12-16mm/0.47-0.63" | C (three points) | 4µm | Ø16 (included) | 150 | 99 | 0.5 | 6 | 4.5 |
| 3127-20* | 16-20mm/0.63-0.79" | C (three points) | 4µm | Ø16 (included) | 150 | 99 | 0.5 | 6 | 4.5 |
| 3127-25* | 20-25mm/0.79-0.98" | C (three points) | 4µm | Ø25 (included) | 150 | 105 | 0.5 | 8 | 6 |
| 3127-30* | 25-30mm/0.98-1.18" | C (three points) | 4µm | Ø25 (included) | 150 | 105 | 0.5 | 8 | 6 |
| 3127-40* | 30-40mm/1.18-1.57" | C (three points) | 4µm | Ø40 (included) | 150 | 110 | 0.5 | 14 | 12 |
| 3127-50* | 40-50mm/1.57-1.97" | C (three points) | 5µm | Ø40 (included) | 150 | 110 | 0.5 | 14 | 12 |
| 3127-63* | 50-63mm/1.97-2.48" | D (three points) | 5µm | Ø62 (included) | 150 | 127 | 0.5 | 17.5 | 14.5 |
| 3127-75* | 62-75mm/2.44-2.95" | D (three points) | 5µm | Ø62 (included) | 150 | 127 | 0.5 | 17.5 | 14.5 |
| 3127-88* | 75-88mm/2.95-3.46" | D (three points) | 5µm | Ø87 (included) | 150 | 127 | 0.5 | 17.5 | 14.5 |
| 3127-100* | 87-100mm/3.43-3.94" | D (three points) | 5µm | Ø87 (included) | 150 | 127 | 0.5 | 17.5 | 14.5 |
| 3127-125* | 100-125mm/3.94-4.92" | D (three points) | 6µm | optional | 150 | 175 | 0.9 | 29 | 25 |
| 3127-150* | 125-150mm/4.92-5.91" | D (three points) | 6µm | optional | 150 | 175 | 0.9 | 29 | 25 |
| 3127-175* | 150-175mm/5.91-6.89" | D (three points) | 7µm | optional | 150 | 175 | 0.9 | 29 | 25 |
| 3127-200* | 175-200mm/6.89-7.87" | D (three points) | 7µm | optional | 150 | 175 | 0.9 | 29 | 25 |
| 3127-225 | 200-225mm/7.87-8.86" | D (three points) | 8µm | optional | 150 | 175 | 0.9 | 29 | 25 |
| 3127-250 | 225-250mm/8.86-9.84" | D (three points) | 8µm | optional | 150 | 175 | 0.9 | 29 | 25 |
| 3127-275 | 250-275mm/9.84-10.83" | D (three points) | 9µm | optional | 150 | 175 | 0.9 | 29 | 25 |
| 3127-300 | 275-300mm/10.83-11.81" | D (three points) | 9µm | optional | 150 | 175 | 0.9 | 29 | 25 |

Set

| Code | Range | Micrometers included | Setting ring (included) | Extension rod (included) |
|------------|---------------------|-------------------------------------|-------------------------|--------------------------|
| 3127-232* | 2-3mm/0.08-0.12" | 2-2.5mm, 2.5-3mm | Ø2.5mm | — |
| 3127-363* | 3-6mm/0.12-0.24" | 3-4mm, 4-5mm, 5-6mm | Ø4mm, Ø5mm, Ø6mm | — |
| 3127-123* | 6-12mm/0.24-0.47" | 6-8mm, 8-10mm, 10-12mm | Ø6mm, Ø8mm, Ø10mm | 100mm |
| 3127-202* | 12-20mm/0.47-0.79" | 12-16mm, 16-20mm | Ø16mm | 150mm |
| 3127-504* | 20-50mm/0.79-1.97" | 20-25mm, 25-30mm, 30-40mm, 40-50mm | Ø25mm, Ø40mm | 150mm |
| 3127-1004* | 50-100mm/1.97-3.94" | 50-63mm, 62-75mm, 75-88mm, 87-100mm | Ø62mm, Ø87mm | 150mm |

*Supplied with manufacturer inspection certificate



WIDE RANGE THREE POINTS INTERNAL MICROMETERS

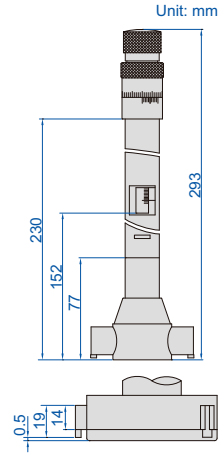
- Meet DIN863-4
- Graduation 0.001mm
- Carbide measuring faces
- Ratchet stop
- Setting rings are included (except 200-300mm)

| Code | Range | Accuracy | Setting ring |
|------------------|-----------|----------|-------------------|
| 3228-70* | 50-70mm | 5µm | Ø50mm (included) |
| 3228-100* | 70-100mm | 5µm | Ø70mm (included) |
| 3228-150* | 100-150mm | 6µm | Ø100mm (included) |
| 3228-250* | 150-250mm | 8µm | Ø150mm (included) |
| 3228-300* | 200-300mm | 9µm | Ø200mm (optional) |

*Supplied with manufacturer inspection certificate



3228-70



setting ring



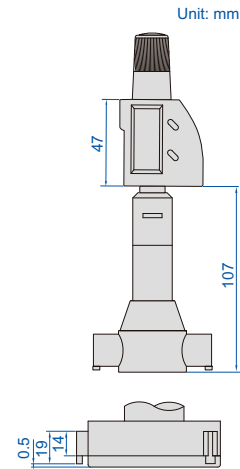
DIGITAL WIDE RANGE THREE POINTS INTERNAL MICROMETERS



- Meet DIN863-4
- Resolution 0.001mm/0.00005" (resolution of **3128-300** is 0.001mm/0.0001")
- IP54 dust/waterproof
- Buttons: on/off, set, mm/inch
- Data output
- Automatic power off
- Carbide measuring faces
- Ratchet stop
- Supplied with extension rods
- Setting rings are included (except 200-300mm)
- Optional accessory: data output cable (code **7315-30** need receiver page 4, **7302-30** page 12)



3128-150



setting ring

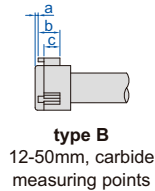
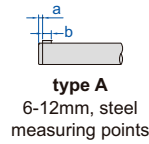
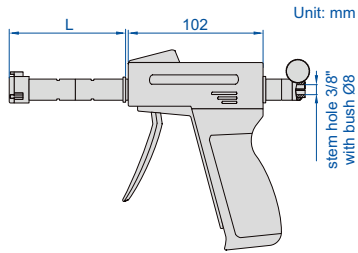


extension rod (included)

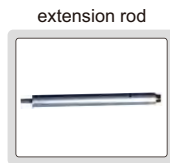
| Code | Range | Accuracy | Setting ring | Extension rod (included) |
|------------------|-----------------------|----------|-------------------|--------------------------|
| 3128-70* | 50-70mm/1.97-2.76" | 5µm | Ø50mm (included) | 150mm |
| 3128-100* | 70-100mm/2.76-3.94" | 5µm | Ø70mm (included) | 150mm |
| 3128-150* | 100-150mm/3.94-5.91" | 6µm | Ø100mm (included) | 150mm |
| 3128-250* | 150-250mm/5.91-9.84" | 8µm | Ø150mm (included) | 150mm |
| 3128-300* | 200-300mm/7.87-11.81" | 9µm | Ø200mm (optional) | 150mm |

*Supplied with manufacturer inspection certificate

PISTOL GRIP THREE POINTS BORE GAGES

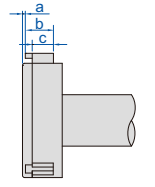


- Optional accessory:
digital indicators (code **2108-101F**, resolution 0.001mm/0.00005"),
setting rings (code **6312**)



6-100mm: included
100-300mm: **optional**

included



Individual

(mm)

| Code | Range | Type | Accuracy (without digital indicator) | Setting ring | Extension rod (included) | L | a | b | c |
|------------|-----------|------|--------------------------------------|------------------|--------------------------|-----|-----|------|------|
| 2124-8 * | 6-8mm | A | 4µm | Ø6mm (included) | 100mm | 50 | 1.5 | 2.5 | — |
| 2124-10 * | 8-10mm | A | 4µm | Ø8mm (included) | 100mm | 50 | 1.5 | 2.5 | — |
| 2124-12 * | 10-12mm | A | 4µm | Ø10mm (included) | 100mm | 50 | 1.5 | 2.5 | — |
| 2124-16 * | 12-16mm | B | 4µm | Ø16mm (included) | 150mm | 65 | 0.5 | 6 | 4.5 |
| 2124-20 * | 16-20mm | B | 4µm | Ø16mm (included) | 150mm | 65 | 0.5 | 6 | 4.5 |
| 2124-25 * | 20-25mm | B | 4µm | Ø25mm (included) | 150mm | 91 | 0.5 | 8 | 6 |
| 2124-30 * | 25-30mm | B | 4µm | Ø25mm (included) | 150mm | 91 | 0.5 | 8 | 6 |
| 2124-40 * | 30-40mm | B | 4µm | Ø40mm (included) | 150mm | 97 | 0.5 | 14 | 12 |
| 2124-50 * | 40-50mm | B | 5µm | Ø40mm (included) | 150mm | 97 | 0.5 | 14 | 12 |
| 2124-63 * | 50-63mm | C | 5µm | Ø62mm (included) | 150mm | 112 | 0.5 | 17.5 | 14.5 |
| 2124-75 * | 62-75mm | C | 5µm | Ø62mm (included) | 150mm | 112 | 0.5 | 17.5 | 14.5 |
| 2124-88 * | 75-88mm | C | 5µm | Ø87mm (included) | 150mm | 112 | 0.5 | 17.5 | 14.5 |
| 2124-100 * | 87-100mm | C | 5µm | Ø87mm (included) | 150mm | 112 | 0.5 | 17.5 | 14.5 |
| 2124-125 * | 100-125mm | C | 6µm | optional | 150mm | 140 | 0.9 | 29 | 25 |
| 2124-150 * | 125-150mm | C | 6µm | optional | 150mm | 140 | 0.9 | 29 | 25 |
| 2124-175 * | 150-175mm | C | 7µm | optional | 150mm | 140 | 0.9 | 29 | 25 |
| 2124-200 * | 175-200mm | C | 7µm | optional | 150mm | 140 | 0.9 | 29 | 25 |
| 2124-225 | 200-225mm | C | 8µm | optional | 150mm | 140 | 0.9 | 29 | 25 |
| 2124-250 | 225-250mm | C | 8µm | optional | 150mm | 140 | 0.9 | 29 | 25 |
| 2124-275 | 250-275mm | C | 9µm | optional | 150mm | 140 | 0.9 | 29 | 25 |
| 2124-300 | 275-300mm | C | 9µm | optional | 150mm | 140 | 0.9 | 29 | 25 |

Set

| Code | Range | Probes included | Setting ring (included) | Extension rod (included) |
|--------------|----------|-------------------------------------|-------------------------|--------------------------|
| 2124-S123 * | 6-12mm | 6-8mm, 8-10mm, 10-12mm | Ø6mm, Ø8mm, Ø10mm | 100mm |
| 2124-S202 * | 12-20mm | 12-16mm, 16-20mm | Ø16mm | 150mm |
| 2124-S504 * | 20-50mm | 20-25mm, 25-30mm, 30-40mm, 40-50mm | Ø25mm, Ø40mm | 150mm |
| 2124-S1004 * | 50-100mm | 50-63mm, 62-75mm, 75-88mm, 87-100mm | Ø62mm, Ø87mm | 150mm |

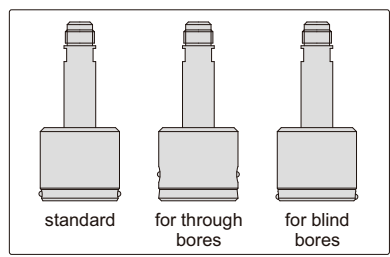
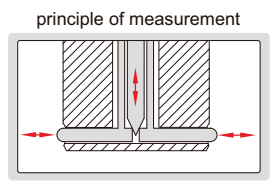
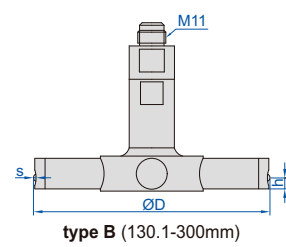
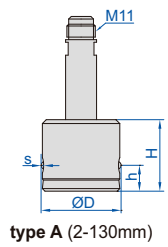


2124- S504

*Supplied with manufacturer inspection certificate

BORE PLUG GAGES

INSIZE PLUS
MADE IN EUROPE



SPECIFICATION OF PROBE

(mm)

| | | | | | | | | | | |
|---------------------|-------------------|-------|-------|--------|--------|---------|---------|---------|----------|-----------|
| Range (ØD) | 2-3 | 3.1-4 | 4.1-6 | 6.1-9 | 9.1-12 | 12.1-20 | 20.1-40 | 40.1-60 | 60.1-130 | 130.1-300 |
| Type | A | A | A | A | A | A | A | A | A | B |
| Travel of point (s) | 0.15 | 0.15 | 0.15 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| Height of point (h) | standard | 1 | 1.5 | 1.5 | 2.5 | 2.5 | 2.5 | 3.5 | 3.5 | 6 |
| | for through bores | — | 6 | 6 | 6 | 10 | 10 | 10 | 10 | — |
| | for blind bores | 0.7 | 1 | 1 | 1 | 1 | 1 | 1.2 | 1.2 | 3 |
| Height of probe (H) | 17.5 | 26 | 10 | 15 | 15 | 15 | 20 | 28 | 33 | — |
| Repeatability | 0.001 | 0.001 | 0.001 | 0.0005 | 0.0005 | 0.0005 | 0.0005 | 0.0005 | 0.001 | 0.002 |

To be continued

Continued from previous page



PROBE

| Code | Type |
|-------------|-------------------|
| 4653-A□□□□□ | standard |
| 4653-B□□□□□ | for through bores |
| 4653-C□□□□□ | for blind bores |

SETTING RING

| Code |
|------------|
| 6312-□□□□□ |

Ordering examples:

| Code | Type | Range |
|--------------|----------|--------|
| 4653-A30D6H7 | standard | 30.6H7 |

Attention: "D" stands for "."



HANDLE

| Code | Length (L) | Diameter (ØD) | Retraction |
|-----------|------------|---------------|------------|
| 4653-150 | 45mm | 12mm | without |
| 4653-1105 | 105mm | 12mm | without |
| 4653-1235 | 235mm | 12mm | without |
| 4653-2145 | 145mm | 18mm * | without |
| 4653-2235 | 235mm | 18mm * | without |
| 4653-H70 | 70mm | 12mm | with |

* When measuring range is larger than 60mm, we suggest to use the 18mm handle

7



4653-G



4653-J



set measuring depth

DEPTH STOP

| Code | Applicable for probe |
|-------------|----------------------|
| 4653-G□□□□□ | 3.0~60mm |
| 4653-J□□□□□ | 30~130mm |

Ordering examples:

| Code | Applicable for probe |
|------------|----------------------|
| 4653-G22H7 | 22H7 |



set measuring depth



HANDLE FOR INDUCTIVE PROBE

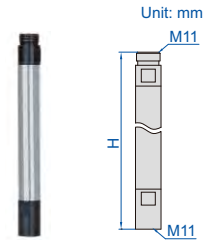
| Code |
|-----------|
| 4653-F110 |



application

BASE

| Code | Applicable holding stem |
|-------------|-------------------------|
| 4663-STAND | Ø12mm |
| 4663-STAND1 | Ø18mm |



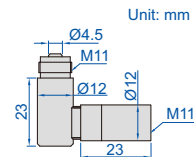
EXTENSION ROD FOR HANDLE

| Code | Length (H) |
|-----------|------------|
| 4653-R50 | 50mm |
| 4653-R100 | 100mm |
| 4653-R250 | 250mm |
| 4653-R500 | 500mm |



90° ADAPTER

| Code |
|---------|
| 4653-K1 |



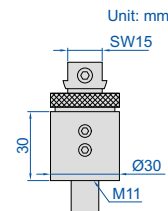
application



FLOATING CLAMP HANDLE

| Code |
|----------|
| 4653-M30 |

Suitable for automatic measurement

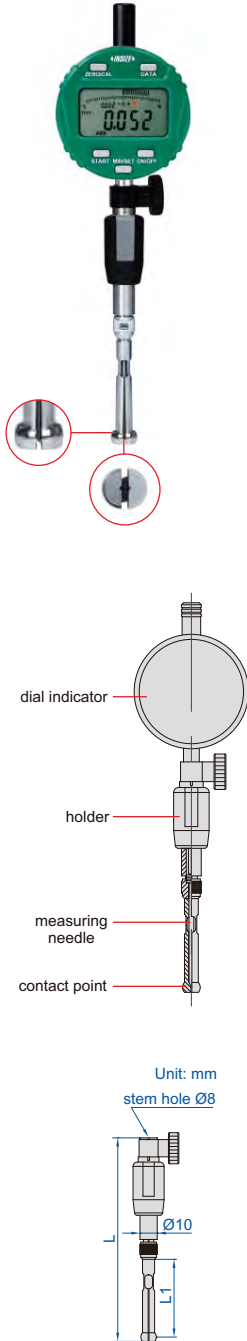


application

SPLIT TYPE DIAL BORE GAGES

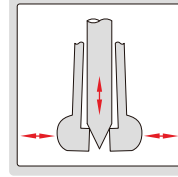
INSIZE PLUS
MADE IN EUROPE

digital indicator
is optional



- Split type contact points
- Accuracy (without indicator):
3µm (measuring range 0.95~10mm),
4µm (measuring range 10~20.6mm)
- Repeatability (without indicator): 1µm
- Optional accessory:
digital/dial indicators or dial comparator

principle of measurement



(mm)

| Contact point | | | | | Measuring needle | Setting ring | |
|---------------|-----------------|----------------------|------------------|--------------------|------------------|--------------|----------|
| code | measuring range | measuring depth (L1) | total length (L) | material of points | code | code | diameter |
| 2426-1 | 0.95-1.15 | 13 | 89 | carbide | 2426-N1D4 | 6312-1 | 1 |
| 2426-1D1 | 1.07-1.25 | 13 | 89 | carbide | | 6312-1D1 | 1.1 |
| 2426-1D2 | 1.17-1.35 | 13 | 89 | carbide | | 6312-1D2 | 1.2 |
| 2426-1D3 | 1.27-1.45 | 13 | 89 | carbide | | 6312-1D3 | 1.3 |
| 2426-1D4 | 1.37-1.55 | 13 | 89 | carbide | 2426-N2D25 | 6312-1D4 | 1.4 |
| 2426-1D75 | 1.5-1.9 | 17 | 93 | carbide | | 6312-1D75 | 1.75 |
| 2426-2 | 1.8-2.2 | 17 | 93 | carbide | | 6312-2 | 2 |
| 2426-2D25 | 2.05-2.45 | 17 | 93 | carbide | | 6312-2D25 | 2.25 |
| 2426-2D5 | 2.3-2.7 | 25 | 101 | carbide | 2426-N4 | 6312-2D5 | 2.5 |
| 2426-2D75 | 2.55-2.95 | 25 | 101 | carbide | | 6312-2D75 | 2.75 |
| 2426-3 | 2.8-3.2 | 25 | 101 | carbide | | 6312-3 | 3 |
| 2426-3D25 | 3.05-3.45 | 25 | 101 | carbide | | 6312-3D25 | 3.25 |
| 2426-3D5 | 3.3-3.7 | 25 | 101 | carbide | 2426-N9 | 6312-3D5 | 3.5 |
| 2426-3D75 | 3.55-3.95 | 25 | 101 | carbide | | 6312-3D75 | 3.75 |
| 2426-4 | 3.8-4.2 | 25 | 101 | carbide | | 6312-4 | 4 |
| 2426-4D5 | 4.15-4.8 | 41 | 118 | DLC coating | | 6312-4D5 | 4.5 |
| 2426-5 | 4.7-5.3 | 41 | 118 | DLC coating | 2426-N20 | 6312-5 | 5 |
| 2426-5D5 | 5.2-5.8 | 41 | 118 | DLC coating | | 6312-5D5 | 5.5 |
| 2426-6 | 5.7-6.3 | 41 | 118 | DLC coating | | 6312-6 | 6 |
| 2426-6D5 | 6.2-6.8 | 41 | 118 | DLC coating | | 6312-6D5 | 6.5 |
| 2426-7 | 6.7-7.3 | 41 | 118 | DLC coating | 2426-N9 | 6312-7 | 7 |
| 2426-7D5 | 7.2-7.8 | 45 | 118 | DLC coating | | 6312-7D5 | 7.5 |
| 2426-8 | 7.7-8.3 | 45 | 118 | DLC coating | | 6312-8 | 8 |
| 2426-8D5 | 8.2-8.8 | 45 | 118 | DLC coating | | 6312-8D5 | 8.5 |
| 2426-9 | 8.7-9.3 | 45 | 118 | DLC coating | 2426-N20 | 6312-9 | 9 |
| 2426-10 | 9.2-10.5 | 45 | 118 | DLC coating | | 6312-10 | 10 |
| 2426-11 | 10.2-11.5 | 45 | 118 | DLC coating | | 6312-11 | 11 |
| 2426-12 | 11.2-12.5 | 45 | 118 | DLC coating | | 6312-12 | 12 |
| 2426-13 | 12.2-13.5 | 45 | 118 | DLC coating | 2426-N20 | 6312-13 | 13 |
| 2426-14 | 13.4-14.6 | 45 | 118 | DLC coating | | 6312-14 | 14 |
| 2426-15 | 14.4-15.6 | 45 | 118 | DLC coating | | 6312-15 | 15 |
| 2426-16 | 15.4-16.6 | 45 | 118 | DLC coating | | 6312-16 | 16 |
| 2426-17 | 16.4-17.6 | 45 | 118 | DLC coating | 2426-N20 | 6312-17 | 17 |
| 2426-18 | 17.4-18.6 | 45 | 118 | DLC coating | | 6312-18 | 18 |
| 2426-19 | 18.4-19.6 | 45 | 118 | DLC coating | | 6312-19 | 19 |
| 2426-20 | 19.4-20.6 | 45 | 118 | DLC coating | | 6312-20 | 20 |



HOLDER

| Code | Retraction | Applicable points |
|--------------|------------|-------------------|
| 2426-HOLDER1 | without | all |
| 2426-HOLDER2 | with | all |

SPLIT TYPE DIAL BORE GAGE SETS

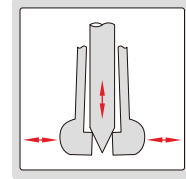
INSIZE PLUS
MADE IN EUROPE

- Split type contact points
- Accuracy (without indicator): 3µm (measuring range 0.95~10mm), 4µm (measuring range 10~20.6mm)
- Repeatability (without indicator): 1µm
- Setting rings and dial indicators are optional

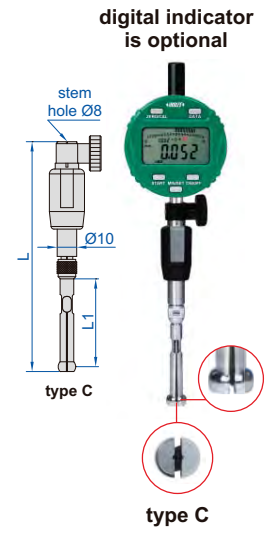
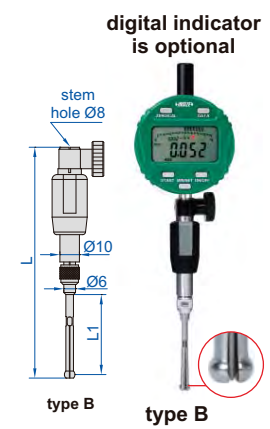
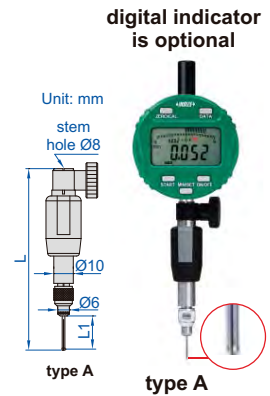


2421-121 (mm)

principle of measurement



| Code | Range | Quantity of points | Measuring range of point | Measuring depth (L1) | Total length (L) | Material of points | Type of point | Setting ring (optional) | |
|----------|-----------|--------------------|--------------------------|----------------------|------------------|--------------------|---------------|-------------------------|----------|
| | | | | | | | | code | diameter |
| 2421-1D4 | 0.95-1.55 | 5 | 0.95-1.15 | 13 | 89 | carbide | A | 6312-1 | 1 |
| | | | 1.07-1.25 | 13 | 89 | carbide | A | 6312-1D1 | 1.1 |
| | | | 1.17-1.35 | 13 | 89 | carbide | A | 6312-1D2 | 1.2 |
| | | | 1.27-1.45 | 13 | 89 | carbide | A | 6312-1D3 | 1.3 |
| | | | 1.37-1.55 | 13 | 89 | carbide | A | 6312-1D4 | 1.4 |
| 2421-4 | 1.5-4.2 | 10 | 1.5-1.9 | 17 | 93 | carbide | A | 6312-1D75 | 1.75 |
| | | | 1.8-2.2 | 17 | 93 | carbide | A | 6312-2 | 2 |
| | | | 2.05-2.45 | 17 | 93 | carbide | A | 6312-2D25 | 2.25 |
| | | | 2.3-2.7 | 25 | 101 | carbide | A | 6312-2D5 | 2.5 |
| | | | 2.55-2.95 | 25 | 101 | carbide | A | 6312-2D75 | 2.75 |
| | | | 2.8-3.2 | 25 | 101 | carbide | A | 6312-3 | 3 |
| | | | 3.05-3.45 | 25 | 101 | carbide | A | 6312-3D25 | 3.25 |
| | | | 3.3-3.7 | 25 | 101 | carbide | A | 6312-3D5 | 3.5 |
| | | | 3.55-3.95 | 25 | 101 | carbide | A | 6312-3D75 | 3.75 |
| | | | 3.8-4.2 | 25 | 101 | carbide | A | 6312-4 | 4 |
| 2421-7D5 | 4.15-7.8 | 7 | 4.15-4.8 | 41 | 118 | hard chromed | B | 6312-4D5 | 4.5 |
| | | | 4.7-5.3 | 41 | 118 | hard chromed | B | 6312-5 | 5 |
| | | | 5.2-5.8 | 41 | 118 | hard chromed | B | 6312-5D5 | 5.5 |
| | | | 5.7-6.3 | 41 | 118 | hard chromed | B | 6312-6 | 6 |
| | | | 6.2-6.8 | 41 | 118 | hard chromed | B | 6312-6D5 | 6.5 |
| | | | 6.7-7.3 | 41 | 118 | hard chromed | B | 6312-7 | 7 |
| | | | 7.2-7.8 | 45 | 118 | hard chromed | C | 6312-7D5 | 7.5 |
| 2421-12 | 7.7-12.5 | 6 | 7.7-8.3 | 45 | 118 | hard chromed | C | 6312-8 | 8 |
| | | | 8.2-8.8 | 45 | 118 | hard chromed | C | 6312-8D5 | 8.5 |
| | | | 8.7-9.3 | 45 | 118 | hard chromed | C | 6312-9 | 9 |
| | | | 9.2-10.5 | 45 | 118 | hard chromed | C | 6312-10 | 10 |
| | | | 10.2-11.5 | 45 | 118 | hard chromed | C | 6312-11 | 11 |
| | | | 11.2-12.5 | 45 | 118 | hard chromed | C | 6312-12 | 12 |
| 2421-20 | 12.2-20.6 | 8 | 12.2-13.5 | 45 | 118 | hard chromed | C | 6312-13 | 13 |
| | | | 13.4-14.6 | 45 | 118 | hard chromed | C | 6312-14 | 14 |
| | | | 14.4-15.6 | 45 | 118 | hard chromed | C | 6312-15 | 15 |
| | | | 15.4-16.6 | 45 | 118 | hard chromed | C | 6312-16 | 16 |
| | | | 16.4-17.6 | 45 | 118 | hard chromed | C | 6312-17 | 17 |
| | | | 17.4-18.6 | 45 | 118 | hard chromed | C | 6312-18 | 18 |
| | | | 18.4-19.6 | 45 | 118 | hard chromed | C | 6312-19 | 19 |
| | | | 19.4-20.6 | 45 | 118 | hard chromed | C | 6312-20 | 20 |
| 2421-121 | 4.15-12.5 | 13 | 4.15-4.8 | 41 | 118 | hard chromed | B | 6312-4D5 | 4.5 |
| | | | 4.7-5.3 | 41 | 118 | hard chromed | B | 6312-5 | 5 |
| | | | 5.2-5.8 | 41 | 118 | hard chromed | B | 6312-5D5 | 5.5 |
| | | | 5.7-6.3 | 41 | 118 | hard chromed | B | 6312-6 | 6 |
| | | | 6.2-6.8 | 41 | 118 | hard chromed | B | 6312-6D5 | 6.5 |
| | | | 6.7-7.3 | 41 | 118 | hard chromed | B | 6312-7 | 7 |
| | | | 7.2-7.8 | 45 | 118 | hard chromed | C | 6312-7D5 | 7.5 |
| | | | 7.7-8.3 | 45 | 118 | hard chromed | C | 6312-8 | 8 |
| | | | 8.2-8.8 | 45 | 118 | hard chromed | C | 6312-8D5 | 8.5 |
| | | | 8.7-9.3 | 45 | 118 | hard chromed | C | 6312-9 | 9 |
| | | | 9.2-10.5 | 45 | 118 | hard chromed | C | 6312-10 | 10 |
| | | | 10.2-11.5 | 45 | 118 | hard chromed | C | 6312-11 | 11 |
| | | | 11.2-12.5 | 45 | 118 | hard chromed | C | 6312-12 | 12 |



BORE GAGES FOR SMALL HOLES

INSIZE PLUS
MADE IN EUROPE

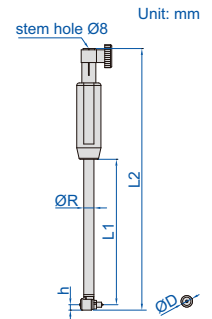
- Applicable for 0.01mm or 0.001mm, graduation dial indicators
- Carbide contact point and anvil
- Optional accessory: dial indicator or dial comparator, setting ring (code **6312**)

| Code | Range | Accuracy (without dial comparator) | Repeatability (without dial comparator) | L1 | L2 | ØR | ØD | h |
|---------|---------|------------------------------------|---|-----|-----|----|-----|------|
| 2425-6 | 4.5-6mm | 2µm | 0.5µm | 80 | 147 | 4 | 4 | 2 |
| 2425-8 | 6-8mm | 2µm | 0.5µm | 100 | 165 | 5 | 5.2 | 2.6 |
| 2425-12 | 8-12mm | 2µm | 0.5µm | 100 | 166 | 5 | 6.5 | 3.25 |
| 2425-20 | 12-20mm | 2µm | 0.5µm | 110 | 204 | 8 | 9 | 4.5 |

digital indicator is optional



2425-6



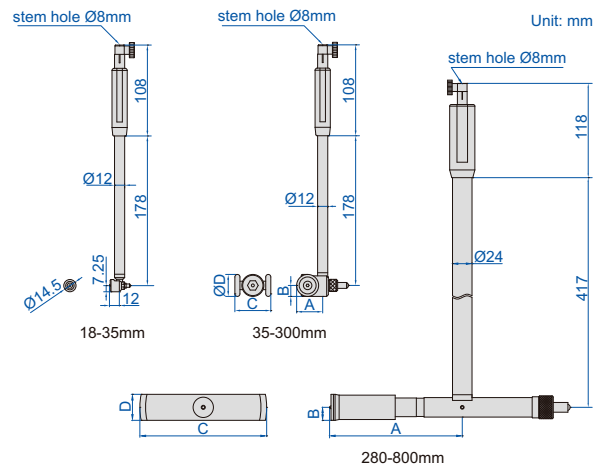
BORE GAGES

INSIZE PLUS
MADE IN EUROPE

digital indicator is optional



2422-150



- Applicable for 0.01mm or 0.001mm graduation dial indicators
- Optional accessory:
 - Dial indicator or dial comparator
 - Setting ring (code **6312**)
 - Long handle (code **7352**)
 - Bore gage setter

| Code | Range | Accuracy (without dial comparator) | Repeatability (without dial comparator) |
|----------|-----------|------------------------------------|---|
| 2422-35 | 18-35mm | 4µm | 2µm |
| 2422-60 | 35-60mm | 4µm | 2µm |
| 2422-150 | 50-150mm | 4µm | 2µm |
| 2422-300 | 150-300mm | 4µm | 2µm |
| 2422-510 | 280-510mm | 3µm | 1.5µm |
| 2422-800 | 400-800mm | 3µm | 1.5µm |

| Code | A | B | C | D |
|----------|--------|--------|--------|------|
| 2422-60 | 19.5mm | 10.5mm | 28mm | 21mm |
| 2422-150 | 30.8mm | 13mm | 42.5mm | 26mm |
| 2422-300 | 30.8mm | 13mm | 76.5mm | 26mm |
| 2422-510 | 164mm | 16mm | 156mm | 32mm |
| 2422-800 | 305mm | 18mm | 300mm | 36mm |

PRECISION BORE GAGES FOR SMALL HOLES (WITH DIAL INDICATOR)



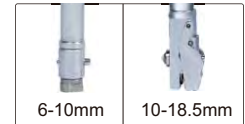
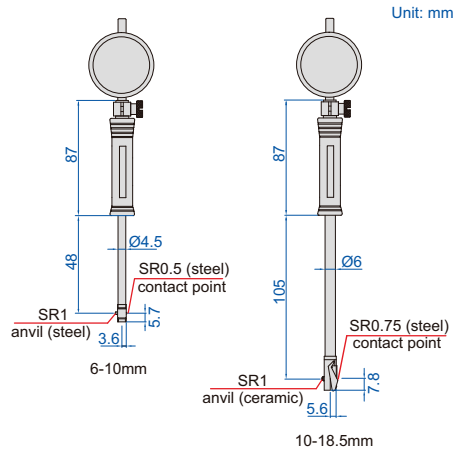
2853-10



2153-18



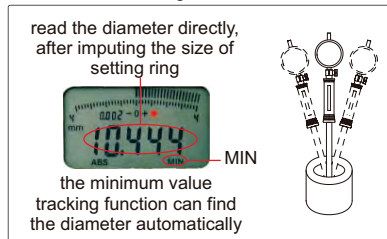
2153-18WP



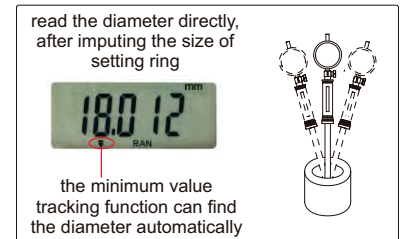
7

- Optional accessory: setting ring (code 6312), bore gage setter

with digital indicator



with waterproof digital indicator



With dial indicator

| Code | Range | Indicator | Accuracy | Repeatability |
|---------|-----------|---|----------------|---------------|
| 2853-10 | 6-10mm | dial indicator, range 1mm, graduation 0.001mm (code 2313-1FA) | ± 0.007 mm | 0.0015mm |
| 2853-18 | 10-18.5mm | | ± 0.007 mm | 0.0015mm |

With digital indicator

(data output cable code 7315-50M need receiver page 5, 7302-40M page 13, optional)

| Code | Range | Indicator | Accuracy | Repeatability |
|---------|-----------|---|----------------|---------------|
| 2153-10 | 6-10mm | digital indicator, code 2108-101F, range 12.7mm/0.5", resolution 0.001mm/0.00005" | ± 0.007 mm | 0.002mm |
| 2153-18 | 10-18.5mm | | ± 0.007 mm | 0.002mm |

With waterproof digital indicator

(data output cable code 7315-50M need receiver page 5, 7302-40M page 13, optional)

| Code | Range | Indicator | Accuracy | Repeatability |
|-----------|-----------|--|----------------|---------------|
| 2153-10WP | 6-10mm | waterproof digital indicator, code 2137-101F, range 12.7mm/0.5", dust/waterproof IP54, resolution 0.001mm/0.00005" | ± 0.007 mm | 0.002mm |
| 2153-18WP | 10-18.5mm | | ± 0.007 mm | 0.002mm |

ATTENTION: NOT SUITABLE FOR 0.001MM DIAL INDICATORS

BORE GAGES FOR SMALL HOLES (WITH DIAL INDICATOR)

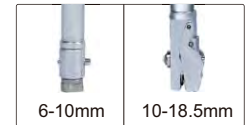
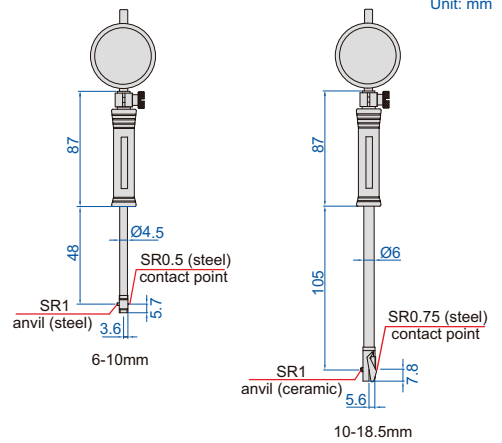


2852-10



2152-18

2152-18WP

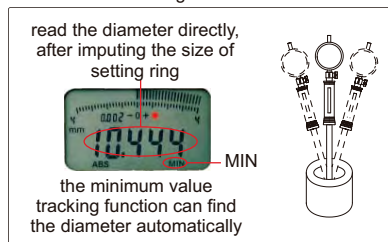


6-10mm

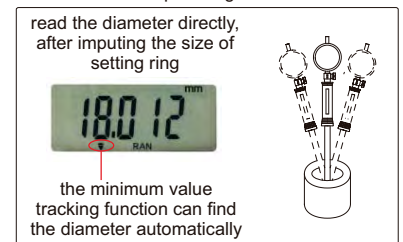
10-18.5mm

- Optional accessory: setting ring (code 6312), bore gage setter

with digital indicator



with waterproof digital indicator



With dial indicator

| Code | Range | Indicator | Accuracy | Repeatability |
|---------|-----------|---|----------|---------------|
| 2852-10 | 6-10mm | dial indicator, range 3mm, graduation 0.01mm (code 2311-3F) | ±0.012mm | 0.003mm |
| 2852-18 | 10-18.5mm | | ±0.012mm | 0.003mm |

With digital indicator

(data output cable code 7315-50M need receiver page 5, 7302-40M page 13, optional)

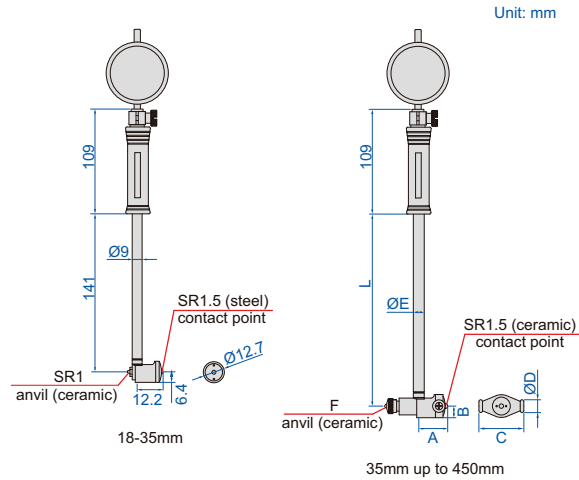
| Code | Range | Indicator | Accuracy | Repeatability |
|---------|-----------|---|----------|---------------|
| 2152-10 | 6-10mm | digital indicator, code 2108-10F, range 12.7mm/0.5", resolution 0.002mm/0.0001" | ±0.012mm | 0.003mm |
| 2152-18 | 10-18.5mm | (can switch to 0.01mm/0.0005") | ±0.012mm | 0.003mm |

With waterproof digital indicator

(data output cable code 7315-50M need receiver page 5, 7302-40M page 13, optional)

| Code | Range | Indicator | Accuracy | Repeatability |
|-----------|-----------|--|----------|---------------|
| 2152-10WP | 6-10mm | waterproof digital indicator, code 2137-10F, range 12.7mm/0.5", dust/waterproof IP54, resolution 0.002mm/0.0001" | ±0.012mm | 0.003mm |
| 2152-18WP | 10-18.5mm | (can switch to 0.01mm/0.0005") | ±0.012mm | 0.003mm |

PRECISION BORE GAGES (WITH DIAL INDICATOR)



Optional accessory: setting ring (code **6312**), bore gage setter

| Range | A | B | C | ØD | ØE | F | L |
|-----------|------|----|-------|----|------|-------|-----|
| 35-60mm | 22 | 9 | 27 | 13 | 12.8 | SR2 | 141 |
| 50-100mm | 26 | 9 | 35 | 13 | 12.8 | SR2 | 141 |
| 50-160mm | 26 | 9 | 35 | 13 | 12.8 | SR2 | 141 |
| 100-160mm | 26 | 9 | 35 | 13 | 12.8 | SR2 | 141 |
| 160-250mm | 56.5 | 13 | 74.5 | 15 | 12.8 | SR2 | 241 |
| 250-450mm | 86.5 | 15 | 101.5 | 15 | 14.5 | SR2.5 | 241 |

With dial indicator

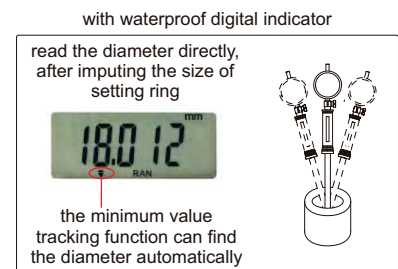
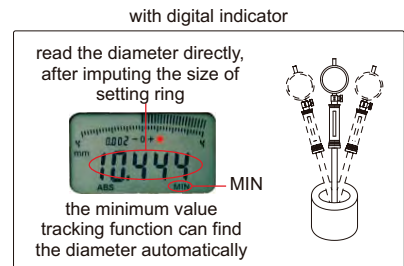
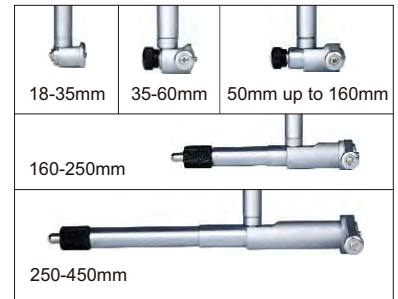
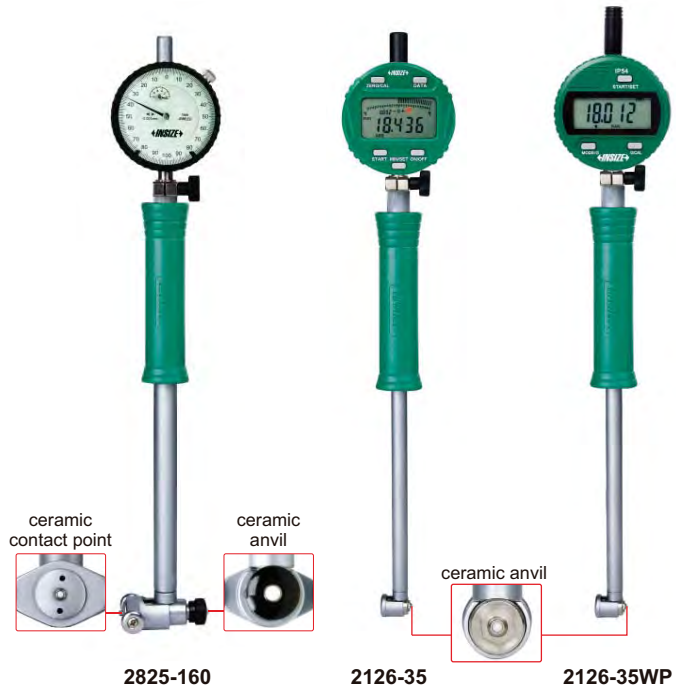
| Code | Range | Indicator | Accuracy | Repeatability |
|-----------------|-----------|---|----------|---------------|
| 2825-35 | 18-35mm | dial indicator, range 1mm, graduation 0.001mm (code 2313-1FA) | ±0.007mm | 0.0015mm |
| 2825-60 | 35-60mm | | ±0.007mm | 0.0015mm |
| 2825-100 | 50-100mm | | ±0.007mm | 0.0015mm |
| 2825-160 | 50-160mm | | ±0.007mm | 0.0015mm |
| 2825-161 | 100-160mm | | ±0.007mm | 0.0015mm |
| 2825-250 | 160-250mm | | ±0.007mm | 0.0015mm |
| 2825-450 | 250-450mm | | ±0.007mm | 0.0015mm |

With digital indicator (data output cable code **7315-50M** need receiver page 5, **7302-40M** page 13, optional)

| Code | Range | Indicator | Accuracy | Repeatability |
|-----------------|-----------|---|----------|---------------|
| 2126-35 | 18-35mm | digital indicator, code 2108-101F , range 12.7mm/0.5", resolution 0.001mm/0.00005" | ±0.007mm | 0.002mm |
| 2126-60 | 35-60mm | | ±0.007mm | 0.002mm |
| 2126-100 | 50-100mm | | ±0.007mm | 0.002mm |
| 2126-160 | 50-160mm | | ±0.007mm | 0.002mm |
| 2126-161 | 100-160mm | | ±0.007mm | 0.002mm |
| 2126-250 | 160-250mm | | ±0.007mm | 0.002mm |
| 2126-450 | 250-450mm | | ±0.007mm | 0.002mm |

With waterproof digital indicator (data output cable code **7315-50M** need receiver page 5, **7302-40M** page 13, optional)

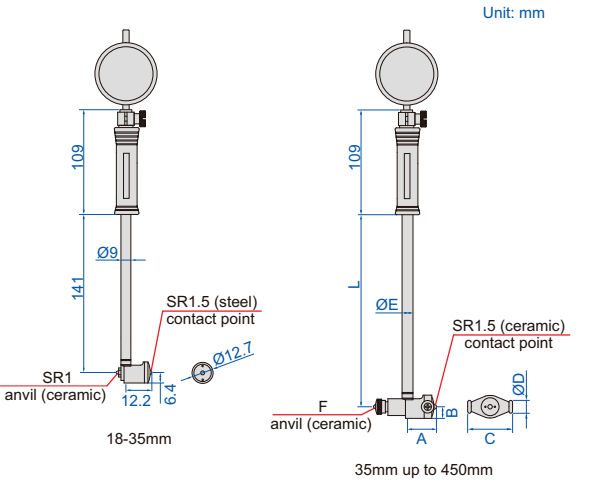
| Code | Range | Indicator | Accuracy | Repeatability |
|-------------------|-----------|--|----------|---------------|
| 2126-35WP | 18-35mm | waterproof digital indicator, code 2137-101F , range 12.7mm/0.5", dust/waterproof IP54, resolution 0.001mm/0.00005" | ±0.007mm | 0.002mm |
| 2126-60WP | 35-60mm | | ±0.007mm | 0.002mm |
| 2126-100WP | 50-100mm | | ±0.007mm | 0.002mm |
| 2126-160WP | 50-160mm | | ±0.007mm | 0.002mm |
| 2126-161WP | 100-160mm | | ±0.007mm | 0.002mm |
| 2126-250WP | 160-250mm | | ±0.007mm | 0.002mm |
| 2126-450WP | 250-450mm | | ±0.007mm | 0.002mm |



ATTENTION: NOT SUITABLE FOR 0.001MM DIAL INDICATORS

POPULAR MODEL

BORE GAGES (WITH DIAL INDICATOR)



- Optional accessory: setting ring (code 6312), long handle (code 7351), bore gage setter

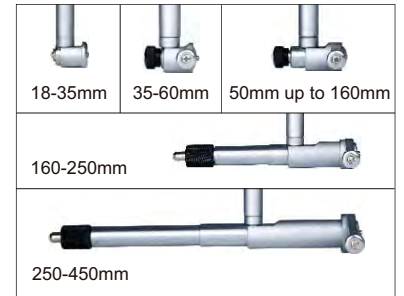
(mm)

| Range | A | B | C | ØD | ØE | F | L |
|-----------|------|----|-------|----|------|-------|-----|
| 35-60mm | 22 | 9 | 27 | 13 | 12.8 | SR2 | 141 |
| 50-100mm | 26 | 9 | 35 | 13 | 12.8 | SR2 | 141 |
| 50-160mm | 26 | 9 | 35 | 13 | 12.8 | SR2 | 141 |
| 100-160mm | 26 | 9 | 35 | 13 | 12.8 | SR2 | 141 |
| 160-250mm | 56.5 | 13 | 74.5 | 15 | 12.8 | SR2 | 241 |
| 250-450mm | 86.5 | 15 | 101.5 | 15 | 14.5 | SR2.5 | 241 |



With dial indicator

| Code | Range | Indicator | Accuracy | Repeatability |
|-----------|-----------|--|----------|---------------|
| 2322-35A | 18-35mm | dial indicator, range 10mm, graduation 0.01mm (code 2308-10FA) | ±0.015mm | 0.003mm |
| 2322-60A | 35-60mm | | ±0.018mm | 0.003mm |
| 2322-100A | 50-100mm | | ±0.018mm | 0.003mm |
| 2322-160A | 50-160mm | | ±0.018mm | 0.003mm |
| 2322-161A | 100-160mm | | ±0.018mm | 0.003mm |
| 2322-250A | 160-250mm | | ±0.018mm | 0.003mm |
| 2322-450A | 250-450mm | | ±0.018mm | 0.003mm |

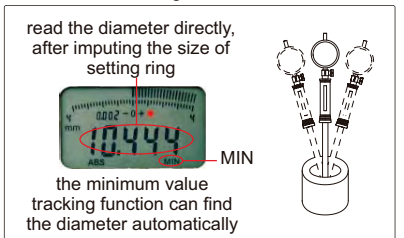


With digital indicator

(data output cable code 7315-50M need receiver page 5, 7302-40M page 13, optional)

| Code | Range | Indicator | Accuracy | Repeatability |
|-----------|-----------|--|----------|---------------|
| 2122-35A | 18-35mm | digital indicator, code 2108-10F, range 12.7mm/0.5", resolution 0.002mm/0.0001" (can switch to 0.01mm/0.0005") | ±0.015mm | 0.003mm |
| 2122-60A | 35-60mm | | ±0.018mm | 0.003mm |
| 2122-100A | 50-100mm | | ±0.018mm | 0.003mm |
| 2122-160A | 50-160mm | | ±0.018mm | 0.003mm |
| 2122-161A | 100-160mm | | ±0.018mm | 0.003mm |
| 2122-250A | 160-250mm | | ±0.018mm | 0.003mm |
| 2122-450A | 250-450mm | | ±0.018mm | 0.003mm |

with digital indicator

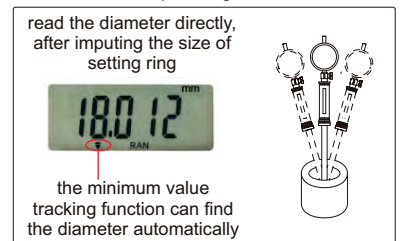


With waterproof digital indicator

(data output cable code 7315-50M need receiver page 5, 7302-40M page 13, optional)

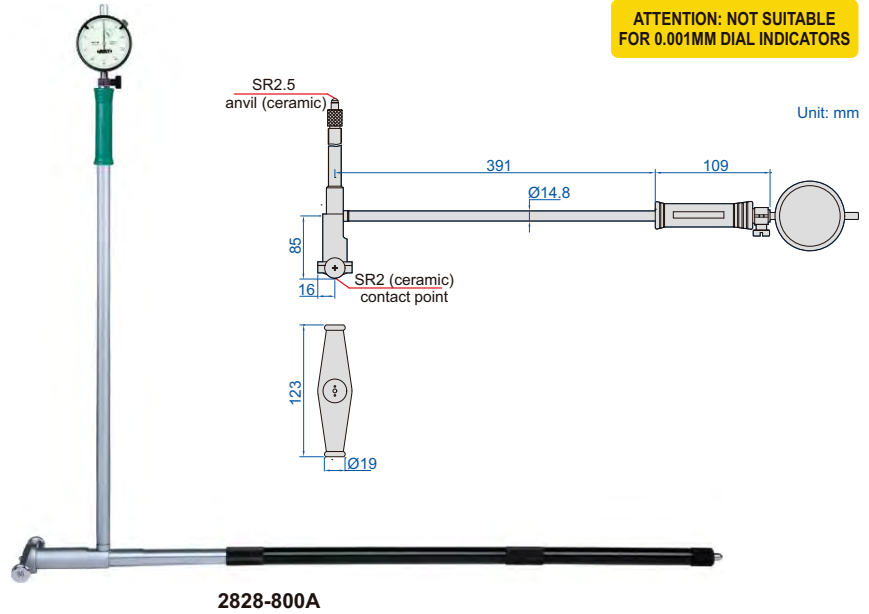
| Code | Range | Indicator | Accuracy | Repeatability |
|-------------|-----------|---|----------|---------------|
| 2122-35AWP | 18-35mm | waterproof digital indicator, code 2137-10F, range 12.7mm/0.5", dust/waterproof IP54, resolution 0.002mm/0.0001" (can switch to 0.01mm/0.0005") | ±0.015mm | 0.003mm |
| 2122-60AWP | 35-60mm | | ±0.018mm | 0.003mm |
| 2122-100AWP | 50-100mm | | ±0.018mm | 0.003mm |
| 2122-160AWP | 50-160mm | | ±0.018mm | 0.003mm |
| 2122-161AWP | 100-160mm | | ±0.018mm | 0.003mm |
| 2122-250AWP | 160-250mm | | ±0.018mm | 0.003mm |
| 2122-450AWP | 250-450mm | ±0.018mm | 0.003mm | |

with waterproof digital indicator



**BORE GAGES
(WITH DIAL INDICATOR)**

**ATTENTION: NOT SUITABLE
FOR 0.001MM DIAL INDICATORS**



7

With dial indicator

| Code | Range | Indicator | Accuracy | Repeatability |
|-----------|-----------|---|----------|---------------|
| 2828-800A | 400-800mm | dial indicator, code 2308-10FA , range 10mm, graduation 0.01mm | ±0.025mm | 0.003mm |

With digital indicator (data output cable code 7315-50M need receiver page 5, 7302-40M page 13, optional)

| Code | Range | Indicator | Accuracy | Repeatability |
|-----------|-----------|--|----------|---------------|
| 2128-800A | 400-800mm | digital indicator, code 2108-10F , range 12.7mm/0.5", resolution 0.002mm/0.0001" (can switch to 0.01mm/0.0005") | ±0.025mm | 0.003mm |

With waterproof digital indicator (data output cable code 7315-50M need receiver page 5, 7302-40M page 13, optional)

| Code | Range | Indicator | Accuracy | Repeatability |
|-------------|-----------|---|----------|---------------|
| 2128-800AWP | 400-800mm | waterproof digital indicator, code 2137-10F , range 12.7mm/0.5", dust/waterproof IP54, resolution 0.002mm/0.0001" (can switch to 0.01mm/0.0005") | ±0.025mm | 0.003mm |

BORE GAGE SET

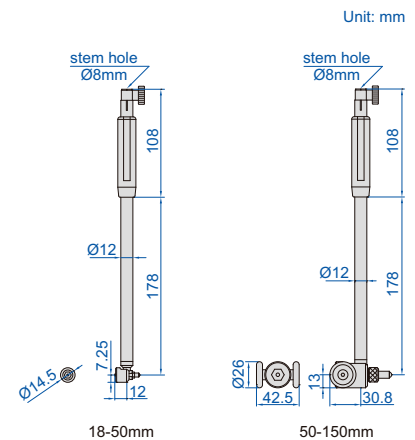
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digital indicator is optional



2423-S2

- Includes bore gages 18-50mm and 50-150mm
- Optional accessory:
 - 0.01mm or 0.001mm graduation dial indicator or dial comparator
 - Setting ring (code 6312)
 - Long handle (code 7352)
 - Bore gage setter



| Code | Range | Accuracy (without dial comparator) | Repeatability (without dial comparator) |
|---------|----------|------------------------------------|---|
| 2423-S2 | 18-150mm | 4µm | 2µm |

ATTENTION: NOT SUITABLE FOR 0.001MM DIAL INDICATORS

BORE GAGE SETS (WITH DIAL INDICATOR)



2824-S160



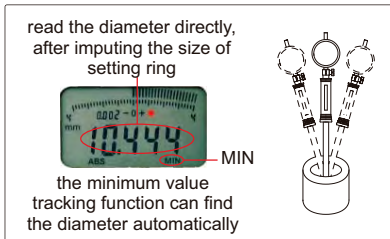
2724-S3



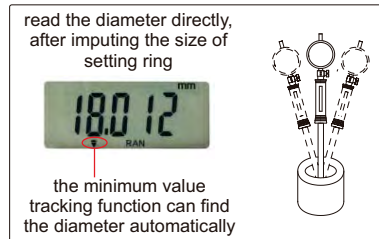
2724-S3WP

- Optional accessory: setting ring (code 6312), long handle (code 7351), bore gage setter

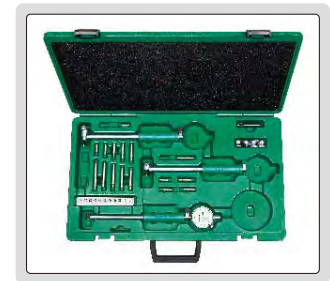
with digital indicator



with waterproof digital indicator



packaging (code 2824-S3)



With dial indicator

| Code | Range | Indicator | Bore gages included | Accuracy | Repeatability |
|-----------|----------|---|--|---|---------------|
| 2824-S160 | 35-160mm | dial indicator, code 2308-10FA, range 10mm, graduation 0.01mm | ① 35-50mm (dial indicator and handle are not included) ② 50-160mm | 35-50mm ±0.018mm 50-160mm ±0.018mm | 0.003mm |
| 2824-S3 | 18-160mm | dial indicator, code 2308-10FA, range 10mm, graduation 0.01mm | ① 18-35mm ② 35-60mm (dial indicator is not included) ③ 50-160mm (dial indicator is not included) | 18-35mm ±0.015mm 35-60mm ±0.018mm 50-160mm ±0.018mm | 0.003mm |

With digital indicator (data output cable code 7315-50M need receiver page 5, 7302-40M page 13, optional)

| Code | Range | Indicator | Bore gages included | Accuracy | Repeatability |
|-----------|----------|--|--|---|---------------|
| 2724-S160 | 35-160mm | digital indicator, code 2108-10F range 12.7mm/0.5", resolution 0.002mm/0.0001" (can switch to: 0.01mm/0.0005") | ① 35-50mm (digital indicator and handle are not included) ② 50-160mm | 35-50mm ±0.018mm 50-160mm ±0.018mm | 0.003mm |
| 2724-S3 | 18-160mm | digital indicator, code 2108-10F range 12.7mm/0.5", resolution 0.002mm/0.0001" (can switch to: 0.01mm/0.0005") | ① 18-35mm ② 35-60mm (digital indicator is not included) ③ 50-160mm (digital indicator is not included) | 18-35mm ±0.015mm 35-60mm ±0.018mm 50-160mm ±0.018mm | 0.003mm |

To be continued

Continued from previous page

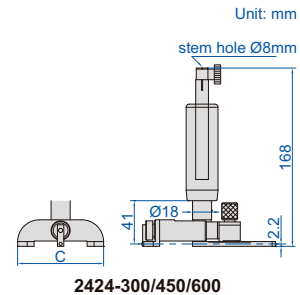
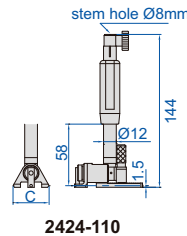
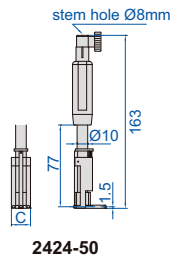
With waterproof digital indicator (data output cable code 7315-50M need receiver page 5, 7302-40M page 13, optional)

| Code | Range | Indicator | Bore gages included | Accuracy | Repeatability |
|-------------|----------|---|--|---|---------------|
| 2724-S160WP | 35-160mm | waterproof digital indicator, code 2137-10F , range 12.7mm/0.5", dust/waterproof IP54, resolution 0.002mm/0.0001" (can switch to 0.01mm/0.0005") | ① 35-50mm (digital indicator and handle are not included) ② 50-160mm | 35-50mm ±0.018mm 50-160mm ±0.018mm | 0.003mm |
| 2724-S3WP | 18-160mm | waterproof digital indicator, code 2137-10F , range 12.7mm/0.5", dust/waterproof IP54, resolution 0.002mm/0.0001" (can switch to 0.01mm/0.0005") | ① 18-35mm ② 35-60mm (digital indicator is not included) ③ 50-160mm (digital indicator is not included) | 18-35mm ±0.015mm 35-60mm ±0.018mm 50-160mm ±0.018mm | 0.003mm |

BORE GAGES FOR BLIND HOLES

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7



- To measure diameter of shallow and blind holes
- Optional accessory:
 - 0.01mm or 0.001mm graduation dial indicators
 - Setting ring (code 6312)
 - Long handle (code 7352)
 - Bore gage setter

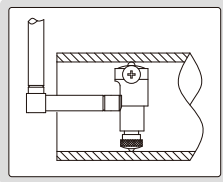


| Code | Range | Accuracy (without dial indicator) | Repeatability (without dial indicator) | C |
|----------|-----------|-----------------------------------|--|-------|
| 2424-50 | 20-50mm | 4µm | 1µm | 18mm |
| 2424-110 | 50-110mm | 4µm | 1µm | 34mm |
| 2424-300 | 110-300mm | 4µm | 1µm | 81mm |
| 2424-450 | 200-450mm | 4µm | 1µm | 81mm |
| 2424-600 | 300-600mm | 4µm | 1µm | 140mm |

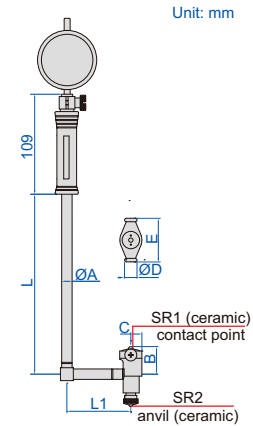
ATTENTION: NOT SUITABLE FOR 0.001MM DIAL INDICATORS

BORE GAGES (WITH DIAL INDICATOR)

- Optional accessory: setting ring (code 6312), long handle (code 7351), bore gage setter



2827-160A



Unit: mm



2308-10FA

2108-10F

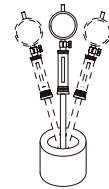
2137-10F

with digital indicator

read the diameter directly, after inputting the size of setting ring



the minimum value tracking function can find the diameter automatically

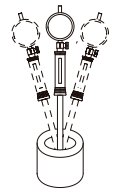


with waterproof digital indicator

read the diameter directly, after inputting the size of setting ring



the minimum value tracking function can find the diameter automatically



| Range | ØA | B | C | ØD | E | L | L1 |
|-----------|------|------|------|----|-------|-----|------|
| 35-60mm | 12.8 | 22 | 9 | 13 | 27 | 141 | 75 |
| 50-160mm | 12.8 | 28.5 | 9.2 | 13 | 35 | 141 | 76.2 |
| 160-250mm | 14.5 | 62.0 | 12.7 | 15 | 74.5 | 391 | 100 |
| 250-450mm | 14.5 | 91.5 | 15.0 | 15 | 101.5 | 391 | 100 |

(mm)

With dial indicator

| Code | Range | Indicator | Accuracy | Repeatability |
|-----------|-----------|---|----------|---------------|
| 2827-60A | 35-60mm | dial indicator, code 2308-10FA, range 10mm, graduation 0.01mm | ±0.018mm | 0.003mm |
| 2827-160A | 50-160mm | | ±0.018mm | 0.003mm |
| 2827-250A | 160-250mm | | ±0.018mm | 0.003mm |
| 2827-450A | 250-450mm | | ±0.018mm | 0.003mm |

With digital indicator

(data output cable code 7315-50M need receiver page 5, 7302-40M page 13, optional)

| Code | Range | Indicator | Accuracy | Repeatability |
|----------|-----------|---|----------|---------------|
| 2127-60 | 35-60mm | digital indicator, code 2108-10F, range 12.7mm/0.5", resolution 0.002mm/0.0001" (can switch to: 0.01mm/0.0005") | ±0.018mm | 0.003mm |
| 2127-160 | 50-160mm | | ±0.018mm | 0.003mm |
| 2127-250 | 160-250mm | | ±0.018mm | 0.003mm |
| 2127-450 | 250-450mm | | ±0.018mm | 0.003mm |

With waterproof digital indicator

(data output cable code 7315-50M need receiver page 5, 7302-40M page 13, optional)

| Code | Range | Indicator | Accuracy | Repeatability |
|------------|-----------|---|----------|---------------|
| 2127-60WP | 35-60mm | waterproof digital indicator, code 2137-10F, range 12.7mm/0.5", dust/waterproof IP54, resolution 0.002mm/0.0001" (can switch to 0.01mm/0.0005") | ±0.018mm | 0.003mm |
| 2127-160WP | 50-160mm | | ±0.018mm | 0.003mm |
| 2127-250WP | 160-250mm | | ±0.018mm | 0.003mm |
| 2127-450WP | 250-450mm | | ±0.018mm | 0.003mm |

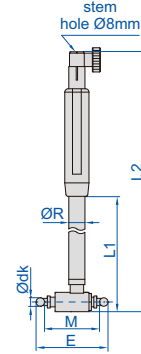
GEAR BORE GAGES

INSIZE PLUS
MADE IN EUROPE

RELATIVE PRODUCT: INTERNAL GEAR
TOOTH MICROMETER (CODE 3638)



- Tungsten carbide ball points, diameter accuracy 2µm
- Optional accessory:
 - Dial indicator or dial comparator
 - Ball points
 - Thread adaptor
 - Long handle (code 7352)



7

(mm)

| Code | Range (E) | Accuracy (without dial comparator) | Repeatability (without dial comparator) | ØR | L1 | L2 | Thread for ball points |
|----------|-----------|------------------------------------|---|----|-----|-----|------------------------|
| 2428-12 | 8-12mm | 2µm | 0.5µm | 5 | 100 | 165 | M1.6 |
| 2428-22 | 12-22mm | 2µm | 0.5µm | 5 | 102 | 168 | M1.6 |
| 2428-55 | 22-55mm | 2µm | 0.5µm | 8 | 110 | 204 | M2.5 |
| 2428-250 | 55-250mm | 2µm | 0.5µm | 12 | 177 | 290 | M4 |
| 2428-510 | 100-510mm | 2µm | 0.5µm | 18 | 235 | 363 | M4 |

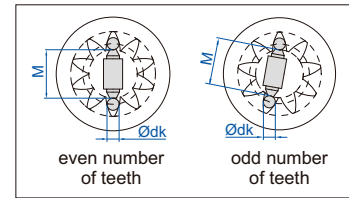
extension rod for points (included)



Ball points (optional)

| Ball point diameter Ødk | 2428-12 | 2428-22 | 2428-55 | 2428-250 | 2428-510 |
|-------------------------|-------------------|-------------------|-------------------|-----------------|-----------------|
| | point thread M1.6 | point thread M1.6 | point thread M2.5 | point thread M4 | point thread M4 |
| | point code | point code | point code | point code | point code |
| 1mm | 2428-A1 | 2428-E1 | 2428-B1 | 2428-C1 | 2428-C1 |
| 1.5mm | 2428-A1D5 | 2428-E1D5 | 2428-B1D5 | 2428-C1D5 | 2428-C1D5 |
| 2mm | 2428-A2 | 2428-E2 | 2428-B2 | 2428-C2 | 2428-C2 |
| 2.5mm | — | 2428-E2D5 | 2428-B2D5 | 2428-C2D5 | 2428-C2D5 |
| 3mm | — | 2428-E3 | 2428-B3 | 2428-C3 | 2428-C3 |
| 3.5mm | — | 2428-E3D5 | 2428-B3D5 | 2428-C3D5 | 2428-C3D5 |
| 4mm | — | 2428-E4 | 2428-B4 | 2428-C4 | 2428-C4 |
| 4.5mm | — | — | 2428-B4D5 | 2428-C4D5 | 2428-C4D5 |
| 5mm | — | — | 2428-B5 | 2428-C5 | 2428-C5 |
| 5.5mm | — | — | 2428-B5D5 | 2428-C5D5 | 2428-C5D5 |
| 6mm | — | — | 2428-B6 | 2428-C6 | 2428-C6 |
| 6.5mm | — | — | 2428-B6D5 | 2428-C6D5 | 2428-C6D5 |
| 7mm | — | — | 2428-B7 | 2428-C7 | 2428-C7 |
| 7.5mm | — | — | 2428-B7D5 | 2428-C7D5 | 2428-C7D5 |
| 8mm | — | — | 2428-B8 | 2428-C8 | 2428-C8 |
| 8.5mm | — | — | 2428-B8D5 | 2428-C8D5 | 2428-C8D5 |
| 9mm | — | — | 2428-B9 | 2428-C9 | 2428-C9 |
| 9.5mm | — | — | 2428-B9D5 | 2428-C9D5 | 2428-C9D5 |
| 10mm | — | — | 2428-B10 | 2428-C10 | 2428-C10 |

method of measurement

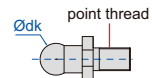


ball points (optional), in pair



Thread adaptor (optional)

| Code | Thread | Remark |
|---------|-----------|--|
| 2428-D1 | M1.6/M2.5 | For example, use 2428-E1 with 2428-D1 to replace 2428-B1 |
| 2428-D2 | M2.5/M4 | For example, use 2428-B1 with 2428-D2 to replace 2428-C1 |



ATTENTION: NOT SUITABLE FOR 0.001MM DIAL INDICATORS

MEASURE DIAMETER OF BORES WITH BARRIER INSIDE

BORE GAGE FOR BARRIER INSIDE BORE

digital indicator is optional

application

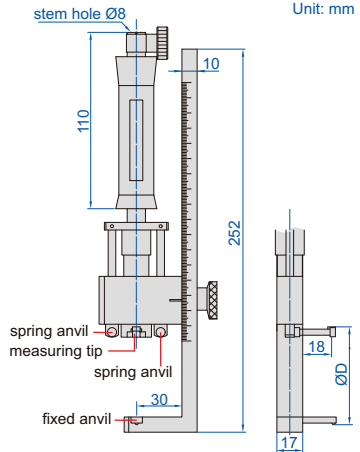


VIDEO

- Measure diameter of bores with barrier inside
- Optional accessory:
 - 0.01mm graduation dial indicators
 - Setting ring (code 6312)



2348-210



(mm)

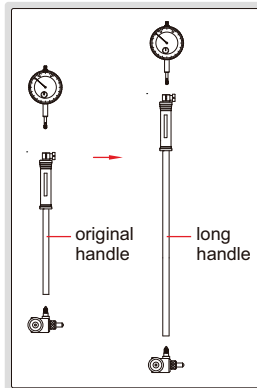
| Code | Range ØD | Diameter of barrier Ød | Travel of measuring tip | Accuracy (without dial indicator) | Measuring force |
|----------|----------|-------------------------|-------------------------|-----------------------------------|-----------------|
| 2348-210 | 40-210mm | <D-14 (less than 50mm)* | 1.6 | 0.018 | 2N |

*For example:

When measuring size ØD is 40mm, D-14=26mm, so the diameter of barrier should be less than 26mm.
 When measuring size ØD is 70mm, D-14=56mm, however it should be less than 50mm, so the diameter of barrier should be less than 50mm.

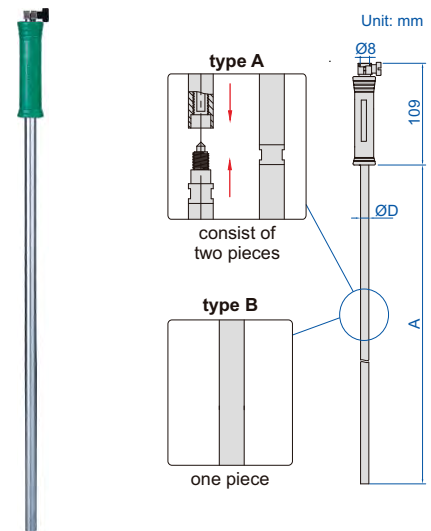
LONG HANDLES

method of use (replace the original handle with long handle)



- To assist deep-hole measurement
- Can be used for bore gages 2122, 2322, 2824, 2724, 2127 and 2827

| Code | Applicable bore gages | A | ØD | Type |
|-----------|---|--------|--------|------|
| 7351-EX11 | 35-60mm, 50-100mm, 50-160mm, 100-160mm | 475mm | 13mm | B |
| 7351-EX12 | | 980mm | 13mm | |
| 7351-EX13 | | 1480mm | 14.5mm | A |
| 7351-EX14 | | 1980mm | 14.5mm | |
| 7351-EX21 | 160-250mm, 250-450mm | 480mm | 14.5mm | B |
| 7351-EX22 | | 980mm | 14.5mm | A |
| 7351-EX23 | | 1480mm | 14.5mm | |
| 7351-EX24 | | 1980mm | 14.5mm | |



7351-EX11

ANVILS FOR BORE GAGES

- For bore gages 2852, 2152, 2322, 2122, 2127, 2724, 2825, 2126, 2824, 2853, 2153 and 2827

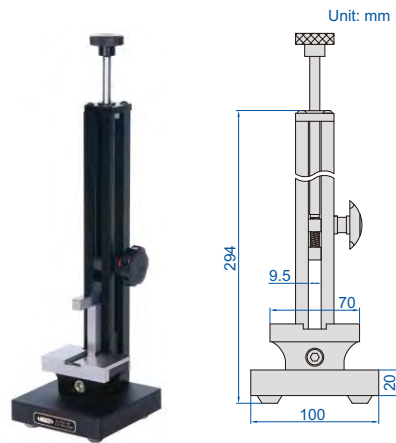
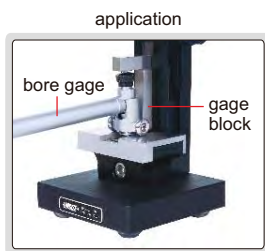


7350-160

| Code | Applicable bore gages | Material of measuring face | Quantity per set | Measuring range of anvil (mm) |
|----------|-----------------------|----------------------------|------------------|--|
| 7350-10 | 6-10mm | steel | 9 pcs | 6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10 |
| 7350-18 | 10-18.5mm | ceramic | 9 pcs | 10, 11, 12, 13, 14, 15, 16, 17, 18 |
| 7350-35 | 18-35mm | ceramic | 9 pcs | 18, 20, 22, 24, 26, 28, 30, 32, 34 |
| 7350-60 | 35-60mm | ceramic | 6 pcs | 35, 40, 45, 50, 55, 60 |
| 7350-100 | 50-100mm | ceramic | 11 pcs | 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100 |
| 7350-160 | 50-160mm | ceramic | 12 pcs | 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105 |
| 7350-161 | 100-160mm | ceramic | 12 pcs | 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105 |
| 7350-250 | 160-250mm | ceramic | 5 pcs | 160, 170, 180, 190, 200 |
| 7350-450 | 250-450mm | ceramic | 5 pcs | 250, 260, 270, 280, 290 |

7

BORE GAGE SETTERS



- Vertical and horizontal use
- To be used with gage blocks

7353-160

| Code | Range | Repeatability | Remark |
|-----------|---------|---------------|------------------------|
| 7353-160 | 0-160mm | 1.2µm | with gage block set |
| 7353-160W | 0-160mm | 1.2µm | without gage block set |

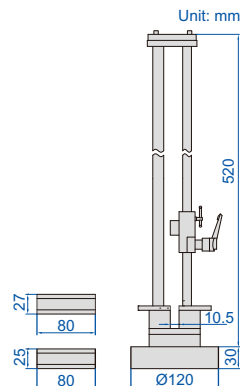
Gage block set for 7353-160

| Blocks per set | Size (mm) | Step (mm) | Quantity | Remark |
|----------------|-----------|-----------|----------|-------------------|
| 33 | 1.005 | 0.01 | 1 pc | grade 2 (ISO3650) |
| | 1.01-1.09 | | 9 pcs | |
| | 1.1-1.9 | 0.1 | 9 pcs | |
| | 1-9 | 1 | 9 pcs | |
| | 10-30 | 10 | 3 pcs | |
| | 50 | | 1 pc | |
| | 100 | | 1 pc | |

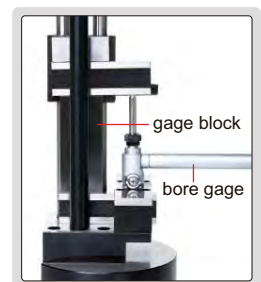
BORE GAGE SETTER



- Used together with gage blocks to set bore gages



2395-400



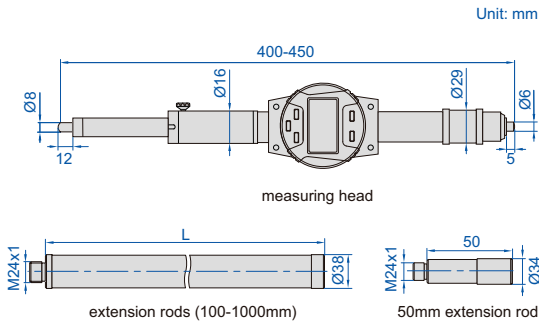
| Code | Setting range |
|----------|---------------|
| 2395-400 | 18-400mm |

SPRING LOADED MEASURING POINT

CARBON FIBER EXTENSION RODS, LIGHT WEIGHT, NOT EASY TO DEFORM, LOW THERMAL EXPANSION

DATA OUTPUT

CARBON FIBER BORE GAGES



- Carbon fiber extension rods, light weight, not easy to deform, low thermal expansion
- Carbide measuring faces
- Data output
- Button function: on/off, zero, tolerance Go and No-Go display, data preset, measuring direction change, max./min./TIR measurement, inch/metric conversion, absolute/incremental measurement
- Supplied with 400mm setting standard
- Optional accessory: data output cable (code **7302-40M** page 13), wireless data transmission (transmitter code **7315-51** need receiver page 5)

setting standard (included), used to set the measuring head



Measuring head

| Range | Resolution | Accuracy | Repeatability | Weight |
|-----------|------------------|----------|---------------|--------|
| 400-450mm | 0.001mm/0.00005" | ±6µm | ±3µm | 1kg |

Extension rods

| Length (L) | Accuracy | Weight | Material |
|------------|----------|--------|--------------|
| 50mm | ±2µm | 230g | steel |
| 100mm | ±3µm | 300g | carbon fiber |
| 200mm | ±4.5µm | 390g | carbon fiber |
| 300mm | ±6µm | 470g | carbon fiber |
| 600mm | ±9µm | 730g | carbon fiber |
| 1000mm | ±11µm | 1000g | carbon fiber |

spring loaded point, and max./min. value tracking make it easy to find the right measuring position



| Code | Range | Weight | Extension rods |
|------------------|------------|--------|--|
| 3522-1000 | 400-1000mm | 3.8kg | 50mm, 100mm, 200mm, 300mm |
| 3522-1500 | 400-1500mm | 4.5kg | 50mm, 100mm, 200mm, 300mm, 600mm |
| 3522-2000 | 400-2000mm | 5.3kg | 50mm, 100mm, 200mm, 300mm, 600mm (2 pcs) |
| 3522-2400 | 400-2400mm | 6.0kg | 50mm, 100mm, 200mm, 300mm, 600mm (3 pcs) |
| 3522-3400 | 400-3400mm | 6.7kg | 50mm, 100mm, 200mm, 300mm, 600mm (4 pcs) |
| 3522-6400 | 400-6400mm | 9.5kg | 50mm, 100mm, 200mm, 300mm, 600mm, 1000mm (5 pcs) |

INTERNAL CHAMFER GAGES

INSIZE PLUS
MADE IN EUROPE

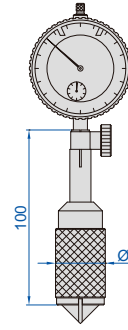
- Measure end diameter of chamfer or taper holes
- With limit pointers
- 2941-20 and 2941-203 are supplied with 5mm setting ring

5mm setting ring for 2941-20 and 2941-203



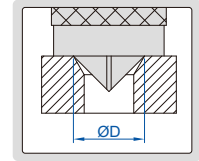
2941-20

Unit: mm



INSPECTION CERTIFICATE

measurement principle

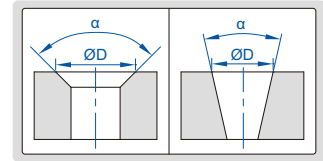


| Code | Range ØD | Applicable angle α | Graduation | Accuracy | Ød |
|-----------|------------|--------------------|------------|----------|--------|
| 2941-20* | 0.5-20.1mm | 0-90° | 0.01mm | ±0.02mm | 28.3mm |
| 2941-40* | 20-40mm | 0-90° | 0.01mm | ±0.02mm | 50mm |
| 2941-203* | 0.5-20.1mm | 90-127° | 0.02mm | ±0.04mm | 28.3mm |
| 2941-403* | 20-40mm | 90-127° | 0.02mm | ±0.04mm | 50mm |



VIDEO

measure end diameter of chamfer or taper holes



*Supplied with manufacturer inspection certificate

DIGITAL INTERNAL CHAMFER GAGES

INSIZE PLUS
MADE IN EUROPE

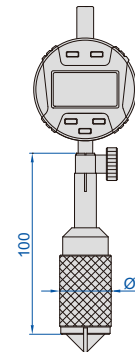
- Measure end diameter of chamfer or taper holes
- 2942-20 and 2942-203 are supplied with 5mm setting ring
- Resolution: 0.01mm/0.0005"
- Optional accessory: data output cable (code 7315-50M need receiver page 5, 7302-40M page 13)

5mm setting ring for 2942-20 and 2942-203



2942-20

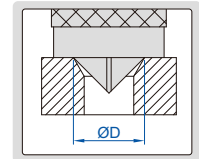
Unit: mm



INSPECTION CERTIFICATE

DATA OUTPUT

measurement principle

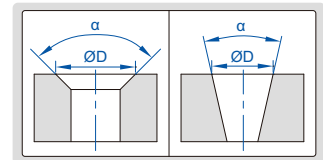


| Code | Range ØD | Applicable angle α | Accuracy | Ød |
|-----------|------------|--------------------|----------|--------|
| 2942-20* | 0.5-20.1mm | 0-90° | ±0.02mm | 28.3mm |
| 2942-40* | 20-40mm | 0-90° | ±0.02mm | 50mm |
| 2942-203* | 0.5-20.1mm | 90-127° | ±0.04mm | 28.3mm |
| 2942-403* | 20-40mm | 90-127° | ±0.04mm | 50mm |



VIDEO

measure end diameter of chamfer or taper holes



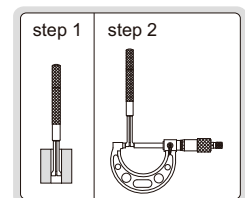
*Supplied with manufacturer inspection certificate

SMALL HOLE GAGE SET

- 4 gages per set
- For small holes, slots and grooves, etc.
- Satin chrome finish

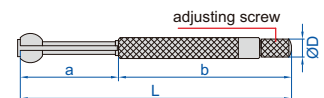


4208-1



| Range | (mm) | | | |
|----------|------|----|----|----|
| | L | a | b | ØD |
| 3-5mm | 76 | 24 | 52 | 5 |
| 5-7.5mm | 79 | 27 | 52 | 5 |
| 7.5-10mm | 88 | 30 | 58 | 6 |
| 10-13mm | 91 | 34 | 58 | 6 |

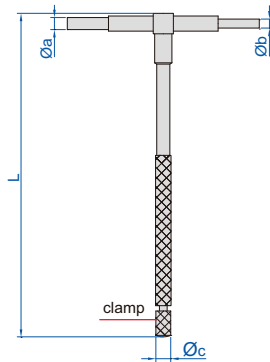
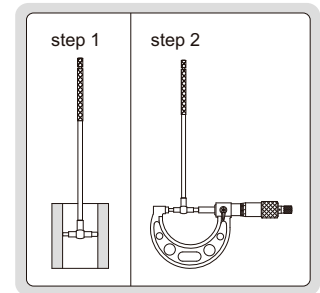
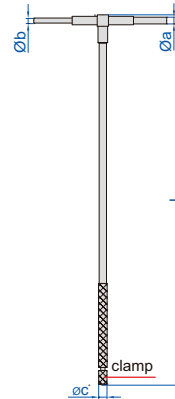
| Code | Total range | Gages included |
|--------|-------------|-----------------------------------|
| 4208-1 | 3-13mm | 3-5mm, 5-7.5mm, 7.5-10mm, 10-13mm |



LONG HANDLE TELESCOPING GAGES

- For quick measurement of inside diameter of deep holes and width of slots
- Satin chrome finish

| Code | Range | L | Øa | Øb | Øc |
|--------|-----------|-----|-----|-----|-----|
| 4209-1 | 8-12.7mm | 300 | 3.9 | 2.9 | 6.2 |
| 4209-2 | 12.7-19mm | 300 | 5.3 | 3.8 | 6.2 |
| 4209-3 | 19-32mm | 300 | 5.3 | 3.8 | 6.2 |
| 4209-4 | 32-54mm | 300 | 7.6 | 6.1 | 7.2 |
| 4209-5 | 54-90mm | 300 | 7.6 | 6.1 | 7.2 |
| 4209-6 | 90-150mm | 300 | 7.6 | 6.1 | 7.2 |



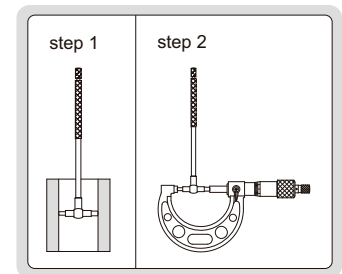
4206-1

- 6 gages per set
- For quick measurement of inside diameter of holes and width of slots
- Satin chrome finish

| Code | Total range | Gages included |
|--------|-------------|--|
| 4206-1 | 8-150mm | 8-12.7mm, 12.7-19mm, 19-32mm, 32-54mm, 54-90mm, 90-150mm |

TELESCOPING GAGE SET

7



| Range | L | Øa | Øb | Øc |
|-----------|-----|-----|-----|-----|
| 8-12.7mm | 115 | 3.9 | 2.9 | 6.2 |
| 12.7-19mm | 115 | 5.3 | 3.8 | 6.2 |
| 19-32mm | 115 | 5.3 | 3.8 | 6.2 |
| 32-54mm | 137 | 7.6 | 6.1 | 7.2 |
| 54-90mm | 137 | 7.6 | 6.1 | 7.2 |
| 90-150mm | 137 | 7.6 | 6.1 | 7.2 |

FLEXIBLE INNER DIAMETER TAPES



7137-60



| Code | Diameter range | Graduation | Accuracy |
|----------|----------------|------------|----------|
| 7137-30 | Ø10-30mm | 0.05mm | ±0.10mm |
| 7137-60 | Ø30-60mm | 0.05mm | ±0.10mm |
| 7137-100 | Ø50-100mm | 0.05mm | ±0.10mm |
| 7137-200 | Ø100-200mm | 0.05mm | ±0.10mm |
| 7137-350 | Ø200-350mm | 0.05mm | ±0.15mm |

- Measure average inner diameter of flexible materials
- Made of PET



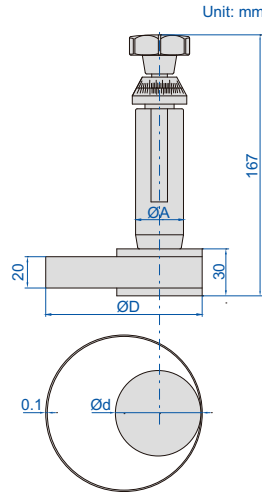
TAPE BORE GAGES

INSIZE PLUS
MADE IN EUROPE



- Measure internal diameter and circumference of soft materials like tubes, belts, etc.
- Graduation: 0.1mm
- Accuracy: 0.2mm

| Code | Range ØD | Ød | ØA | Measuring depth (mm) |
|----------|-----------|------|------|----------------------|
| 2430-24 | 14-24mm | 13.5 | 13 | 15-60 |
| 2430-40 | 22-40mm | 21.5 | 21 | 15-60 |
| 2430-60 | 35-60mm | 34.5 | 30.5 | 15-96 |
| 2430-100 | 55-100mm | 54.5 | 30.5 | 15-106 |
| 2430-180 | 95-180mm | 94.5 | 30.5 | 15-106 |
| 2430-255 | 170-255mm | 94.5 | 30.5 | 15-106 |
| 2430-330 | 245-330mm | 94.5 | 30.5 | 15-106 |



7

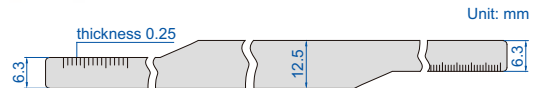
DIAMETER TAPES

CAN BE CUSTOM-MADE



7135-525

- Measure diameter of pipes, trees, tires, etc.
- Made of stainless steel



| Code | Diameter range | Graduation | Accuracy |
|-----------|----------------|------------|----------|
| 7135-35* | Ø20-35mm | 0.05mm | ±0.05mm |
| 7135-55* | Ø30-55mm | 0.05mm | ±0.05mm |
| 7135-125 | Ø50-125mm | 0.01mm | ±0.05mm |
| 7135-225 | Ø100-225mm | 0.01mm | ±0.05mm |
| 7135-375 | Ø200-375mm | 0.01mm | ±0.05mm |
| 7135-525 | Ø350-525mm | 0.01mm | ±0.05mm |
| 7135-725 | Ø500-725mm | 0.01mm | ±0.06mm |
| 7135-925 | Ø700-925mm | 0.01mm | ±0.06mm |
| 7135-1125 | Ø900-1125mm | 0.02mm | ±0.06mm |
| 7135-1325 | Ø1100-1325mm | 0.02mm | ±0.08mm |
| 7135-1525 | Ø1300-1525mm | 0.02mm | ±0.08mm |
| 7135-1725 | Ø1500-1725mm | 0.02mm | ±0.08mm |
| 7135-1925 | Ø1700-1925mm | 0.02mm | ±0.08mm |
| 7135-2125 | Ø1900-2125mm | 0.02mm | ±0.08mm |
| 7135-2325 | Ø2100-2325mm | 0.02mm | ±0.10mm |
| 7135-2525 | Ø2300-2525mm | 0.02mm | ±0.10mm |
| 7135-2750 | Ø2500-2750mm | 0.02mm | ±0.10mm |
| 7135-3000 | Ø2750-3000mm | 0.02mm | ±0.10mm |
| 7135-3250 | Ø3000-3250mm | 0.02mm | ±0.15mm |
| 7135-3500 | Ø3250-3500mm | 0.02mm | ±0.15mm |

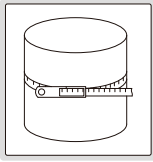
| Code | Diameter range | Graduation | Accuracy |
|-----------|----------------|------------|------------|
| 7135-3750 | Ø3500-3750mm | 0.02mm | ±0.15mm |
| 7135-4000 | Ø3750-4000mm | 0.02mm | ±0.20mm |
| 7135-4250 | Ø4000-4250mm | 0.02mm | ±0.20mm |
| 7135-4500 | Ø4250-4500mm | 0.02mm | ±0.20mm |
| 7135-4750 | Ø4500-4750mm | 0.02mm | ±0.20mm |
| 7135-5000 | Ø4750-5000mm | 0.02mm | ±0.20mm |
| 7135-5250 | Ø5000-5250mm | 0.02mm | ±0.005%L** |
| 7135-5500 | Ø5250-5500mm | 0.02mm | ±0.005%L** |
| 7135-5750 | Ø5500-5750mm | 0.02mm | ±0.005%L** |
| 7135-6000 | Ø5750-6000mm | 0.02mm | ±0.005%L** |
| 7135-6250 | Ø6000-6250mm | 0.02mm | ±0.005%L** |
| 7135-6500 | Ø6250-6500mm | 0.02mm | ±0.005%L** |
| 7135-6750 | Ø6500-6750mm | 0.02mm | ±0.005%L** |
| 7135-7000 | Ø6750-7000mm | 0.02mm | ±0.005%L** |
| 7135-7250 | Ø7000-7250mm | 0.02mm | ±0.005%L** |
| 7135-7500 | Ø7250-7500mm | 0.02mm | ±0.005%L** |
| 7135-7750 | Ø7500-7750mm | 0.02mm | ±0.005%L** |
| 7135-8000 | Ø7750-8000mm | 0.02mm | ±0.005%L** |
| 7135-8250 | Ø8000-8250mm | 0.02mm | ±0.005%L** |

** L is the actual measured value (unit: mm)

* The thickness of code 7135-35 and 7135-55 is 0.10mm, while the thickness of other codes is 0.25mm

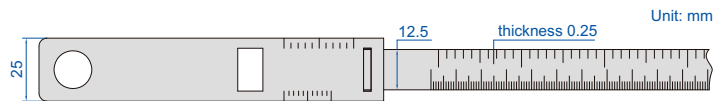
CAN BE CUSTOM-MADE

CIRCUMFERENCE TAPES



7136-1880

- Measure diameter and circumference of pipes, trees, tires, etc.
- Made of stainless steel



Unit: mm

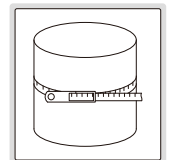
| Code | Circumference range | Diameter range | Graduation | Accuracy | |
|-----------|---------------------|----------------|------------|---------------|----------|
| | | | | circumference | diameter |
| 7136-940 | 160-940mm | Ø50-300mm | 0.1mm | ±0.30mm | ±0.10mm |
| 7136-1880 | 940-1880mm | Ø300-600mm | 0.1mm | ±0.30mm | ±0.10mm |
| 7136-2830 | 1880-2830mm | Ø600-900mm | 0.1mm | ±0.30mm | ±0.10mm |
| 7136-3770 | 2830-3770mm | Ø900-1200mm | 0.1mm | ±0.30mm | ±0.10mm |
| 7136-4710 | 3770-4710mm | Ø1200-1500mm | 0.1mm | ±0.30mm | ±0.10mm |
| 7136-5650 | 4710-5650mm | Ø1500-1800mm | 0.1mm | ±0.30mm | ±0.10mm |
| 7136-6600 | 5650-6600mm | Ø1800-2100mm | 0.1mm | ±0.30mm | ±0.10mm |
| 7136-7540 | 6600-7540mm | Ø2100-2400mm | 0.1mm | ±0.30mm | ±0.10mm |
| 7136-8480 | 7540-8480mm | Ø2400-2700mm | 0.1mm | ±0.30mm | ±0.10mm |
| 7136-9430 | 8480-9430mm | Ø2700-3000mm | 0.1mm | ±0.30mm | ±0.10mm |

CIRCUMFERENCE TAPES (ECONOMIC TYPE)

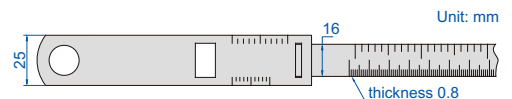
- Measure diameter and circumference of soft materials like pipes, trees, tires, etc.
- Graduation: 0.1mm
- Laser engraved scale
- Made of stainless steel



7114-950



| Code | Circumference range | Diameter range | Accuracy | |
|-----------|---------------------|----------------|---------------|----------|
| | | | circumference | diameter |
| 7114-950 | 150-950mm | Ø50-300mm | ±3mm | ±1mm |
| 7114-2200 | 940-2200mm | Ø300-700mm | ±3mm | ±1mm |
| 7114-3460 | 2190-3460mm | Ø700-1100mm | ±3mm | ±1mm |

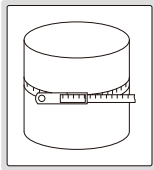


Unit: mm

CIRCUMFERENCE TAPES

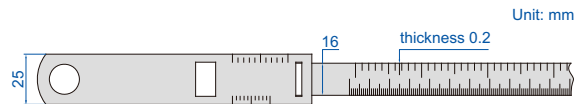
INSIZE PLUS
MADE IN EUROPE

CAN SUPPLY TAPE WIDTH
6MM, 35MM, 60MM



7115-3460

- Measure diameter and circumference of pipes, trees, tires, etc.
- Graduation: 0.1mm
- Laser engraved scale
- Made of stainless steel



Unit: mm

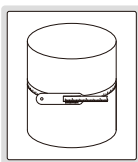
7

| Code | Circumference range | Diameter range | Accuracy | |
|------------|---------------------|----------------|---------------|----------|
| | | | circumference | diameter |
| 7115-950 * | 150-950mm | Ø50-300mm | ±0.60mm | ±0.20mm |
| 7115-2200 | 940-2200mm | Ø300-700mm | ±0.60mm | ±0.20mm |
| 7115-3460 | 2190-3460mm | Ø700-1100mm | ±0.60mm | ±0.20mm |
| 7115-4720 | 3450-4720mm | Ø1100-1500mm | ±0.90mm | ±0.30mm |
| 7115-5980 | 4710-5980mm | Ø1500-1900mm | ±0.90mm | ±0.30mm |
| 7115-7230 | 5970-7230mm | Ø1900-2300mm | ±1.05mm | ±0.35mm |
| 7115-8500 | 7220-8500mm | Ø2300-2700mm | ±1.20mm | ±0.40mm |
| 7115-9760 | 8490-9760mm | Ø2700-3100mm | ±1.35mm | ±0.45mm |
| 7115-11010 | 9730-11010mm | Ø3100-3500mm | ±1.50mm | ±0.50mm |

*When diameter range is Ø50-100mm, the accuracy of circumference is ±0.90mm, diameter is ±0.30mm

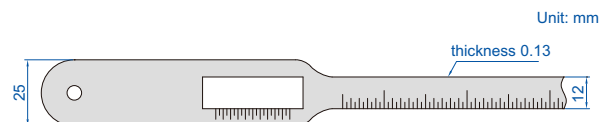
CIRCUMFERENCE TAPES

INSIZE PLUS
MADE IN EUROPE



7116-115

- Measure diameter of cables, thin plastic pipes, etc., which may deform
- Laser engraved scale
- Made of stainless steel

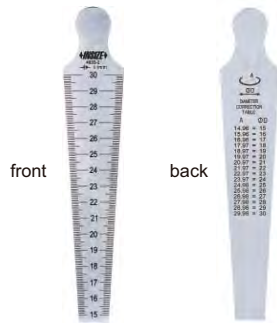


Unit: mm

| Code | Diameter range | Graduation | Accuracy |
|----------|----------------|------------|----------|
| 7116-115 | Ø20-115mm | 0.05mm | ±0.10mm |
| 7116-230 | Ø100-230mm | 0.05mm | ±0.10mm |
| 7116-330 | Ø200-330mm | 0.05mm | ±0.15mm |
| 7116-620 | Ø300-620mm | 0.05mm | ±0.20mm |

REFER TO PAGE 420
FOR DETAILS

TAPER GAGES



4833-2



front back

TAPER GAGE SET
4837-1

REFER TO PAGE 421
FOR DETAILS

TAPER BORE GAGES



4852-15

REFER TO PAGE 421
FOR DETAILS

SMALL TAPER BORE GAGE



4855-5

REFER TO PAGE 429
FOR DETAILS

INSIDE SPRING CALIPERS



7261-150



Large Diameter Gages
Page 207



Outside Diameter Variation Measuring
Instruments
Page 208



Outside Diameter Measuring
Instruments
Page 209



Digital Radius Gages
Page 210



Digital Radius Gages
Page 211-212



Digital Arc Radius Calipers
Page 212



Digital Radius Calipers
Page 213



Radius Gages
Page 213

DATA
OUTPUT



LARGE DIAMETER GAGE CODE ISQ-RA600

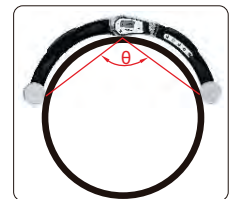
INSIZE PLUS
MADE IN EUROPE



- To measure large external or internal diameters
- Automatic judgment and display external or internal diameter
- Backlight LCD display, can rotate 180° for easy reading
- Memory of 12 readings and average calculation
- With minimum and maximum measurement mode
- Angle can be displayed



software flash disk
(included)



display of angle



external diameter measurement



internal diameter measurement



software (included),
data output, save and print

SPECIFICATION

| | | |
|--------------|--|----------------------------|
| Range | external | Ø500~6000mm/19.69~236.22" |
| | internal | Ø1100~6000mm/43.31~236.22" |
| Resolution | 0.01mm/0.001" | |
| Accuracy | ±(0.01+D ² /30)mm (D is the diameter to be measured, in meter) | |
| Power supply | rechargeable battery (for 8 hours working) | |
| Weight | 3.8kg | |

Accuracy sample by diameters

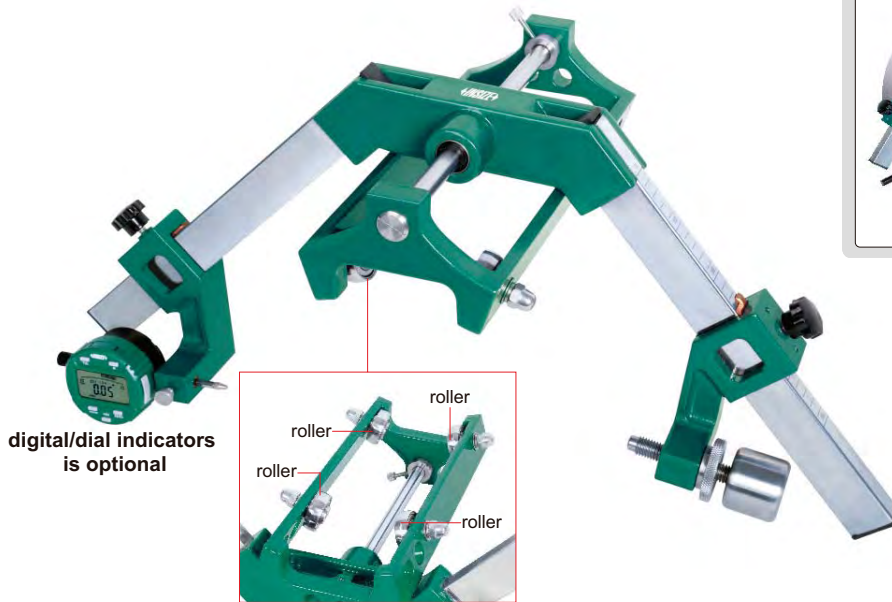
| Diameter | Accuracy |
|----------|----------|
| 500mm | ±0.018mm |
| 1000mm | ±0.043mm |
| 1500mm | ±0.085mm |
| 2000mm | ±0.143mm |
| 2500mm | ±0.218mm |
| 3000mm | ±0.310mm |
| 4000mm | ±0.543mm |
| 5000mm | ±0.843mm |
| 6000mm | ±1.210mm |

STANDARD DELIVERY

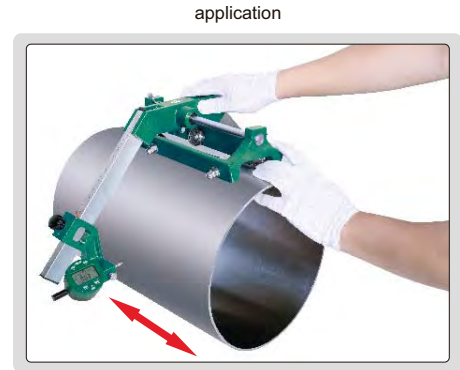
| | |
|------------------------|------|
| Main unit | 1 pc |
| AC/DC adapter | 1 pc |
| Software and USB cable | 1 pc |

OUTSIDE DIAMETER VARIATION MEASURING INSTRUMENTS

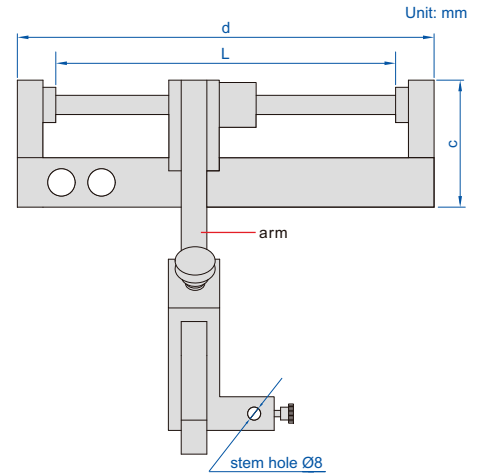
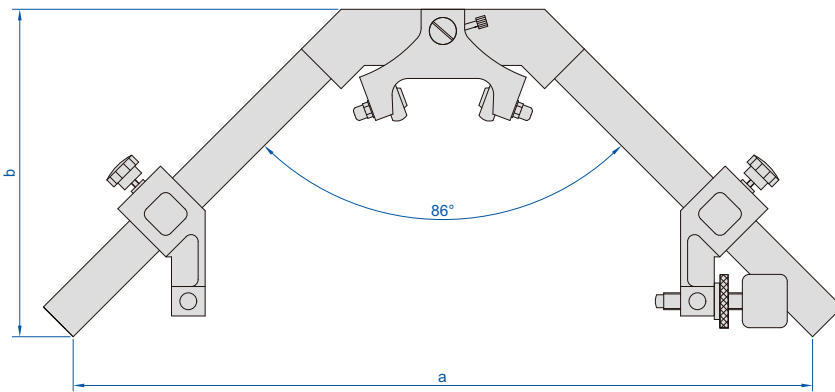
CAN BE
CUSTOM-MADE



2715-350



8

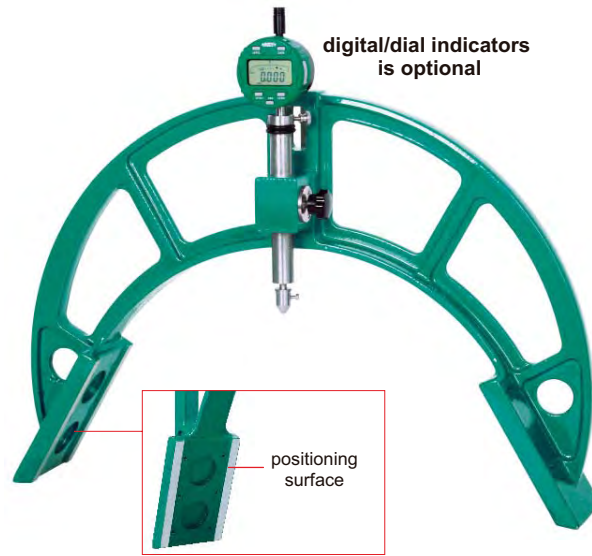


- Measurement of diameter variation, convexity, concavity, taper and other parameters
- Continuous measurement in the axis direction
- Four rollers are included
- Optional accessory: 0.01mm or 0.001mm graduation digital/dial indicators

| (mm) | | | | | | | | | |
|-----------|--------------------|----------|---------------|----------------------|------|-----|-----|-----|--------|
| Code | Range (diameter) | Accuracy | Repeatability | Arm moving range (L) | a | b | c | d | Weight |
| 2715-350 | 100-350mm/4-14" | 0.01mm | 3µm | 200mm | 500 | 230 | 80 | 260 | 4kg |
| 2715-500 | 200-500mm/8-20" | 0.01mm | 3µm | 151mm | 630 | 260 | 95 | 260 | 5kg |
| 2715-700 | 300-700mm/12-28" | 0.01mm | 3µm | 197mm | 910 | 372 | 112 | 320 | 6.5kg |
| 2715-1000 | 500-1000mm/20-40" | 0.01mm | 3µm | 190mm | 1170 | 460 | 120 | 320 | 8kg |
| 2715-1600 | 800-1600mm/32-64" | 0.02mm | 6µm | 202mm | 1860 | 690 | 180 | 320 | 12.5kg |
| 2715-2000 | 1400-2000mm/56-80" | 0.02mm | 6µm | 232mm | 2156 | 860 | 210 | 350 | 18.5kg |

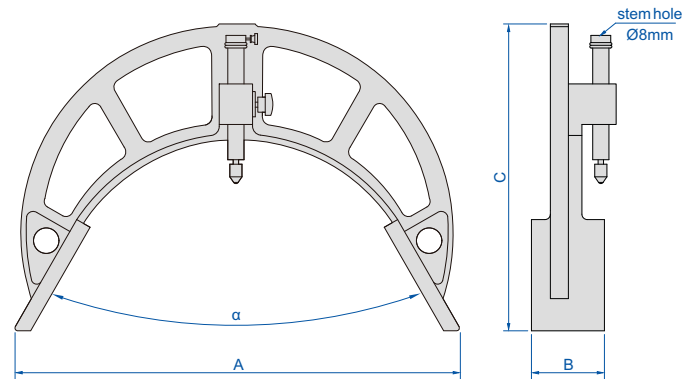


OUTSIDE DIAMETER MEASURING INSTRUMENTS



2716-500

- Need standard workpieces to set zero
- The frame is made of aluminum magnesium alloy with light weight and high strength
- Optional accessory: 0.01mm or 0.001mm digital/dial indicators



(mm)

| Code | Range (diameter) | Repeatability | α | A | B | C | Weight |
|-----------|------------------|---------------|----------|------|-----|-----|--------|
| 2716-60 | 18-60 | 0.01mm | 60° | 140 | 60 | 160 | 1kg |
| 2716-120 | 60-120 | 0.01mm | 60° | 166 | 65 | 162 | 1.5kg |
| 2716-200 | 120-200 | 0.01mm | 60° | 225 | 70 | 228 | 2kg |
| 2716-300 | 200-300 | 0.01mm | 60° | 330 | 80 | 262 | 2.5kg |
| 2716-400 | 300-400 | 0.01mm | 60° | 405 | 80 | 303 | 4kg |
| 2716-500 | 400-500 | 0.01mm | 60° | 494 | 80 | 340 | 5kg |
| 2716-600 | 500-600 | 0.01mm | 60° | 594 | 80 | 398 | 6kg |
| 2716-700 | 600-700 | 0.01mm | 60° | 685 | 80 | 446 | 7.5kg |
| 2716-800 | 700-800 | 0.01mm | 60° | 772 | 80 | 479 | 9kg |
| 2716-900 | 800-900 | 0.01mm | 60° | 860 | 80 | 520 | 10kg |
| 2716-1000 | 900-1000 | 0.01mm | 60° | 950 | 80 | 560 | 11.5kg |
| 2716-1100 | 1000-1100 | 0.01mm | 60° | 1035 | 90 | 575 | 13kg |
| 2716-1200 | 1000-1200 | 0.01mm | 83.62° | 960 | 100 | 460 | 12kg |
| 2716-1300 | 1100-1300 | 0.01mm | 83.62° | 1000 | 100 | 485 | 13.5kg |
| 2716-1400 | 1200-1400 | 0.01mm | 83.62° | 1100 | 100 | 512 | 15kg |
| 2716-1600 | 1400-1600 | 0.01mm | 83.62° | 1260 | 100 | 540 | 17kg |
| 2716-1800 | 1600-1800 | 0.01mm | 83.62° | 1460 | 100 | 570 | 19kg |
| 2716-2000 | 1800-2000 | 0.01mm | 83.62° | 1645 | 100 | 605 | 21kg |

DIGITAL RADIUS GAGES

DATA
OUTPUT



2188-55



2188-233



2188-143

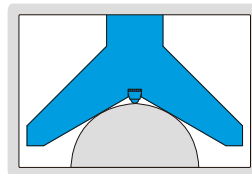


2188-323

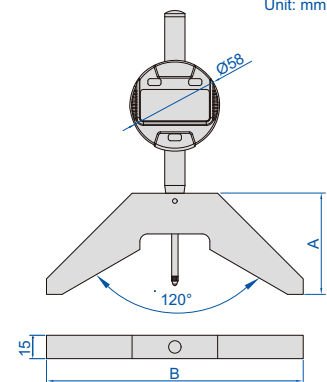
8

- Measure radius of external arc, arc angle of measured surface should be larger than 60°
- Display radius value, no need to calculate
- Button function: on/off, zero, data preset, inch/mm
- Keep preset data in memory after restart
- CR2032 battery, automatic power off (time is adjustable)
- Data output
- Stainless steel base
- Optional accessory: setting standards, data output cable (code 7315-50M need receiver page 5, 7302-40M page 13)

application



Unit: mm



| Code | Range (radius) | Resolution | Accuracy | A | B |
|----------|-----------------------|----------------|----------|------|-------|
| 2188-55 | 4-53mm/0.16-2.09" | 0.01mm/0.0005" | ±0.02mm | 40mm | 65mm |
| 2188-143 | 48-143mm/1.89-5.63" | 0.01mm/0.0005" | ±0.03mm | 65mm | 165mm |
| 2188-233 | 138-233mm/5.43-9.17" | 0.01mm/0.0005" | ±0.03mm | 85mm | 255mm |
| 2188-323 | 228-323mm/8.98-12.72" | 0.01mm/0.0005" | ±0.04mm | 95mm | 345mm |

Setting standards

| Code | Setting standards | Remark |
|------------|-------------------------------|----------|
| 4110-10D00 | setting standard for 2188-55 | included |
| 2188-P143 | setting standard for 2188-143 | optional |
| 2188-P233 | setting standard for 2188-233 | optional |
| 2188-P323 | setting standard for 2188-323 | optional |



2188-P143

setting standard application



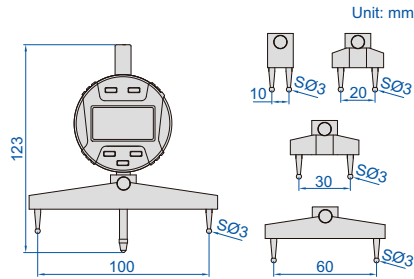
DIGITAL RADIUS GAGE (LOW ACCURACY)



VIDEO



2183



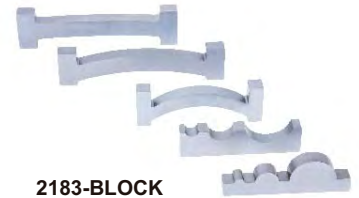
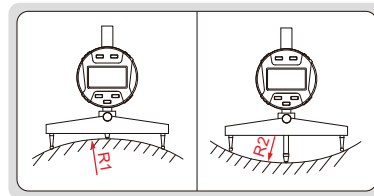
Unit: mm

DATA OUTPUT

calibration standard application



- Resolution: 0.01mm/0.001"
- Buttons: on/off, hold, mm/inch, s (select jaws), zero
- Measure radius of internal or external arcs
- Display can be rotated by 320°
- Supplied with 5 jaws for different sizes of arc
- Data output
- Battery CR2032
- Automatic power off (time is adjustable)
- Optional accessory: calibration standard (code **2183-BLOCK**), data output cable (code **7315-2183 need receiver, 7302-2183**)



2183-BLOCK

Calibration standard (optional)

| Code | Remark |
|------------|----------------------------|
| 2183-BLOCK | includes 5 standard blocks |

| Code | Range of external radius (R1) | Range of internal radius (R2) | Accuracy (mm) |
|------|-------------------------------|-------------------------------|---------------|
| 2183 | 5-910mm/0.2-35.83" | 7-910mm/0.3-35.83" | ±0.01R* |

* R is the radius to be measured. For example, radius is 100mm, the accuracy is ±0.01x100=±1mm

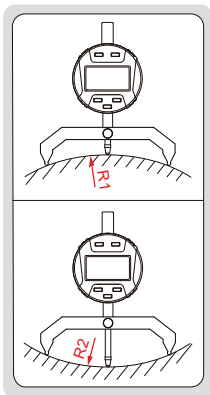
8

DIGITAL RADIUS GAGE

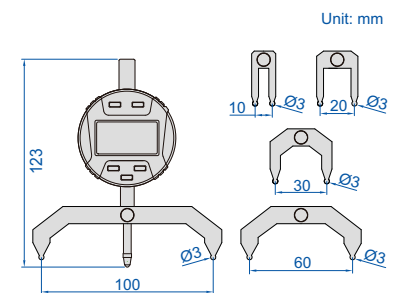
DATA OUTPUT



VIDEO



2511

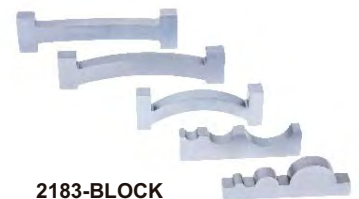


Unit: mm

calibration standard application



- Resolution: 0.01mm/0.001"
- Buttons: on/off, hold, mm/inch, s (select jaws), zero
- Measure radius of internal or external arcs
- Cylindrical measuring jaws, self-positioning
- Display can be rotated by 320°
- Supplied with 5 jaws for different sizes of arc
- Data output
- Battery CR2032
- Automatic power off (time is adjustable)
- Optional accessory: calibration standard (code **2183-BLOCK**), data output cable (code **7315-2183 need receiver, 7302-2183**)



2183-BLOCK

Calibration standard (optional)

| Code | Remark |
|------------|----------------------------|
| 2183-BLOCK | includes 5 standard blocks |

| Code | Range of external radius (R1) | Range of internal radius (R2) | Accuracy (mm) |
|------|-------------------------------|-------------------------------|---------------|
| 2511 | 5-910mm/0.2-35.83" | 7-910mm/0.3-35.83" | ±0.005R* |

* R is the radius to be measured. For example, radius is 100mm, the accuracy is ±0.005x100=±0.5mm

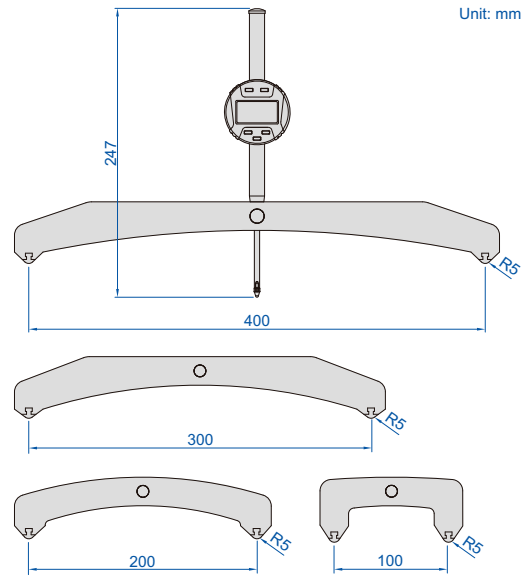
LARGE RANGE DIGITAL RADIUS GAGE

DATA OUTPUT

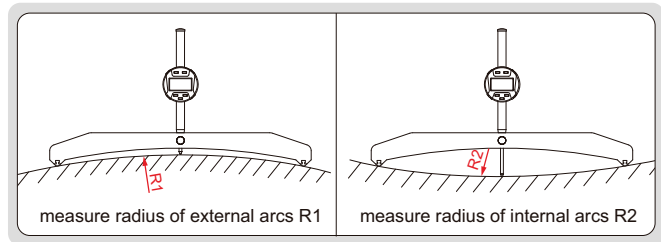
Unit: mm



2197



- Measure radius of internal or external arcs
- Resolution: 0.01mm/0.001"
- Buttons: on/off, hold, mm/inch, s (select jaws), zero
- Display can be rotated by 320°
- Supplied with 4 jaws for different sizes of arc
- Battery CR2032, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (code 7315-2183 need receiver, 7302-2183)



| Code | Range of external radius (R1) | Range of internal radius (R2) | Accuracy (mm) |
|------|-------------------------------|-------------------------------|---------------|
| 2197 | 100-15000mm/4-590" | 100-15000mm/4-590" | ±0.005R* |

*R is the radius to be measured. For example, radius is 100mm, the accuracy is ±0.005x100=±0.5mm



8

DIGITAL ARC RADIUS CALIPERS

DATA OUTPUT

- Non waterproof
- Measure the radius of arc less than half round
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel



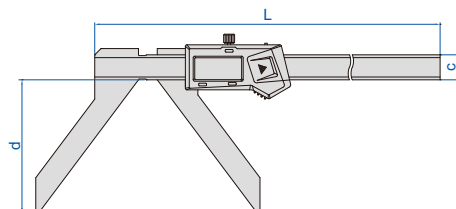
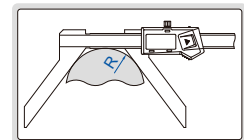
1189-200B

With data interface (data output cable code 7315-21 need receiver page 4, 7302-21 page 12, optional)

| Code | Range (R) | Accuracy | L | c | d |
|-----------|----------------|----------|-------|------|------|
| 1189-150B | 5-150mm/0.2-6" | ±0.05mm | 263mm | 16mm | 65mm |
| 1189-200B | 5-200mm/0.2-8" | ±0.07mm | 313mm | 16mm | 85mm |

Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range (R) | Accuracy | L | c | d |
|-------------|----------------|----------|-------|------|------|
| 1189-150BWL | 5-150mm/0.2-6" | ±0.05mm | 263mm | 16mm | 65mm |
| 1189-200BWL | 5-200mm/0.2-8" | ±0.07mm | 313mm | 16mm | 85mm |



DATA
OUTPUT

DIRECT READING,
CALCULATION IS NOT REQUIRED

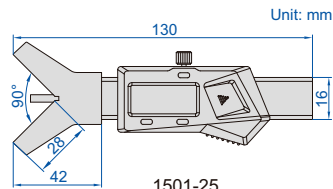
DIGITAL RADIUS CALIPERS



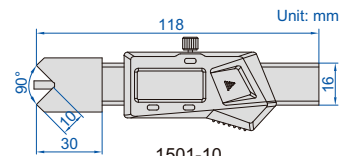
1501-25



1501-10



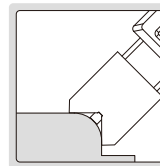
1501-25



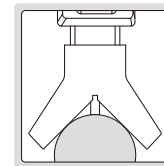
1501-10

- Non waterproof
- Measure radius of external arc, arc angle of measured surface should be larger than 90°
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Supplied with pin gage for zero setting
- Optional accessory: data output cable (code 7315-1529 need receiver, 7302-1529)

1501-10 can measure small workpieces or workpieces with steps



application



pin gage (included)



| Code | Range (radius) | Accuracy |
|---------|---------------------|----------|
| 1501-25 | 2-25mm/0.079-1" | ±0.05mm |
| 1501-10 | 2-10mm/0.079-0.394" | ±0.05mm |

REFER TO PAGE 416
FOR DETAILS

RADIUS GAGES



4801-17



4802-31



RADIUS GAGE SET
4804-26



Keyway Symmetry Gages
Page 215

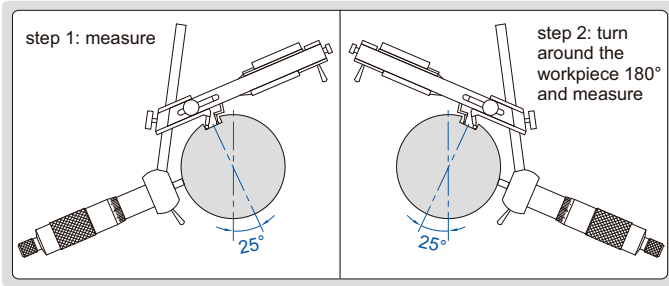


Keyway Symmetry Digital Calipers
Page 215

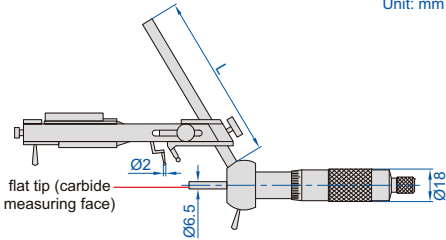


Digital Keyway Depth Gages
Page 216

application



Unit: mm



- Used to measure the symmetry of shaft keyways

4865-14

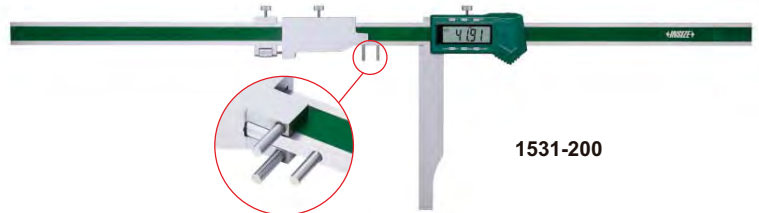
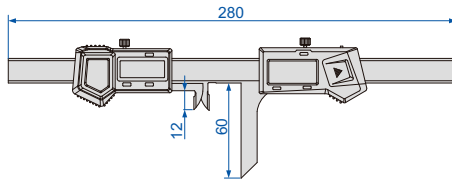


| Code | Range | | Graduation | Accuracy | L |
|---------|-------------------|-----------------|------------|----------|-------|
| | diameter of shaft | width of keyway | | | |
| 4865-14 | 14-110mm | 5-28mm | 0.01mm | 0.02mm | 100mm |

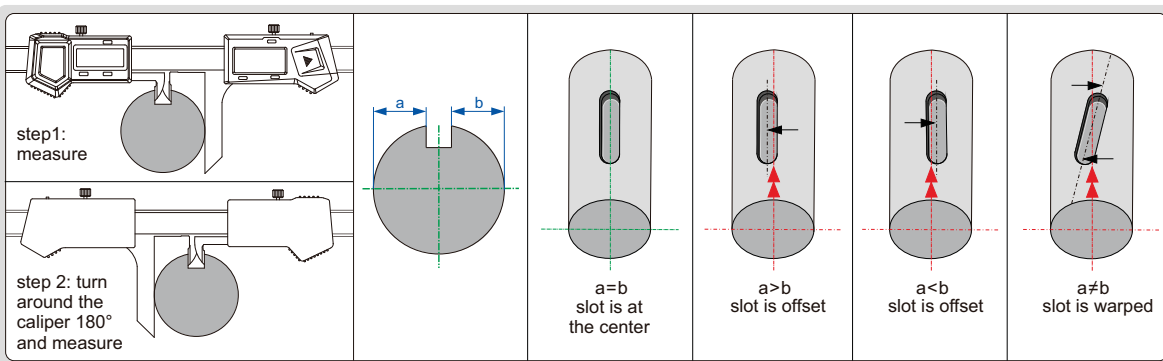
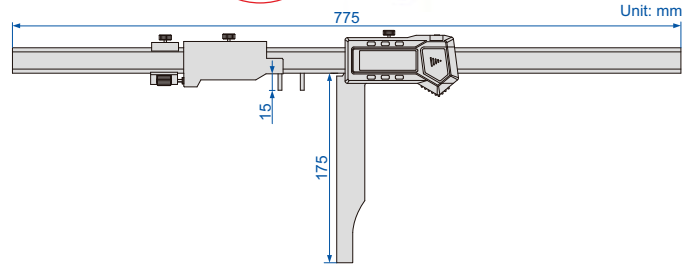
KEYWAY SYMMETRY DIGITAL CALIPERS



1531-60



1531-200



DATA OUTPUT

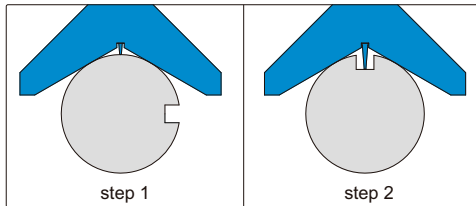
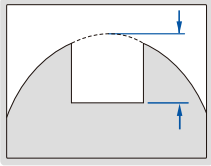
- Non waterproof
- Used to measure the symmetry of shaft keyways
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel
- Optional accessory: data output cable (code 7315-22 need receiver page 4, 7302-22 page 12)

| Code | Width of keyway | Diameter of shaft | Accuracy | Remark |
|----------|-----------------|-------------------|----------|-----------------------------|
| 1531-60 | 6-45mm | Ø10-120mm | ±0.05mm | can measure keyway width |
| 1531-200 | 3-250mm | Ø6-350mm | ±0.05mm | cannot measure keyway width |

DIGITAL KEYWAY DEPTH GAGE

DATA OUTPUT

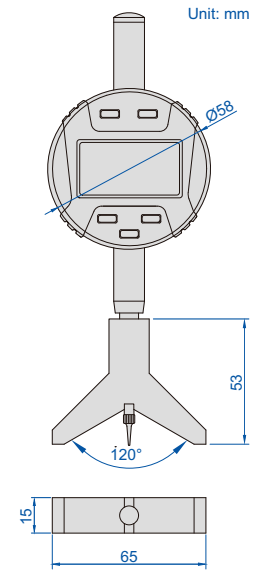
measure depth of keyway



- Measure keyway depth of cylindrical workpieces with diameter $\varnothing 10-100\text{mm}$
- Button function: on/off, zero, inch/metric conversion, absolute/incremental measurement, data preset, measuring direction change
- CR2032 battery, automatic power off (time is adjustable)
- Data output
- Stainless steel base
- Pointed tip
- Optional accessory: data output cable (code **7315-50M** need receiver page 5, **7302-40M** page 13)



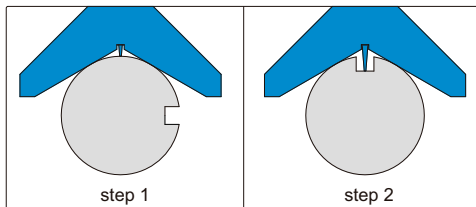
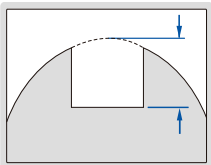
2182-25



| Code | Range | Resolution | Accuracy |
|---------|---------------|----------------|---------------------|
| 2182-25 | 0-25.4mm/0-1" | 0.01mm/0.0005" | $\pm 0.02\text{mm}$ |

DIAL KEYWAY DEPTH GAGE

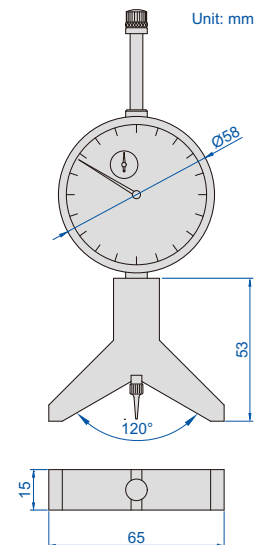
measure depth of keyway



- Measure keyway depth of cylindrical workpieces with diameter $\varnothing 10-100\text{mm}$
- Stainless steel base
- Pointed tip



2189-30



| Code | Range | Graduation | Accuracy |
|---------|--------|------------|---------------------|
| 2189-30 | 0-30mm | 0.01mm | $\pm 0.03\text{mm}$ |



Digital Chamfer Gages
Page 218



Chamfer Gages
Page 219



Digital Chamfer Gages
Page 219



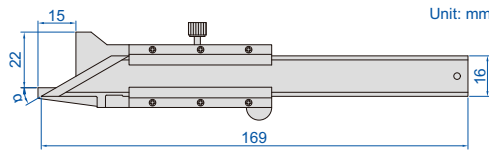
Chamfer Height Gages
Page 220

CHAMFER GAGES

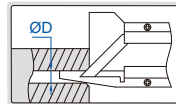


1267-6

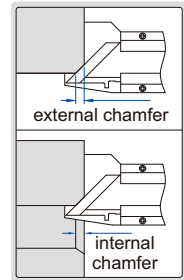
- Measure 30°/45°/60° chamfer dimension
- Graduation: 0.02mm
- Made of stainless steel
- Satin chrome plated reading surface



for internal chamfer measurement, diameter should be larger than $\varnothing D$



measure chamfer dimension



| Code | Range | Accuracy | Chamfer (α) | $\varnothing D$ |
|---------|--------|---------------|----------------------|-----------------|
| 1267-6 | 0-10mm | ± 0.06 mm | 45° | 7mm |
| 1267-63 | 0-10mm | ± 0.06 mm | 30° | 8mm |
| 1267-66 | 0-10mm | ± 0.06 mm | 60° | 7mm |

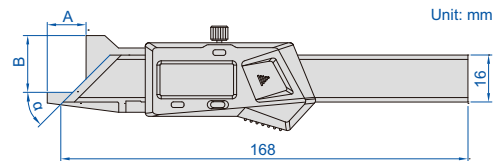
DIGITAL CHAMFER GAGES

DATA OUTPUT

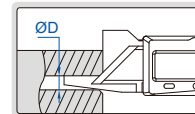


1180-6

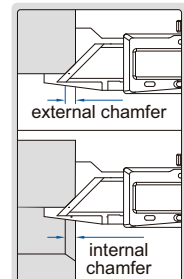
- Non waterproof
- Measure 15°/20°/30°/45°/60° chamfer dimension
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel



for internal chamfer measurement, diameter should be larger than $\varnothing D$



measure chamfer dimension



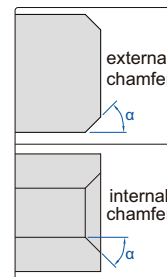
With data interface

(data output cable code 7315-21 need receiver page 4, 7302-21 page 12, optional)

| Code | Range | Accuracy | Chamfer (α) | A | B | $\varnothing D$ |
|---------|----------------|---------------|----------------------|------|------|-----------------|
| 1180-6 | 0-10mm/0-0.39" | ± 0.06 mm | 45° | 15mm | 22mm | 7mm |
| 1180-61 | 0-10mm/0-0.39" | ± 0.06 mm | 15° | 33mm | 20mm | 11mm |
| 1180-62 | 0-10mm/0-0.39" | ± 0.06 mm | 20° | 33mm | 20mm | 11mm |
| 1180-63 | 0-10mm/0-0.39" | ± 0.06 mm | 30° | 15mm | 22mm | 8mm |
| 1180-66 | 0-10mm/0-0.39" | ± 0.06 mm | 60° | 14mm | 21mm | 7mm |

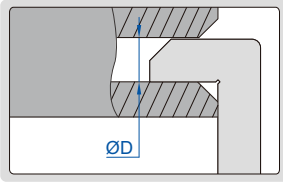
Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range | Accuracy | Chamfer (α) | A | B | $\varnothing D$ |
|-----------|----------------|---------------|----------------------|------|------|-----------------|
| 1180-6WL | 0-10mm/0-0.39" | ± 0.06 mm | 45° | 15mm | 22mm | 7mm |
| 1180-61WL | 0-10mm/0-0.39" | ± 0.06 mm | 15° | 33mm | 20mm | 11mm |
| 1180-62WL | 0-10mm/0-0.39" | ± 0.06 mm | 20° | 33mm | 20mm | 11mm |
| 1180-63WL | 0-10mm/0-0.39" | ± 0.06 mm | 30° | 15mm | 22mm | 8mm |
| 1180-66WL | 0-10mm/0-0.39" | ± 0.06 mm | 60° | 14mm | 21mm | 7mm |

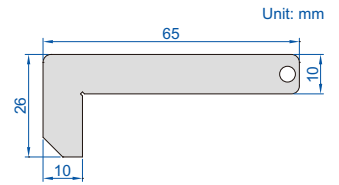


CHAMFER GAGE

for internal chamfer measurement, diameter should be larger than $\varnothing D$



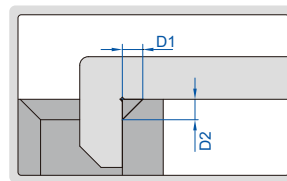
4844-1



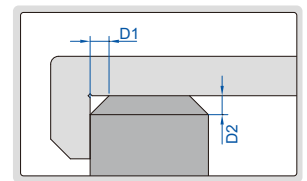
- To measure internal and external chamfers
- Made of stainless steel

| Code | Graduation | Accuracy | $\varnothing D$ |
|--------|------------|---------------------|-----------------|
| 4844-1 | 0.5mm | $\pm 0.25\text{mm}$ | 11mm |

internal chamfer



external chamfer



ATTENTION: CHAMFER OF HOLES CANNOT BE MEASURED

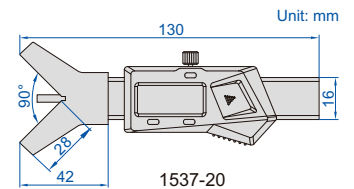
DATA OUTPUT

DIRECT READING, CALCULATION IS NOT REQUIRED

DIGITAL CHAMFER GAGES



1537-20

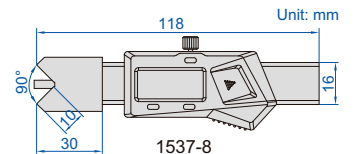


1537-20

- Non waterproof
- Measure 45° chamfer length
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Supplied with pin gage for zero setting
- Optional accessory: data output cable (code 7315-1529 need receiver, 7302-1529)



1537-8

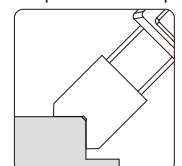


1537-8

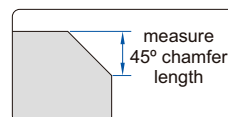
pin gage (included)



1537-8 can measure small workpieces or workpieces with steps



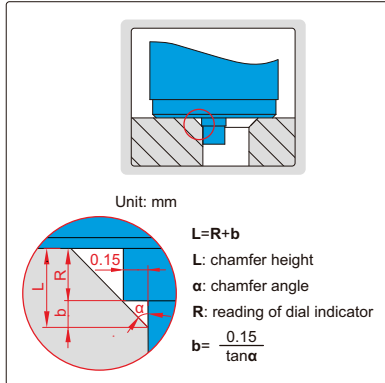
| Code | Range | Accuracy |
|---------|-----------------|---------------------|
| 1537-20 | 0-20mm/0-0.787" | $\pm 0.05\text{mm}$ |
| 1537-8 | 0-8mm/0-0.315" | $\pm 0.05\text{mm}$ |



CHAMFER HEIGHT GAGE

INSIZE PLUS
MADE IN EUROPE

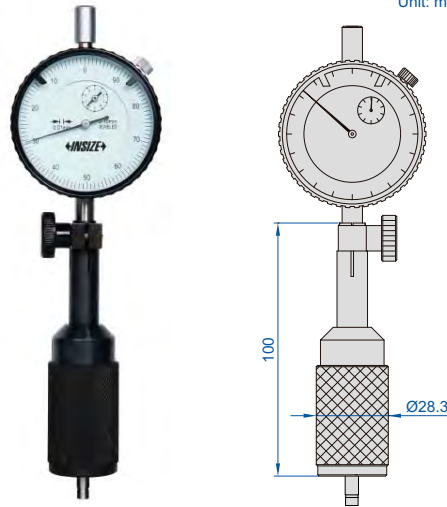
principle of measurement



- Measure outside or inside chamfer height
- Suitable for diameter of bores $\geq 6\text{mm}$, chamfer angle $\alpha \geq 30^\circ$
- Setting gage is included

| Code | Range (L) | Graduation | Accuracy |
|--------|-----------|------------|---------------------|
| 2943-1 | 0.2-5mm | 0.01mm | $\pm 0.02\text{mm}$ |

Unit: mm



2943-1

setting gage (included)

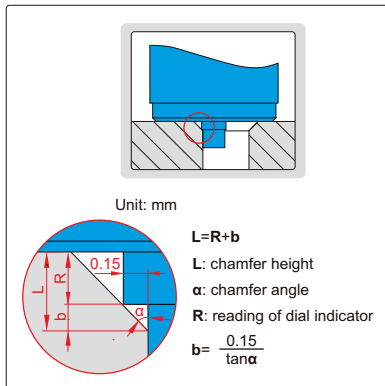


10

DIGITAL CHAMFER HEIGHT GAGE

INSIZE PLUS
MADE IN EUROPE

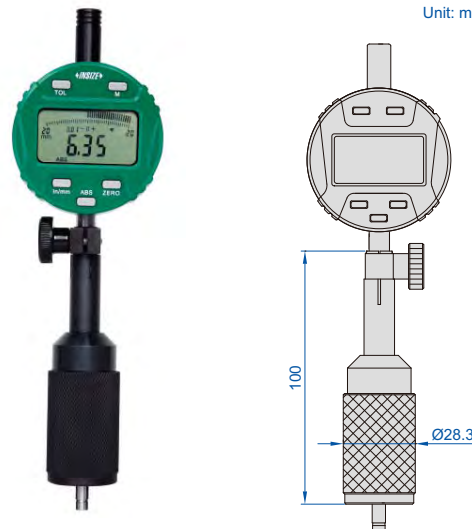
principle of measurement



- Measure outside or inside chamfer height
- Suitable for diameter of bores $\geq 6\text{mm}$, chamfer angle $\alpha \geq 30^\circ$
- Resolution: 0.01mm/0.0005"
- Setting gage is included
- Optional accessory: data output cable (code 7315-50M need receiver page 5, 7302-40M page 13)

| Code | Range (L) | Accuracy |
|--------|----------------------|---------------------|
| 2944-1 | 0.2-5mm/0.008-0.197" | $\pm 0.02\text{mm}$ |

Unit: mm



2944-1

setting gage (included)



INDICATORS, LINEAR GAGES, DIAL INDICATOR STANDS

11



Dial Test Indicators
Page 222-226



Styli For Dial Test Indicators
Page 226



Digital Indicators
Page 227-239



Zeroing Foot Switches
Page 236



High Precision Digital Indicators
Page 240



Dial Comparators
Page 240



Dial Indicators
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Points
Page 250-252



Spindle Lift Knobs
Page 253



Shaft Sleeves
Page 253



Backs
Page 253-254



Dial Indicator Testers
Page 255



Optical Grating Linear Gages And Display Units
Page 256-259



Capacitance Type Linear Gages And Display Units
Page 260-262



Dial Test Indicator Holders
Page 263-264



Magnetic Stands
Page 265-270



Dial Indicator Stands (non-magnetic)
Page 270-271



Dial Indicator Stands
Page 272-278

PRECISION DIAL TEST INDICATOR

INSIZE PLUS
MADE IN EUROPE

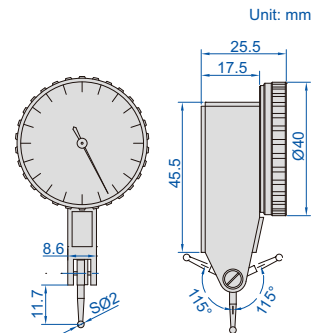
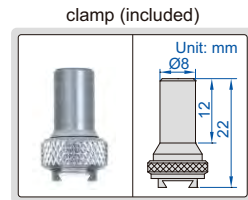
INSPECTION CERTIFICATE

ANTI MAGNETIC
CARBIDE CONTACT POINT

- Meet DIN2270
- Ceramic bearing
- Anti magnetic carbide contact point
- Two measuring directions
- Supplied with one clamp: diameter Ø8mm
- Optional accessory: styli (page 226)



2897-02



| Code | Range | Graduation | Accuracy | Hysteresis | Dial reading |
|-----------|-------|------------|----------|------------|--------------|
| 2897-02 * | 0.2mm | 0.001mm | 4µm | 2µm | 0-100-0 |

*Supplied with manufacturer inspection certificate

PRECISION DIAL TEST INDICATORS

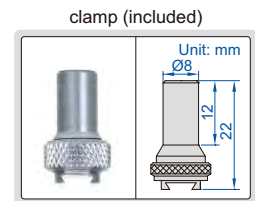
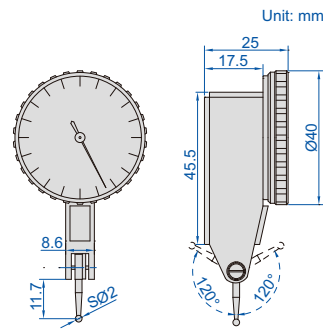
INSIZE PLUS
MADE IN EUROPE

INSPECTION CERTIFICATE

- Meet DIN2270
- Ceramic bearing
- Two measuring directions
- Supplied with one clamp: diameter Ø8mm
- Optional accessory: styli (page 226)



2880-02



| Code | Range | Graduation | Accuracy | Hysteresis | Dial reading | Remark |
|------------|-------|------------|----------|------------|--------------|-------------------------------------|
| 2880-02 * | 0.2mm | 0.002mm | 4µm | 2µm | 0-100-0 | anti magnetic carbide contact point |
| 2880-02R * | 0.2mm | 0.002mm | 4µm | 2µm | 0-100-0 | ruby contact point |

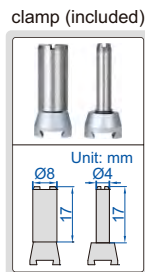
*Supplied with manufacturer inspection certificate

DIAL TEST INDICATORS

JEWELLED BEARING

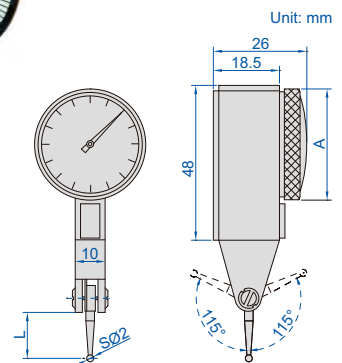
INSPECTION CERTIFICATE

- Meet DIN2270 (except 2380-02, 2381-02, 2381-021)
- Jeweled bearing
- Carbide contact point
- Two measuring directions
- Anti magnetic body
- Supplied with two clamps: diameter Ø4mm and Ø8mm
- Optional accessory: styli (page 226)



2380-08

POPULAR MODEL



(mm)

| Code | Range | Graduation | Accuracy | Hysteresis | Dial reading | A | L |
|------------|-------|------------|----------|------------|--------------|-----|------|
| 2380-08 * | 0.8mm | 0.01mm | 13µm | 3µm | 0-40-0 | Ø30 | 13.5 |
| 2381-08 * | 0.8mm | 0.01mm | 13µm | 3µm | 0-40-0 | Ø37 | 13.5 |
| 2380-02 * | 0.2mm | 0.002mm | 6µm | 2µm | 0-100-0 | Ø30 | 12.5 |
| 2381-02 * | 0.2mm | 0.002mm | 6µm | 2µm | 0-100-0 | Ø37 | 12.5 |
| 2381-021 * | 0.2mm | 0.001mm | 6µm | 2µm | 0-100-0 | Ø37 | 12.5 |

*Supplied with manufacturer inspection certificate

JEWELLED BEARING

INSPECTION CERTIFICATE

INCH DIAL TEST INDICATORS

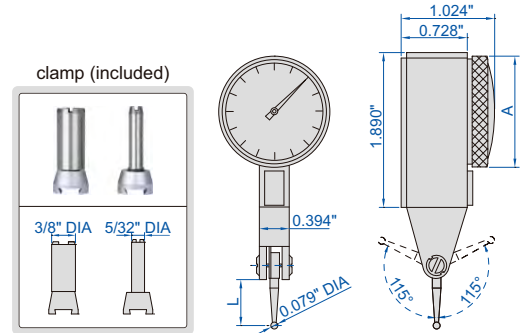
- Jeweled bearing
- Carbide contact point
- Two measuring directions
- Anti magnetic body
- Supplied with two clamps: 5/32" DIA and 3/8" DIA



2380-31

| Code | Range | Graduation | Accuracy | Dial reading | A | L |
|-----------|--------|------------|----------|--------------|------------|--------|
| 2380-31* | 0.03" | 0.001" | ±0.001" | 0-15-0 | 1.181" DIA | 0.50" |
| 2380-35* | 0.03" | 0.0005" | ±0.0005" | 0-15-0 | 1.181" DIA | 0.50" |
| 2380-301* | 0.008" | 0.0001" | ±0.0001" | 0-40-0 | 1.181" DIA | 0.563" |
| 2381-31* | 0.03" | 0.001" | ±0.001" | 0-15-0 | 1.457" DIA | 0.50" |
| 2381-35* | 0.03" | 0.0005" | ±0.0005" | 0-15-0 | 1.457" DIA | 0.50" |
| 2381-301* | 0.008" | 0.0001" | ±0.0001" | 0-40-0 | 1.457" DIA | 0.563" |

*Supplied with manufacturer inspection certificate



ANTI MAGNETIC CARBIDE CONTACT POINT

INSPECTION CERTIFICATE

DIAL TEST INDICATOR

INSIZE PLUS
MADE IN EUROPE

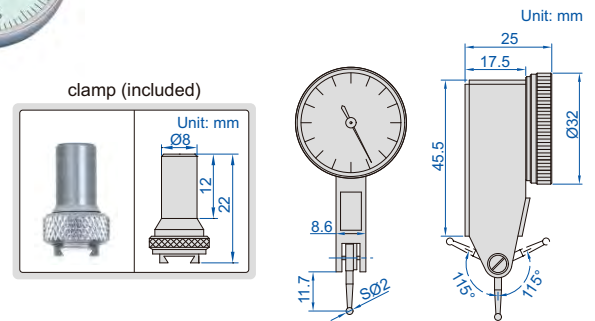
- Meet DIN2270
- Ceramic bearing
- Anti magnetic carbide contact point
- Two measuring directions
- Supplied with one clamp: diameter Ø8mm
- Optional accessory: styli (page 226)



2895-08

| Code | Range | Graduation | Accuracy | Hysteresis | Dial reading |
|----------|-------|------------|----------|------------|--------------|
| 2895-08* | 0.8mm | 0.01mm | 13µm | 3µm | 0-40-0 |

*Supplied with manufacturer inspection certificate



ANTI MAGNETIC CARBIDE CONTACT POINT

INSPECTION CERTIFICATE

LONG STYLUS DIAL TEST INDICATOR

INSIZE PLUS
MADE IN EUROPE

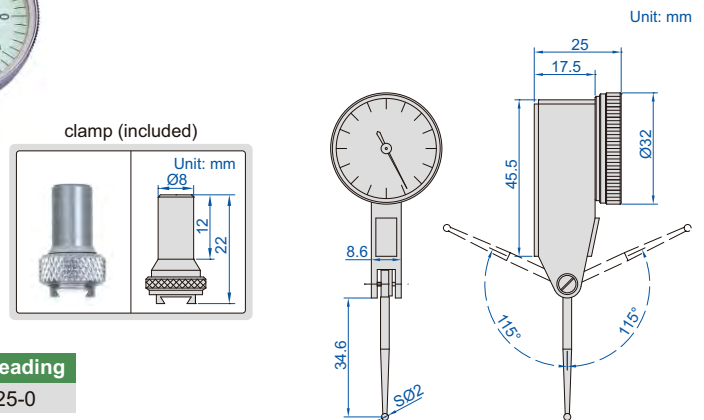
- Meet DIN2270
- Ceramic bearing
- Anti magnetic carbide contact point
- Two measuring directions
- Supplied with one clamp: diameter Ø8mm
- Optional accessory: styli (page 226)



2896-05

| Code | Range | Graduation | Accuracy | Hysteresis | Dial reading |
|----------|-------|------------|----------|------------|--------------|
| 2896-05* | 0.5mm | 0.01mm | 13µm | 3µm | 0-25-0 |

*Supplied with manufacturer inspection certificate



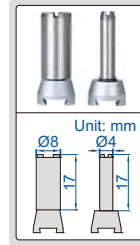
LONG STYLUS DIAL TEST INDICATOR

- Meet DIN2270
- Jeweled bearing
- Carbide contact point
- Two measuring directions
- Anti magnetic body
- Supplied with two clamps: diameter Ø4mm and Ø8mm
- Optional accessory: styli (page 226)



2383-08A

clamp (included)

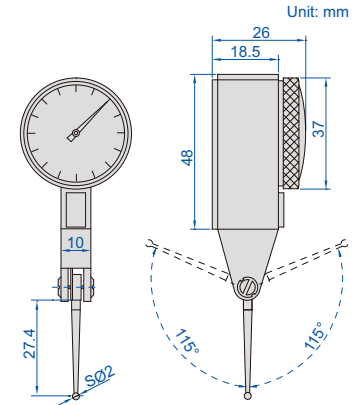


| Code | Range | Graduation | Accuracy | Hysteresis | Dial reading |
|-----------|-------|------------|----------|------------|--------------|
| 2383-08A* | 0.8mm | 0.01mm | 13µm | 3µm | 0-40-0 |

*Supplied with manufacturer inspection certificate

JEWELLED BEARING

INSPECTION CERTIFICATE



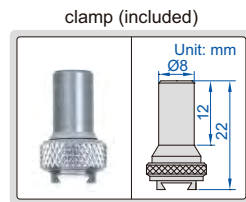
VERTICAL TYPE LONG STYLUS DIAL TEST INDICATOR

INSIZE PLUS
MADE IN EUROPE

ANTI MAGNETIC CARBIDE CONTACT POINT

INSPECTION CERTIFICATE

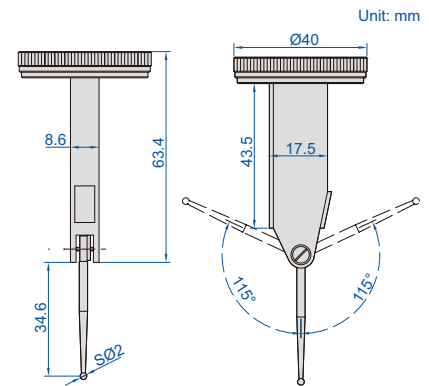
- Meet DIN2270
- Ceramic bearing
- Anti magnetic carbide contact point
- Two measuring directions
- Supplied with one clamp: diameter Ø8mm
- Optional accessory: styli (page 226)



2899-05

| Code | Range | Graduation | Accuracy | Hysteresis | Dial reading |
|----------|-------|------------|----------|------------|--------------|
| 2899-05* | 0.5mm | 0.01mm | 13µm | 3µm | 0-25-0 |

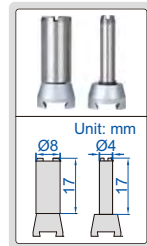
*Supplied with manufacturer inspection certificate



VERTICAL TYPE DIAL TEST INDICATOR

- Meet DIN2270
- Jeweled bearing
- Carbide contact point
- Two measuring directions
- Anti magnetic body
- Supplied with two clamps: diameter Ø4mm and Ø8mm
- Optional accessory: styli (page 226)

clamp (included)



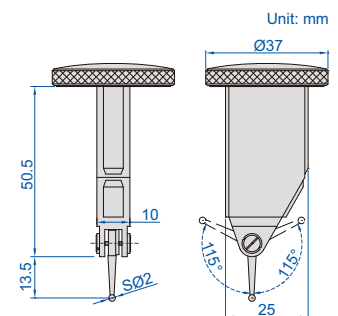
2398-08

| Code | Range | Graduation | Accuracy | Hysteresis | Dial reading |
|----------|-------|------------|----------|------------|--------------|
| 2398-08* | 0.8mm | 0.01mm | 13µm | 3µm | 0-40-0 |

*Supplied with manufacturer inspection certificate

JEWELLED BEARING

INSPECTION CERTIFICATE



ANTI MAGNETIC
CARBIDE CONTACT POINT

INSPECTION
CERTIFICATE

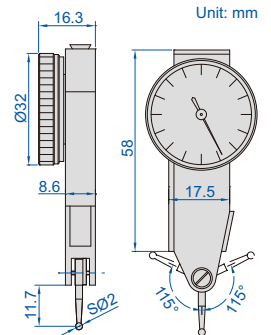
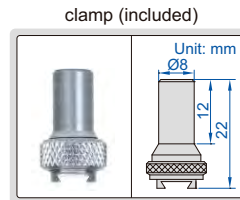
SIDE TYPE DIAL TEST INDICATOR

INSIZE PLUS
MADE IN EUROPE

- Meet DIN2270
- Ceramic bearing
- Anti magnetic carbide contact point
- Two measuring directions
- Supplied with one clamp: diameter Ø8mm
- Optional accessory: styli (page 226)



2898-08



| Code | Range | Graduation | Accuracy | Hysteresis | Dial reading |
|----------|-------|------------|----------|------------|--------------|
| 2898-08* | 0.8mm | 0.01mm | 13µm | 3µm | 0-40-0 |

*Supplied with manufacturer inspection certificate

INSPECTION
CERTIFICATE

JEWELLED
BEARING

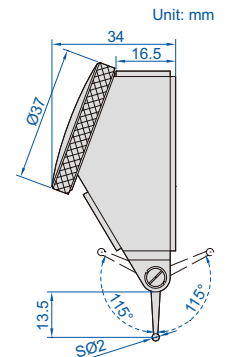
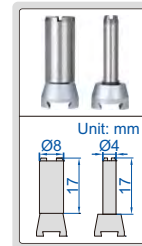
TILTED FACE TYPE DIAL TEST INDICATOR

- Meet DIN2270
- Jeweled bearing
- Carbide contact point
- Two measuring directions
- Anti magnetic body
- Supplied with two clamps: diameter Ø4mm and Ø8mm
- Optional accessory: styli (page 226)



2399-08

clamp (included)



| Code | Range | Graduation | Accuracy | Hysteresis | Dial reading |
|----------|-------|------------|----------|------------|--------------|
| 2399-08* | 0.8mm | 0.01mm | 13µm | 3µm | 0-40-0 |

*Supplied with manufacturer inspection certificate

INSPECTION
CERTIFICATE

JEWELLED
BEARING

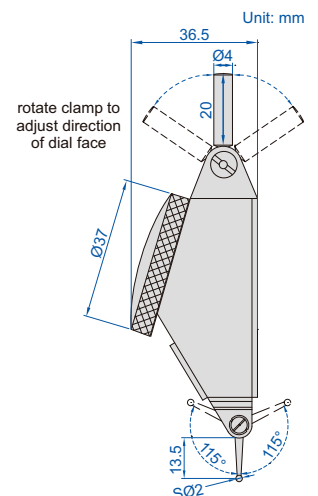
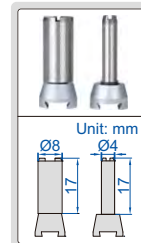
LARGE RANGE DIAL TEST INDICATOR

- Dial reading: 0-40-0
- Jeweled bearing
- Carbide contact point
- Two measuring directions
- Anti magnetic body
- Supplied with two clamps: diameter Ø4mm and Ø8mm
- Optional accessory: styli (page 226)



2386-16A

clamp (included)



| Code | Range | Graduation | Accuracy | Hysteresis |
|-----------|-------|------------|----------|------------|
| 2386-16A* | 1.6mm | 0.01mm | 25µm | 8µm |

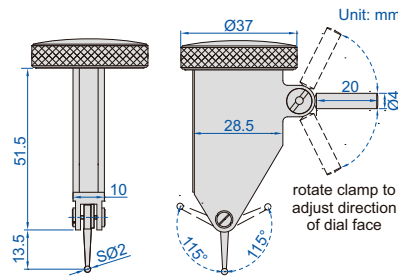
*Supplied with manufacturer inspection certificate

LARGE RANGE VERTICAL TYPE DIAL TEST INDICATOR

JEWELLED BEARING

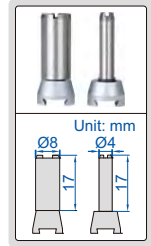
INSPECTION CERTIFICATE

- Dial Reading: 0-40-0
- Jeweled bearing
- Carbide contact point
- Two measuring directions
- Anti magnetic body
- Supplied with two clamps: diameter Ø4mm and Ø8mm
- Optional accessory: styli (page 226)



2480-16

clamp (included)



| Code | Range | Graduation | Accuracy | Hysteresis |
|----------|-------|------------|----------|------------|
| 2480-16* | 1.6mm | 0.01mm | 18µm | 3µm |

* Supplied with manufacturer inspection certificate

CLAMPS FOR DIAL TEST INDICATORS



6298-1



6298-2



| Code | ØD |
|--------|------|
| 6298-1 | Ø4mm |
| 6298-2 | Ø8mm |

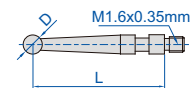
11

STYLI FOR DIAL TEST INDICATORS

| Code | For dial test indicator | Material of contact point | L | D |
|---------|--|---------------------------|--------|-------|
| 6284-1 | 2380-08 2398-08 2381-08 2399-08 | steel | 13.5mm | SØ1mm |
| 6284-31 | | ruby | 13.5mm | SØ1mm |
| 6284-3 | | carbide | 13.5mm | SØ2mm |
| 6284-4 | | ruby | 13.5mm | SØ2mm |
| 6284-8 | | carbide | 13.5mm | SØ3mm |
| 6284-21 | 2380-02 2381-02 2381-021 | steel | 12.5mm | SØ1mm |
| 6284-22 | | carbide | 12.5mm | SØ2mm |
| 6284-24 | | ruby | 12.5mm | SØ2mm |
| 6284-23 | | carbide | 12.5mm | SØ3mm |
| 6284-61 | 2386-16A 2480-16 | steel | 13.5mm | SØ1mm |
| 6284-62 | | carbide | 13.5mm | SØ2mm |
| 6284-63 | | ruby | 13.5mm | SØ2mm |
| 6284-64 | | carbide | 13.5mm | SØ3mm |
| 6284-81 | 2383-08A | steel | 27.4mm | SØ1mm |
| 6284-82 | | carbide | 27.4mm | SØ2mm |
| 6284-83 | | ruby | 27.4mm | SØ2mm |
| 6284-84 | | carbide | 27.4mm | SØ3mm |



6284-3

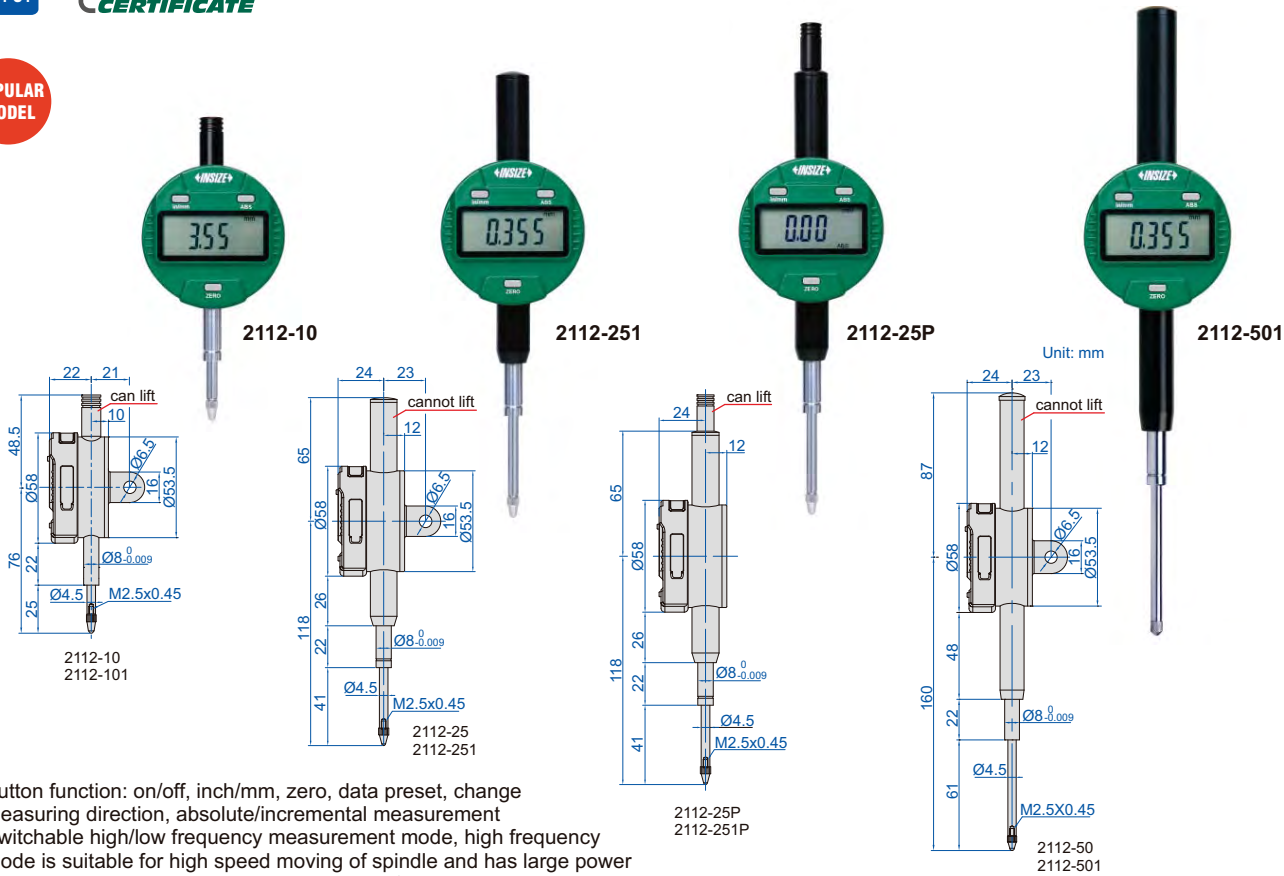


DATA
OUTPUT

INSIZE
CERTIFICATE

DIGITAL INDICATORS (STANDARD TYPE)

POPULAR
MODEL



- Button function: on/off, inch/mm, zero, data preset, change measuring direction, absolute/incremental measurement
- Switchable high/low frequency measurement mode, high frequency mode is suitable for high speed moving of spindle and has large power consumption, low power consumption in low frequency mode
- Keep preset data in memory after restart
- CR2032 battery, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (code **7315-50M** need receiver page 5, **7302-40M** page 13, **7305-40M** page 9), backs (page 253~254), contact points (page 250~252)

Resolution 0.001mm/0.0005"

| Code | Range | Accuracy | Hysteresis | Maximum measuring force | Remark |
|------------|-------------|----------|------------|-------------------------|--------------------------|
| 2112-101F* | 12.7mm/0.5" | 5µm | 2µm | 1.5N | flat back |
| 2112-251F* | 25.4mm/1" | 5µm | 3µm | 2.2N | flat back |
| 2112-501F* | 50.8mm/2" | 6µm | 3µm | 2.5N | flat back |
| 2112-101* | 12.7mm/0.5" | 5µm | 2µm | 1.5N | lug back |
| 2112-251* | 25.4mm/1" | 5µm | 3µm | 2.2N | lug back |
| 2112-501* | 50.8mm/2" | 6µm | 3µm | 2.5N | lug back |
| 2112-251P* | 25.4mm/1" | 5µm | 3µm | 2.2N | flat back, with lift cap |
| 2112-501P* | 50.8mm/2" | 6µm | 3µm | 2.5N | flat back, with lift cap |

Resolution 0.01mm/0.0005"

| Code | Range | Accuracy | Hysteresis | Maximum measuring force | Remark |
|-----------|-------------|----------|------------|-------------------------|--------------------------|
| 2112-10F* | 12.7mm/0.5" | 20µm | 10µm | 1.5N | flat back |
| 2112-25F* | 25.4mm/1" | 20µm | 10µm | 2.2N | flat back |
| 2112-50F* | 50.8mm/2" | 30µm | 10µm | 2.5N | flat back |
| 2112-10* | 12.7mm/0.5" | 20µm | 10µm | 1.5N | lug back |
| 2112-25* | 25.4mm/1" | 20µm | 10µm | 2.2N | lug back |
| 2112-50* | 50.8mm/2" | 30µm | 10µm | 2.5N | lug back |
| 2112-25P* | 25.4mm/1" | 20µm | 10µm | 2.2N | flat back, with lift cap |
| 2112-50P* | 50.8mm/2" | 30µm | 10µm | 2.5N | flat back, with lift cap |

*Supplied with manufacturer inspection certificate

2112-251P/501P/25P/50P



spindle lift knob is included



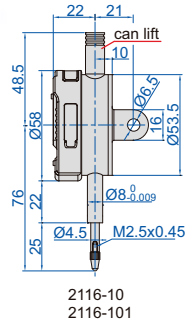
METRIC DIGITAL INDICATORS

DATA OUTPUT

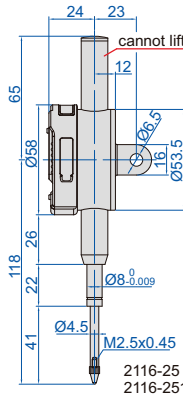
INSPECTION CERTIFICATE



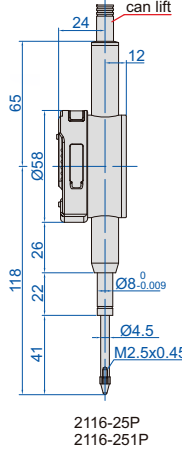
2116-10



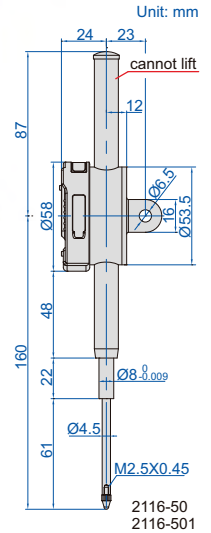
2116-251



2116-251P



2116-501



- Button function: on/off, zero, data preset, change measuring direction, absolute/incremental measurement
- Switchable high/low frequency measurement mode, high frequency mode is suitable for high speed moving of spindle and has large power consumption, low power consumption in low frequency mode
- Keep preset data in memory after restart
- CR2032 battery, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (code **7315-50M** need receiver page 5, **7302-40M** page 13, **7305-40M** page 9), backs (page 253~254), contact points (page 250~252)

Resolution 0.001mm

| Code | Range | Accuracy | Hysteresis | Maximum measuring force | Remark |
|-------------------|--------|----------|------------|-------------------------|--------------------------|
| 2116-101F* | 12.7mm | 5μm | 2μm | 1.5N | flat back |
| 2116-251F* | 25.4mm | 5μm | 3μm | 2.2N | flat back |
| 2116-501F* | 50.8mm | 6μm | 3μm | 2.5N | flat back |
| 2116-101* | 12.7mm | 5μm | 2μm | 1.5N | lug back |
| 2116-251* | 25.4mm | 5μm | 3μm | 2.2N | lug back |
| 2116-501* | 50.8mm | 6μm | 3μm | 2.5N | lug back |
| 2116-251P* | 25.4mm | 5μm | 3μm | 2.2N | flat back, with lift cap |
| 2116-501P* | 50.8mm | 6μm | 3μm | 2.5N | flat back, with lift cap |

Resolution 0.01mm

| Code | Range | Accuracy | Hysteresis | Maximum measuring force | Remark |
|------------------|--------|----------|------------|-------------------------|--------------------------|
| 2116-10F* | 12.7mm | 20μm | 10μm | 1.5N | flat back |
| 2116-25F* | 25.4mm | 20μm | 10μm | 2.2N | flat back |
| 2116-50F* | 50.8mm | 30μm | 10μm | 2.5N | flat back |
| 2116-10* | 12.7mm | 20μm | 10μm | 1.5N | lug back |
| 2116-25* | 25.4mm | 20μm | 10μm | 2.2N | lug back |
| 2116-50* | 50.8mm | 30μm | 10μm | 2.5N | lug back |
| 2116-25P* | 25.4mm | 20μm | 10μm | 2.2N | flat back, with lift cap |
| 2116-50P* | 50.8mm | 30μm | 10μm | 2.5N | flat back, with lift cap |

*Supplied with manufacturer inspection certificate

2116-251P/501P/25P/50P



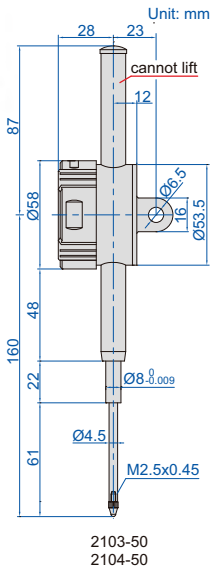
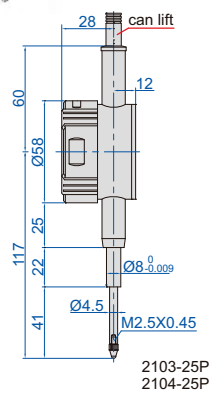
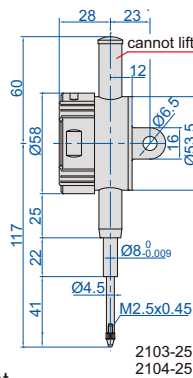
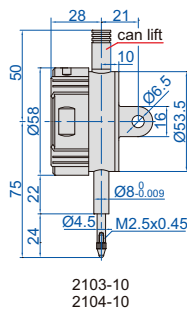
spindle lift knob is included



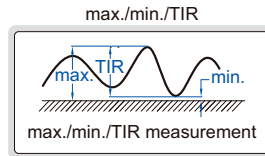


DATA OUTPUT

DIGITAL INDICATORS (ADVANCED TYPE)



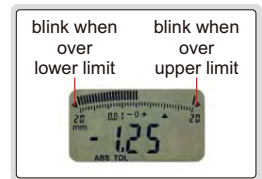
- Reading in digital and analog
- Display can be rotated by 320°
- Button function: tolerance Go and No-Go display, data preset, measuring direction change, max./min./TIR measurement, inch/metric conversion, absolute/incremental measurement
- Keep preset data and tolerance data in memory after restart
- CR2032 battery, automatic power off (time is adjustable), data output
- Optional accessory: data output cable (code **7315-50M** need receiver page 5, **7302-40M** page 13, **7305-40M** page 9), backs (page 253~254), contact points (page 250~252)



Resolution 0.001mm/0.00005"

| Code | Range | Accuracy | Hysteresis | Maximum measuring force | Remark |
|------------|-------------|----------|------------|-------------------------|--------------------------|
| 2103-10F * | 12.7mm/0.5" | 5µm | 2µm | 1.5N | flat back |
| 2103-25F * | 25.4mm/1" | 5µm | 3µm | 2.2N | flat back |
| 2103-50F * | 50.8mm/2" | 6µm | 3µm | 2.5N | flat back |
| 2103-10 * | 12.7mm/0.5" | 5µm | 2µm | 1.5N | lug back |
| 2103-25 * | 25.4mm/1" | 5µm | 3µm | 2.2N | lug back |
| 2103-50 * | 50.8mm/2" | 6µm | 3µm | 2.5N | lug back |
| 2103-25P * | 25.4mm/1" | 5µm | 3µm | 2.2N | flat back, with lift cap |
| 2103-50P * | 50.8mm/2" | 6µm | 3µm | 2.5N | flat back, with lift cap |

alarm when over tolerance



Resolution 0.01mm/0.0005"

| Code | Range | Accuracy | Hysteresis | Maximum measuring force | Remark |
|------------|-------------|----------|------------|-------------------------|--------------------------|
| 2104-10F * | 12.7mm/0.5" | 20µm | 10µm | 1.5N | flat back |
| 2104-25F * | 25.4mm/1" | 20µm | 10µm | 2.2N | flat back |
| 2104-50F * | 50.8mm/2" | 30µm | 10µm | 2.5N | flat back |
| 2104-10 * | 12.7mm/0.5" | 20µm | 10µm | 1.5N | lug back |
| 2104-25 * | 25.4mm/1" | 20µm | 10µm | 2.2N | lug back |
| 2104-50 * | 50.8mm/2" | 30µm | 10µm | 2.5N | lug back |
| 2104-25P * | 25.4mm/1" | 20µm | 10µm | 2.2N | flat back, with lift cap |
| 2104-50P * | 50.8mm/2" | 30µm | 10µm | 2.5N | flat back, with lift cap |

2103-25P/50P
2104-25P/50P

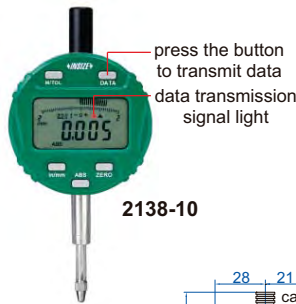


* Supplied with manufacturer inspection certificate

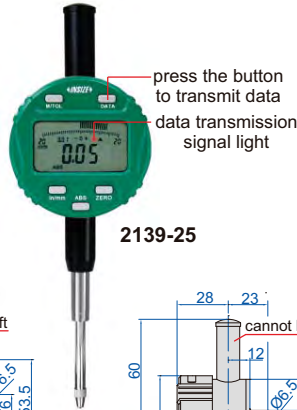
DIGITAL INDICATORS (WITH TRANSMISSION BUTTON AND SIGNAL LIGHT)



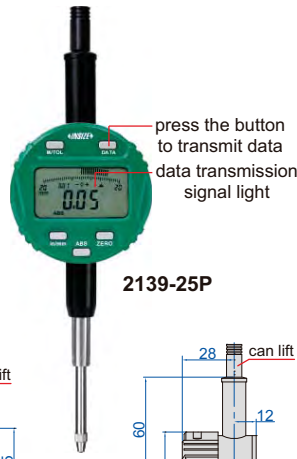
DATA OUTPUT



2138-10



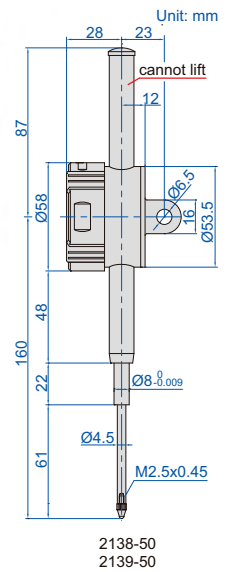
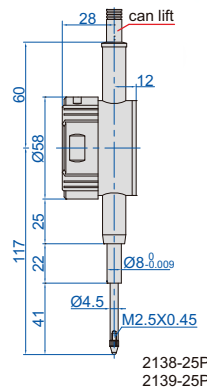
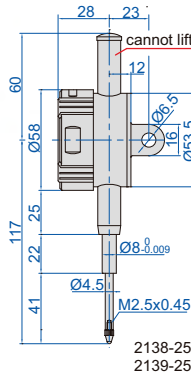
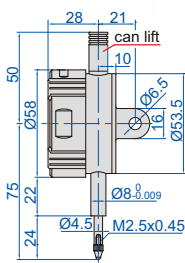
2139-25



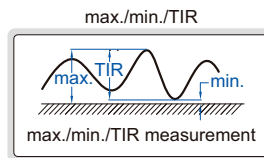
2139-25P



2138-50



- Reading in digital and analog
- Display can be rotated by 320°
- Button function: on/off, zero, tolerance Go and No-Go display, data preset, measuring direction change, max./min./TIR measurement, inch/metric conversion, absolute/incremental measurement, data output
- Keep preset data and tolerance data in memory after restart
- CR2032 battery, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (flat back: code **7315-51** need receiver page 5, **7302-40M** page 13, **7305-40M** page 9; lug back: code **7315-50M** need receiver page 5, **7302-40M** page 13, **7305-40M** page 9), backs (page 253~254), contact points (page 250~252)



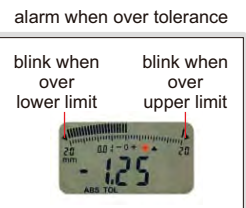
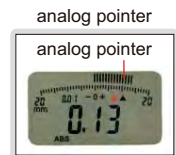
Resolution 0.001mm/0.00005"

| Code | Range | Accuracy | Hysteresis | Maximum measuring force | Remark |
|-----------|-------------|----------|------------|-------------------------|--------------------------|
| 2138-10F* | 12.7mm/0.5" | 5µm | 2µm | 1.5N | flat back |
| 2138-25F* | 25.4mm/1" | 5µm | 3µm | 2.2N | flat back |
| 2138-50F* | 50.8mm/2" | 6µm | 3µm | 2.5N | flat back |
| 2138-10* | 12.7mm/0.5" | 5µm | 2µm | 1.5N | lug back |
| 2138-25* | 25.4mm/1" | 5µm | 3µm | 2.2N | lug back |
| 2138-50* | 50.8mm/2" | 6µm | 3µm | 2.5N | lug back |
| 2138-25P* | 25.4mm/1" | 5µm | 3µm | 2.2N | flat back, with lift cap |
| 2138-50P* | 50.8mm/2" | 6µm | 3µm | 2.5N | flat back, with lift cap |

Resolution 0.01mm/0.0005"

| Code | Range | Accuracy | Hysteresis | Maximum measuring force | Remark |
|-----------|-------------|----------|------------|-------------------------|--------------------------|
| 2139-10F* | 12.7mm/0.5" | 20µm | 10µm | 1.5N | flat back |
| 2139-25F* | 25.4mm/1" | 20µm | 10µm | 2.2N | flat back |
| 2139-50F* | 50.8mm/2" | 30µm | 10µm | 2.5N | flat back |
| 2139-10* | 12.7mm/0.5" | 20µm | 10µm | 1.5N | lug back |
| 2139-25* | 25.4mm/1" | 20µm | 10µm | 2.2N | lug back |
| 2139-50* | 50.8mm/2" | 30µm | 10µm | 2.5N | lug back |
| 2139-25P* | 25.4mm/1" | 20µm | 10µm | 2.2N | flat back, with lift cap |
| 2139-50P* | 50.8mm/2" | 30µm | 10µm | 2.5N | flat back, with lift cap |

*Supplied with manufacturer inspection certificate



WATERPROOF

DATA OUTPUT

WATERPROOF DIGITAL INDICATORS

INSPECTION CERTIFICATE

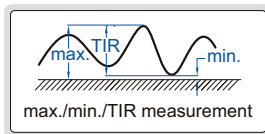
alarm when over tolerance



spindle lift knob is included (except 2115-101/101F, 2115-10/10F)



max./min./TIR



2115-10

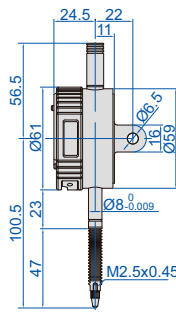


2115-25

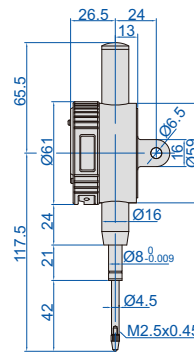


2115-50

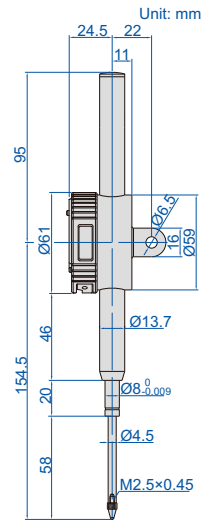
- Dust/waterproof
- Button function: on/off, zero, mm/inch, data preset, tolerance, change measuring direction, max./min./TIR measurement, absolute/incremental measurement
- Keep preset data and tolerance data in memory after restart
- CR2032 battery, automatic power off
- Data output
- Optional accessory: data output cable (code 7315-50M need receiver page 5, 7302-40M page 13, 7305-40M page 9), backs (page 253~254), contact points (page 250~252)



2115-10
2115-101



2115-25
2115-251



2115-50
2115-501

Resolution 0.001mm/0.00005"

| Code | Range | Dust/waterproof | Accuracy | Hysteresis | Remark |
|-------------|-------------|-----------------|----------|------------|-----------|
| 2115-101 * | 12.7mm/0.5" | IP65 | 5μm | 2μm | lug back |
| 2115-251 * | 25.4mm/1" | IP54 | 5μm | 3μm | lug back |
| 2115-501 * | 50.8mm/2" | IP54 | 6μm | 3μm | lug back |
| 2115-101F * | 12.7mm/0.5" | IP65 | 5μm | 2μm | flat back |
| 2115-251F * | 25.4mm/1" | IP54 | 5μm | 3μm | flat back |
| 2115-501F * | 50.8mm/2" | IP54 | 6μm | 3μm | flat back |

Resolution 0.01mm/0.0005"

| Code | Range | Dust/waterproof | Accuracy | Hysteresis | Remark |
|------------|-------------|-----------------|----------|------------|-----------|
| 2115-10 * | 12.7mm/0.5" | IP65 | 20μm | 10μm | lug back |
| 2115-25 * | 25.4mm/1" | IP54 | 20μm | 10μm | lug back |
| 2115-50 * | 50.8mm/2" | IP54 | 30μm | 10μm | lug back |
| 2115-10F * | 12.7mm/0.5" | IP65 | 20μm | 10μm | flat back |
| 2115-25F * | 25.4mm/1" | IP54 | 20μm | 10μm | flat back |
| 2115-50F * | 50.8mm/2" | IP54 | 30μm | 10μm | flat back |

* Supplied with manufacturer inspection certificate

ADJUSTABLE COEFFICIENT DIGITAL INDICATORS



DATA
OUTPUT

INSPECTION
CERTIFICATE



2501-10



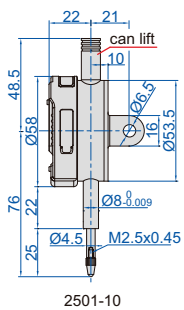
2501-25



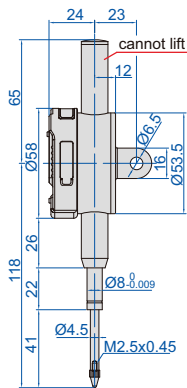
2501-25P



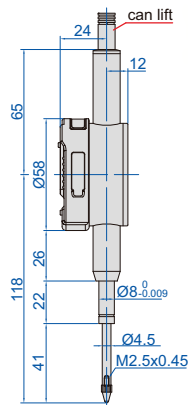
2501-50



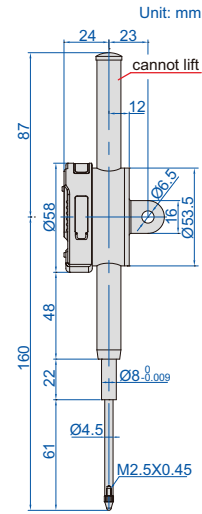
2501-10



2501-25



2501-25P



2501-50

- DISPLAY READING = COEFFICIENT X SPINDLE MOVEMENT.
The coefficient can be adjusted from 0 to 9.9999.
For example, coefficient is 4.5562, spindle moves 3.60mm, display reading is 4.5562 x 3.60=16.40mm
- Button function: on/off, zero, data preset, inch/mm, coefficient set, measuring direction change
- Switchable high/low frequency measurement mode, high frequency mode is suitable for high speed moving of spindle and has large power consumption, low power consumption in low frequency mode
- Keep preset data in memory after restart
- CR2032 battery, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (code **7315-50M** need receiver page 5, **7302-40M** page 13, **7305-40M** page 9), backs (page 253~254), contact points (page 250~252)

spindle lift knob is included



2501-25P/50P



Resolution 0.01mm/0.0005"

| Code | Range | Accuracy | Hysteresis | Maximum measuring force | Remark |
|-----------|-------------|----------|------------|-------------------------|--------------------------|
| 2501-10* | 12.7mm/0.5" | 20µm | 10µm | 1.5N | lug back |
| 2501-25* | 25.4mm/1" | 20µm | 10µm | 2.2N | lug back |
| 2501-50* | 50.8mm/2" | 30µm | 10µm | 2.5N | lug back |
| 2501-10F* | 12.7mm/0.5" | 20µm | 10µm | 1.5N | flat back |
| 2501-25F* | 25.4mm/1" | 20µm | 10µm | 2.2N | flat back |
| 2501-50F* | 50.8mm/2" | 30µm | 10µm | 2.5N | flat back |
| 2501-25P* | 25.4mm/1" | 20µm | 10µm | 2.2N | flat back, with lift cap |
| 2501-50P* | 50.8mm/2" | 30µm | 10µm | 2.5N | flat back, with lift cap |

* Supplied with manufacturer inspection certificate



THE ORIGINAL DATA
REMAINS AFTER POWER OFF

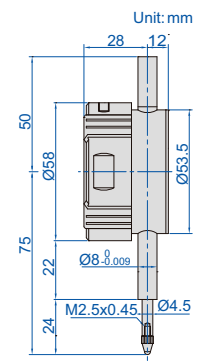
DIGITAL INDICATORS FOR BORE GAGES (WITH TRANSMISSION BUTTON AND SIGNAL LIGHT)



DATA
OUTPUT



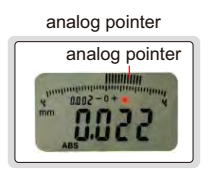
2108-10F



- Specially designed for bore gages
- The minimum value tracking function can find the diameter automatically
- Read the diameter directly, after inputting the size of setting ring
- Reading in digital and analog
- Display can be rotated by 320°
- Button function: on/off, minimum value tracking, calibration, data preset, inch/metric conversion
- Data remains after power off, no need to recalibrate after power on
- CR2032 battery, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (code 7315-51 need receiver page 5, 7302-40M page 13, 7305-40M page 9), backs (page 253~254), contact points (page 250~252), spindle lift knob (code 7332)



display can be rotated by 320°



analog pointer

read the diameter directly, after inputting the size of setting ring.

the minimum value tracking function can find the diameter automatically.

| Code | Range | Resolution | Accuracy | Hysteresis | Remark |
|-------------|-------------|--|----------|------------|-----------|
| 2108-10F * | 12.7mm/0.5" | 0.002mm/0.0001" (can switch to: 0.01mm/0.0005") | 20µm | 10µm | flat back |
| 2108-101F * | 12.7mm/0.5" | 0.001mm/0.00005" | 5µm | 2µm | flat back |

*Supplied with manufacturer inspection certificate



DATA
OUTPUT



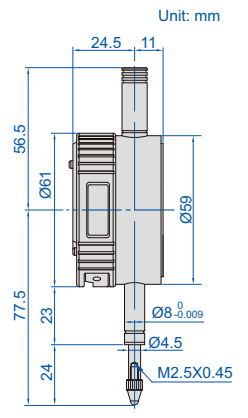
WATERPROOF DIGITAL INDICATORS FOR BORE GAGES

THE ORIGINAL DATA
REMAINS AFTER POWER OFF

- Specially designed for bore gages
- The minimum value tracking function can find the diameter automatically
- Read the diameter directly, after inputting the size of setting ring
- Button function: on/off, minimum value tracking, calibration, data preset, inch/metric conversion
- Data remains after power off, no need to recalibrate after power on
- CR2032 battery, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (code 7315-50M need receiver page 5, 7302-40M page 13, 7305-40M page 9), backs (page 253~254), contact points (page 250~252), spindle lift knob (code 7332)



2137-10F



read the diameter directly, after inputting the size of setting ring.

the minimum value tracking function can find the diameter automatically.

| Code | Range | Resolution | Accuracy | Hysteresis | Remark |
|-------------|-------------|--|----------|------------|-----------|
| 2137-10F * | 12.7mm/0.5" | 0.002mm/0.0001" (can switch to: 0.01mm/0.0005") | 20µm | 10µm | flat back |
| 2137-101F * | 12.7mm/0.5" | 0.001mm/0.00005" | 5µm | 2µm | flat back |

*Supplied with manufacturer inspection certificate

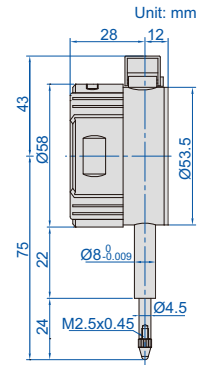
DIGITAL INDICATORS WITH LIFTING LEVER

DATA
OUTPUT

INSPECTION
CERTIFICATE

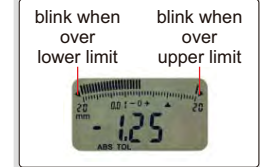
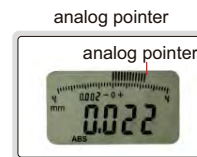


2109-10



- Reading in digital and analog
- Display can be rotated by 320°
- Button function: tolerance Go and No-Go display, data preset, measuring direction change, max./min./TIR measurement, inch/metric conversion, absolute/incremental measurement
- Keep preset data and tolerance data in memory after restart
- CR2032 battery, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (code **7315-50M** need receiver page 5, **7302-40M** page 13, **7305-40M** page 9), backs (page 253~254), contact points (page 250~252)

alarm when over tolerance



| Code | Range | Resolution | Accuracy | Hysteresis | Remark |
|------------|-----------|------------------|----------|------------|-----------|
| 2109-10 * | 10mm/0.4" | 0.01mm/0.0005" | 20µm | 10µm | flat back |
| 2109-101 * | 10mm/0.4" | 0.001mm/0.00005" | 5µm | 2µm | flat back |

*Supplied with manufacturer inspection certificate

11

COMPACT DIGITAL INDICATORS

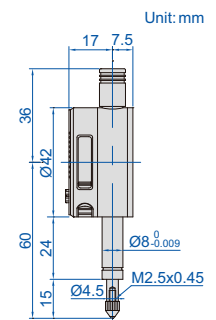
DATA
OUTPUT

INSPECTION
CERTIFICATE

- Button function:
 - in/mm: short press for inch/metric conversion
long press to change measuring direction
 - ABS: short press for absolute/incremental measurement
long press to preset data
 - 0/ON: short press to turn on when power is off
short press to set zero when power is on
long press to turn off
- Keep preset data in memory after restart
- CR1632 battery, automatic power off
- Data output
- Optional accessory: data output cable (code **7315-50M** need receiver page 5, **7302-40M** page 13, **7305-40M** page 9), contact points (page 250~252)



2114-51F



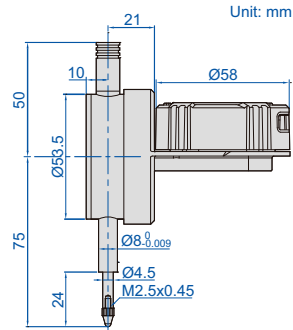
| Code | Range | Resolution | Accuracy | Hysteresis | Remark |
|------------|----------|------------------|----------|------------|-----------|
| 2114-5F * | 5mm/0.2" | 0.01mm/0.0005" | 20µm | 10µm | flat back |
| 2114-51F * | 5mm/0.2" | 0.001mm/0.00005" | 5µm | 2µm | flat back |

*Supplied with manufacturer inspection certificate

BACK PLUNGER TYPE DIGITAL INDICATORS



2118-10

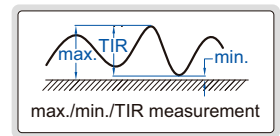


- Display can rotate 320°, and display direction is changeable
- Reading in digital and analog
- Button function: tolerance Go and No-Go display, data preset, measuring direction change, max./min./TIR measurement, inch/metric conversion, absolute/incremental measurement
- Keep preset data and tolerance data in memory after restart
- CR2032 battery, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (code **7315-50M** need receiver page 5, **7302-40M** page 13, **7305-40M** page 9), backs (page 253~254), contact points (page 250~252)

spindle lift knob is included



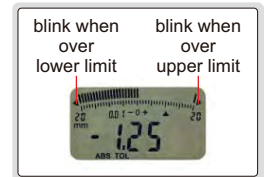
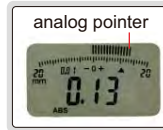
max./min./TIR



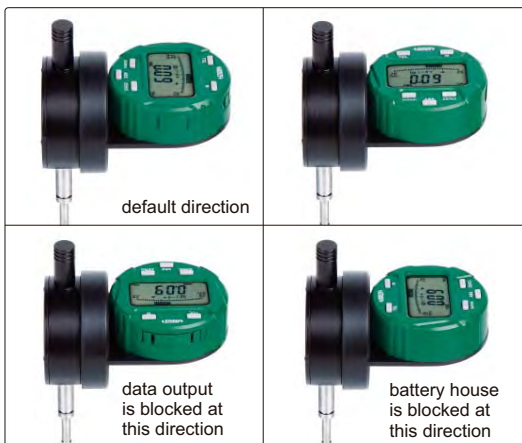
alarm when over tolerance

blink when over lower limit blink when over upper limit

analog pointer



display direction is changeable



remark: to change above direction, 4 fixing screws on the back of display need to be removed first.

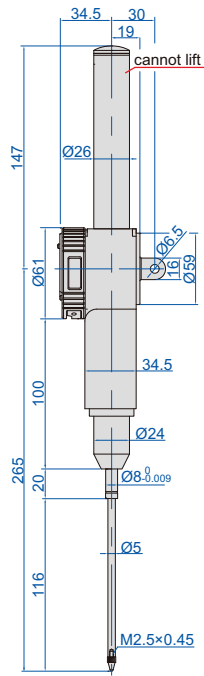
display can rotate 320°



| Code | Range | Resolution | Accuracy | Hysteresis | Remark |
|------------|-------------|------------------|----------|------------|-----------|
| 2118-10 * | 12.7mm/0.5" | 0.01mm/0.0005" | 20µm | 10µm | flat back |
| 2118-101 * | 12.7mm/0.5" | 0.001mm/0.00005" | 5µm | 2µm | flat back |

* Supplied with manufacturer inspection certificate

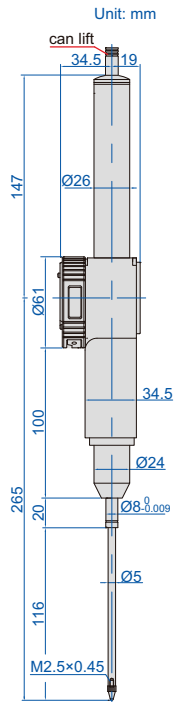
LARGE STROKE DIGITAL INDICATORS



2117-100
2117-1001



2117-100



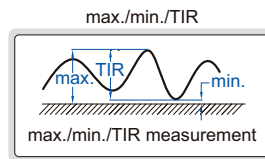
2117-100P
2117-1001P



2117-100P

DATA
OUTPUT

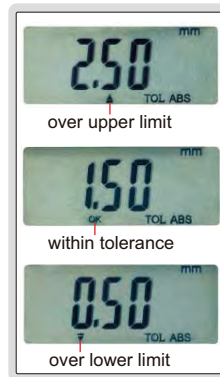
- Button function: on/off, zero, mm/inch, data preset, tolerance, change measuring direction, max./min./TIR measurement, absolute/incremental measurement
- Keep preset data and tolerance data in memory after restart
- CR2032 battery, automatic power off
- Maximum measuring force: 3.2N
- Data output
- Optional accessory: data output cable (code 7315-50M need receiver page 5, 7302-40M page 13, 7305-40M page 9), backs (page 253~254), contact points (page 250~252)



spindle lift knob is included



alarm when over tolerance



2117-100P/1001P



Resolution 0.01mm/0.0005"

| Code | Range | Accuracy | Hysteresis | Remark |
|-----------|----------|----------|------------|--------------------------|
| 2117-100 | 100mm/4" | 30µm | 10µm | lug back |
| 2117-100P | 100mm/4" | 30µm | 10µm | flat back, with lift cap |

Resolution 0.001mm/0.00005"

| Code | Range | Accuracy | Hysteresis | Remark |
|------------|----------|----------|------------|--------------------------|
| 2117-1001 | 100mm/4" | 9µm | 3µm | lug back |
| 2117-1001P | 100mm/4" | 9µm | 3µm | flat back, with lift cap |

11

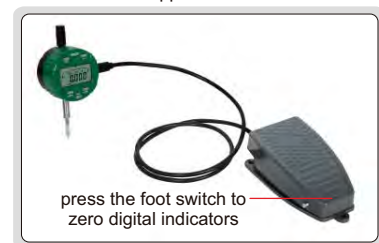
ZEROING FOOT SWITCH

- For zeroing of digital indicators



7360-1M

application



press the foot switch to zero digital indicators

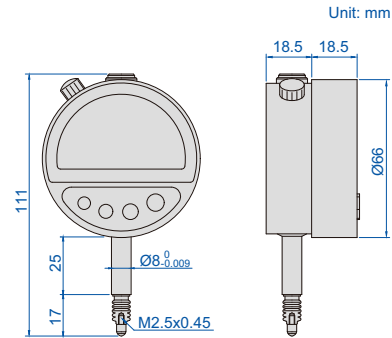
| Code | Description | Interface of digital indicators | Applicable products |
|---------|--|---------------------------------|------------------------|
| 7360-1M | zeroing foot switch with cable (length 2.5m) | | for digital indicators |

INDUCTIVE DIGITAL COMPARATOR (HIGH ACCURACY)

ATTENTION: RECHARGEABLE BATTERY, FOR 12 HOURS CONTINUOUS WORKING

IP54
WATERPROOF

DATA
OUTPUT

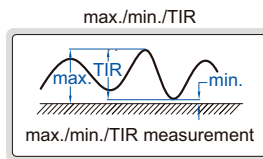


2149-2

data interface
(with protective cover)



touch sensor
to transmit data
signal light



wireless receiver (optional)



printer (optional)



- Built-in wireless transmission
- IP54 dust/waterproof
- Reading in digital and analog
- Display can be rotated by 320°
- Can store 10 set parameters, and the parameter can be searched and recalled
- 999 groups value can be stored
- Touch sensor: use the sensor to transmit data, avoiding press the button to cause deformation of the dial indicator stand and affect the zero position
- Button function: on/off, zero, data hold, measuring direction change, inch/metric conversion, data preset, absolute/incremental measurement, max./min./TIR measurement, tolerance Go and No-Go display, data output, analog pointer resolution and range change, print data
- Power: rechargeable battery, for 12 hours continuous working
- Ruby probe
- Data output
- Optional accessory:
wireless receiver (code **2149-RE**, transmission distance is 2 meters),
printer (code **ISF-DF-PRINTER**)

| Code | Range | Resolution | Accuracy | Hysteresis | Repeatability | Measuring force |
|--------|-----------|-----------------|----------|------------|---------------|-----------------|
| 2149-2 | 2mm/0.08" | 0.1µm/0.000005" | 0.5µm | 0.2µm | 0.3µm | 0.8-1N |

WIRELESS HIGH PRECISION DIGITAL INDICATORS



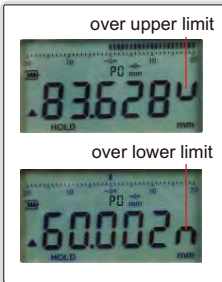
ABSOLUTE ENCODER, THE ORIGINAL DATA REMAINS AFTER POWER OFF

ATTENTION: RECHARGEABLE BATTERY, FOR 24 HOURS CONTINUOUS WORKING

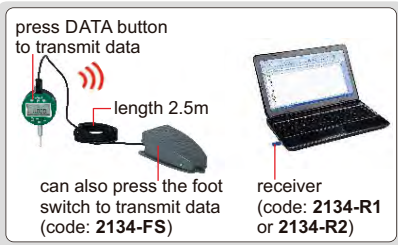
CONTINUOUS DATA COLLECTION CAN BE CUSTOMIZED (PRESS "DATA" BUTTON TO START CONTINUOUS COLLECTION, PRESS AGAIN TO STOP; COLLECTION FREQUENCY CAN BE CUSTOMIZED, THE FASTEST DATA COLLECTION IS 10PCS PER SECOND)

LINEAR BALL BEARINGS FOR TEN MILLION TIMES USE

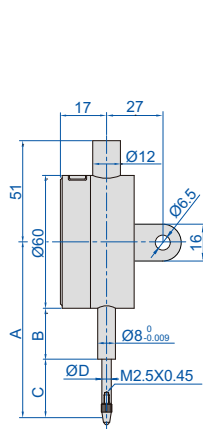
alarm when over tolerance



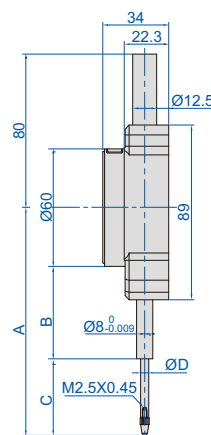
transmit data



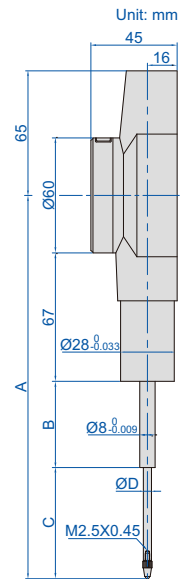
- Built-in wireless transmission, Zigbee signal
- Linear ball bearings for ten million times use
- Absolute encoder, the original data remains after power off
- Reading in digital and analog
- Button function: data output, tolerance, data preset, data hold, measuring direction change, max./min./TIR, power off time, on/off, mm/inch, adjust resolution
- Power: rechargeable battery, for 24 hours continuous working
- Optional accessory: contact points (page 250~252), foot switch, code: **2134-FS** wireless receiver, code: **2134-R1** (keyboard format) **2134-R2** (serial port format)



2134-10L
2134-101L



2134-25
2134-251



2134-50

Standard precision

Carbide probe
Adjustable resolution: 0.0005mm/0.00002"
0.001mm/0.00005"
0.01mm/0.0005"

| Code | Range | Accuracy | Hysteresis | A | B | C | ØD | Remark |
|-----------|-------------|----------|------------|---------|--------|--------|-------|-----------|
| 2134-10* | 12.7mm/0.5" | 3µm | 1.5µm | 75.4mm | 20.6mm | 24.8mm | 5mm | flat back |
| 2134-10L* | 12.7mm/0.5" | 3µm | 1.5µm | 75.4mm | 20.6mm | 24.8mm | 5mm | lug back |
| 2134-25* | 25.4mm/1" | 3µm | 1.5µm | 109.5mm | 38.5mm | 41mm | 5mm | flat back |
| 2134-50* | 50.8mm/2" | 3µm | 1.5µm | 201mm | 32mm | 72mm | 4.5mm | flat back |

High precision

Ruby probe
Adjustable resolution: 0.0002mm/0.00001"
0.001mm/0.00005"
0.01mm/0.0005"

| Code | Range | Accuracy | Hysteresis | A | B | C | ØD | Remark |
|------------|-------------|----------|------------|-------|------|------|----|-----------|
| 2134-101* | 12.7mm/0.5" | 1.5µm | 1µm | 77.4 | 26 | 21.4 | 4 | flat back |
| 2134-101L* | 12.7mm/0.5" | 1.5µm | 1µm | 77.4 | 26 | 21.4 | 4 | lug back |
| 2134-251* | 25.4mm/1" | 1.8µm | 1µm | 116.1 | 42.5 | 44 | 4 | flat back |

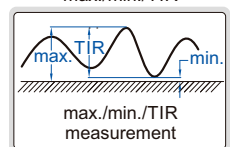
(mm)

*Supplied with manufacturer inspection certificate

spindle lift knob is included



max./min./TIR



LINEAR BALL BEARINGS
FOR TEN MILLION TIMES USE

ABSOLUTE ENCODER, THE ORIGINAL
DATA REMAINS AFTER POWER OFF

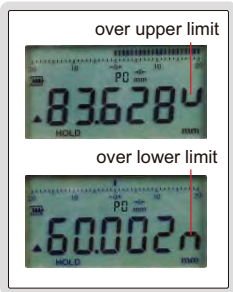
DATA
OUTPUT

ATTENTION: RECHARGEABLE BATTERY,
FOR 24 HOURS CONTINUOUS WORKING

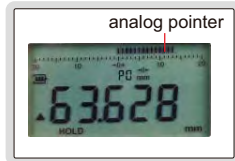


HIGH PRECISION DIGITAL INDICATORS

alarm when over tolerance



analog pointer



2133-10



2133-25



2133-50

- Linear ball bearings for ten million times use
- Absolute encoder, the original data remains after power off
- Reading in digital and analog
- Data output
- Button function: data output, tolerance, data preset, data hold, measuring direction change, max./min./TIR, power off time, on/off, mm/inch, adjust resolution
- Power: rechargeable battery, for 24 hours continuous working
- Optional accessory: contact points (page 250-252), wireless transmitter, code **7315-60** need receiver page 5 data output cable (keyboard format), code **7302-60** page 13 data output cable (serial port format), code **7305-G60** page 11 (cable length 3m, optional cable length maximum 15m; RS232 protocol, optional RS485 protocol)

Standard precision

Carbide probe

Adjustable resolution: 0.0005mm/0.00002"
0.001mm/0.00005"
0.01mm/0.0005"

| Code | Range | Accuracy | Hysteresis | A | B | C | ØD | Remark |
|-----------|-------------|----------|------------|---------|--------|--------|-------|-----------|
| 2133-10* | 12.7mm/0.5" | 3µm | 1.5µm | 75.4mm | 20.6mm | 24.8mm | 5mm | flat back |
| 2133-10L* | 12.7mm/0.5" | 3µm | 1.5µm | 75.4mm | 20.6mm | 24.8mm | 5mm | lug back |
| 2133-25* | 25.4mm/1" | 3µm | 1.5µm | 109.5mm | 38.5mm | 41mm | 5mm | flat back |
| 2133-50* | 50.8mm/2" | 3µm | 1.5µm | 201mm | 32mm | 72mm | 4.5mm | flat back |

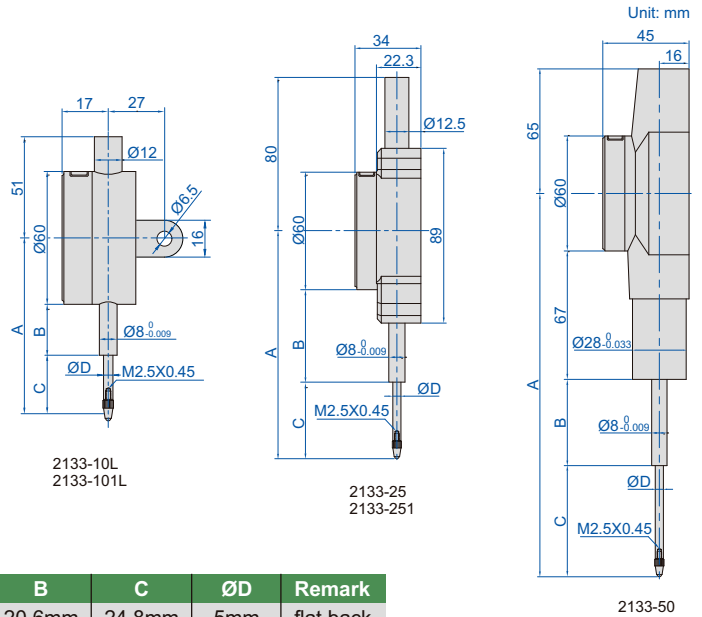
High precision

Ruby probe

Adjustable resolution: 0.0002mm/0.00001"
0.001mm/0.00005"
0.01mm/0.0005"

| Code | Range | Accuracy | Hysteresis | A | B | C | ØD | Remark |
|------------|-------------|----------|------------|---------|--------|--------|-----|-----------|
| 2133-101* | 12.7mm/0.5" | 1.5µm | 1µm | 77.4mm | 26mm | 21.4mm | 4mm | flat back |
| 2133-101L* | 12.7mm/0.5" | 1.5µm | 1µm | 77.4mm | 26mm | 21.4mm | 4mm | lug back |
| 2133-251* | 25.4mm/1" | 1.8µm | 1µm | 116.1mm | 42.5mm | 44mm | 4mm | flat back |

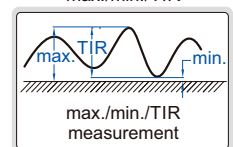
*Supplied with manufacturer inspection certificate



spindle lift knob is included



max./min./TIR



HIGH PRECISION DIGITAL INDICATORS

LINEAR BALL BEARINGS
FOR TEN MILLION TIMES USE

ATTENTION: RECHARGEABLE BATTERY,
FOR 24 HOURS CONTINUOUS WORKING

- Linear ball bearings for ten million times use
- Ø28mm stem suitable for reinforced clamping
- Absolute encoder, the original data remains after power off
- Adjustable resolution: 0.0002mm/0.00001"
0.001mm/0.00005"
0.01mm/0.0005"
- Reading in digital and analog
- Button function: data output, tolerance, data preset, data hold, measuring direction change, max./min./TIR, power off time, on/off, mm/inch, adjust resolution
- Power: rechargeable battery, for 24 hours continuous working
- Ruby probe

With data interface

Optional accessory:

wireless transmitter, code **7315-60** need receiver page 5
data output cable (keyboard format), code **7302-60** page 13
data output cable (serial port format), code **7305-G60** page 11
(cable length 3m, optional cable length maximum 15m; RS232 protocol, optional RS485 protocol)

| Code | Range | Accuracy | Hysteresis | Remark |
|--------|---------------|----------|------------|-----------|
| 2140-6 | 0-6mm/0-0.24" | 1.6µm | 0.8µm | flat back |

Built-in wireless

Optional accessory:

wireless receiver (keyboard format, connect up to 15 digital indicators), code **2134-R1**
wireless receiver (serial port format, connect up to 15 digital indicators), code **2134-R2**

| Code | Range | Accuracy | Hysteresis | Remark |
|-----------|---------------|----------|------------|-----------|
| 2140-6WL* | 0-6mm/0-0.24" | 1.6µm | 0.8µm | flat back |

*Continuous data collection can be customized (press "DATA" button to start continuous collection, press again to stop; collection frequency can be customized, the fastest data collection is 10 pcs per second)

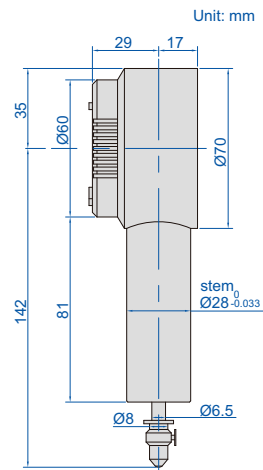
DATA
OUTPUT

Ø28MM STEM SUITABLE FOR
REINFORCED CLAMPING

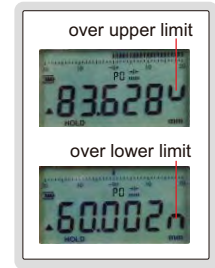
ABSOLUTE ENCODER, THE ORIGINAL
DATA REMAINS AFTER POWER OFF



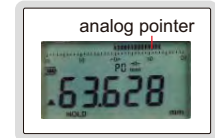
2140-6



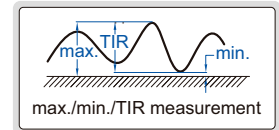
alarm when
over tolerance



analog pointer



max./min./TIR



wireless receiver

2134-R1, 2134-R2 (optional)



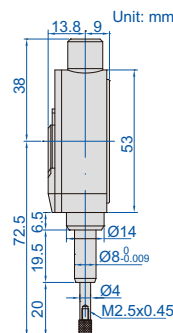
DIAL COMPARATOR

INSIZE PLUS
MADE IN EUROPE

- Meet DIN879-1
- Shockproof
- Jeweled bearing
- Overtolerance: 3mm
- Shadow free dial face cover
- Supplied with limit pointers
- Initial measuring force 1.2N
- Optional accessory:
lifting lever (code **6289-150**)



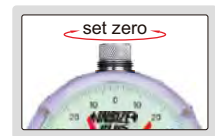
2881-01



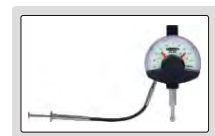
JEWELLED
BEARING

SHOCK
PROOF

INSPECTION
CERTIFICATE



lifting lever (optional)



| Code | Range | Graduation | Accuracy | Hysteresis | Dial reading | Remark |
|----------|-------|------------|----------|------------|--------------|-----------|
| 2881-01* | 0.1mm | 0.001mm | 1.2µm | 0.5µm | 50-0-50 | flat back |

*Supplied with manufacturer inspection certificate



SHOCK PROOF

JEWELLED BEARING

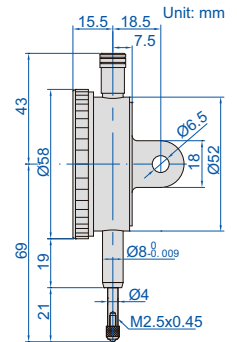
PRECISION DIAL INDICATORS

INSIZE PLUS
MADE IN EUROPE



2830-1

- Shockproof
- Jeweled bearing
- With limit pointers
- Optional accessory: backs (page 253~254), contact points (page 250~252)



| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading | Remark |
|-----------|-------|------------|----------|------------|-----------|--------------|-----------|
| 2830-1 * | 1mm | 0.001mm | 5µm | 2µm | 0.2mm | 0-100-0 | lug back |
| 2830-1F * | 1mm | 0.001mm | 5µm | 2µm | 0.2mm | 0-100-0 | flat back |

* Supplied with manufacturer inspection certificate



SHOCK PROOF

HIGH PRECISION DIAL INDICATORS

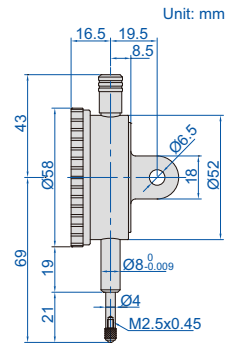
INSIZE PLUS
MADE IN EUROPE

- Shockproof
- Jeweled bearing
- With limit pointers
- Optional accessory: backs (page 253~254), contact points (page 250~252), lifting lever (code 6289-150)

lifting lever (optional)



2891-1



| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading | Remark |
|-----------|-------|------------|----------|------------|-----------|--------------|-----------|
| 2891-1 * | 1mm | 0.001mm | 3µm | 1.5µm | 0.1mm | 0-100 | lug back |
| 2891-1F * | 1mm | 0.001mm | 3µm | 1.5µm | 0.1mm | 0-100 | flat back |

* Supplied with manufacturer inspection certificate



SHOCK PROOF

HIGH PRECISION COMPACT DIAL INDICATORS

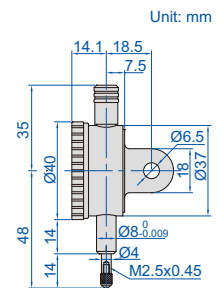
INSIZE PLUS
MADE IN EUROPE

- Shockproof
- Jeweled bearing
- With limit pointers
- Optional accessory: backs (page 253~254), contact points (page 250~252), lifting lever (code 6289-150)

lifting lever (optional)



2890-1



| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading | Remark |
|-----------|-------|------------|----------|------------|-----------|--------------|-----------|
| 2890-1 * | 1mm | 0.001mm | 3µm | 1.5µm | 0.1mm | 0-100 | lug back |
| 2890-1F * | 1mm | 0.001mm | 3µm | 1.5µm | 0.1mm | 0-100 | flat back |

* Supplied with manufacturer inspection certificate

PRECISION DIAL INDICATORS

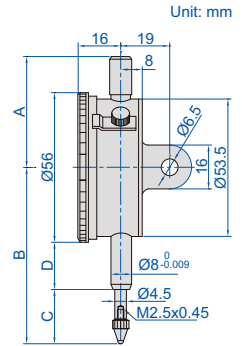
JEWELLED BEARING

INSPECTION CERTIFICATE



2313-1A

- Graduation: 0.001mm
- Jeweled bearing
- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 253~254), contact points (page 250~252)



| Code | Range | Accuracy | Hysteresis | Range/rev | Dial reading | Remark | A | B | C | D |
|------------|-------|----------|------------|-----------|--------------|-----------|----|------|------|----|
| 2313-1FA * | 1mm | 5μm | 2μm | 0.2mm | 0-100-0 | flat back | 45 | 62.5 | 19.5 | 15 |
| 2313-2FA * | 2mm | 6μm | 2.5μm | 0.2mm | 0-100-0 | flat back | 45 | 62.5 | 19.5 | 15 |
| 2313-1A * | 1mm | 5μm | 2μm | 0.2mm | 0-100-0 | lug back | 45 | 62.5 | 19.5 | 15 |
| 2313-2A * | 2mm | 6μm | 2.5μm | 0.2mm | 0-100-0 | lug back | 45 | 62.5 | 19.5 | 15 |

*Supplied with manufacturer inspection certificate

COMPACT DIAL INDICATOR

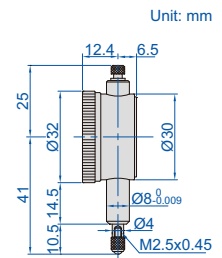
INSIZE PLUS
MADE IN EUROPE

INSPECTION CERTIFICATE



2886-3F

- Meet DIN878
- With limit pointers
- Optional accessory: backs (page 253~254), contact points (page 250~252)



| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading | Remark |
|-----------|-------|------------|----------|------------|-----------|--------------|-----------|
| 2886-3F * | 3mm | 0.01mm | 12μm | 3μm | 0.5mm | 0-50 | flat back |

*Supplied with manufacturer inspection certificate

COMPACT DIAL INDICATORS

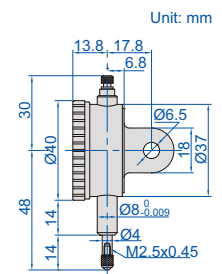
INSIZE PLUS
MADE IN EUROPE

INSPECTION CERTIFICATE



2887-5

- Meet DIN878
- With limit pointers
- Optional accessory: backs (page 253~254), contact points (page 250~252)



| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading | Remark |
|-----------|-------|------------|----------|------------|-----------|--------------|-----------|
| 2887-5 * | 5mm | 0.01mm | 14μm | 3μm | 0.5mm | 0-50 | lug back |
| 2887-5F * | 5mm | 0.01mm | 14μm | 3μm | 0.5mm | 0-50 | flat back |

*Supplied with manufacturer inspection certificate

JEWELLED BEARING

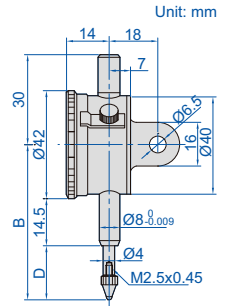
INSPECTION CERTIFICATE

COMPACT DIAL INDICATORS

- Meet DIN878
- Jeweled bearing
- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 253~254), contact points (page 250~252)



2311-5



(mm)

| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading | Remark | B | D |
|-----------|-------|------------|----------|------------|-----------|--------------|-----------|----|------|
| 2311-3F * | 3mm | 0.01mm | 12µm | 3µm | 0.5mm | 0-50 | flat back | 46 | 10.5 |
| 2311-5F * | 5mm | 0.01mm | 14µm | 3µm | 0.5mm | 0-50 | flat back | 48 | 12.5 |
| 2311-3 * | 3mm | 0.01mm | 12µm | 3µm | 0.5mm | 0-50 | lug back | 46 | 10.5 |
| 2311-5 * | 5mm | 0.01mm | 14µm | 3µm | 0.5mm | 0-50 | lug back | 48 | 12.5 |

*Supplied with manufacturer inspection certificate

INSPECTION CERTIFICATE

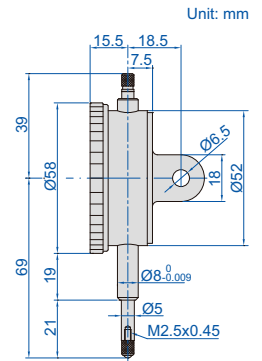
DIAL INDICATORS

INSIZE PLUS
MADE IN EUROPE

- Meet DIN878
- With limit pointers
- Optional accessory: backs (page 253~254), contact points (page 250~252)



2892-10



| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading | Remark |
|------------|-------|------------|----------|------------|-----------|--------------|-----------|
| 2892-10 * | 10mm | 0.01mm | 17µm | 3µm | 1mm | 0-100 | lug back |
| 2892-10F * | 10mm | 0.01mm | 17µm | 3µm | 1mm | 0-100 | flat back |

*Supplied with manufacturer inspection certificate

JEWELLED BEARING

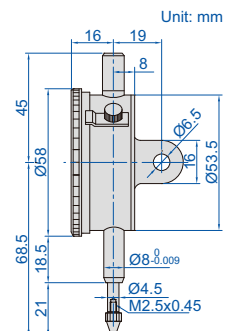
INSPECTION CERTIFICATE

DIAL INDICATORS (STANDARD TYPE)

- Meet DIN878
- Jeweled bearing
- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 253~254), contact points (page 250~252)



2308-10A



| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading | Remark |
|-------------|-------|------------|----------|------------|-----------|--------------|-----------|
| 2308-3FA * | 3mm | 0.01mm | 12µm | 3µm | 1mm | 0-100 | flat back |
| 2308-5FA * | 5mm | 0.01mm | 14µm | 3µm | 1mm | 0-100 | flat back |
| 2308-10FA * | 10mm | 0.01mm | 17µm | 3µm | 1mm | 0-100 | flat back |
| 2308-3A * | 3mm | 0.01mm | 12µm | 3µm | 1mm | 0-100 | lug back |
| 2308-5A * | 5mm | 0.01mm | 14µm | 3µm | 1mm | 0-100 | lug back |
| 2308-10A * | 10mm | 0.01mm | 17µm | 3µm | 1mm | 0-100 | lug back |

*Supplied with manufacturer inspection certificate

DIAL INDICATORS (BASIC TYPE)

INSPECTION CERTIFICATE

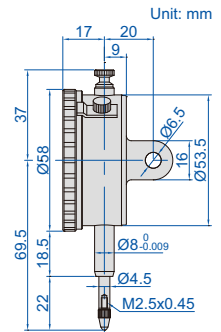
JEWELLED BEARING

POPULAR MODEL

- Meet DIN878
- Jeweled bearing
- Supplied with limit hands and bezel clamp
- Packed in carton box
- Optional accessory: backs (page 253~254), contact points (page 250~252)



2301-10



| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading | Remark |
|------------|-------|------------|----------|------------|-----------|--------------|-------------------------------|
| 2301-10F * | 10mm | 0.01mm | 17µm | 3µm | 1mm | 0-100 | flat back |
| 2301-10 * | 10mm | 0.01mm | 17µm | 3µm | 1mm | 0-100 | lug back with spare flat back |

*Supplied with manufacturer inspection certificate

REVERSE READING DIAL INDICATORS

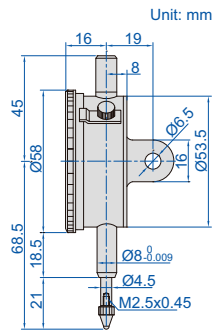
INSPECTION CERTIFICATE

JEWELLED BEARING

- Meet DIN878
- Suitable for depth and step measurements
- Jeweled bearing
- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 253~254), contact points (page 250~252)



2801-10



| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading | Remark |
|------------|-------|------------|----------|------------|-----------|--------------|-----------|
| 2801-10F * | 10mm | 0.01mm | 17µm | 3µm | 1mm | 100-0 | flat back |
| 2801-10 * | 10mm | 0.01mm | 17µm | 3µm | 1mm | 100-0 | lug back |

*Supplied with manufacturer inspection certificate

LARGE DIAL FACE DIAL INDICATOR

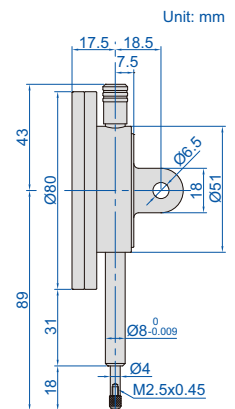
INSIZE PLUS
MADE IN EUROPE

INSPECTION CERTIFICATE

- Large, easy-to-read dial face
- With limit pointers
- Optional accessory: backs (page 253~254), contact points (page 250~252)



2888-10



| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading | Remark |
|-----------|-------|------------|----------|------------|-----------|--------------|--------------------------------|
| 2888-10 * | 10mm | 0.01mm | 17µm | 5µm | 1mm | 0-100 | flat back, with spare lug back |

*Supplied with manufacturer inspection certificate



SHOCK
PROOF

JEWELLED
BEARING

SHOCKPROOF DIAL INDICATORS

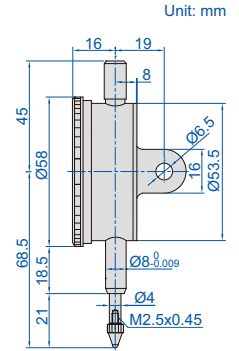
- Meet DIN878
- Shockproof
- Jeweled bearing
- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 253~254), contact points (page 250~252)



2314-10A

| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading | Remark |
|-------------|-------|------------|----------|------------|-----------|--------------|-----------|
| 2314-3FA * | 3mm | 0.01mm | 12µm | 3µm | 1mm | 0-100 | flat back |
| 2314-5FA * | 5mm | 0.01mm | 14µm | 3µm | 1mm | 0-100 | flat back |
| 2314-10FA * | 10mm | 0.01mm | 17µm | 3µm | 1mm | 0-100 | flat back |
| 2314-3A * | 3mm | 0.01mm | 12µm | 3µm | 1mm | 0-100 | lug back |
| 2314-5A * | 5mm | 0.01mm | 14µm | 3µm | 1mm | 0-100 | lug back |
| 2314-10A * | 10mm | 0.01mm | 17µm | 3µm | 1mm | 0-100 | lug back |

*Supplied with manufacturer inspection certificate



BACK PLUNGER DIAL INDICATOR

INSIZE PLUS
MADE IN EUROPE

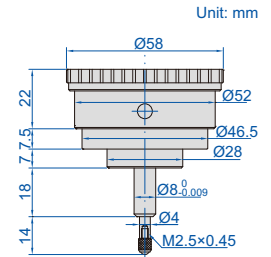
- With limit pointers
- Optional accessory: contact points (page 250~252)



2893-3

| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading |
|----------|-------|------------|----------|------------|-----------|--------------|
| 2893-3 * | 3mm | 0.01mm | 15µm | 5µm | 1mm | 0-100 |

*Supplied with manufacturer inspection certificate



SHOCK
PROOF

IP67
WATERPROOF

WATERPROOF DIAL INDICATOR

INSIZE PLUS
MADE IN EUROPE

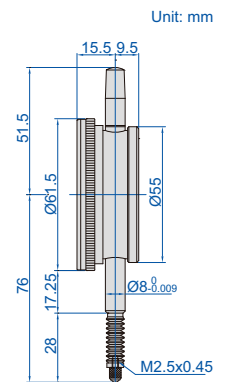
- Meet DIN878
- Shockproof
- IP67 dust/waterproof
- With limit pointers
- Optional accessory: contact points (page 250~252)



2894-10F

| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading | Remark |
|------------|-------|------------|----------|------------|-----------|--------------|-----------|
| 2894-10F * | 10mm | 0.01mm | 17µm | 3µm | 1mm | 0-100 | flat back |

*Supplied with manufacturer inspection certificate



WATERPROOF DIAL INDICATORS

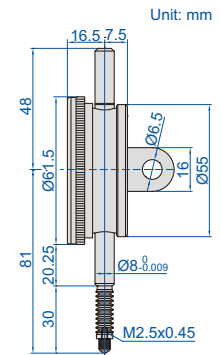
IP54
WATERPROOF

INSPECTION
CERTIFICATE

- Meet DIN878
- IP54 dust/waterproof
- With limit pointers
- Optional accessory: backs (page 253~254), contact points (page 250~252)



2324-10A



| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading | Remark |
|-------------|-------|------------|----------|------------|-----------|--------------|-----------|
| 2324-10FA * | 10mm | 0.01mm | 17µm | 3µm | 1mm | 0-100 | flat back |
| 2324-10A * | 10mm | 0.01mm | 17µm | 3µm | 1mm | 0-100 | lug back |

*Supplied with manufacturer inspection certificate

DIAL INDICATORS (LONG STROKE)

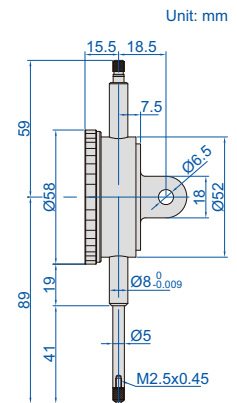
INSIZE PLUS
MADE IN EUROPE

INSPECTION
CERTIFICATE

- With limit pointers
- Optional accessory: backs (page 253~254), contact points (page 250~252)



2889-30



| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading | Remark |
|------------|-------|------------|----------|------------|-----------|--------------|-----------|
| 2889-30 * | 30mm | 0.01mm | 35µm | 7µm | 1mm | 0-100 | lug back |
| 2889-30F * | 30mm | 0.01mm | 35µm | 7µm | 1mm | 0-100 | flat back |

*Supplied with manufacturer inspection certificate

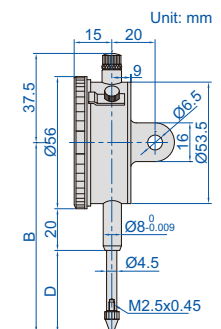
DIAL INDICATORS (LONG STROKE)

INSPECTION
CERTIFICATE

- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 253~254), contact points (page 250~252)



2310-30A



| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading | Remark | B | D |
|-------------|-------|------------|----------|------------|-----------|--------------|-----------|----|----|
| 2310-20FA * | 20mm | 0.01mm | 25µm | 5µm | 1mm | 0-100 | flat back | 83 | 35 |
| 2310-30FA * | 30mm | 0.01mm | 35µm | 7µm | 1mm | 0-100 | flat back | 88 | 40 |
| 2310-20A * | 20mm | 0.01mm | 25µm | 5µm | 1mm | 0-100 | lug back | 83 | 35 |
| 2310-30A * | 30mm | 0.01mm | 35µm | 7µm | 1mm | 0-100 | lug back | 88 | 40 |

*Supplied with manufacturer inspection certificate



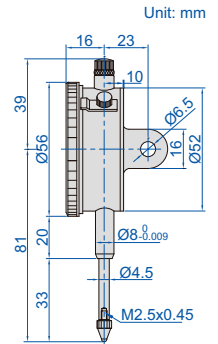
POPULAR MODEL

DIAL INDICATORS (LONG STROKE, BASIC TYPE)

- Supplied with limit pointers and bezel clamp
- Packed in carton box
- Optional accessory: backs (page 253~254), contact points (page 250~252)



2302-25



| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading | Remark |
|------------|-------|------------|----------|------------|-----------|--------------|-------------------------------|
| 2302-25F * | 25mm | 0.01mm | 35μm | 7μm | 1mm | 0-100 | flat back |
| 2302-25 * | 25mm | 0.01mm | 35μm | 7μm | 1mm | 0-100 | lug back with spare flat back |

*Supplied with manufacturer inspection certificate

JEWELLED BEARING



DOUBLE FACE DIAL INDICATOR

- Meet DIN878
- Read from both sides
- Jeweled bearing
- Supplied with limit pointers
- Optional accessory: contact points (page 250~252)

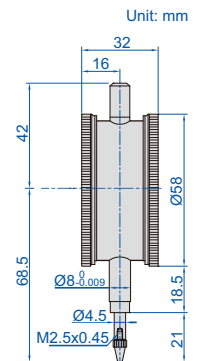


front



back

2328-10



| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading |
|----------|-------|------------|----------|------------|-----------|--------------|
| 2328-10* | 10mm | 0.01mm | 17μm | 3μm | 1mm | 0-100 |

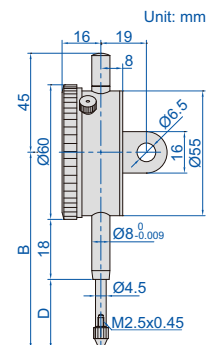
*Supplied with manufacturer inspection certificate

DIAL INDICATORS (GRADUATION 0.1mm)

- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 253~254), contact points (page 250~252)



2318-30



| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading | Remark | B | D |
|----------|-------|------------|----------|------------|-----------|--------------|-----------|----|----|
| 2318-10F | 10mm | 0.1mm | 40μm | 20μm | 10mm | 0-10 | flat back | 70 | 20 |
| 2318-20F | 20mm | 0.1mm | 50μm | 20μm | 10mm | 0-10 | flat back | 85 | 35 |
| 2318-25F | 25mm | 0.1mm | 60μm | 20μm | 10mm | 0-10 | flat back | 85 | 35 |
| 2318-30F | 30mm | 0.1mm | 60μm | 20μm | 10mm | 0-10 | flat back | 90 | 40 |
| 2318-10 | 10mm | 0.1mm | 40μm | 20μm | 10mm | 0-10 | lug back | 70 | 20 |
| 2318-20 | 20mm | 0.1mm | 50μm | 20μm | 10mm | 0-10 | lug back | 85 | 35 |
| 2318-25 | 25mm | 0.1mm | 60μm | 20μm | 10mm | 0-10 | lug back | 85 | 35 |
| 2318-30 | 30mm | 0.1mm | 60μm | 20μm | 10mm | 0-10 | lug back | 90 | 40 |

DIAL INDICATORS (LONG STROKE)



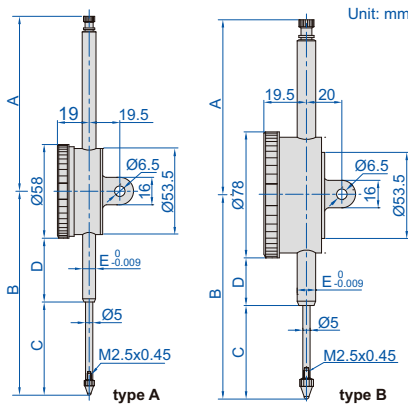
JEWELLED BEARING

SHOCK PROOF

- Shockproof
- Jeweled bearing
- Supplied with limit pointers
- Optional accessory: backs (page 253-254), contact points (page 250-252)



2309-50



stem clamp Ø10mm for 2309-100D



back of type B



| Code | Type | A | B | C | D | E |
|-----------|------|-------|-------|------|------|-----|
| 2309-30F | A | 37.5 | 89.5 | 40.9 | 19.5 | Ø8 |
| 2309-30 | A | 37.5 | 89.5 | 40.9 | 19.5 | Ø8 |
| 2309-50 | A | 108.3 | 126.2 | 57.7 | 39.5 | Ø8 |
| 2309-50D | B | 108.3 | 126.2 | 57.7 | 29.5 | Ø8 |
| 2309-80 | A | 138.4 | 168.4 | 88 | 51.3 | Ø8 |
| 2309-80D | B | 138.4 | 168.4 | 88 | 41.3 | Ø8 |
| 2309-100D | B | 167.6 | 207.8 | 108 | 60.8 | Ø10 |

| Code | Range | Graduation | Type | Accuracy | Hysteresis | Range/rev | Dial reading | Remark |
|------------|-------|------------|------|----------|------------|-----------|--------------|-------------------------------|
| 2309-30F * | 30mm | 0.01mm | A | 35µm | 7µm | 1mm | 0-100 | flat back |
| 2309-30 * | 30mm | 0.01mm | A | 35µm | 7µm | 1mm | 0-100 | lug back |
| 2309-50 * | 50mm | 0.01mm | A | 40µm | 8µm | 1mm | 0-100 | flat back with spare lug back |
| 2309-50D * | 50mm | 0.01mm | B | 40µm | 8µm | 1mm | 0-100 | flat back with spare lug back |
| 2309-80 | 80mm | 0.01mm | A | 50µm | 9µm | 1mm | 0-100 | flat back with spare lug back |
| 2309-80D | 80mm | 0.01mm | B | 50µm | 9µm | 1mm | 0-100 | flat back with spare lug back |
| 2309-100D | 100mm | 0.01mm | B | 50µm | 9µm | 1mm | 0-100 | flat back with spare lug back |

Note: 1) 2309-80, 2309-80D and 2309-100D can only be used vertically
 2) 2309-100D is supplied with stem clamp Ø10mm for magnetic stands (code 6200-60, 6201-60, 6202-80, 6202-100)
 3) 2309-30 and 2309-30F can not accept optional backs (page 253-254)

* Supplied with manufacturer inspection certificate

ONE REVOLUTION PRECISION DIAL INDICATORS



SHOCK PROOF

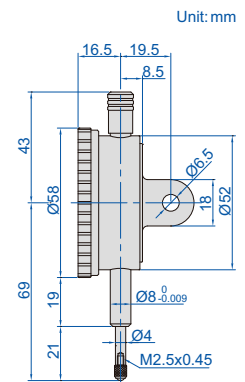


- Eliminate the possibility of reading errors due to miscounting
- Shockproof
- Jeweled bearing
- Free stroke: 4.5mm
- With limit pointers
- Optional accessory: backs (page 253-254), contact points (page 250-252), lifting lever (code 6289-150)



2885-008

lifting lever (optional)



| Code | Range | Graduation | Accuracy | Hysteresis | Dial reading | Remark |
|-------------|--------|------------|----------|------------|--------------|-----------|
| 2885-008 * | 0.08mm | 0.001mm | 3µm | 1.5µm | 40-0-40 | lug back |
| 2885-008F * | 0.08mm | 0.001mm | 3µm | 1.5µm | 40-0-40 | flat back |

* Supplied with manufacturer inspection certificate



SHOCK PROOF

INSPECTION CERTIFICATE

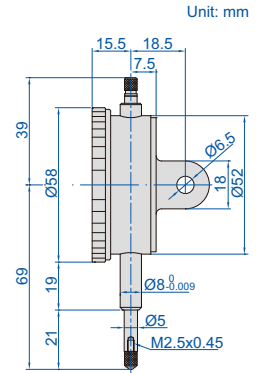
ONE REVOLUTION DIAL INDICATORS

INSIZE PLUS
MADE IN EUROPE

- Meet DIN878
- Eliminate the possibility of reading errors due to miscounting
- Shockproof
- Free stroke: 7mm
- With limit pointers
- Optional accessory: backs (page 253~254), contact points (page 250~252)



2882-08



| Code | Range | Graduation | Accuracy | Hysteresis | Dial reading | Remark |
|------------|-------|------------|----------|------------|--------------|-----------|
| 2882-08 * | 0.8mm | 0.01mm | 9µm | 3µm | 40-0-40 | lug back |
| 2882-08F * | 0.8mm | 0.01mm | 9µm | 3µm | 40-0-40 | flat back |

* Supplied with manufacturer inspection certificate

SHOCK PROOF

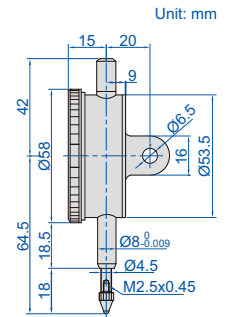
INSPECTION CERTIFICATE

ONE REVOLUTION DIAL INDICATORS

- Meet DIN878
- Eliminate the possibility of reading errors due to miscounting
- Shockproof
- Supplied with limit pointers
- Optional accessory: backs (page 253~254), contact points (page 250~252)



2316-05



| Code | Range | Dial indicator stroke | Graduation | Accuracy | Hysteresis | Dial reading | Remark |
|------------|-------|-----------------------|------------|----------|------------|--------------|-----------|
| 2316-05F * | 0.5mm | 5mm | 0.01mm | 9µm | 3µm | 25-0-25 | flat back |
| 2316-1F * | 1mm | 5mm | 0.01mm | 9µm | 3µm | 50-0-50 | flat back |
| 2316-05 * | 0.5mm | 5mm | 0.01mm | 9µm | 3µm | 25-0-25 | lug back |
| 2316-1 * | 1mm | 5mm | 0.01mm | 9µm | 3µm | 50-0-50 | lug back |

* Supplied with manufacturer inspection certificate

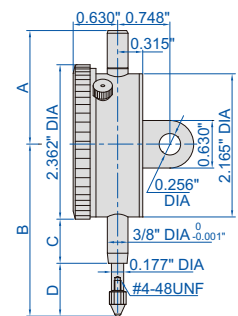
INSPECTION CERTIFICATE

INCH DIAL INDICATORS

- Meet ASME B89.1.10M-2001
- With lug back
- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 253~254), contact points (page 250~252)



2307-1



| Code | Range | Graduation | Accuracy | | Range/rev | Dial reading |
|-------------|-------|------------|---------------|----------|-----------|--------------|
| | | | First 2.5 rev | Overall | | |
| 2307-025 * | 0.25" | 0.001" | ±0.001" | ±0.001" | 0.1" | 0-100 |
| 2307-05 * | 0.5" | 0.001" | ±0.001" | ±0.002" | 0.1" | 0-100 |
| 2307-1 * | 1" | 0.001" | ±0.001" | ±0.002" | 0.1" | 0-100 |
| 2307-2 * | 2" | 0.001" | ±0.001" | ±0.004" | 0.1" | 0-100 |
| 2307-0255 * | 0.25" | 0.0005" | ±0.0005" | ±0.0015" | 0.05" | 0-50 |
| 2307-055 * | 0.5" | 0.0005" | ±0.0005" | ±0.0015" | 0.05" | 0-50 |
| 2307-105 * | 1" | 0.0005" | ±0.0005" | ±0.002" | 0.05" | 0-50 |
| 2307-205 * | 2" | 0.0005" | ±0.0005" | ±0.002" | 0.05" | 0-50 |

| Range | A | B | C | D |
|-------|--------|--------|--------|--------|
| 0.25" | 1.811" | 2.953" | 0.787" | 0.984" |
| 0.5" | 1.811" | 2.953" | 0.787" | 0.984" |
| 1" | 1.811" | 3.346" | 0.787" | 1.378" |
| 2" | 4.370" | 5.472" | 1.969" | 2.323" |

* Supplied with manufacturer inspection certificate

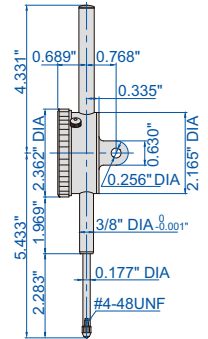
INCH LONG STROKE DIAL INDICATOR



- Graduation 0.001"
- With lug back
- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 253~254), contact points (page 250~252)



2326-2



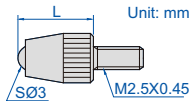
| Code | Range | Accuracy | | Range/rev | Dial reading |
|---------|-------|---------------|---------|-----------|--------------|
| | | first 2.5 rev | overall | | |
| 2326-2* | 2" | ±0.001" | ±0.004" | 0.1" | 0-100 |

*Supplied with manufacturer inspection certificate

BALL POINTS



6282-0101



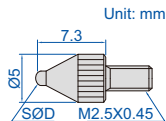
| Code | Material of measuring face | L (mm) |
|-----------|----------------------------|--------|
| 6282-0101 | carbide | 7.3 |
| 6282-0103 | ceramic | 7.3 |
| 6282-0104 | carbide | 8.3 |
| 6282-0106 | carbide | 12.1 |
| 6282-0107 | carbide | 14 |
| 6282-0108 | carbide | 15 |
| 6282-0109 | ceramic | 15 |
| 6282-0110 | carbide | 17 |

| Code | Material of measuring face | L (mm) |
|-----------|----------------------------|--------|
| 6282-0111 | carbide | 19.3 |
| 6282-0112 | carbide | 20 |
| 6282-0113 | ceramic | 20 |
| 6282-0114 | carbide | 22 |
| 6282-0115 | carbide | 25 |
| 6282-0116 | ceramic | 25 |
| 6282-0117 | carbide | 30 |
| 6282-0118 | ceramic | 30 |

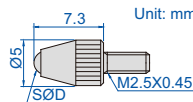
11



6282-0301



6282-0304

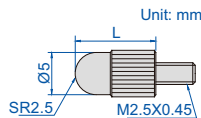


| Code | Material of measuring face | SØD (mm) |
|-----------|----------------------------|----------|
| 6282-0301 | steel | 1 |
| 6282-0302 | carbide | 1.5 |
| 6282-0303 | carbide | 1.8 |
| 6282-0304 | carbide | 2.5 |
| 6282-0305 | carbide | 4 |

SHELL TYPE POINTS



6282-0202



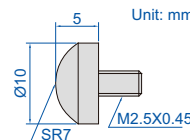
| Code | Material of measuring face | L (mm) |
|-----------|----------------------------|--------|
| 6282-0202 | steel | 5 |
| 6282-0203 | steel | 10 |
| 6282-0205 | steel | 15 |

| Code | Material of measuring face | L (mm) |
|-----------|----------------------------|--------|
| 6282-0207 | steel | 20 |
| 6282-0208 | steel | 25 |
| 6282-0210 | steel | 30 |

SPHERICAL POINT

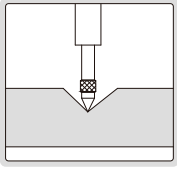


6282-0401

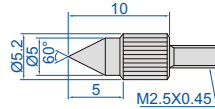


| Code | Material of measuring face |
|-----------|----------------------------|
| 6282-0401 | steel |

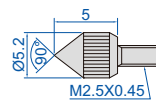
CONICAL POINTS



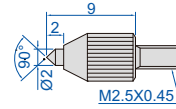
6282-0601



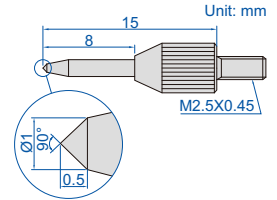
6282-0701



6282-0801

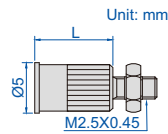


6282-0901



| Code | Material of measuring face |
|-----------|----------------------------|
| 6282-0601 | steel |
| 6282-0701 | steel |
| 6282-0801 | steel |
| 6282-0901 | steel |

FLAT POINTS

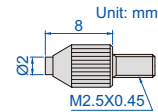


6282-1101

| Code | Material of measuring face | L (mm) |
|-----------|----------------------------|--------|
| 6282-1101 | steel | 8 |
| 6282-1102 | steel | 10 |



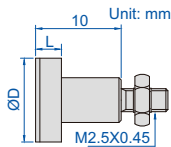
6282-1301



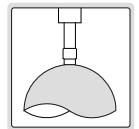
| Code | Material of measuring face |
|-----------|----------------------------|
| 6282-1301 | carbide |



6282-1201



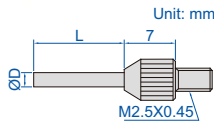
| Code | Material of measuring face | ØD | L |
|-----------|----------------------------|------|-----|
| 6282-1201 | steel | 10mm | 3mm |
| 6282-1202 | steel | 15mm | 4mm |
| 6282-1203 | steel | 20mm | 3mm |
| 6282-1204 | steel | 25mm | 4mm |
| 6282-1205 | steel | 30mm | 4mm |



NEEDLE POINTS



6282-1711

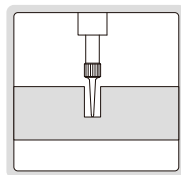
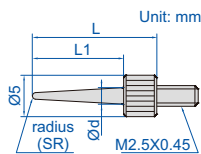


| Code | Material of measuring face | ØD | L |
|-----------|----------------------------|------|----|
| 6282-1701 | steel | 0.45 | 3 |
| 6282-1702 | steel | 0.45 | 5 |
| 6282-1703 | carbide | 1 | 3 |
| 6282-1704 | carbide | 1 | 5 |
| 6282-1705 | carbide | 1 | 8 |
| 6282-1706 | carbide | 1 | 10 |
| 6282-1707 | carbide | 1 | 20 |
| 6282-1708 | carbide | 1 | 40 |
| 6282-1709 | carbide | 1.5 | 5 |

| Code | Material of measuring face | ØD | L |
|-----------|----------------------------|-----|----|
| 6282-1710 | carbide | 1.5 | 10 |
| 6282-1711 | carbide | 1.5 | 13 |
| 6282-1712 | carbide | 1.5 | 20 |
| 6282-1713 | carbide | 1.5 | 40 |
| 6282-1714 | carbide | 2 | 8 |
| 6282-1715 | carbide | 2 | 18 |
| 6282-1716 | carbide | 2 | 28 |
| 6282-1717 | carbide | 2 | 40 |



6282-1601



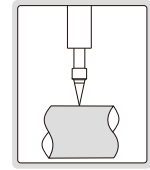
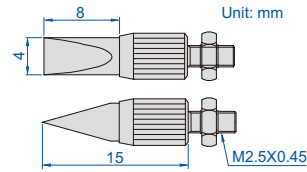
| Code | Material of measuring face | L1 | L | SR | Ød |
|-----------|----------------------------|----|----|-----|----|
| 6282-1601 | steel | 11 | 15 | 0.4 | 2 |
| 6282-1602 | steel | 13 | 17 | 0.2 | 2 |
| 6282-1603 | steel | 21 | 25 | 0.4 | 3 |
| 6282-1604 | steel | 31 | 35 | 0.4 | 3 |

KNIFE EDGE POINT

| Code | Material of measuring face |
|-----------|----------------------------|
| 6282-1001 | steel |



6282-1001

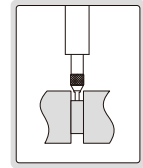
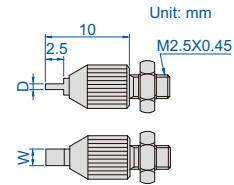


BLADE POINTS

| Code | Material of measuring face | D | W |
|-----------|----------------------------|-------|-----|
| 6282-1801 | steel | 0.4mm | 2mm |
| 6282-1802 | steel | 0.6mm | 2mm |
| 6282-1803 | steel | 1mm | 4mm |

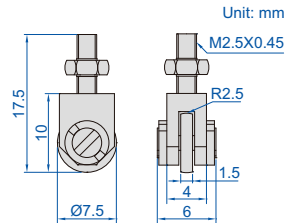


6282-1801



ROLLER POINT

| Code | Material of measuring face |
|-----------|----------------------------|
| 6282-1901 | steel |



6282-1901

EXTENSION RODS

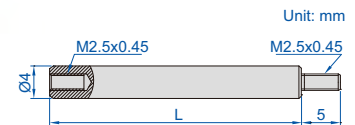
11

| Code | Material | L (mm) |
|-----------|----------|--------|
| 6282-2001 | steel | 10 |
| 6282-2002 | steel | 15 |
| 6282-2003 | steel | 20 |
| 6282-2004 | steel | 25 |
| 6282-2005 | steel | 30 |
| 6282-2006 | steel | 35 |
| 6282-2007 | steel | 40 |
| 6282-2008 | steel | 45 |
| 6282-2009 | steel | 50 |

| Code | Material | L (mm) |
|-----------|----------|--------|
| 6282-2010 | steel | 55 |
| 6282-2011 | steel | 60 |
| 6282-2012 | steel | 65 |
| 6282-2013 | steel | 70 |
| 6282-2014 | steel | 75 |
| 6282-2015 | steel | 80 |
| 6282-2016 | steel | 90 |
| 6282-2017 | steel | 100 |



6282-2010

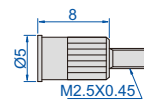


POINT SET

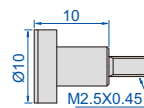


6282-S6

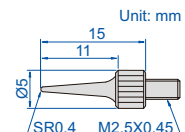
| Code | Material of measuring face |
|---------|----------------------------|
| 6282-S6 | steel |



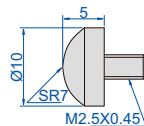
flat point



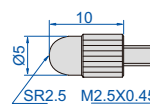
flat point



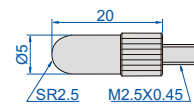
needle point



spherical point



shell type point



shell type point

SPINDLE LIFT KNOB

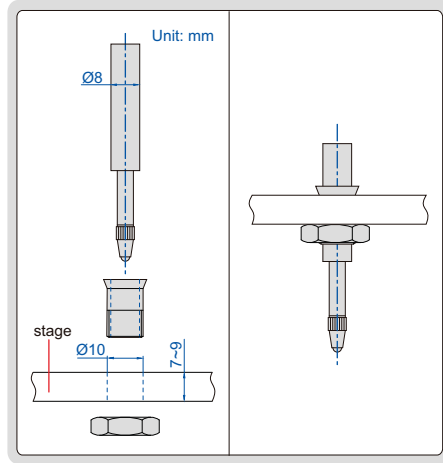
- For dial/digital indicators with spindle diameter $\varnothing 4.5\text{mm}$ or $\varnothing 5\text{mm}$

Code
7332

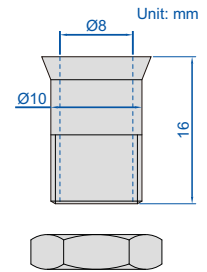


7332

SHAFT SLEEVE



7333



- For dial indicators and probes with shaft diameter $\varnothing 8\text{mm}$

Code
7333

MAGNETIC BACKS

| Code | ØD | For digital/dial indicators |
|---------|--------|---------------------------------|
| 7331-M1 | 51.5mm | 2103 |
| | | 2104 |
| | | 2108 |
| | | 2109 |
| | | 2112 |
| | | 2115 |
| | | 2116 |
| | | 2117 |
| | | 2118 |
| | | 2138 |
| | | 2139 |
| | | 2501 |
| | | 2301 |
| | | 2302 |
| | | 2308 |
| | | 2309 (except 2309-30, 2309-30F) |
| | | 2313 |
| | | 2314 |
| | | 2316 |
| 2324 | | |
| 2801 | | |
| 7331-M2 | 54mm | 2318 |

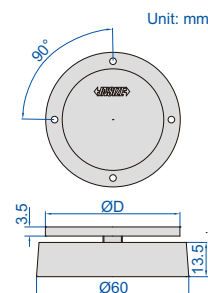


front



back

7331-M2



FLAT BACKS

| Code | For digital/ dial indicators |
|----------------|------------------------------------|
| 7330-F1 | 2311 |
| 7330-F2 | 2301 |
| | 2302 |
| | 2308 |
| | 2309 (except 2309-30, 2309-30F) |
| | 2313 |
| | 2314 |
| | 2316 |
| | 2324 |
| | 2801 |
| | 7330-F5 |
| 2104 | |
| 2108 | |
| 2109 | |
| 2112 | |
| 2115 | |
| 2116 | |
| 2117 | |
| 2118 | |
| 2138 | |
| 2139 | |
| 2501 | |
| 2137 | |

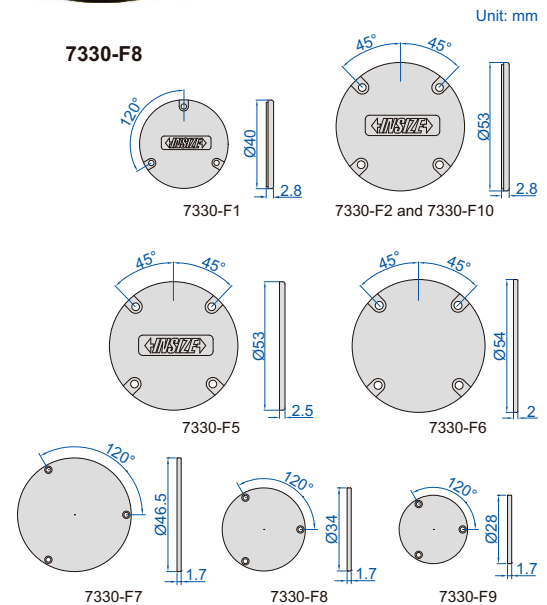


7330-F2



7330-F8

| Code | For digital/ dial indicators |
|-----------------|---------------------------------|
| 7330-F6 | 2318 |
| | 2307 |
| | 2326 |
| 7330-F7 | 2830 |
| | 2882 |
| | 2885 |
| | 2888 |
| | 2889 |
| | 2891 |
| 7330-F8 | 2890 |
| | 2887 |
| 7330-F9 | 2886 |
| 7330-F10 | 2310 |



LUG BACKS

11

| Code | For digital/ dial indicators |
|----------------|------------------------------------|
| 7330-L1 | 2311 |
| 7330-L2 | 2301 |
| | 2302 |
| | 2308 |
| | 2309 (except 2309-30, 2309-30F) |
| | 2313 |
| | 2314 |
| | 2316 |
| | 2324 |
| | 2801 |
| | 7330-L5 |
| 2104 | |
| 2108 | |
| 2109 | |
| 2112 | |
| 2115 | |
| 2116 | |
| 2117 | |
| 2118 | |
| 2138 | |
| 2139 | |
| 2501 | |
| 2137 | |

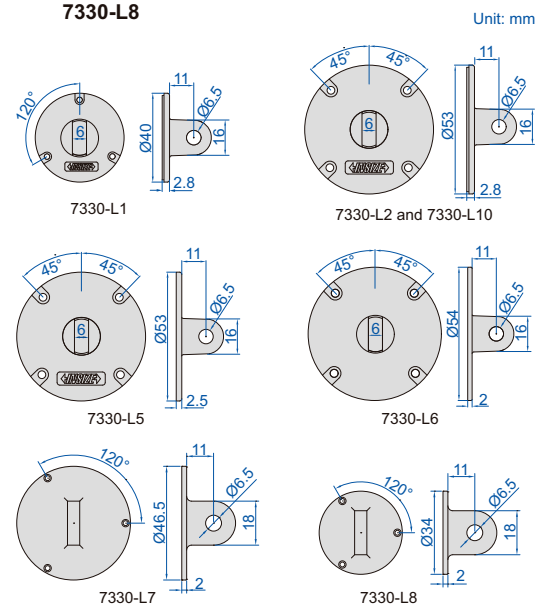


7330-L2



7330-L8

| Code | For digital/ dial indicators |
|-----------------|---------------------------------|
| 7330-L6 | 2318 |
| | 2307 |
| | 2326 |
| 7330-L7 | 2830 |
| | 2882 |
| | 2885 |
| | 2888 |
| | 2889 |
| | 2891 |
| 7330-L8 | 2890 |
| | 2887 |
| 7330-L10 | 2310 |

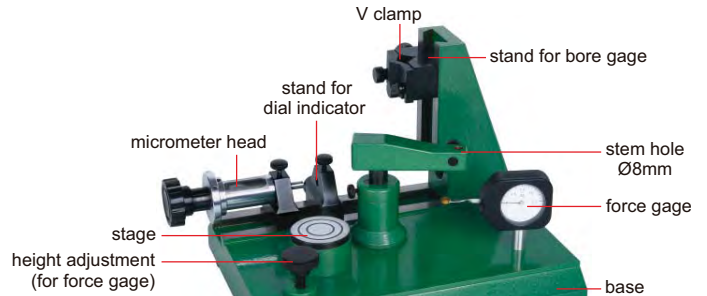


ATTENTION: NOT SUITABLE FOR DIAL INDICATORS WITH GRADUATION 0.001MM

DIAL INDICATOR TESTER CODE 2396-25A



- To calibrate dial indicators, test indicators and dial bore gages
- Dimension: 270x210x205mm
- Weight: 11kg



2396-25A

Micrometer head

| Range | Sampling interval | Accuracy | Hysteresis |
|--------|-------------------|---|------------|
| 0-25mm | 0.1mm | 4µm (0-25mm), 3µm (0-10mm), 2µm (0-1mm) | 1µm |

Force gage

| Range | Graduation | Accuracy |
|--------|------------|------------------------|
| 0-1.6N | 0.05N | ±5% (of load capacity) |

Stage

| Diameter | Flatness | Roughness |
|----------|----------|-----------|
| 50mm | 1µm | 0.05µm |



inspect accuracy of dial indicators (range 0-25mm)



inspect accuracy of dial bore gages (range 6-450mm)



inspect accuracy of test indicators



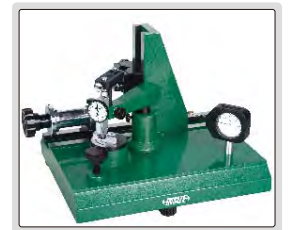
check force of dial indicators



check repeatability of dial indicators



check the effect of lateral force on accuracy of dial indicators (half round gage block is required)



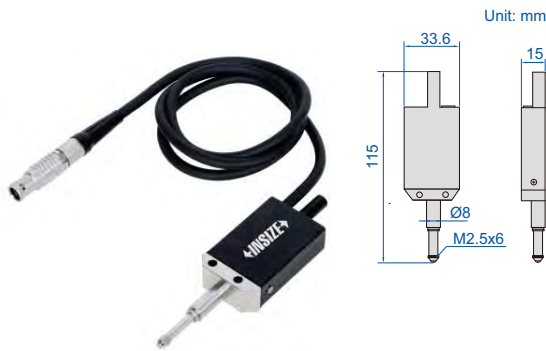
check the effect of lateral force on accuracy of test indicators (half round gage block is required)

Half round gage block (optional)

| Code | Parallelism |
|------------|-------------|
| 2396-block | 1µm |



LINEAR GAGES AND DISPLAY UNIT



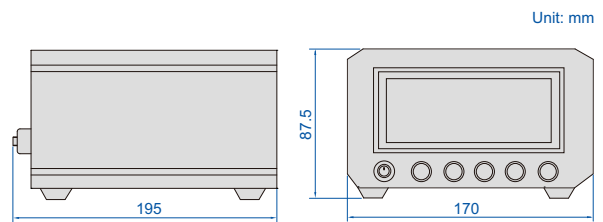
linear gage
7131-01



display unit
7131-1A



- Linear gage type: optical grating
- Display unit: display displacement data in real time, data preset, set tolerance and make judgment (out of upper tolerance, within tolerance, out of lower tolerance), set zero, change measuring direction, resolution (0.1µm/1µm), unit switch (µm/mm/inch)
- Two data transmission methods: can output keyboard signal and data can be transmitted to excel, word, txt etc, can also output serial signal and transmit data to serial communication software



LINEAR GAGE SPECIFICATION

| Code | 7131-01 | 7131-02 |
|-----------------------|-------------------|---------|
| Range | 12.5mm | 12.5mm |
| Resolution | 0.1µm | 1µm |
| Accuracy (19~20°C) | 1µm | 3µm |
| Repeatability | 0.2µm | 2µm |
| Linear gage type | optical grating | |
| Working life | ten million times | |
| Dust/waterproof | IP50 | |
| Measuring force | 0.7±0.3N | |
| Cable length | 900mm | |
| Operation environment | 0~40°C, 20~80%RH | |
| Power supply | 5~24V | |
| Dimension (L×W×H) | 33.6×15×115mm | |
| Weight | 133g | |

spindle lift knob is included



application



DISPLAY UNIT SPECIFICATION

| Code | 7131-1A |
|---|----------------|
| Display | 4" LCD screen |
| Unit | µm, mm, inch |
| Quantity of linear gage to be connected | 1 pc |
| Dimension (L×W×H) | 170×195×87.5mm |
| Weight | 1.45kg |

11

DIGITAL LINEAR GAGES



ABSOLUTE ENCODER, THE ORIGINAL DATA REMAINS AFTER POWER OFF

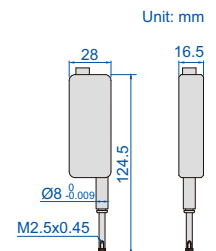
DUSTPROOF WATERPROOF

- Scale type: optical grating
- Absolute encoder, the original data remains after power off
- Digital signal output, amplifier is not required
- Measuring force: ≤1.5N
- Dust/waterproof: IP43/IP66
- Baud rate: 9600 (can be customized)
- Cable length: 3m (can be customized)



7130-10




7130-10L






To be continued

Continued from previous page




Dust/waterproof IP43, resolution 0.1µm

| Code | Range | Repeatability | Accuracy | Outgoing cable direction | Output signal | Output interface |
|----------|----------|---------------|----------|--------------------------|-------------------|---|
| 7130-10 | 0-12.5mm | 0.5µm | 1µm | horizontal | RS232, TTL level |  |
| 7130-10L | 0-12.5mm | 0.5µm | 1µm | vertical | RS232, TTL level | |
| 7130-11 | 0-12.5mm | 0.5µm | 1µm | horizontal | RS232, 232 level | |
| 7130-11L | 0-12.5mm | 0.5µm | 1µm | vertical | RS232, 232 level | |
| 7130-12 | 0-12.5mm | 0.5µm | 1µm | horizontal | RS485 (VCC+5~12V) |  |
| 7130-12L | 0-12.5mm | 0.5µm | 1µm | vertical | RS485 (VCC+5~12V) | |
| 7130-13 | 0-12.5mm | 0.5µm | 1µm | horizontal | RS232, TTL level |  |
| 7130-13L | 0-12.5mm | 0.5µm | 1µm | vertical | RS232, TTL level | |
| 7130-14 | 0-12.5mm | 0.5µm | 1µm | horizontal | RS232, 232 level | |
| 7130-14L | 0-12.5mm | 0.5µm | 1µm | vertical | RS232, 232 level | |




Dust/waterproof IP43, resolution 0.5µm

| Code | Range | Repeatability | Accuracy | Outgoing cable direction | Output signal | Output interface |
|----------|----------|---------------|----------|--------------------------|-------------------|--|
| 7130-20 | 0-12.5mm | 1.5µm | 3µm | horizontal | RS232, TTL level |  |
| 7130-20L | 0-12.5mm | 1.5µm | 3µm | vertical | RS232, TTL level | |
| 7130-21 | 0-12.5mm | 1.5µm | 3µm | horizontal | RS232, 232 level | |
| 7130-21L | 0-12.5mm | 1.5µm | 3µm | vertical | RS232, 232 level | |
| 7130-22 | 0-12.5mm | 1.5µm | 3µm | horizontal | RS485 (VCC+5~12V) |  |
| 7130-22L | 0-12.5mm | 1.5µm | 3µm | vertical | RS485 (VCC+5~12V) | |
| 7130-23 | 0-12.5mm | 1.5µm | 3µm | horizontal | RS232, TTL level |  |
| 7130-23L | 0-12.5mm | 1.5µm | 3µm | vertical | RS232, TTL level | |
| 7130-24 | 0-12.5mm | 1.5µm | 3µm | horizontal | RS232, 232 level | |
| 7130-24L | 0-12.5mm | 1.5µm | 3µm | vertical | RS232, 232 level | |

Dust/waterproof IP66, resolution 0.1µm

| Code | Range | Repeatability | Accuracy | Outgoing cable direction | Output signal | Output interface |
|----------|----------|---------------|----------|--------------------------|-------------------|---|
| 7130-30 | 0-12.5mm | 0.5µm | 1µm | horizontal | RS232, TTL level |  |
| 7130-30L | 0-12.5mm | 0.5µm | 1µm | vertical | RS232, TTL level | |
| 7130-31 | 0-12.5mm | 0.5µm | 1µm | horizontal | RS232, 232 level | |
| 7130-31L | 0-12.5mm | 0.5µm | 1µm | vertical | RS232, 232 level | |
| 7130-32 | 0-12.5mm | 0.5µm | 1µm | horizontal | RS485 (VCC+5~12V) |  |
| 7130-32L | 0-12.5mm | 0.5µm | 1µm | vertical | RS485 (VCC+5~12V) | |
| 7130-33 | 0-12.5mm | 0.5µm | 1µm | horizontal | RS232, TTL level |  |
| 7130-33L | 0-12.5mm | 0.5µm | 1µm | vertical | RS232, TTL level | |
| 7130-34 | 0-12.5mm | 0.5µm | 1µm | horizontal | RS232, 232 level | |
| 7130-34L | 0-12.5mm | 0.5µm | 1µm | vertical | RS232, 232 level | |

Dust/waterproof IP66, resolution 0.5µm

| Code | Range | Repeatability | Accuracy | Outgoing cable direction | Output signal | Output interface |
|----------|----------|---------------|----------|--------------------------|-------------------|---|
| 7130-40 | 0-12.5mm | 1.5µm | 3µm | horizontal | RS232, TTL level |  |
| 7130-40L | 0-12.5mm | 1.5µm | 3µm | vertical | RS232, TTL level | |
| 7130-41 | 0-12.5mm | 1.5µm | 3µm | horizontal | RS232, 232 level | |
| 7130-41L | 0-12.5mm | 1.5µm | 3µm | vertical | RS232, 232 level | |
| 7130-42 | 0-12.5mm | 1.5µm | 3µm | horizontal | RS485 (VCC+5~12V) |  |
| 7130-42L | 0-12.5mm | 1.5µm | 3µm | vertical | RS485 (VCC+5~12V) | |
| 7130-43 | 0-12.5mm | 1.5µm | 3µm | horizontal | RS232, TTL level |  |
| 7130-43L | 0-12.5mm | 1.5µm | 3µm | vertical | RS232, TTL level | |
| 7130-44 | 0-12.5mm | 1.5µm | 3µm | horizontal | RS232, 232 level | |
| 7130-44L | 0-12.5mm | 1.5µm | 3µm | vertical | RS232, 232 level | |

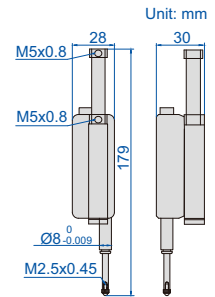
PNEUMATIC DIGITAL LINEAR GAGES



DUSTPROOF
WATERPROOF

ABSOLUTE ENCODER, THE ORIGINAL
DATA REMAINS AFTER POWER OFF

- Scale type: optical grating
- Absolute encoder, the original data remains after power off
- Digital signal output, amplifier is not required
- Air pressure: 0.2-0.5MPa
- Measuring force: $\leq 1.5\text{N}$
- Dust/waterproof: IP43/IP66
- Baud rate: 9600 (can be customized)
- Cable length: 3m (can be customized)



7134-10L

Dust/waterproof IP43, resolution 0.1 μm

| Code | Range | Repeatability | Accuracy | Outgoing cable direction | Output signal | Output interface |
|----------|----------|-------------------|-----------------|--------------------------|-------------------|------------------|
| 7134-10 | 0-12.5mm | 0.5 μm | 1 μm | horizontal | RS232, TTL level | |
| 7134-10L | 0-12.5mm | 0.5 μm | 1 μm | vertical | RS232, TTL level | |
| 7134-11 | 0-12.5mm | 0.5 μm | 1 μm | horizontal | RS232, 232 level | |
| 7134-11L | 0-12.5mm | 0.5 μm | 1 μm | vertical | RS232, 232 level | |
| 7134-12 | 0-12.5mm | 0.5 μm | 1 μm | horizontal | RS485 (VCC+5~12V) | |
| 7134-12L | 0-12.5mm | 0.5 μm | 1 μm | vertical | RS485 (VCC+5~12V) | |
| 7134-13 | 0-12.5mm | 0.5 μm | 1 μm | horizontal | RS232, TTL level | |
| 7134-13L | 0-12.5mm | 0.5 μm | 1 μm | vertical | RS232, TTL level | |
| 7134-14 | 0-12.5mm | 0.5 μm | 1 μm | horizontal | RS232, 232 level | |
| 7134-14L | 0-12.5mm | 0.5 μm | 1 μm | vertical | RS232, 232 level | |

Dust/waterproof IP43, resolution 0.5 μm

| Code | Range | Repeatability | Accuracy | Outgoing cable direction | Output signal | Output interface |
|----------|----------|-------------------|-----------------|--------------------------|-------------------|------------------|
| 7134-20 | 0-12.5mm | 1.5 μm | 3 μm | horizontal | RS232, TTL level | |
| 7134-20L | 0-12.5mm | 1.5 μm | 3 μm | vertical | RS232, TTL level | |
| 7134-21 | 0-12.5mm | 1.5 μm | 3 μm | horizontal | RS232, 232 level | |
| 7134-21L | 0-12.5mm | 1.5 μm | 3 μm | vertical | RS232, 232 level | |
| 7134-22 | 0-12.5mm | 1.5 μm | 3 μm | horizontal | RS485 (VCC+5~12V) | |
| 7134-22L | 0-12.5mm | 1.5 μm | 3 μm | vertical | RS485 (VCC+5~12V) | |
| 7134-23 | 0-12.5mm | 1.5 μm | 3 μm | horizontal | RS232, TTL level | |
| 7134-23L | 0-12.5mm | 1.5 μm | 3 μm | vertical | RS232, TTL level | |
| 7134-24 | 0-12.5mm | 1.5 μm | 3 μm | horizontal | RS232, 232 level | |
| 7134-24L | 0-12.5mm | 1.5 μm | 3 μm | vertical | RS232, 232 level | |

Dust/waterproof IP66, resolution 0.1 μm

| Code | Range | Repeatability | Accuracy | Outgoing cable direction | Output signal | Output interface |
|----------|----------|-------------------|-----------------|--------------------------|-------------------|------------------|
| 7134-30 | 0-12.5mm | 0.5 μm | 1 μm | horizontal | RS232, TTL level | |
| 7134-30L | 0-12.5mm | 0.5 μm | 1 μm | vertical | RS232, TTL level | |
| 7134-31 | 0-12.5mm | 0.5 μm | 1 μm | horizontal | RS232, 232 level | |
| 7134-31L | 0-12.5mm | 0.5 μm | 1 μm | vertical | RS232, 232 level | |
| 7134-32 | 0-12.5mm | 0.5 μm | 1 μm | horizontal | RS485 (VCC+5~12V) | |
| 7134-32L | 0-12.5mm | 0.5 μm | 1 μm | vertical | RS485 (VCC+5~12V) | |
| 7134-33 | 0-12.5mm | 0.5 μm | 1 μm | horizontal | RS232, TTL level | |
| 7134-33L | 0-12.5mm | 0.5 μm | 1 μm | vertical | RS232, TTL level | |
| 7134-34 | 0-12.5mm | 0.5 μm | 1 μm | horizontal | RS232, 232 level | |
| 7134-34L | 0-12.5mm | 0.5 μm | 1 μm | vertical | RS232, 232 level | |

To be continued

Continued from previous page

Dust/waterproof IP66, resolution 0.5μm

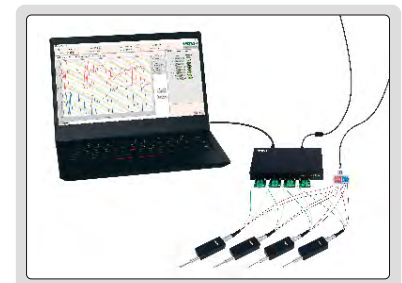
| Code | Range | Repeatability | Accuracy | Outgoing cable direction | Output signal | Output interface |
|----------|----------|---------------|----------|--------------------------|-------------------|------------------|
| 7134-40 | 0-12.5mm | 1.5μm | 3μm | horizontal | RS232, TTL level | |
| 7134-40L | 0-12.5mm | 1.5μm | 3μm | vertical | RS232, TTL level | |
| 7134-41 | 0-12.5mm | 1.5μm | 3μm | horizontal | RS232, 232 level | |
| 7134-41L | 0-12.5mm | 1.5μm | 3μm | vertical | RS232, 232 level | |
| 7134-42 | 0-12.5mm | 1.5μm | 3μm | horizontal | RS485 (VCC+5~12V) | |
| 7134-42L | 0-12.5mm | 1.5μm | 3μm | vertical | RS485 (VCC+5~12V) | |
| 7134-43 | 0-12.5mm | 1.5μm | 3μm | horizontal | RS232, TTL level | |
| 7134-43L | 0-12.5mm | 1.5μm | 3μm | vertical | RS232, TTL level | |
| 7134-44 | 0-12.5mm | 1.5μm | 3μm | horizontal | RS232, 232 level | |
| 7134-44L | 0-12.5mm | 1.5μm | 3μm | vertical | RS232, 232 level | |

MULTICHANNEL INTERFACE BOXES OF LINEAR GAGES



- Can be connected with 7130 or 7134 series linear gages
- Optional accessory: software of linear gage (code: 7130-SOFTWARE, 8 linear gages can be connected simultaneously)

7212-4A application



7324-HUB4 application



software of linear gage (optional)

view and export historical trend

view and export historical data

real-time data

real-time trend

data trend chart

the software can set tolerance and make real-time judgment (red when out of tolerance, green when within tolerance), set zero, data collection interval time, color, type and line width of trend lines, can view and export data to Excel report or BMP image

SPECIFICATION

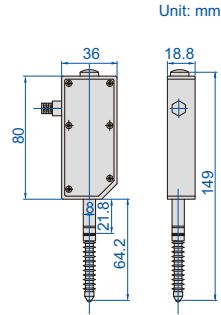
| Code | 7212-4A | 7212-8A | 7324-HUB4 | 7324-HUB7 |
|--------------------------|--|---------|--|-----------|
| Quantity of linear gages | 4 | 8 | 4 | 7 |
| Applicable linear gages | 7130-12, 7130-12L, 7130-22, 7130-22L, 7130-32, 7130-32L, 7130-42, 7130-42L, 7134-12, 7134-12L, 7134-22, 7134-22L, 7134-32, 7134-32L, 7134-42, 7134-42L | | 7130-10, 7130-10L, 7130-20, 7130-20L, 7130-30, 7130-30L, 7130-40, 7130-40L, 7134-10, 7134-10L, 7134-20, 7134-20L, 7134-30, 7134-30L, 7134-40, 7134-40L | |
| Type of linear gage | RS485 protocol | | RS232 protocol | |
| Type of output | USB | | USB | |

LINEAR GAGES

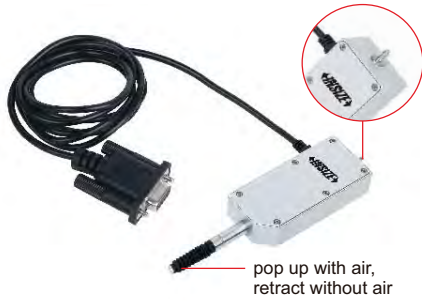
LINEAR GAGE
IP65
WATERPROOF



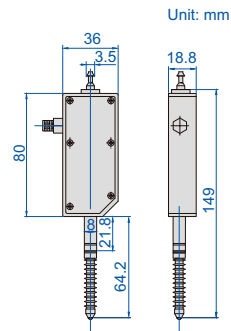
7107-12



7107-11
7107-12



7107-12V



7107-11V
7107-12V

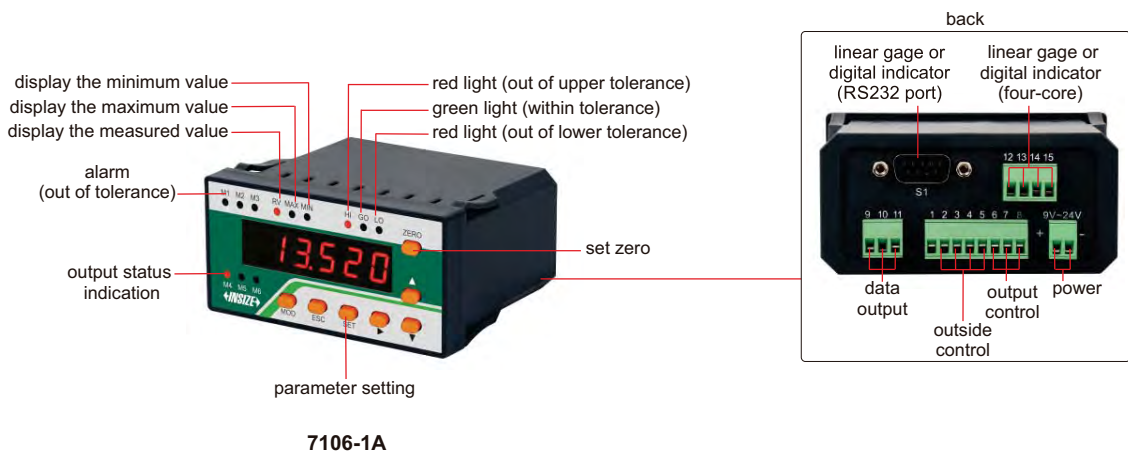
- Capacitance type linear encoder
- Shock-proof, water proof, dust proof, suitable for high speed movement, long working life
- Optional: display unit **7106-1A**, multichannel interface box **7107-1** or **7107-2**

SPECIFICATION

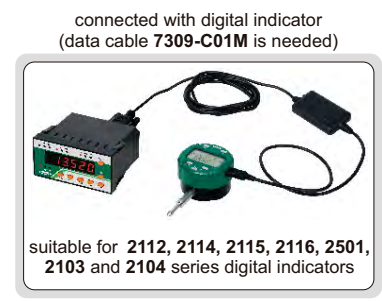
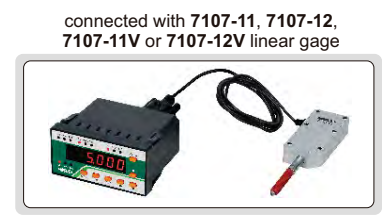
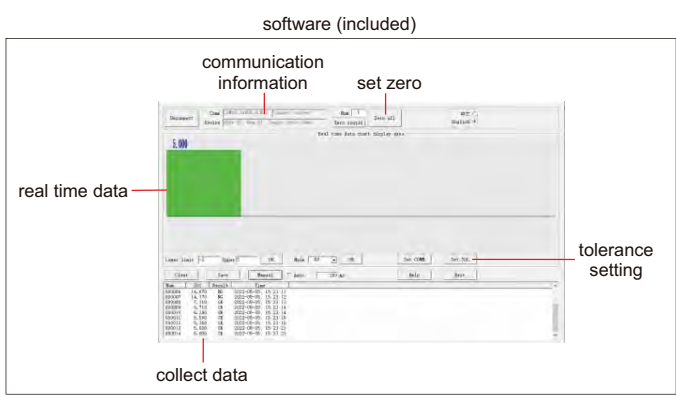
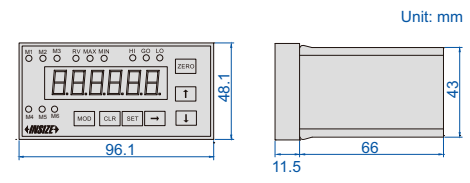
| Code | 7107-11 | 7107-12 | 7107-11V | 7107-12V |
|---------------------|---------------------------------|------------------|--------------------------|------------------|
| Measuring range | 12mm/0.47" | 12mm/0.47" | 12mm/0.47" | 12mm/0.47" |
| Resolution | 0.01mm/0.0004" | 0.001mm/0.00004" | 0.01mm/0.0004" | 0.001mm/0.00004" |
| Accuracy | 20μm | 5μm | 20μm | 5μm |
| Hysteresis | 10μm | 2μm | 10μm | 2μm |
| Driving type | spring | | pneumatic | |
| Measuring force | 1.5N | | adjusted by air pressure | |
| Measuring principle | capacitance type linear encoder | | | |
| Voltage | 5V | | | |
| Sampling frequency | 100 times/sec | | | |
| Working life | ten million times | | | |
| Dust/waterproof | IP65 | | | |
| Cable length | 2m | | | |
| Data output | RS232 | | | |



DISPLAY UNIT FOR CAPACITANCE LINEAR GAGES CODE 7106-1A



- Can be connected with **7107-11**, **7107-12**, **7107-11V** or **7107-12V** linear gage, can also be connected with digital indicator (data cable **7309-C01M** is needed)
- Set tolerance and make judgment (out of upper tolerance, within tolerance, out of lower tolerance), output the judgment to control outside devices, control from outside (set zero, hold reading and collect data)
- Software of display unit (included): in the software, it is possible to set tolerance and show judgment (red when out of tolerance, green when within tolerance), set zero, collect data manually or automatically (time is adjustable), output data to Excel, print report



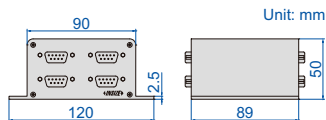
SPECIFICATION

| | |
|--|---|
| Display | 6 digits |
| Quantity of linear gage or digital indicator to be connected | 1 pc |
| Tolerance | set tolerance and make judgment with alarm and lights (out of upper tolerance, within tolerance, out of lower tolerance) |
| Output control | output the tolerance judgment (out of upper tolerance, within tolerance, out of lower tolerance) to control outside devices |
| Outside control | control the display units from outside (set zero, hold reading and collect data) |
| Data output | connect to computer software and serial communication |
| Power supply | DC 9~24V |

MULTICHANNEL INTERFACE BOXES FOR CAPACITANCE LINEAR GAGES



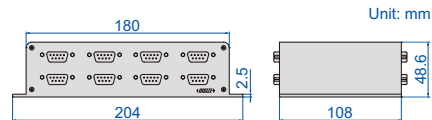
7107-1



7107-1



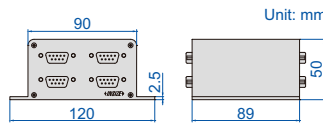
7107-2



7107-2



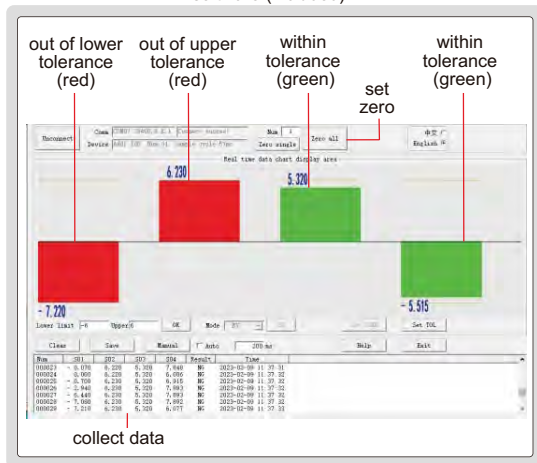
7107-3



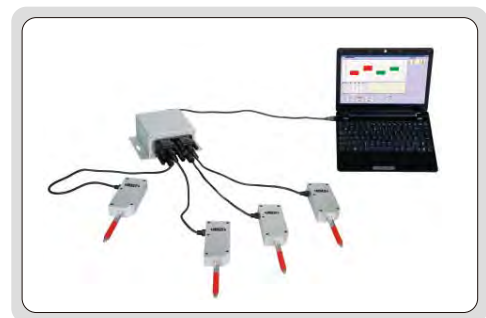
7107-3

- Can be connected with **7107-11**, **7107-12**, **7107-11V** or **7107-12V** linear gages, can also be connected with digital indicators (data cable **7309-C01M** is needed)
- Connection box (code: **7107-3**) is needed to connect interface boxes, when two or more interface boxes are used. Maximum 4 interface boxes can be connected.
- Software of interface boxes (included): in the software, it is possible to set tolerance of each channel and show judgment (red when out of tolerance, green when within tolerance), set zero, collect data manually or automatically (time is adjustable), output data to Excel, print report.

software (included)



connected with **7107-11**, **7107-12**, **7107-11V** or **7107-12V** linear gages



INTERFACE BOX SPECIFICATION

| | | |
|--|-----------------|--------|
| Code | 7107-1 | 7107-2 |
| Quantity of linear gages or digital indicators to be connected | 4 pcs | 8 pcs |
| Data output | RS232 and RS485 | |
| Power supply | DC 9~24V | |

CONNECTION BOX (OPTIONAL) SPECIFICATION

| | |
|---|--|
| Code | 7107-3 |
| Quantity of interface boxes to be connected | 4 pcs (maximum 4 interface boxes can be connected) |
| Data output | RS232 and RS485 |
| Power supply | DC 9~24V |

connected with digital indicators (data cable **7309-C01M** is needed)

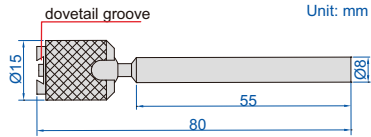


suitable for **2112**, **2114**, **2115**, **2116**, **2501**, **2103** and **2104** series digital indicators

DIAL TEST INDICATOR UNIVERSAL HOLDER



6297-1



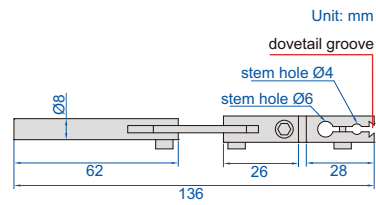
Code
6297-1

- Set the indicators at the desired attitude to the workpiece

DIAL TEST INDICATOR HOLDER



6296-1



Code
6296-1

- Supplied with hex key

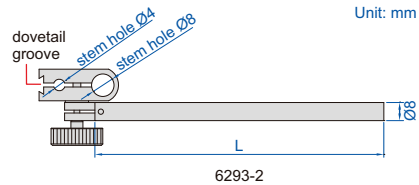
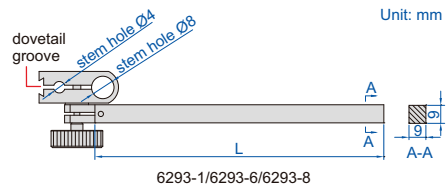
DIAL TEST INDICATOR HOLDERS



6293-1



6293-2



| Code | Stem section | Stem length (L) |
|----------|--------------|-----------------|
| 6293-1 | 9x9mm | 100mm |
| 6293-6 | 9x9mm | 50mm |
| 6293-8 * | 9x9mm | 200mm |
| 6293-2 | Ø8mm | 115mm |

* Only apply for 0.01mm dial test indicator

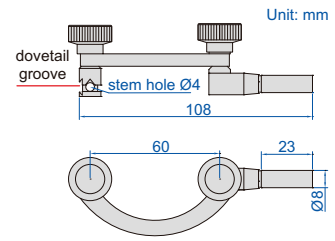


DIAL TEST INDICATOR HOLDER

- Can be used with dial test indicators



6291-1



Code

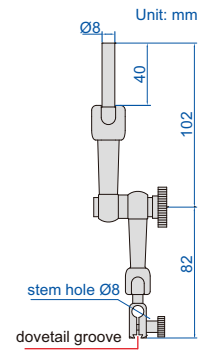
6291-1

DIAL TEST INDICATOR HOLDER

- Can be used with dial test indicators



6295-1A



Code

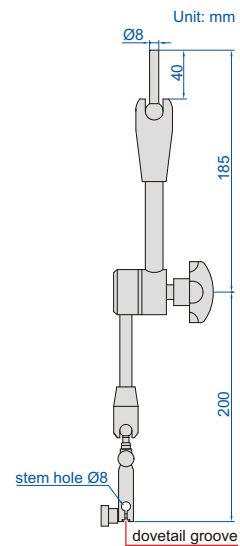
6295-1A

DIAL INDICATOR HOLDER

- Can be used with dial test indicators or dial indicators



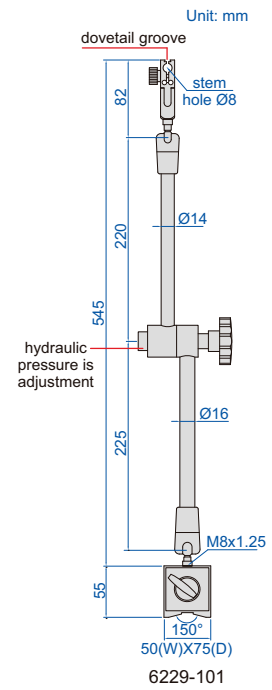
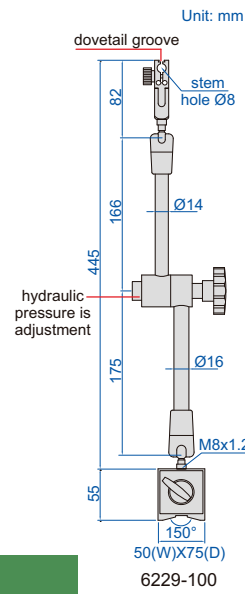
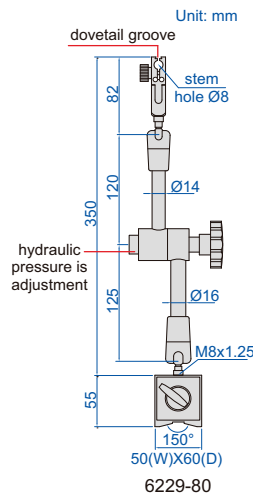
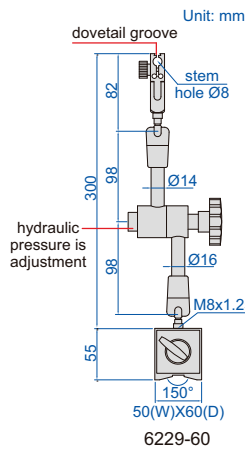
6294-1A



Code

6294-1A

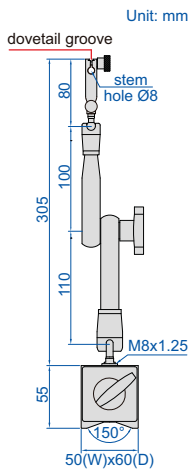
HYDRAULIC UNIVERSAL MAGNETIC STANDS



- Hydraulic pressure is adjustment
- For digital/dial indicators and dial test indicators

| Code | Magnetic force | Applicable holding stem | Remark |
|----------|----------------|-------------------------|--|
| 6229-60 | 60kgf | Ø8mm | with fine adjustment and dovetail groove |
| 6229-80 | 80kgf | Ø8mm | with fine adjustment and dovetail groove |
| 6229-100 | 100kgf | Ø8mm | with fine adjustment and dovetail groove |
| 6229-101 | 100kgf | Ø8mm | with fine adjustment and dovetail groove |

LARGE LOCKING FORCE MAGNETIC STAND

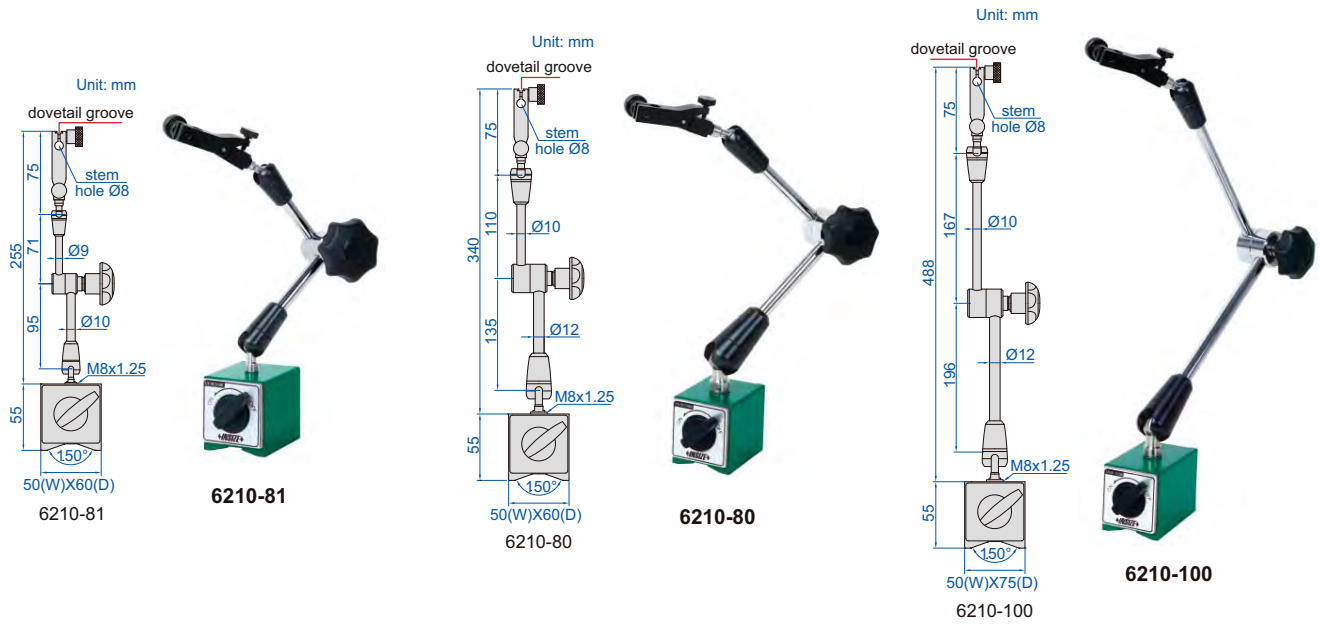


- For digital/dial indicators and dial test indicators

| Code | Magnetic force | Applicable holding stem | Remark |
|---------|----------------|-------------------------|--|
| 6219-80 | 80kgf | Ø8mm | with fine adjustment and dovetail groove |

UNIVERSAL MAGNETIC STANDS

POPULAR MODEL



- For digital/dial indicators and dial test indicators

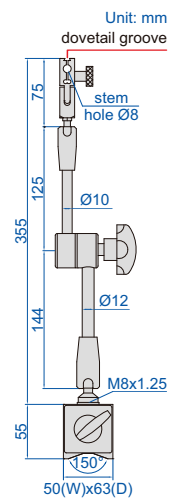
| Code | Magnetic force | Applicable holding stem | Remark |
|----------|----------------|-------------------------|--|
| 6210-81 | 80kgf | Ø8mm | with fine adjustment and dovetail groove |
| 6210-80 | 80kgf | Ø8mm | with fine adjustment and dovetail groove |
| 6210-100 | 100kgf | Ø8mm | with fine adjustment and dovetail groove |

11

UNIVERSAL MAGNETIC STAND (ECONOMIC TYPE)

ATTENTION: LOW LOCKING FORCE

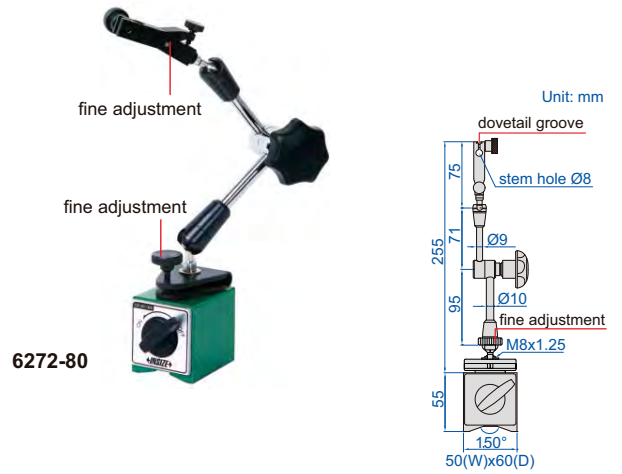
- For digital/dial indicators and dial test indicators



| Code | Magnetic force | Applicable holding stem | Remark |
|----------|----------------|-------------------------|--|
| 6208-80A | 80kgf | Ø8mm | with fine adjustment and dovetail groove |

MAGNETIC STAND WITH TWO FINE ADJUSTMENTS

- With two fine adjustments on the head and on the base
- For digital/dial indicators and dial test indicators



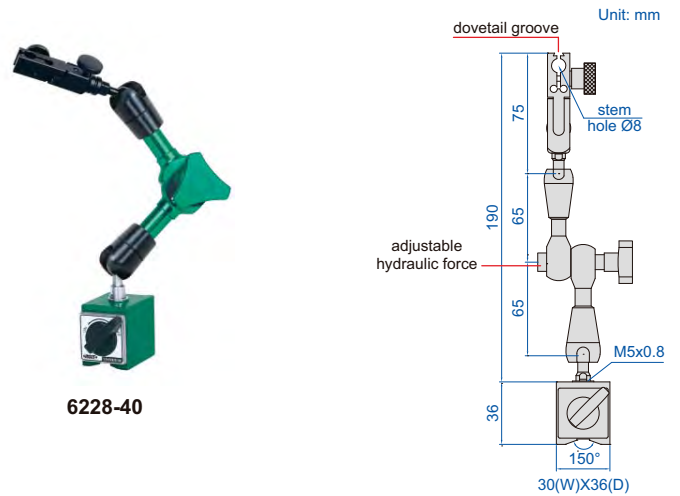
6272-80

| Code | Magnetic force | Applicable holding stem | Remark |
|---------|----------------|-------------------------|---|
| 6272-80 | 80kgf | Ø8mm | with two fine adjustments and dovetail groove |

ATTENTION: FOR DIAL TEST INDICATORS ONLY

HYDRAULIC MINI MAGNETIC STAND

- For dial test indicators
- With fine adjustment and dovetail groove
- Adjustable hydraulic force



6228-40

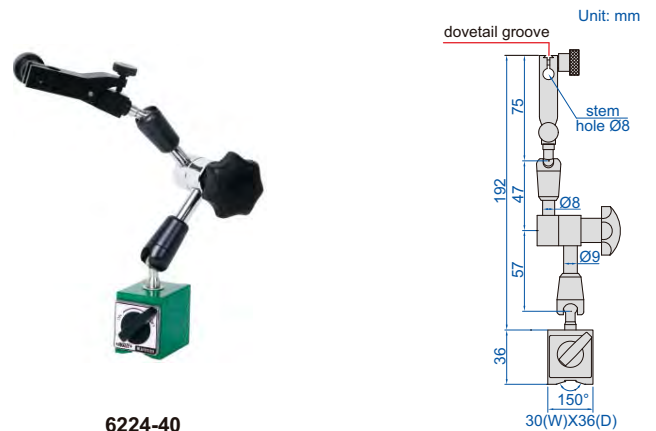
| Code | Magnetic force | Applicable holding stem |
|---------|----------------|-------------------------|
| 6228-40 | 40kgf | Ø8mm |

11

ATTENTION: FOR DIAL TEST INDICATORS ONLY

MINI MAGNETIC STAND

- For dial test indicators
- With fine adjustment and dovetail groove

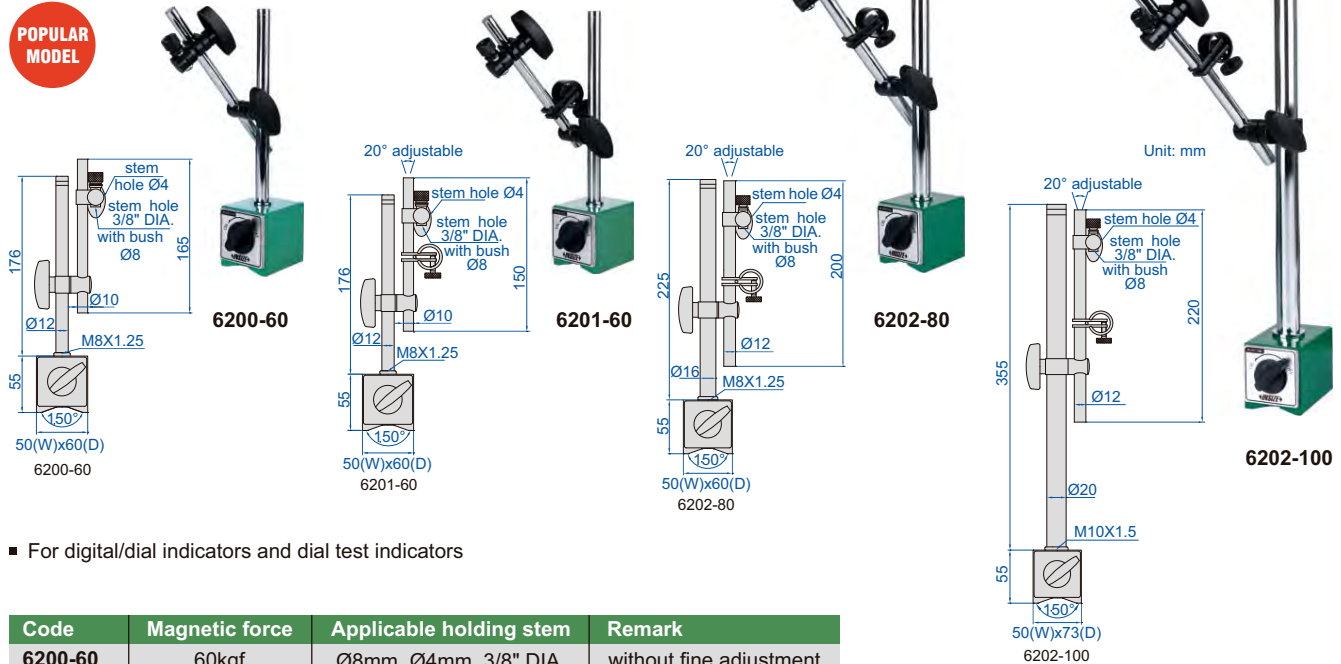


6224-40

| Code | Magnetic force | Applicable holding stem |
|---------|----------------|-------------------------|
| 6224-40 | 40kgf | Ø8mm |

MAGNETIC STANDS

POPULAR MODEL



For digital/dial indicators and dial test indicators

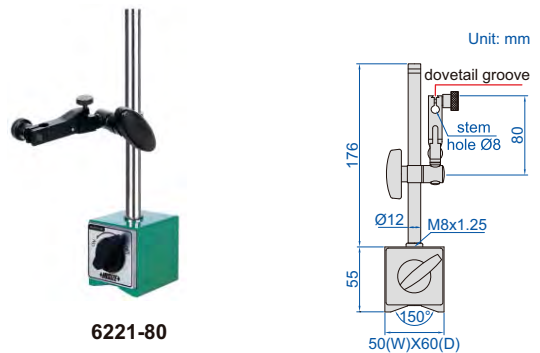
| Code | Magnetic force | Applicable holding stem | Remark |
|----------|----------------|-------------------------|-------------------------|
| 6200-60 | 60kgf | Ø8mm, Ø4mm, 3/8" DIA. | without fine adjustment |
| 6201-60 | 60kgf | Ø8mm, Ø4mm, 3/8" DIA. | with fine adjustment |
| 6202-80 | 80kgf | Ø8mm, Ø4mm, 3/8" DIA. | with fine adjustment |
| 6202-100 | 100kgf | Ø8mm, Ø4mm, 3/8" DIA. | with fine adjustment |

MAGNETIC STAND (FOR 0.001MM DIAL AND TEST INDICATORS)

11

For 0.001mm and 0.01mm dial and test indicators

| Code | Magnetic force | Applicable holding stem | Remark |
|---------|----------------|-------------------------|--|
| 6221-80 | 80kgf | Ø8mm | with fine adjustment and dovetail groove |



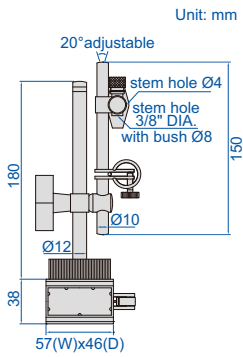
MAGNETIC STAND

For digital/dial indicators and dial test indicators

| Code | Magnetic force | Applicable holding stem | Remark |
|---------|----------------|-------------------------|--|
| 6216-80 | 80kgf | Ø8mm | with fine adjustment and dovetail groove |

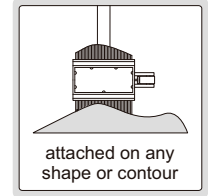


MAGNETIC STAND FOR UNEVEN SURFACES



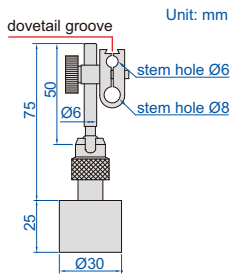
6215-60

- For digital/dial indicators and dial test indicators
- With fine adjustment



| Code | Magnetic force | Applicable holding stem |
|---------|----------------|---|
| 6215-60 | 60kgf | $\varnothing 8$ mm, $\varnothing 4$ mm, 3/8" DIA. |

MINI MAGNETIC STAND



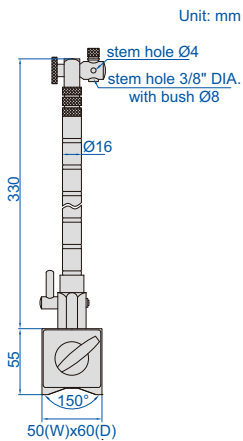
6211-10

- For dial test indicators
- With dovetail groove

ATTENTION: FOR DIAL TEST INDICATORS ONLY

| Code | Magnetic force | Applicable holding stem |
|---------|----------------|--|
| 6211-10 | 10kgf | $\varnothing 6$ mm, $\varnothing 8$ mm |

FLEX ARM MAGNETIC STAND



6207-80A

- For dial test indicators

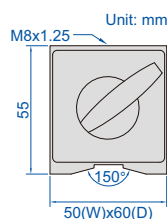
ATTENTION: FOR DIAL TEST INDICATORS ONLY

| Code | Magnetic force | Applicable holding stem |
|----------|----------------|---|
| 6207-80A | 80kgf | $\varnothing 8$ mm, $\varnothing 4$ mm, 3/8" DIA. |

MAGNETIC BASES



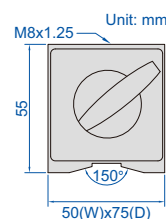
6212-80



6212-80



6212-100



6212-100

| Code | Magnetic force |
|----------|----------------|
| 6212-80 | 80kgf |
| 6212-100 | 100kgf |

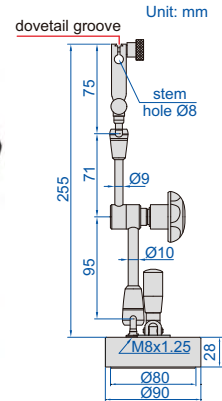
VACUUM STAND

- Suitable for granite surface plates or cast iron surface plates
- For digital/dial indicators and dial test indicators

| Code | Diameter of vacuum disc | Vacuum force | Applicable holding stem | Remark |
|--------|-------------------------|--------------|-------------------------|--|
| 6217-B | Ø80mm | 80kgf | Ø8mm | with fine adjustment and dovetail groove |



6217-B



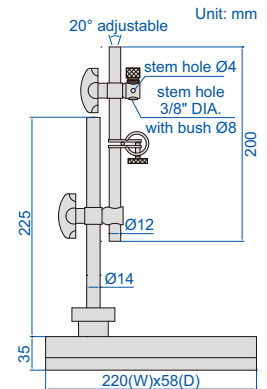
UNIVERSAL STAND

- For digital/dial indicators and dial test indicators
- With fine adjustment

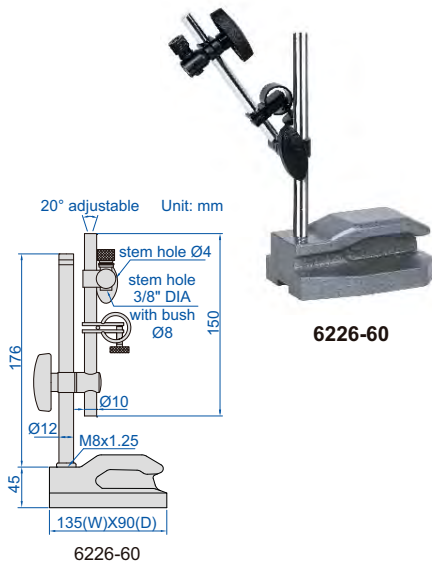
| Code | Applicable holding stem |
|--------|-------------------------|
| 6214-A | Ø8mm, Ø4mm, 3/8" DIA. |



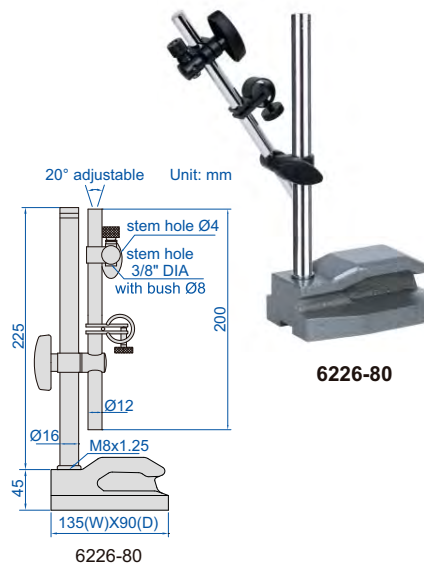
6214-A



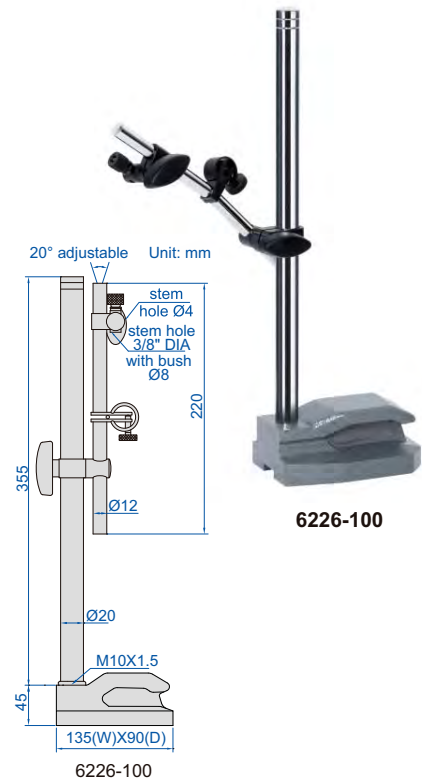
DIAL INDICATOR STANDS (NON-MAGNETIC)



6226-60



6226-80



6226-100

| Code | Applicable holding stem | Remark |
|----------|-------------------------|----------------------|
| 6226-60 | Ø8mm, Ø4mm, 3/8" DIA | with fine adjustment |
| 6226-80 | Ø8mm, Ø4mm, 3/8" DIA | with fine adjustment |
| 6226-100 | Ø8mm, Ø4mm, 3/8" DIA | with fine adjustment |

- Hardened base
- Suitable for granite surface plates and cast iron surface plates
- For digital/dial indicators and dial test indicators

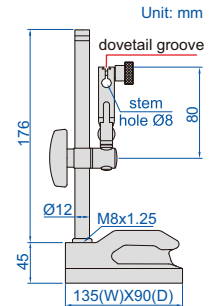
DIAL INDICATOR STAND (FOR 0.001MM DIAL AND TEST INDICATORS)

- Non-magnetic and hardened base
- Suitable for granite surface plates or cast iron surface plates
- For 0.001mm and 0.01mm dial and test indicators

| Code | Applicable holding stem | Remark |
|---------|-------------------------|--|
| 6230-60 | Ø8mm | with fine adjustment and dovetail groove |



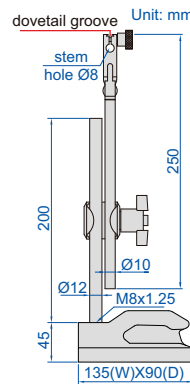
6230-60



DIAL INDICATOR STAND (NON-MAGNETIC)

- Hardened base
- Suitable for granite surface plates and cast iron surface plates
- For digital/dial indicators and dial test indicators

| Code | Applicable holding stem | Remark |
|---------|-------------------------|--|
| 6227-80 | Ø8mm | with fine adjustment and dovetail groove |



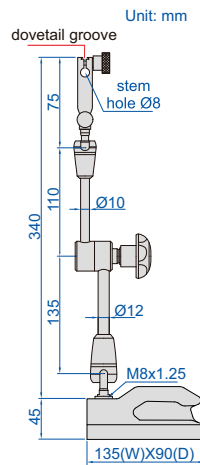
6227-80

UNIVERSAL DIAL INDICATOR STANDS (NON-MAGNETIC)

- Hardened base
- Suitable for granite surface plates and cast iron surface plates
- For digital/dial indicators and dial test indicators



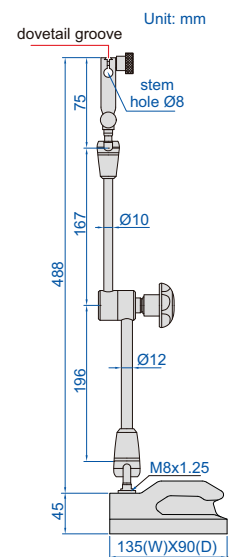
6225-80



6225-80



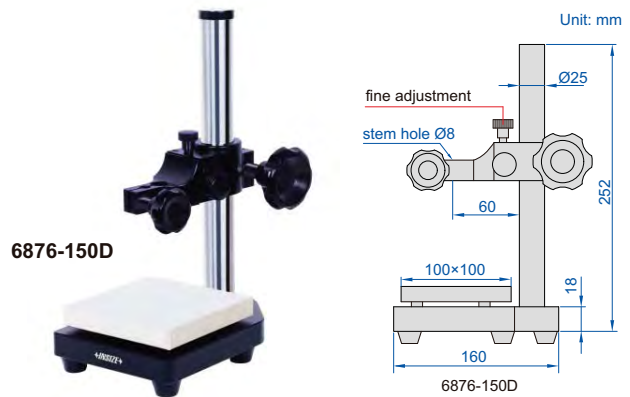
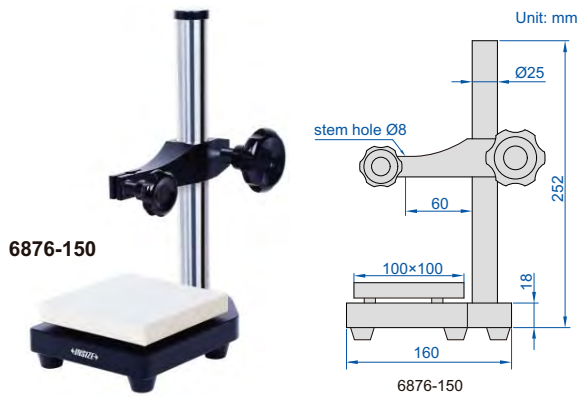
6225-100



6225-100

| Code | Applicable holding stem | Remark |
|----------|-------------------------|--|
| 6225-80 | Ø8mm | with fine adjustment and dovetail groove |
| 6225-100 | Ø8mm | with fine adjustment and dovetail groove |

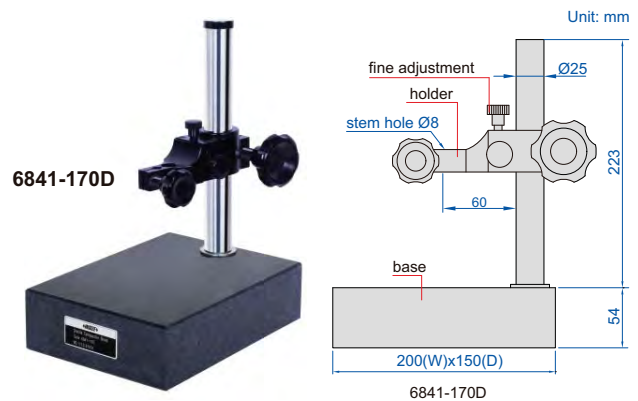
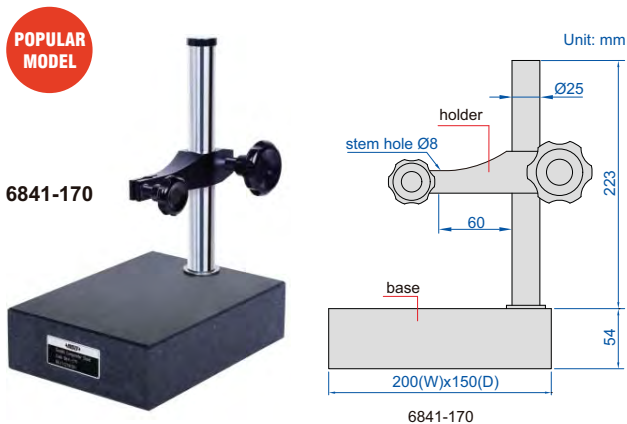
DIAL INDICATOR STANDS



| Code | Applicable holding stem | Anvil | Remark |
|-----------|-------------------------|--------------------------------|---|
| 6876-150 | Ø8mm | ceramic, plain, flatness 1.5µm | without fine adjustment |
| 6876-150D | Ø8mm | ceramic, plain, flatness 1.5µm | with fine adjustment, fine adjustment range 3mm |

- Vertical travel of holder: 150mm
- Ceramic anvil
- Supplied with dust cover

GRANITE DIAL INDICATOR STANDS (BASIC TYPE)

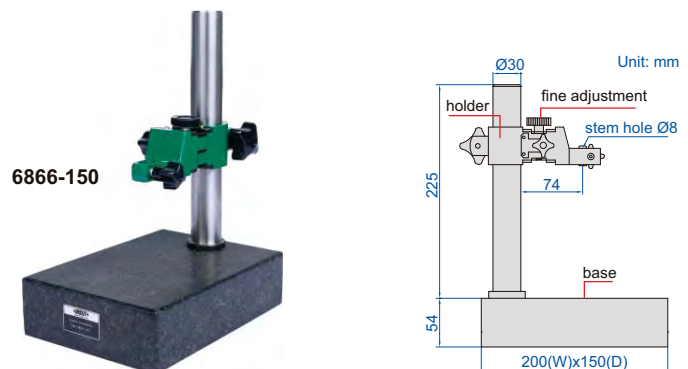


| Code | Applicable holding stem | Base | Remark |
|-----------|-------------------------|----------------|---|
| 6841-170 | Ø8mm | flatness 2.5µm | without fine adjustment |
| 6841-170D | Ø8mm | flatness 2.5µm | with fine adjustment, fine adjustment range 3mm |

- Vertical travel of holder: 170mm
- Supplied with dust cover

GRANITE DIAL INDICATOR STAND

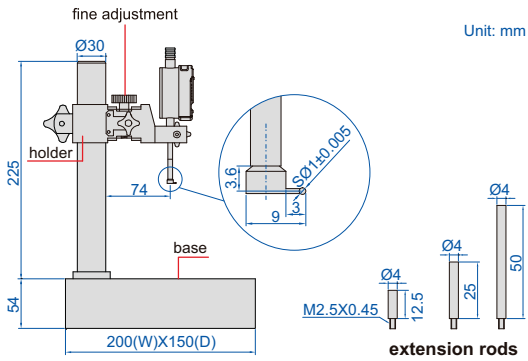
- Vertical travel of holder: 150mm
- Fine adjustment range: 2mm
- Supplied with dust cover



| Code | Applicable holding stem | Base |
|----------|-------------------------|----------------|
| 6866-150 | Ø8mm | flatness 2.5µm |

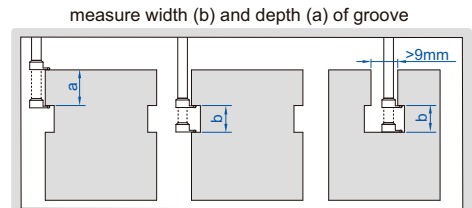
DATA OUTPUT

DIGITAL GROOVE MEASUREMENT STANDS



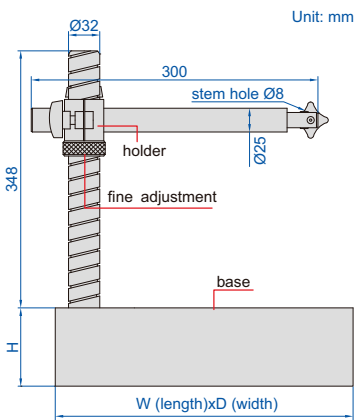
6870-150

- Button function: on/off, zero, mm/inch, measuring direction change, data preset, absolute/incremental measurement
- Vertical travel of holder: 150mm
- Fine adjustment range: 2mm
- CR2032 battery, automatic power off (time is adjustable)
- Data output
- Supplied with extension rods: 12.5mm (1 pc), 25mm (1 pc), 50mm (1 pc)
- Supplied with groove point and dust cover
- Optional accessory: data output cable (code 7315-50M need receiver page 5, 7302-40M page 13)



| Code | Digital indicator stroke | Digital indicator resolution | Accuracy | Applicable holding stem | Base |
|-----------|--------------------------|------------------------------|----------|-------------------------|----------------|
| 6870-150 | 12.7mm/0.5" | 0.01mm/0.0005" | ±20µm | Ø8mm | flatness 2.5µm |
| 6870-1501 | 12.7mm/0.5" | 0.001mm/0.00005" | ±5µm | Ø8mm | flatness 2.5µm |

GRANITE DIAL INDICATOR STANDS



6867-250

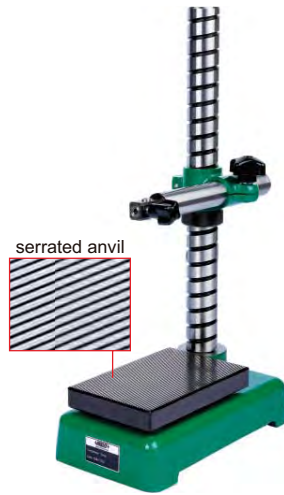
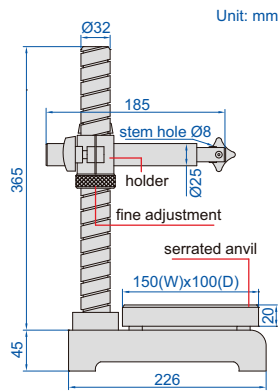


6867-400

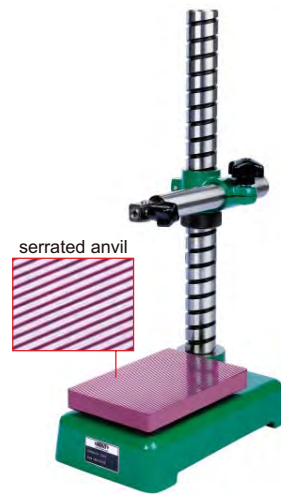
- Vertical travel of holder: 250mm
- Fine adjustment range: entire stroke
- Supplied with dust cover

| Code | Applicable holding stem | W | D | H | Base |
|----------|-------------------------|-------|-------|-------|----------------|
| 6867-250 | Ø8mm | 300mm | 300mm | 75mm | flatness 2.8µm |
| 6867-400 | Ø8mm | 400mm | 300mm | 100mm | flatness 3µm |

DIAL INDICATOR STANDS



6864-250

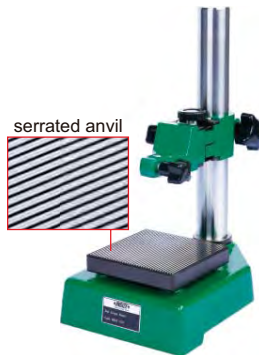
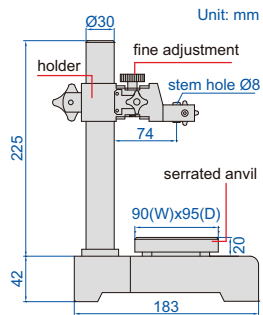


6864-250T

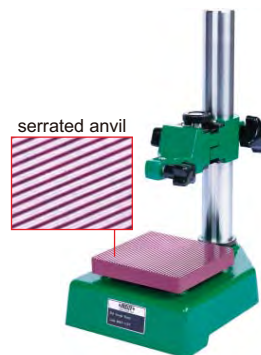
- Vertical travel of holder: 250mm
- Fine adjustment range: entire stroke
- Supplied with dust cover

| Code | Applicable holding stem | Anvil |
|-----------|-------------------------|--|
| 6864-250 | Ø8mm | steel (hardness HRC60±2), serrated, flatness 1.5µm |
| 6864-250T | Ø8mm | ceramic, serrated, flatness 1.5µm |

11 DIAL INDICATOR STANDS



6863-150



6863-150T

- Vertical travel of holder: 150mm
- Fine adjustment range: 2mm
- Supplied with dust cover

| Code | Applicable holding stem | Anvil |
|-----------|-------------------------|--|
| 6863-150 | Ø8mm | steel (hardness HRC60±2), serrated, flatness 1.5µm |
| 6863-150T | Ø8mm | ceramic, serrated, flatness 1.5µm |

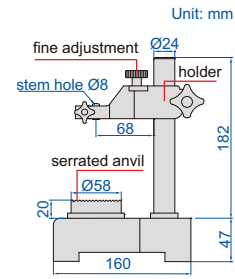
DIAL INDICATOR STANDS



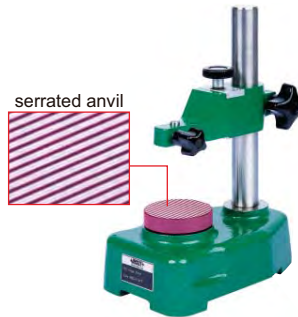
6862-1001



6862-1002



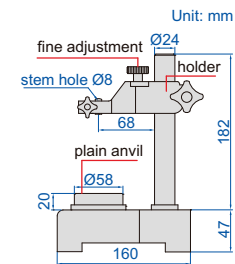
6862-1001
6862-1001T



6862-1001T



6862-1002T



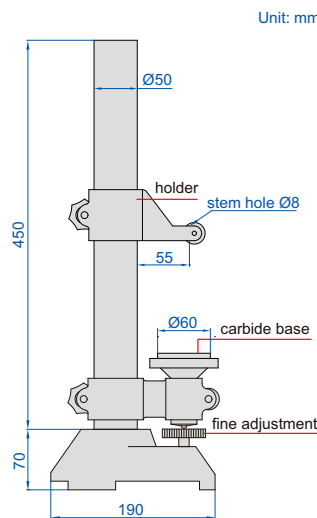
6862-1002
6862-1002T

| Code | Applicable holding stem | Anvil |
|------------|-------------------------|--|
| 6862-1001 | Ø8mm | steel (hardness HRC60±2), serrated, flatness 1.5µm |
| 6862-1002 | Ø8mm | steel (hardness HRC60±2), plain, flatness 1.5µm |
| 6862-1001T | Ø8mm | ceramic, serrated, flatness 1.5µm |
| 6862-1002T | Ø8mm | ceramic, plain, flatness 1.5µm |

- Vertical travel of holder: 100mm
- Fine adjustment range: 2mm
- Supplied with dust cover

HEAVY DUTY DIAL INDICATOR STAND

- Vertical travel of holder: 300mm
- Fine adjustment range: 5mm
- Carbide base
- Supplied with dust cover
- Optional accessory:
holder with stem hole Ø28 (code 6869-D28)



6869-300

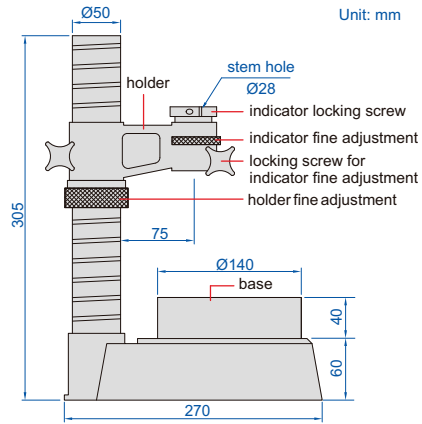
| Code | Applicable holding stem | Base |
|----------|-------------------------|------------------------------|
| 6869-300 | Ø8mm | plain, flatness 1µm, carbide |

DIAL INDICATOR STAND

GAGE BLOCKS ARE NEEDED FOR ZERO SETTING



digital/dial indicator is optional



6842-150



locating fork for workpiece (included)



rotary lever probe (included)



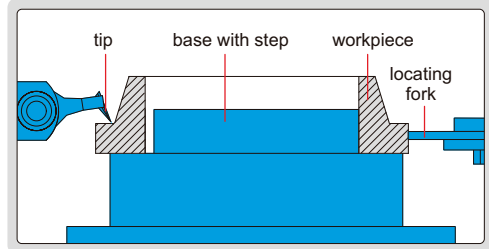
base with step (included)



11

- Vertical travel of holder: 180mm
- Holder fine adjustment range: entire stroke
- Indicator fine adjustment range: 10mm
- Optional accessory: Ø28mm/Ø8mm bush (code 6843-B8), 0.001mm digital/dial indicators, high precision digital indicators (code 2140-6, 2140-6WL), gage blocks (4101 series, for zero setting)

the tip of rotary lever probe can reach narrow areas



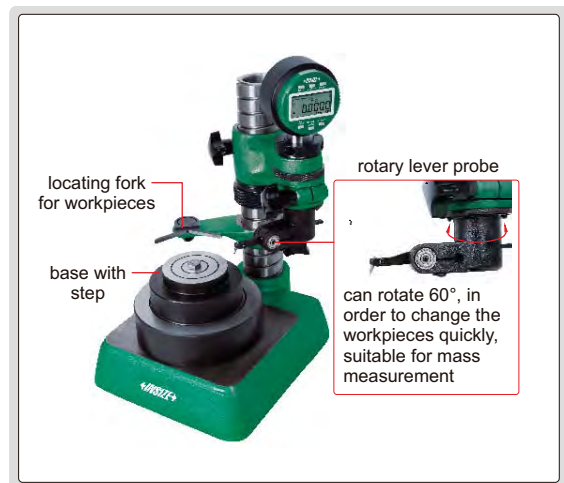
| Code | Applicable holding stem | Base |
|----------|-------------------------|--------------|
| 6842-150 | Ø28mm | flatness 2µm |

Ø28mm/Ø8mm bush (optional)



Code
6843-B8

application



GAGE BLOCKS ARE NEEDED FOR ZERO SETTING

locating fork for workpieces (included)

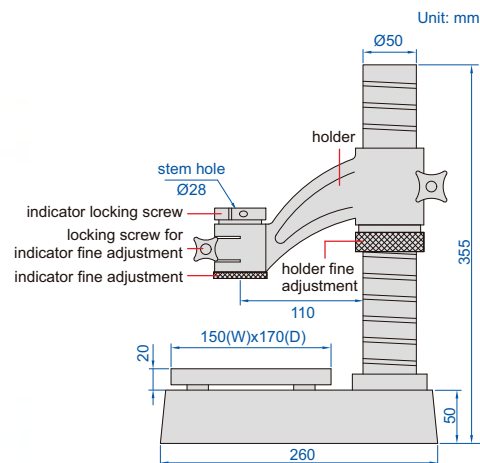


digital/dial indicator is optional



6846-140

DIAL INDICATOR STAND



- Vertical travel of holder: 140mm
- Holder fine adjustment range: entire stroke
- Indicator fine adjustment range: 3mm
- Optional accessory: Ø28mm/Ø8mm bush (code 6843-B8), 0.001mm digital/dial indicators, high precision digital indicators (code 2140-6, 2140-6WL), gage blocks (4101 series, for zero setting)

| Code | Applicable holding stem | Anvil |
|----------|-------------------------|--------------------|
| 6846-140 | Ø28mm | grid, flatness 1µm |

Ø28mm/Ø8mm bush (optional)



Code 6843-B8

application



GAGE BLOCKS ARE NEEDED FOR ZERO SETTING

locating fork for workpieces (included)

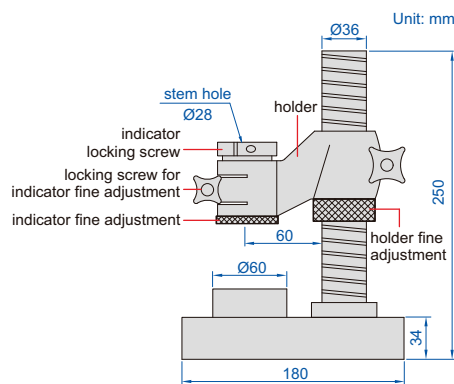


digital/dial indicator is optional



6845-100

DIAL INDICATOR STAND



- Vertical travel of holder: 100mm
- Holder fine adjustment range: entire stroke
- Indicator fine adjustment range: 3mm
- Optional accessory: Ø28mm/Ø8mm bush (code 6843-B8), 0.001mm digital/dial indicators, high precision digital indicators (code 2140-6, 2140-6WL), gage blocks (4101 series, for zero setting)

| Code | Applicable holding stem | Anvil |
|----------|-------------------------|------------------------|
| 6845-100 | Ø28mm | serrated, flatness 1µm |

Ø28mm/Ø8mm bush (optional)



Code 6843-B8

application



TRANSFER STANDS

application



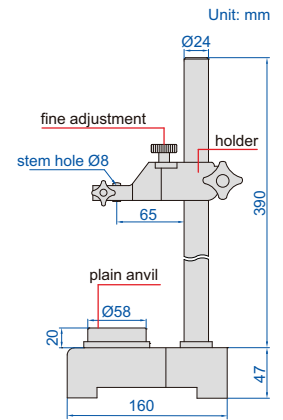
rigid construction, designed to make comparison height measurement (set zero with gage block then measure height of workpiece) with dial indicators or digital indicators (variation of measuring force is high)



6865-300



6865-300T



- Vertical travel of holder: 335mm
- Fine adjustment range: 2mm
- Supplied with dust cover

| Code | Applicable holding stem | Anvil |
|-----------|-------------------------|---|
| 6865-300 | Ø8mm | steel (hardness HRC60±2), plain, flatness 1.5µm |
| 6865-300T | Ø8mm | ceramic, plain, flatness 1.5µm |

DIGITAL HEIGHT GAGES

REFER TO PAGE 85-87 FOR DETAILS



1155-505



1157-501



1158-100



Internal Caliper Gages
Page 280-284



External Caliper Gages
Page 284-285



Thickness Gages
Page 286-292



Rubber Thickness Gages
Page 292



Tube Thickness Gages
Page 293-294



Saw Teeth Setting Gages
Page 294



Snap Gages
Page 294-297



Step And Gap Gages
Page 298



Mini Digital Height Gages
Page 298-299



Height Gages
Page 299-300



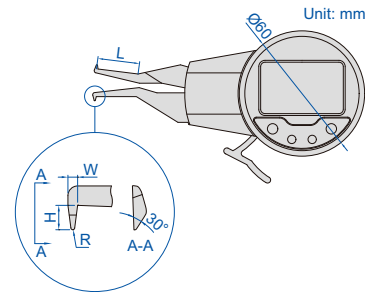
Crankshaft Testers
Page 300

DIGITAL INTERNAL CALIPER GAGES

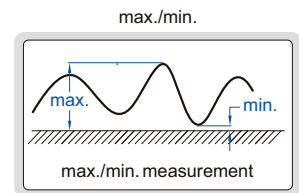
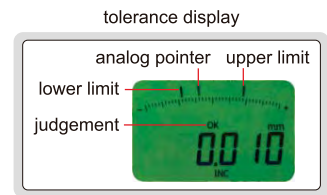
DATA OUTPUT



2121-15



- Resolution: 0.005mm/0.0002"
- Reading in digit and analog
- Display can be rotated by 170°
- Button function: tolerance Go and No-Go display, data preset, max./min. measurement, data holding, inch/metric conversion, absolute/incremental measurement
- CR2032 battery, automatic power off
- Data output
- Optional accessory: data output cable (code 7315-30 need receiver page 4, 7302-30 page 12)

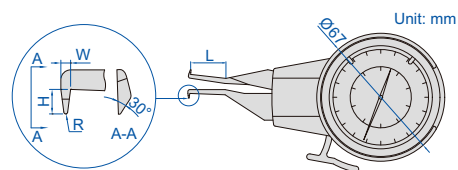


| Code | Range | Accuracy | Repeatability | L | H | W | R |
|---------|------------------|----------|---------------|----|-----|-----|------|
| 2121-15 | 5-15mm/0.2-0.6" | ±0.03mm | 0.01mm | 20 | 2 | 1.5 | R0.3 |
| 2121-25 | 5-25mm/0.2-1.0" | ±0.03mm | 0.01mm | 35 | 1.5 | 1.0 | R0.3 |
| 2121-31 | 10-30mm/0.4-1.2" | ±0.03mm | 0.01mm | 55 | 5.5 | 2.5 | R0.5 |
| 2121-41 | 20-40mm/0.8-1.6" | ±0.03mm | 0.01mm | 80 | 6.0 | 3.0 | R0.5 |
| 2121-51 | 30-50mm/1.2-2.0" | ±0.03mm | 0.01mm | 80 | 8.0 | 3.0 | R0.5 |
| 2121-61 | 40-60mm/1.6-2.4" | ±0.03mm | 0.01mm | 80 | 8.0 | 3.0 | R0.5 |

INTERNAL DIAL CALIPER GAGES

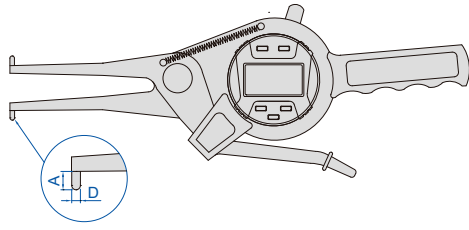


2222-15



| Code | Range | Graduation | Accuracy | L | H | W | R |
|----------|---------|------------|----------|----|-----|-----|------|
| 2222-15 | 5-15mm | 0.01mm | ±0.03mm | 20 | 2 | 1.5 | R0.3 |
| 2222-25 | 5-25mm | 0.01mm | ±0.03mm | 35 | 1.5 | 1.0 | R0.3 |
| 2222-301 | 10-30mm | 0.01mm | ±0.03mm | 55 | 5.5 | 2.5 | R0.5 |
| 2222-401 | 20-40mm | 0.01mm | ±0.03mm | 80 | 6.0 | 3.0 | R0.5 |
| 2222-501 | 30-50mm | 0.01mm | ±0.03mm | 80 | 8.0 | 3.0 | R0.5 |
| 2222-60 | 40-60mm | 0.01mm | ±0.03mm | 80 | 8.0 | 3.0 | R0.5 |

DATA OUTPUT



DIGITAL INTERNAL CALIPER GAGES

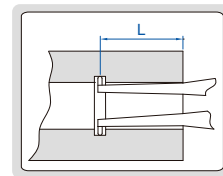


2151-35

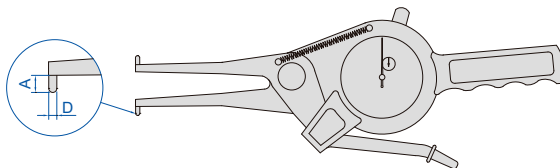
- Carbide measuring tips
- Reading in digit and analog
- With transmission button and signal light
- Display can be rotated by 320°
- Button function: on/off, zero, tolerance Go and No-Go display, data preset, measuring direction change, max./min./TIR measurement, inch/metric conversion, data output, absolute/incremental measurement
- CR2032 battery, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (code **7315-50M** need receiver page 5, **7302-50M** page 13)

(mm)

| Code | Range | Resolution | Accuracy | L | A | D |
|------------------|--------------------|----------------|----------|------|----|------|
| 2151-35 | 15-35mm/0.6-1.4" | 0.01mm/0.0005" | ±0.04mm | <50 | 3 | Ø3 |
| 2151-AL35 | 15-35mm/0.6-1.4" | 0.01mm/0.0005" | ±0.04mm | <200 | 3 | Ø3 |
| 2151-55 | 35-55mm/1.4-2.2" | 0.01mm/0.0005" | ±0.04mm | <80 | 6 | Ø3 |
| 2151-AL55 | 35-55mm/1.4-2.2" | 0.01mm/0.0005" | ±0.04mm | <250 | 8 | Ø3 |
| 2151-75 | 55-75mm/2.2-3" | 0.01mm/0.0005" | ±0.04mm | <90 | 8 | Ø3 |
| 2151-AL75 | 55-75mm/2.2-3" | 0.01mm/0.0005" | ±0.04mm | <250 | 8 | Ø3 |
| 2151-95 | 75-95mm/3-3.8" | 0.01mm/0.0005" | ±0.04mm | <100 | 8 | Ø3 |
| 2151-115 | 95-115mm/3.8-4.6" | 0.01mm/0.0005" | ±0.04mm | <120 | 10 | Ø3.2 |
| 2151-135 | 115-135mm/4.6-5.4" | 0.01mm/0.0005" | ±0.04mm | <120 | 10 | Ø3.2 |



INTERNAL DIAL CALIPER GAGES

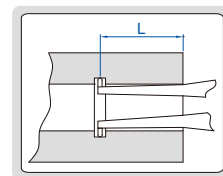


2321-35

- Carbide measuring tips

(mm)

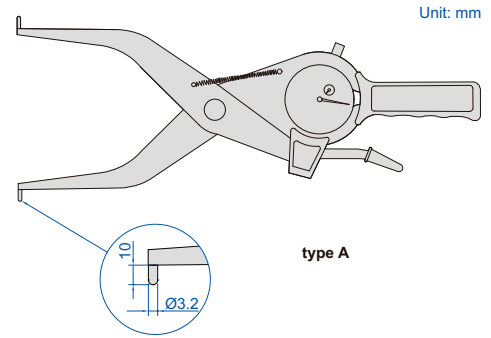
| Code | Range | Graduation | Accuracy | L | A | D |
|------------------|-----------|------------|----------|------|----|------|
| 2321-35 | 15-35mm | 0.01mm | ±0.04mm | <50 | 3 | Ø3 |
| 2321-AL35 | 15-35mm | 0.01mm | ±0.04mm | <200 | 3 | Ø3 |
| 2321-55 | 35-55mm | 0.01mm | ±0.04mm | <80 | 6 | Ø3 |
| 2321-AL55 | 35-55mm | 0.01mm | ±0.04mm | <250 | 8 | Ø3 |
| 2321-75 | 55-75mm | 0.01mm | ±0.04mm | <90 | 8 | Ø3 |
| 2321-AL75 | 55-75mm | 0.01mm | ±0.04mm | <250 | 8 | Ø3 |
| 2321-95 | 75-95mm | 0.01mm | ±0.04mm | <100 | 8 | Ø3 |
| 2321-115 | 95-115mm | 0.01mm | ±0.04mm | <120 | 10 | Ø3.2 |
| 2321-135 | 115-135mm | 0.01mm | ±0.04mm | <120 | 10 | Ø3.2 |



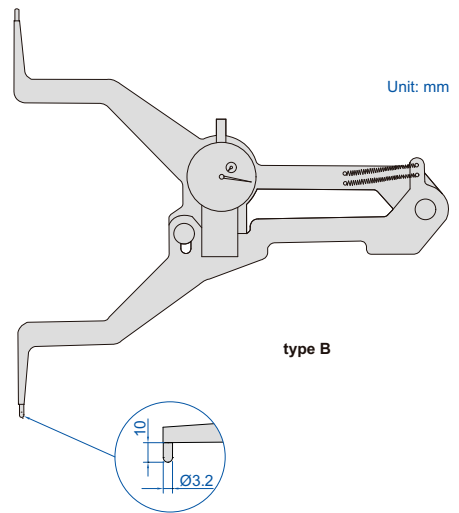
LARGE RANGE INTERNAL DIAL CALIPER GAGES



2334-155

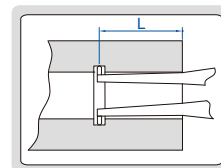


2334-335



■ Carbide measuring tips

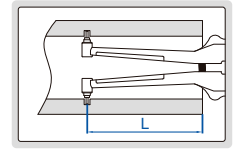
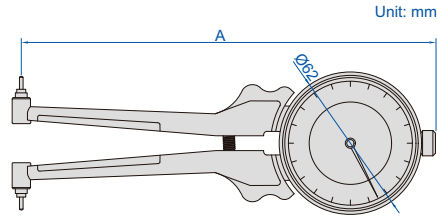
| Code | Range | Graduation | Accuracy | Type | L (mm) |
|----------|-----------|------------|----------|------|--------|
| 2334-155 | 135-155mm | 0.01mm | ±0.04mm | A | <200 |
| 2334-175 | 155-175mm | 0.01mm | ±0.04mm | A | <200 |
| 2334-195 | 175-195mm | 0.01mm | ±0.04mm | A | <200 |
| 2334-215 | 195-215mm | 0.01mm | ±0.04mm | A | <200 |
| 2334-235 | 215-235mm | 0.01mm | ±0.04mm | A | <200 |
| 2334-255 | 235-255mm | 0.01mm | ±0.04mm | A | <200 |
| 2334-275 | 255-275mm | 0.01mm | ±0.04mm | A | <200 |
| 2334-295 | 275-295mm | 0.01mm | ±0.04mm | A | <200 |
| 2334-315 | 295-315mm | 0.01mm | ±0.04mm | A | <200 |
| 2334-335 | 315-335mm | 0.01mm | ±0.04mm | B | <200 |
| 2334-355 | 335-355mm | 0.01mm | ±0.04mm | B | <200 |
| 2334-375 | 355-375mm | 0.01mm | ±0.04mm | B | <200 |



INTERNAL DIAL CALIPER GAGES WITH INTERCHANGEABLE POINTS

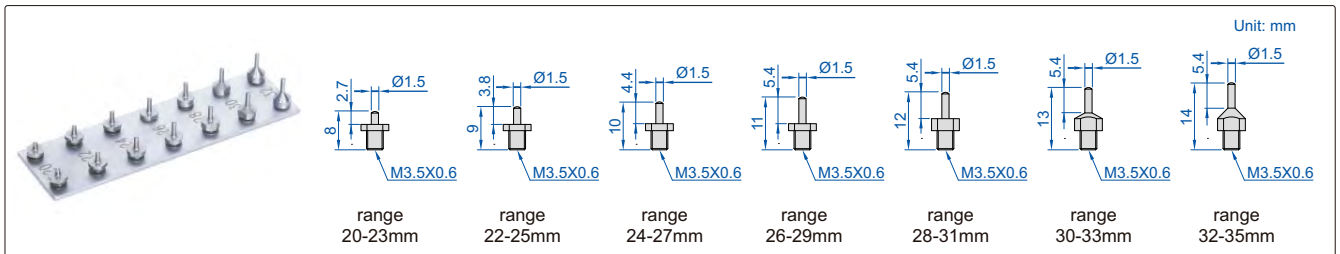


2223-153

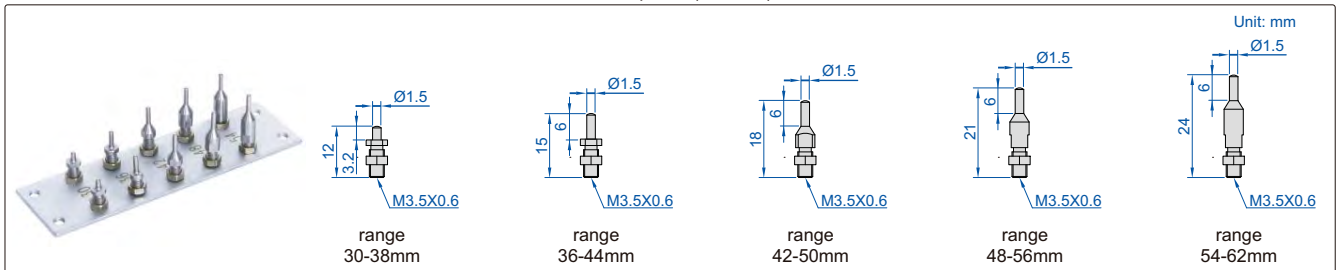


| Code | Range | Dial indicator range | Graduation | Accuracy | A | L | Remark |
|----------|----------|----------------------|------------|----------|-------|-------|---------------------------------|
| 2223-35 | 20-35mm | 2mm | 0.01mm | ±0.02mm | 164mm | <70mm | supplied with 7 pairs of points |
| 2223-62 | 30-62mm | 2mm | 0.01mm | ±0.02mm | 170mm | <75mm | supplied with 5 pairs of points |
| 2223-153 | 55-153mm | 2mm | 0.01mm | ±0.02mm | 179mm | <90mm | supplied with 6 pairs of points |

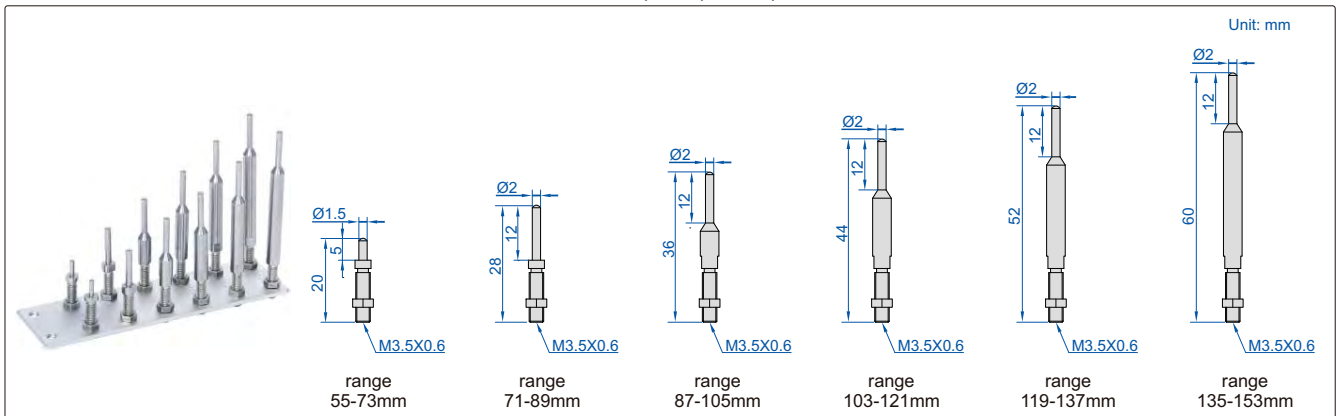
2223-35 points (included)



2223-62 points (included)



2223-153 points (included)

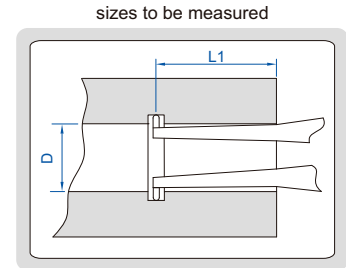
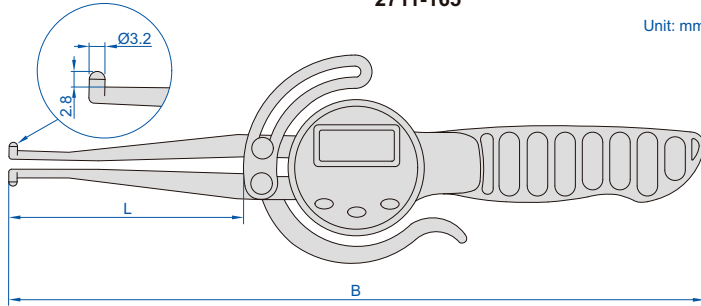


DIGITAL INTERNAL CALIPER GAGES (ECONOMIC TYPE)



2711-165

Unit: mm



| (mm) | | (mm) | |
|---------------|---------------|---------|------|
| Code 2711-165 | Code 2711-216 | D | L1 |
| Ø13 | <42 | Ø13 | <50 |
| Ø15 | <45 | Ø15 | <55 |
| Ø17 | <50 | Ø17 | <60 |
| Ø20 | <60 | Ø20 | <65 |
| Ø25 | <75 | Ø25 | <75 |
| Ø27 | <80 | Ø30 | <95 |
| Ø29~165 | <85 | Ø35~216 | <160 |

- Button function: on/off, zero, mm/inch, data hold
- Battery CR2032, automatic power off

| Code | Range | Resolution | Accuracy | Repeatability | L | B |
|----------|---------------------|-------------|----------|---------------|-----|-----|
| 2711-165 | 12.7-165mm/0.5-6.5" | 0.1mm/0.01" | ±0.3mm | 0.2mm | 85 | 252 |
| 2711-216 | 12.7-216mm/0.5-8.5" | 0.1mm/0.01" | ±0.3mm | 0.2mm | 160 | 327 |

DIGITAL EXTERNAL CALIPER GAGES

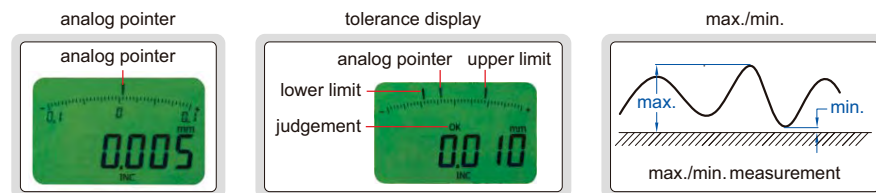
DATA OUTPUT

12

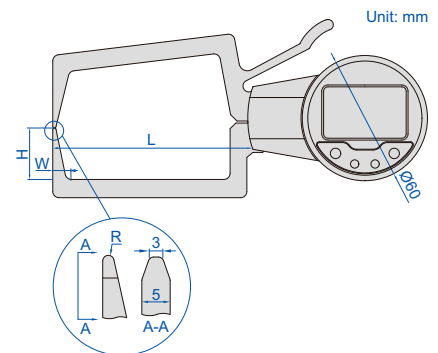
- Resolution: 0.005mm/0.0002"
- Reading in digit and analog
- Display can be rotated by 170°
- Button function: tolerance Go and No-Go display, data preset, max./min. measurement, data holding, inch/metric conversion, absolute/incremental measurement
- CR2032 battery, automatic power off
- Data output
- Optional accessory: data output cable (code 7315-30 need receiver page 4, 7302-30 page 12)



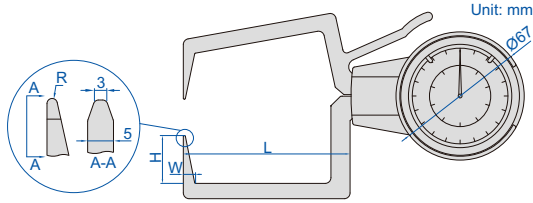
2131-21



| Code | Range | Accuracy | Repeatability | L | H | W | R |
|---------|------------------|----------|---------------|------|------|-------|--------|
| 2131-21 | 0-20mm/0-0.8" | ±0.03mm | 0.01mm | 80mm | 25mm | 6.5mm | R0.5mm |
| 2131-31 | 10-30mm/0.4-1.2" | ±0.03mm | 0.01mm | 80mm | 25mm | 6.5mm | R0.5mm |
| 2131-41 | 20-40mm/0.8-1.6" | ±0.03mm | 0.01mm | 80mm | 25mm | 6.5mm | R0.5mm |
| 2131-51 | 30-50mm/1.2-2.0" | ±0.03mm | 0.01mm | 80mm | 25mm | 6.5mm | R0.5mm |
| 2131-61 | 40-60mm/1.6-2.4" | ±0.03mm | 0.01mm | 80mm | 25mm | 6.5mm | R0.5mm |



EXTERNAL DIAL CALIPER GAGES



| Code | Range | Graduation | Accuracy | L | H | W | R |
|----------|---------|------------|----------|----|----|-----|------|
| 2333-201 | 0-20mm | 0.01mm | ±0.03mm | 80 | 25 | 6.5 | R0.5 |
| 2333-301 | 10-30mm | 0.01mm | ±0.03mm | 80 | 25 | 6.5 | R0.5 |
| 2333-401 | 20-40mm | 0.01mm | ±0.03mm | 80 | 25 | 6.5 | R0.5 |
| 2333-501 | 30-50mm | 0.01mm | ±0.03mm | 80 | 25 | 6.5 | R0.5 |
| 2333-601 | 40-60mm | 0.01mm | ±0.03mm | 80 | 25 | 6.5 | R0.5 |

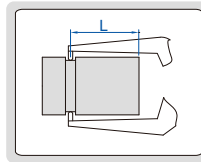


2333-201

DIGITAL EXTERNAL CALIPER GAGES

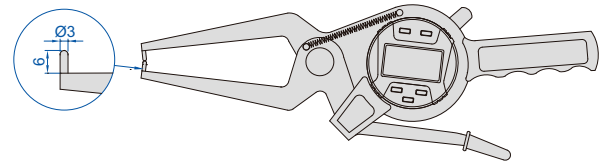
DATA OUTPUT

- Carbide measuring tips
- Reading in digit and analog
- With transmission button and signal light
- Display can be rotated by 320°
- Button function: on/off, zero, tolerance Go and No-Go display, data preset, measuring direction change, max./min./TIR measurement, inch/metric conversion, absolute/incremental measurement, data output
- CR2032 battery
- Automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (code 7315-50M need receiver page 5, 7302-50M page 13)



2132-20

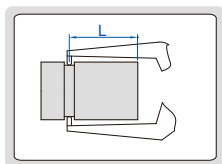
Unit: mm



| Code | Range | Resolution | Accuracy | L |
|----------|------------------|----------------|----------|-------|
| 2132-20 | 0-20mm/0-0.8" | 0.01mm/0.0005" | ±0.04mm | <60mm |
| 2132-40 | 20-40mm/0.8-1.6" | 0.01mm/0.0005" | ±0.04mm | <60mm |
| 2132-60 | 40-60mm/1.6-2.4" | 0.01mm/0.0005" | ±0.04mm | <55mm |
| 2132-80 | 60-80mm/2.4-3.2" | 0.01mm/0.0005" | ±0.04mm | <55mm |
| 2132-100 | 80-100mm/3.2-4" | 0.01mm/0.0005" | ±0.04mm | <55mm |

12

EXTERNAL DIAL CALIPER GAGES



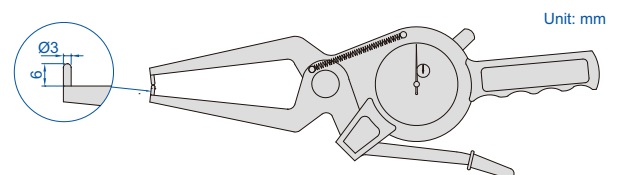
- Carbide measuring tips



2332-20

(mm)

| Code | Range | Graduation | Accuracy | L |
|----------|----------|------------|----------|-----|
| 2332-20 | 0-20mm | 0.01mm | ±0.04mm | <60 |
| 2332-40 | 20-40mm | 0.01mm | ±0.04mm | <60 |
| 2332-60 | 40-60mm | 0.01mm | ±0.04mm | <55 |
| 2332-80 | 60-80mm | 0.01mm | ±0.04mm | <55 |
| 2332-100 | 80-100mm | 0.01mm | ±0.04mm | <55 |



Unit: mm

DIGITAL THICKNESS GAGES

POPULAR MODEL

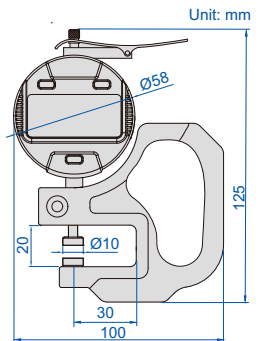
DATA OUTPUT

- Ceramic spindle tip and anvil
- Button function: on/off, inch/mm, zero, data preset, change measuring direction, absolute/incremental measurement
- Keep preset data in memory after restart
- CR2032 battery, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (code 7315-50M need receiver page 5, 7302-50M page 13)

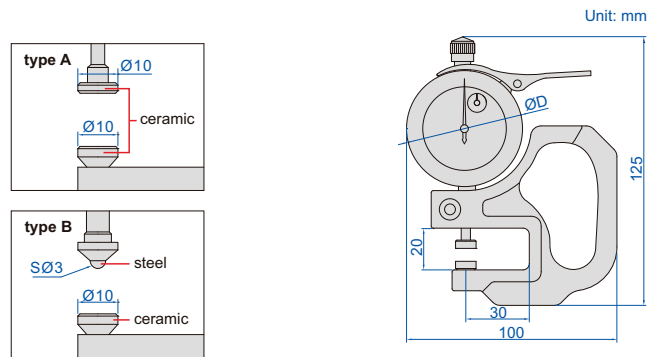
| Code | Range | Resolution | Accuracy |
|----------|---------------|------------------|----------|
| 2871-10 | 0-10mm/0-0.4" | 0.01mm/0.0005" | ±0.02mm |
| 2871-101 | 0-10mm/0-0.4" | 0.001mm/0.00005" | ±0.005mm |



2871-101



THICKNESS GAGES



| Code | Range | Graduation | Accuracy | Type | ØD |
|----------|--------|------------|----------|------|------|
| 2364-10 | 0-10mm | 0.01mm | ±0.02mm | A | 58mm |
| 2364-10B | 0-10mm | 0.01mm | ±0.02mm | B | 58mm |
| 2364-1 | 0-1mm | 0.001mm | ±0.005mm | A | 56mm |

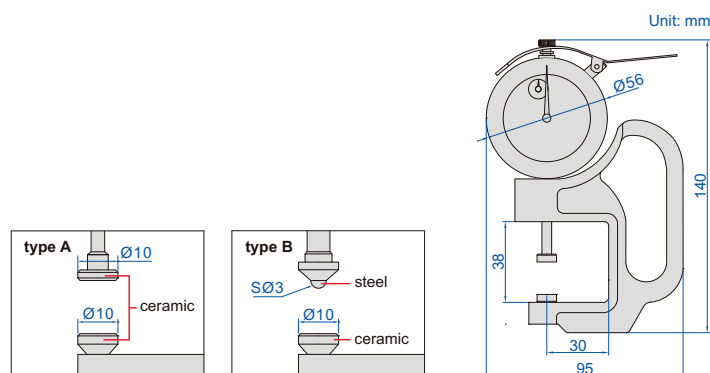


2364-10



2364-1

THICKNESS GAGES



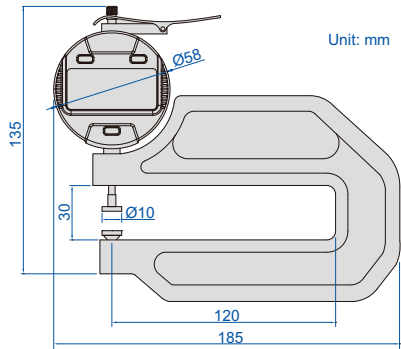
| Code | Range | Graduation | Accuracy | Type |
|----------|--------|------------|----------|------|
| 2366-30 | 0-30mm | 0.01mm | ±0.035mm | A |
| 2366-30B | 0-30mm | 0.01mm | ±0.035mm | B |



2366-30

DATA OUTPUT

measuring tips and anvils can be custom-made



- Ceramic spindle tip and anvil
- Buttons: on/off, inch/mm, zero, data preset, change measuring direction, absolute/incremental measurement
- Keep preset data in memory after restart
- Battery CR2032, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (code **7315-50M** need receiver page 5, **7302-50M** page 13)

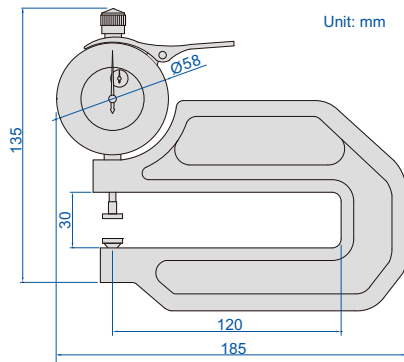
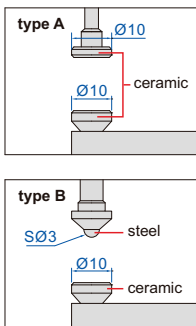
DIGITAL THICKNESS GAGES



2872-10

| Code | Range | Resolution | Accuracy |
|----------|---------------|------------------|----------|
| 2872-10 | 0-10mm/0-0.4" | 0.01mm/0.0005" | ±0.02mm |
| 2872-101 | 0-10mm/0-0.4" | 0.001mm/0.00005" | ±0.01mm |

THICKNESS GAGES



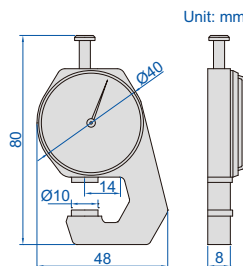
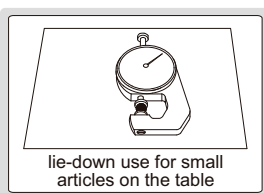
2365-10

measuring tips and anvils can be custom-made



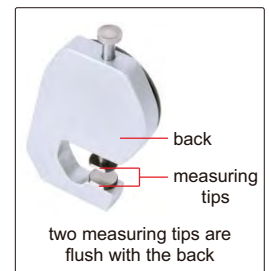
| Code | Range | Graduation | Accuracy | Type |
|----------|--------|------------|----------|------|
| 2365-10 | 0-10mm | 0.01mm | ±0.02mm | A |
| 2365-20 | 0-20mm | 0.01mm | ±0.03mm | A |
| 2365-10B | 0-10mm | 0.01mm | ±0.02mm | B |
| 2365-20B | 0-20mm | 0.01mm | ±0.03mm | B |

SUITABLE FOR JEWELLERY



2361-10

THICKNESS GAGE



| Code | Range | Graduation | Accuracy |
|---------|--------|------------|----------|
| 2361-10 | 0-10mm | 0.1mm | ±0.05mm |

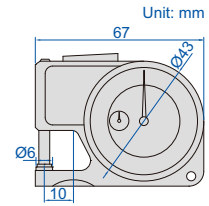
THICKNESS GAGE

- Stainless steel spindle tip and anvil

| Code | Range | Graduation | Accuracy |
|---------|--------|------------|----------|
| 2363-10 | 0-10mm | 0.01mm | ±0.03mm |



2363-10



DIGITAL ROLLER THICKNESS GAGES

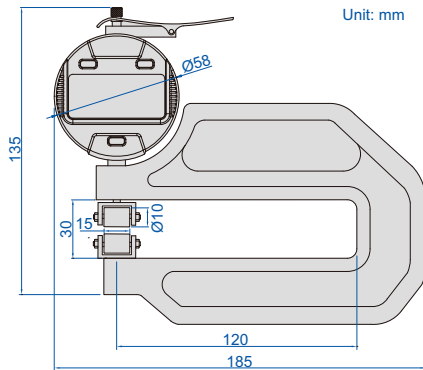
DATA OUTPUT



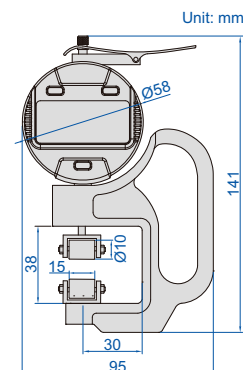
2877-4



2877-10



2877-4/2877-41



2877-10/2877-101

- Buttons: on/off, inch/mm, zero, data preset, change measuring direction, absolute/incremental measurement
- Keep preset data in memory after restart
- Battery CR2032, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (code 7315-50M need receiver page 5, 7302-50M page 13)

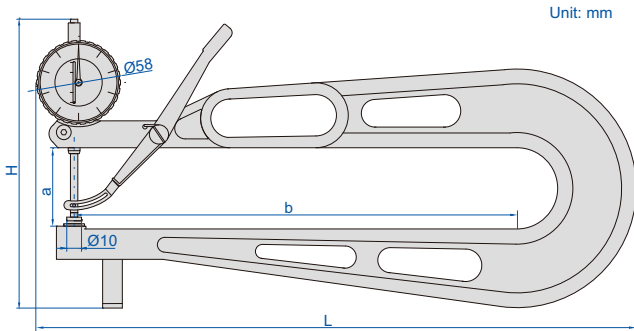
| Code | Range | Resolution | Accuracy |
|----------|-----------------|------------------|----------|
| 2877-4 | 0-4.5mm/0-0.18" | 0.01mm/0.0005" | ±0.02mm |
| 2877-41 | 0-4.5mm/0-0.18" | 0.001mm/0.00005" | ±0.01mm |
| 2877-10 | 0-10mm/0-0.4" | 0.01mm/0.0005" | ±0.02mm |
| 2877-101 | 0-10mm/0-0.4" | 0.001mm/0.00005" | ±0.01mm |

THICKNESS GAGES

INSIZE PLUS
MADE IN EUROPE



2875-30



Unit: mm

| Code | Range | Graduation | Accuracy | L | H | a | b |
|---------|--------|------------|----------|-------|-------|------|-------|
| 2875-30 | 0-30mm | 0.1mm | ±0.05mm | 400mm | 195mm | 55mm | 300mm |
| 2875-50 | 0-50mm | 0.1mm | ±0.05mm | 700mm | 295mm | 75mm | 600mm |

**INSPECTION
CERTIFICATE**

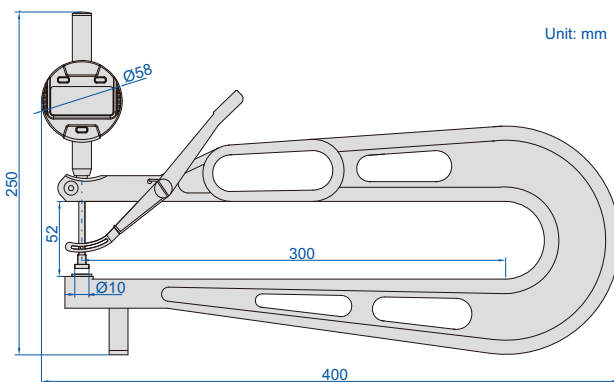
DATA
OUTPUT

DIGITAL THICKNESS GAGE

INSIZE PLUS
MADE IN EUROPE



2860-25



Unit: mm

- Buttons: on/off, inch/mm, zero, data preset, change measuring direction, absolute/incremental measurement
- Keep preset data in memory after restart
- Battery CR2032, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (code 7315-50M need receiver page 5, 7302-40M page 13)

| Code | Range | Resolution | Accuracy |
|----------|---------------|----------------|----------|
| 2860-25* | 0-25.4mm/0-1" | 0.01mm/0.0005" | ±0.05mm |

* Supplied with manufacturer inspection certificate

HIGH PRECISION DIGITAL THICKNESS GAGES

ATTENTION: RECHARGEABLE BATTERY, FOR 12 HOURS CONTINUOUS WORKING

DATA OUTPUT

MEASURING TIPS AND ANVILS CAN BE CUSTOM-MADE

ABSOLUTE ENCODER, THE ORIGINAL DATA REMAINS AFTER POWER OFF



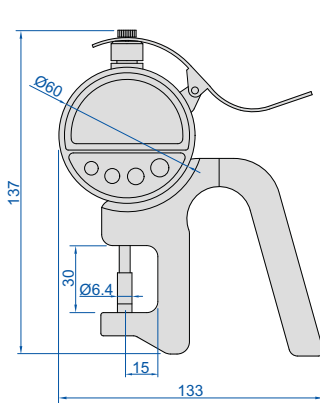
2879-10



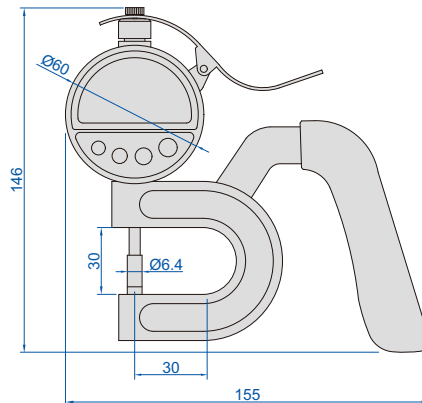
2879-30



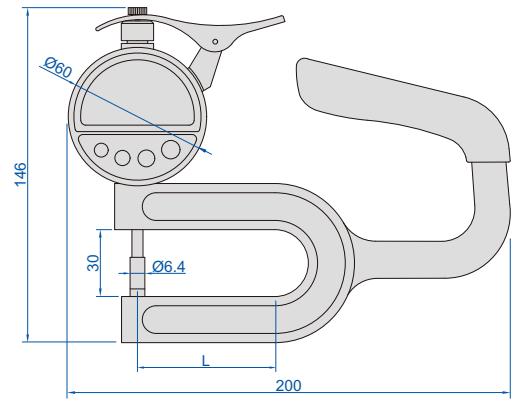
2879-60



2879-10
2879-101



2879-30



2879-60
2879-100

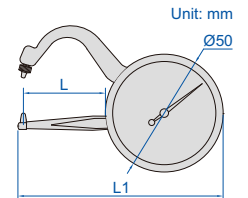
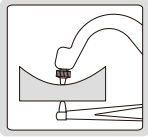
Unit: mm

12

- Absolute encoder, the original data remains after power off
- Button function: on/off, zero, tolerance, absolute/incremental measurement, max./min./TIR, data preset, mm/inch, data output, data hold
- Reading in digital and analog
- Power: rechargeable battery, for 12 hours continuous working
- Data output
- Supplied with data output cable (keyboard format)

| Code | Range | Resolution | Accuracy | Repeatability | Measuring force | L |
|----------|---------------|-------------------|-----------|---------------|-----------------|-------|
| 2879-10 | 0-10mm/0-0.4" | 0.001mm/0.00005" | ±0.002mm | 0.001mm | 0.5-1N | — |
| 2879-101 | 0-10mm/0-0.4" | 0.0005mm/0.00002" | ±0.0015mm | 0.0005mm | 0.5-1N | — |
| 2879-30 | 0-10mm/0-0.4" | 0.001mm/0.00005" | ±0.002mm | 0.001mm | 0.5-1N | — |
| 2879-60 | 0-10mm/0-0.4" | 0.001mm/0.00005" | ±0.003mm | 0.001mm | 0.5-1N | 60mm |
| 2879-100 | 0-10mm/0-0.4" | 0.001mm/0.00005" | ±0.004mm | 0.001mm | 0.5-1N | 100mm |

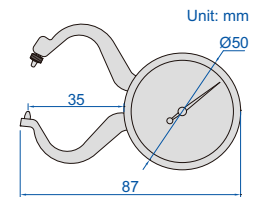
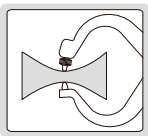
THICKNESS GAGES



2862-101

| Code | Range | Graduation | Accuracy | L | L1 |
|----------|--------|------------|----------|------|-------|
| 2862-101 | 0-10mm | 0.05mm | ±0.1mm | 35mm | 85mm |
| 2862-102 | 0-10mm | 0.05mm | ±0.1mm | 60mm | 110mm |

THICKNESS GAGE

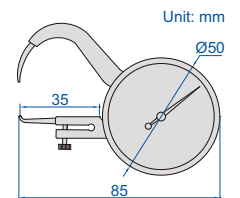
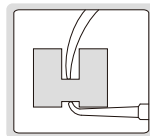


2863-10

| Code | Range | Graduation | Accuracy |
|---------|--------|------------|----------|
| 2863-10 | 0-10mm | 0.05mm | ±0.1mm |

THICKNESS GAGE WITH POINTED TIPS

- Pointed tips fit into small grooves and recesses



2866-10

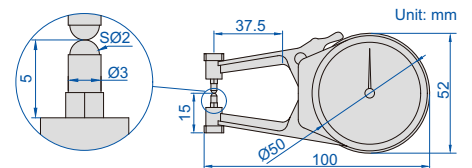
| Code | Range | Graduation | Accuracy |
|---------|--------|------------|----------|
| 2866-10 | 0-10mm | 0.05mm | ±0.1mm |

THICKNESS GAGE

- Main body is made of hard plastic



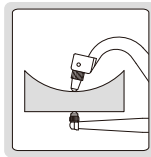
2870-10



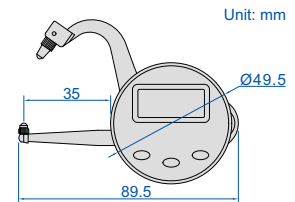
| Code | Range | Graduation | Accuracy |
|---------|--------|------------|----------|
| 2870-10 | 0-10mm | 0.1mm | ±0.1mm |

DIGITAL THICKNESS GAGE

- Resolution: 0.01mm, 0.001", 1/64"
- Buttons: on/off, zero, unit (mm/in/fraction), data hold
- Battery CR2032, automatic power off



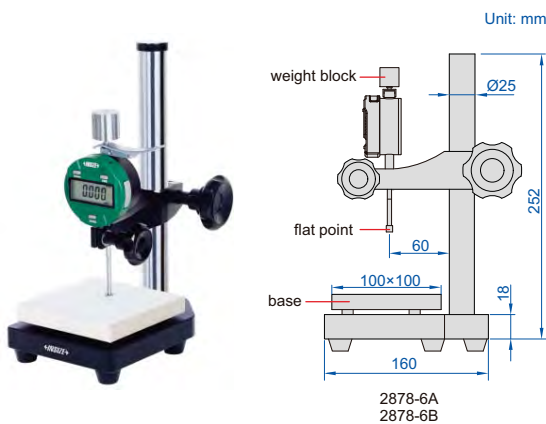
2710-25



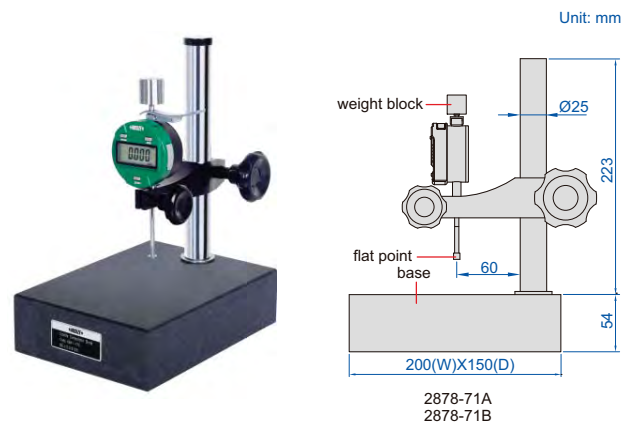
| Code | Range | Accuracy | Repeatability |
|---------|---------------|----------|---------------|
| 2710-25 | 0-25.4mm/0-1" | 0.05mm | 0.02mm |

DIGITAL RUBBER THICKNESS GAGES

DATA OUTPUT



2878-6B



2878-71B

- Measure thickness of vulcanized rubber and plastic products
- Button function: on/off, inch/mm, zero, data preset, change measuring direction, absolute/incremental measurement
- CR2032 battery, automatic power off (time is adjustable)
- Supplied with dust cover
- Optional accessory: data output cable (code 7315-50M need receiver page 5, 7302-50M page 13), flat points, weight blocks

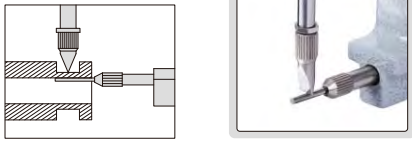
| Code | Range | Resolution | Accuracy | Flat point diameter | Pressure | Base |
|----------|-------------|------------------|----------|---------------------|------------|--------------------------------|
| 2878-6A | 12.7mm/0.5" | 0.01mm/0.0005" | 20µm | 6mm | 22kPa±5kPa | ceramic, plain, flatness 1.5µm |
| 2878-6B | 12.7mm/0.5" | 0.001mm/0.00005" | 5µm | 6mm | 22kPa±5kPa | ceramic, plain, flatness 1.5µm |
| 2878-71A | 12.7mm/0.5" | 0.01mm/0.0005" | 20µm | 6mm | 22kPa±5kPa | granite, plain, flatness 2.5µm |
| 2878-71B | 12.7mm/0.5" | 0.001mm/0.00005" | 5µm | 6mm | 22kPa±5kPa | granite, plain, flatness 2.5µm |

Flat points and weight blocks (optional)

| Flat point | Flat point code | Pressure | | | | |
|-------------------|-----------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|------------------------------------|
| | | 10kPa±2kPa weight block code | 22kPa±5kPa weight block code | 20kPa±3kPa weight block code | 70kPa±5kPa weight block code | 1.6kPa±0.1kPa weight block code |
| Ø4mm | 2878-P4 | — | 2878-W4B | — | — | — |
| Ø5mm | 2878-P5 | 2878-W5A | 2878-W5B | 2878-W5C | 2878-W5D | — |
| Ø6mm | 2878-P6 | 2878-W6A | 2878-W6B | — | — | — |
| Ø8mm | 2878-P8 | 2878-W8A | 2878-W8B | — | — | — |
| Ø10mm | 2878-P10 | 2878-W10A | 2878-W10B | 2878-W10C | — | — |
| Ø25mm | 2878-P25 | — | — | — | — | 2878-W25E |
| 1x4mm (rectangle) | 2878-P14 | — | — | — | 2878-W14D | — |

DATA OUTPUT

measure wall thickness of grooves



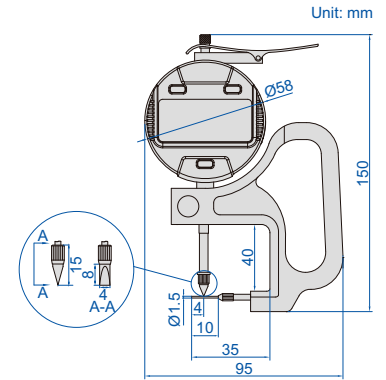
- Buttons: on/off, inch/mm, zero, data preset, change measuring direction, absolute/incremental measurement
- Keep preset data in memory after restart
- Battery CR2032, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (code **7315-50M** need receiver page 5, **7302-50M** page 13)

| Code | Range | Resolution | Accuracy |
|-----------------|---------------|------------------|----------|
| 2873-10 | 0-10mm/0-0.4" | 0.01mm/0.0005" | ±0.02mm |
| 2873-101 | 0-10mm/0-0.4" | 0.001mm/0.00005" | ±0.005mm |

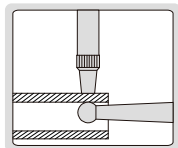
DIGITAL TUBE THICKNESS GAGES



2873-10



DATA OUTPUT



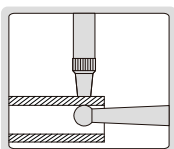
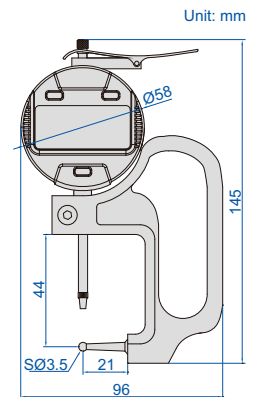
- Buttons: on/off, inch/mm, zero, data preset, change measuring direction, absolute/incremental measurement
- Keep preset data in memory after restart
- Battery CR2032, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (code **7315-50M** need receiver page 5, **7302-50M** page 13)

| Code | Range | Resolution | Accuracy |
|-----------------|---------------|------------------|----------|
| 2876-10 | 0-10mm/0-0.4" | 0.01mm/0.0005" | ±0.02mm |
| 2876-101 | 0-10mm/0-0.4" | 0.001mm/0.00005" | ±0.005mm |

DIGITAL TUBE THICKNESS GAGES



2876-10



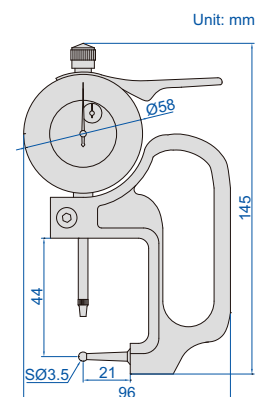
- Measure tube wall thickness

| Code | Range | Graduation | Accuracy |
|-----------------|--------|------------|----------|
| 2367-10A | 0-10mm | 0.01mm | ±0.02mm |

TUBE THICKNESS GAGE

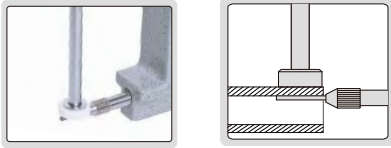


2367-10A

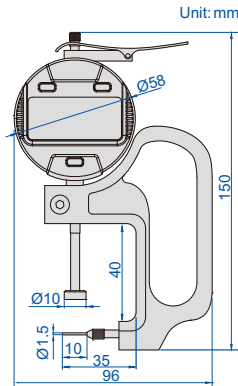


DIGITAL TUBE THICKNESS GAGES

DATA OUTPUT



- Buttons: on/off, inch/mm, zero, data preset, change measuring direction, absolute/incremental measurement
- Keep preset data in memory after restart
- Battery CR2032, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (code 7315-50M need receiver page 5, 7302-50M page 13)



2859-101

| Code | Range | Resolution | Accuracy |
|----------|---------------|------------------|----------|
| 2859-10 | 0-10mm/0-0.4" | 0.01mm/0.0005" | ±0.02mm |
| 2859-101 | 0-10mm/0-0.4" | 0.001mm/0.00005" | ±0.005mm |

SAW TEETH SETTING GAGE

INSIZE PLUS
MADE IN EUROPE



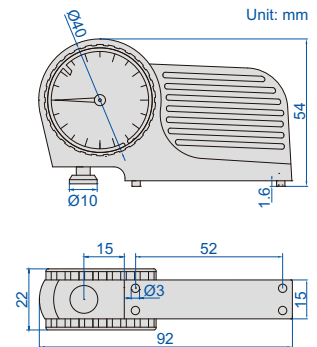
front



back

2874-02

- Supplied with limit pointer
- Read from both sides



| Code | Range | Graduation | Accuracy |
|---------|-------|------------|----------|
| 2874-02 | 0-2mm | 0.05mm | ±0.05mm |

12

DIAL SNAP GAGES

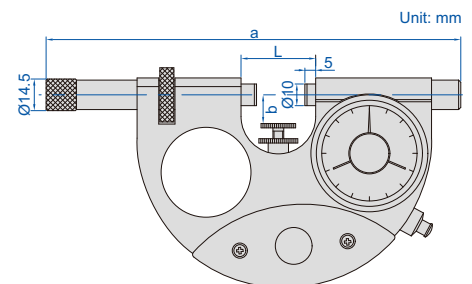
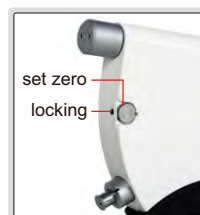
INSIZE PLUS
MADE IN EUROPE

IP54
WATERPROOF

- Quick Go/No-Go measurement for mass production
- Anvil retracting stroke: 2.5mm
- Dial indicator: measuring range ±0.07mm, graduation 1µm, accuracy ±1µm
- Constant measuring force over the whole range: 8.5N
- Carbide measuring faces
- IP54 dust/waterproof
- Zero position of dial indicator is adjustable and can be locked (supplied with locking wrench)
- Adjustable platform height



3335-25



| Code | Range | L | a | b |
|----------|----------|-------|-------|---------|
| 3335-25 | 0-25mm | 35mm | 191mm | <15mm |
| 3335-50 | 25-50mm | 60mm | 215mm | <25mm |
| 3335-75 | 50-75mm | 84mm | 239mm | <37.5mm |
| 3335-100 | 75-100mm | 110mm | 265mm | <50mm |

ATTENTION: SETTING
STANDARDS ARE NOT INCLUDED

IP54
WATERPROOF

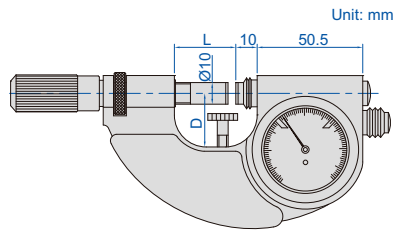
DIAL SNAP GAGES

- Quick measurement for mass production
- Dial indicator: range $\pm 0.04\text{mm}$, graduation 0.001mm , accuracy 0.001mm
- IP54 dust/waterproof
- Measuring force: 5-10N
- Carbide measuring faces
- Optional accessory: gage blocks grade 0 (4101-A series), for zero setting



3334-25

| Code | Range | L | D |
|----------|----------|---------|--------|
| 3334-25 | 0-25mm | 28.5mm | 25mm |
| 3334-50 | 25-50mm | 53.5mm | 35mm |
| 3334-75 | 50-75mm | 78.5mm | 47.5mm |
| 3334-100 | 75-100mm | 103.5mm | 60mm |



QUICK AND ACCURATE MEASUREMENT
OF CYLINDRICAL WORKPIECES

**INSPECTION
CERTIFICATE**

DIAL SNAP GAGES



- Left anvil retracting stroke: 2mm
- Measuring force: 6-8N
- Flatness of anvil: $1.5\mu\text{m}$
- Repeatability: $1\mu\text{m}$
- Carbide measuring faces for anvils
- Front edges of anvils are chamfered for easy workpiece insertion
- Optional accessory: dial indicators and digital indicators (reading 0.001mm or 0.01mm)



digital indicator
is optional

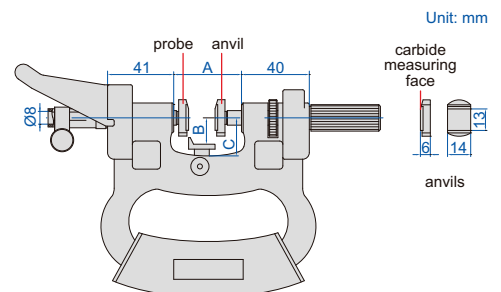
application



2186-25

| Code | Range | Parallelism of measuring faces | A | B | C |
|------------|-----------|--------------------------------|-----|---------|-----|
| 2186-25 * | 0-25mm | $4\mu\text{m}$ | 42 | 11-18 | 20 |
| 2186-50 * | 25-50mm | $4\mu\text{m}$ | 69 | 11-32 | 41 |
| 2186-75 * | 50-75mm | $5\mu\text{m}$ | 94 | 17-41 | 51 |
| 2186-100 * | 75-100mm | $6\mu\text{m}$ | 119 | 31-55 | 65 |
| 2186-125 * | 100-125mm | $6\mu\text{m}$ | 144 | 42-70 | 75 |
| 2186-150 * | 125-150mm | $8\mu\text{m}$ | 169 | 55-82 | 90 |
| 2186-175 * | 150-175mm | $8\mu\text{m}$ | 194 | 68-95 | 100 |
| 2186-200 * | 175-200mm | $10\mu\text{m}$ | 219 | 85-110 | 115 |
| 2186-225 * | 200-225mm | $10\mu\text{m}$ | 244 | 95-120 | 130 |
| 2186-250 * | 225-250mm | $10\mu\text{m}$ | 269 | 110-135 | 145 |
| 2186-275 * | 250-275mm | $12\mu\text{m}$ | 294 | 120-150 | 160 |
| 2186-300 * | 275-300mm | $12\mu\text{m}$ | 319 | 128-160 | 170 |

(mm)

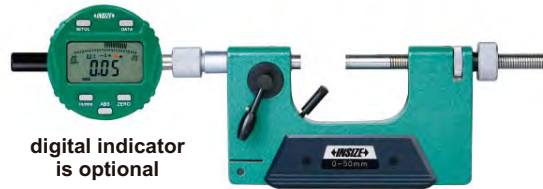


* Supplied with manufacturer inspection certificate

DIAL SNAP GAGES

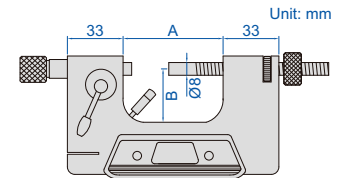
ATTENTION: NOT SUITABLE FOR 0.001MM DIAL INDICATORS

- Quick measurement for mass production
- Anvil retracting stroke: 3mm
- Measuring force: 6-9N
- Carbide measuring faces
- Optional accessory:
dial indicators (graduation 0.01mm),
digital indicators (resolution 0.01mm/0.0005")



2184-50W

| Code | Range | A | B |
|-----------|-----------|-------|-------|
| 2184-25W | 0-25mm | 34mm | 18mm |
| 2184-50W | 0-50mm | 62mm | 32mm |
| 2184-100W | 50-100mm | 112mm | 62mm |
| 2184-150W | 100-150mm | 162mm | 85mm |
| 2184-200W | 150-200mm | 212mm | 110mm |

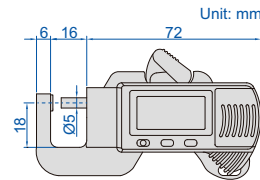


DIGITAL SNAP GAGE

ATTENTION: NO DATA OUTPUT



2166-12



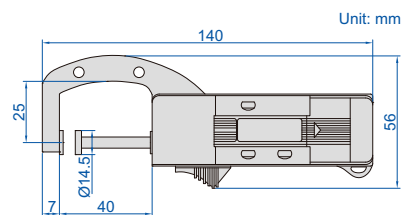
| Code | Range | Resolution | Accuracy |
|---------|---------------|----------------|----------|
| 2166-12 | 0-12mm/0-0.5" | 0.01mm/0.0005" | ±0.03mm |

DIGITAL SNAP GAGE

ATTENTION: NO DATA OUTPUT



2167-25



| Code | Range | Resolution | Accuracy |
|---------|-------------|----------------|----------|
| 2167-25 | 0-25mm/0-1" | 0.01mm/0.0005" | ±0.03mm |

ATTENTION: NO DATA OUTPUT

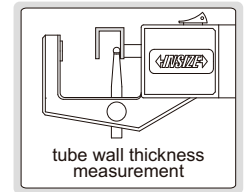
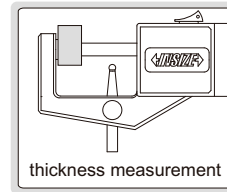
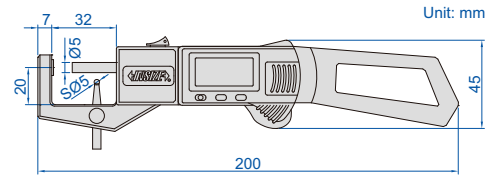
DIGITAL SNAP GAGE



2163-25

- Resolution: 0.01mm/0.0005"
- Accuracy: $\pm 0.04\text{mm}$
- For thickness and tube wall thickness measurement

| Code | Thickness range | Tube wall thickness range |
|---------|-----------------|---------------------------|
| 2163-25 | 0-25mm/0-1" | 0-2mm/0.08" |



DATA OUTPUT

DIGITAL SNAP GAGES



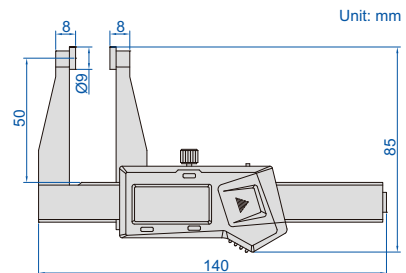
1163-50A

With data interface (data output cable code 7315-21 need receiver page 4, 7302-21 page 12, optional)

| Code | Range | Resolution | Accuracy |
|----------|-------------|----------------|---------------------|
| 1163-50A | 0-50mm/0-2" | 0.01mm/0.0005" | $\pm 0.03\text{mm}$ |

Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range | Resolution | Accuracy |
|------------|-------------|----------------|---------------------|
| 1163-50AWL | 0-50mm/0-2" | 0.01mm/0.0005" | $\pm 0.03\text{mm}$ |



- Non waterproof
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel

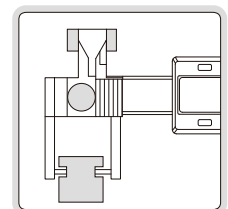
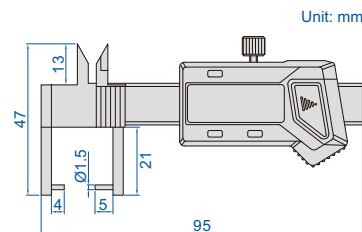
ATTENTION: NO DATA OUTPUT

SUITABLE FOR JEWELLERY

DIGITAL 3-PURPOSE SNAP GAGE



2164-25A



| Code | Range | Resolution | Accuracy |
|----------|-------------|----------------|---------------------|
| 2164-25A | 0-25mm/0-1" | 0.01mm/0.0005" | $\pm 0.03\text{mm}$ |

- Non waterproof
- Buttons: zero, mm/inch, on/off
- Battery LR44
- Made of stainless steel

STEP AND GAP GAGES

DATA OUTPUT

- Non waterproof
- Measure step height and gap width
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, set, mm/inch, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel
- Supplied with zero setting block



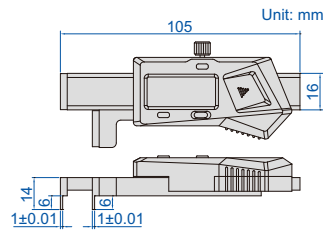
2168-12

With data interface (data output cable code 7315-21 need receiver page 4, 7302-21 page 12, optional)

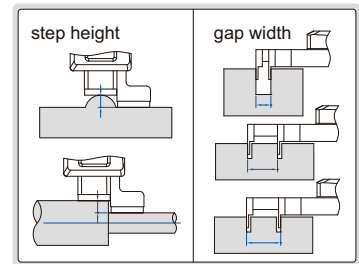
| Code | Range | Accuracy |
|---------|-----------------|----------|
| 2168-12 | 0-12.7mm/0-0.5" | ±0.03mm |

Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range | Accuracy |
|-----------|-----------------|----------|
| 2168-12WL | 0-12.7mm/0-0.5" | ±0.03mm |

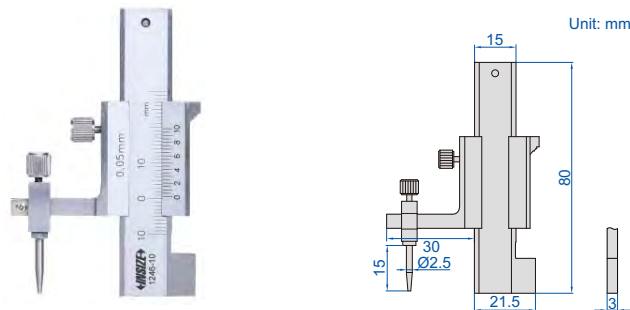


zero setting block (included)



MINI VERNIER HEIGHT GAGE

12

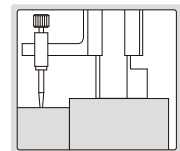


1246-10

- Measure height difference of two surfaces
- Graduation: 0.05mm
- Made of stainless steel
- Satin chrome plated reading surface

| Code | Range | Accuracy |
|---------|---------|----------|
| 1246-10 | 0~±10mm | ±0.05mm |

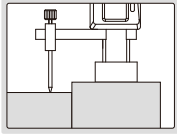
application



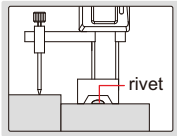
DATA OUTPUT

MINI DIGITAL HEIGHT GAGES

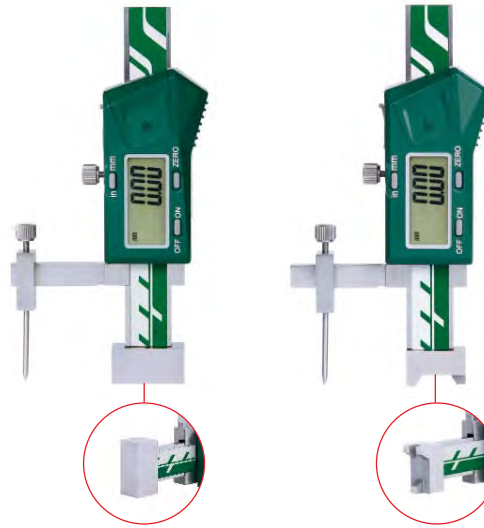
application of
1146-20A/1146-20AWL



application of
1146-20B/1146-20BWL

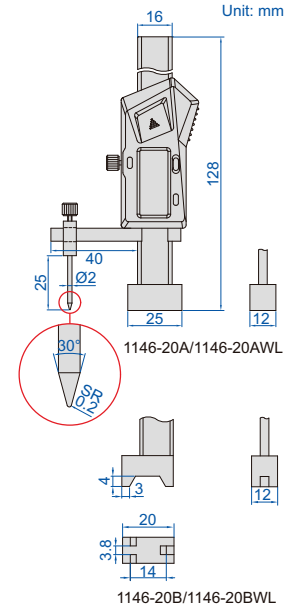


- Non waterproof
- Measure height difference of two surfaces (**1146-20B**, **1146-20BWL** suitable for surfaces with barrier, such as rivet)
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel



1146-20A

1146-20B



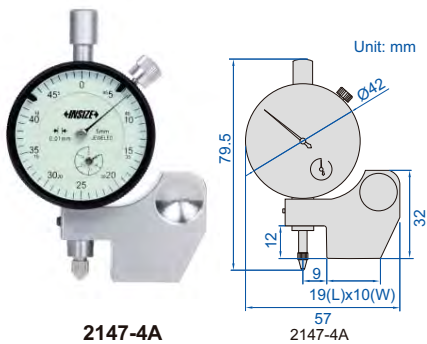
With data interface
(data output cable code 7315-21 need receiver page 4, 7302-21 page 12, optional)

| Code | Range | Accuracy |
|-----------------|-----------------|----------|
| 1146-20A | 0~±20mm/0~±0.8" | ±0.02mm |
| 1146-20B | 0~±20mm/0~±0.8" | ±0.02mm |

Built-in wireless
(receiver code 7315-2/3/6/7/8/9 is required)

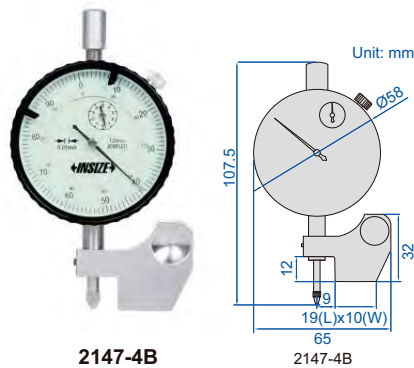
| Code | Range | Accuracy |
|-------------------|-----------------|----------|
| 1146-20AWL | 0~±20mm/0~±0.8" | ±0.02mm |
| 1146-20BWL | 0~±20mm/0~±0.8" | ±0.02mm |

DIAL HEIGHT GAGES



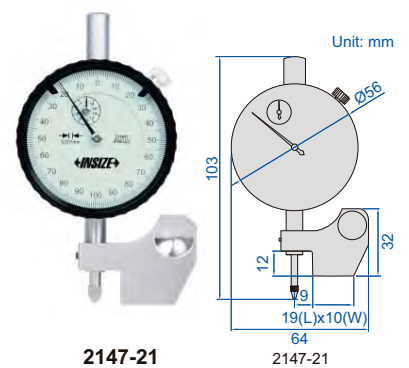
2147-4A

2147-4A



2147-4B

2147-4B

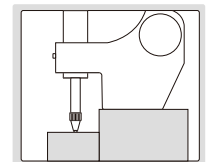


2147-21

2147-21

- Measure height difference of two surfaces

| Code | Range | Dial indicator stroke | Dial indicator graduation | Accuracy |
|----------------|---------------------|-----------------------|---------------------------|----------|
| 2147-4A | 0~±5mm (adjustable) | 5mm | 0.01mm | ±0.014mm |
| 2147-4B | 0~±5mm | 10mm | 0.01mm | ±0.017mm |
| 2147-21 | 0~±2mm (adjustable) | 2mm | 0.001mm | ±0.006mm |

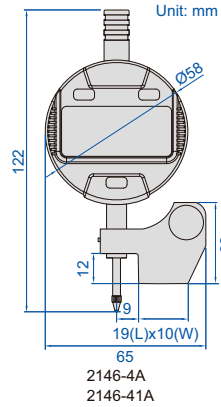


DIGITAL HEIGHT GAGES

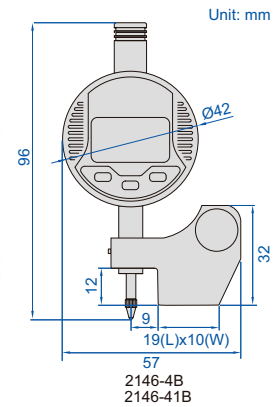
DATA
OUTPUT



2146-4A

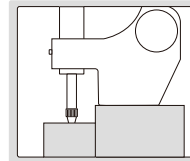


2146-4B

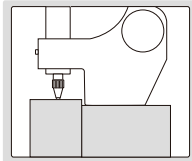


- Measure height difference of two surfaces
- Button function: on/off, inch/mm, zero, data preset, change measuring direction, absolute/incremental measurement
- Keep preset data in memory after restart
- CR2032 battery, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (code 7315-50M need receiver page 5, 7302-40M page 13)

measure sunked step



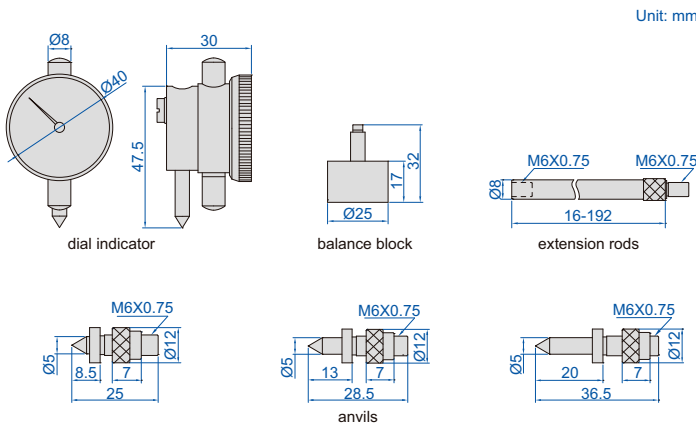
measure raised step



| Code | Range (adjustable) | Digital indicator stroke | Digital indicator resolution | Accuracy |
|----------|--------------------------|--------------------------|------------------------------|----------|
| 2146-4A | 0~4mm/0~0.16" (sunked) | 12.7mm/0.5" | 0.01mm/0.0005" | ±0.02mm |
| 2146-41A | 0~12.7mm/0~0.5" (raised) | 12.7mm/0.5" | 0.001mm/0.00005" | ±0.005mm |
| 2146-4B | 0~4mm/0~0.16" (sunked) | 5mm/0.2" | 0.01mm/0.0005" | ±0.02mm |
| 2146-41B | 0~5mm/0~0.2" (raised) | 5mm/0.2" | 0.001mm/0.00005" | ±0.005mm |

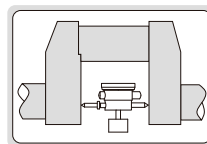
CRANKSHAFT TESTERS

12



2841-500

- To test crankshaft deflection
- The balance block is mounted on the back of dial indicator to keep the dial indicator facing up



| Code | Range | Dial indicator range | Graduation | Extension rods | Accuracy |
|----------|----------|----------------------|------------|--------------------------------------|----------|
| 2841-300 | 60-300mm | 3mm | 0.01mm | 16mm, 32mm, 64mm, 128mm | ±0.016mm |
| 2841-500 | 60-500mm | 3mm | 0.01mm | 16mm, 32mm, 64mm, 96mm, 128mm, 192mm | ±0.016mm |



Thread Pitch Measuring Instruments
Page 302-303



Thread Taper Measuring Instruments
Page 304-306



Thread Height Measuring Instruments
Page 307-309



Thread Crest Diameter Measuring Instruments
Page 310-313



Groove Diameter Measuring Instruments
Page 314



Groove Width Measuring Instruments
Page 315



Calipers With Interchangeable Ball Tips
Page 316



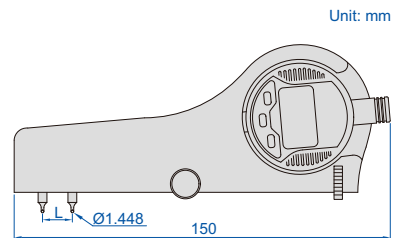
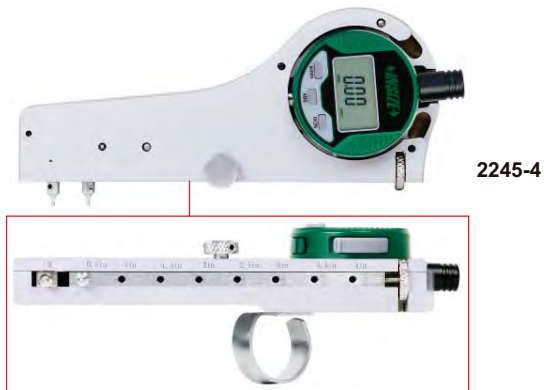
RTJ Ring Groove Calipers
Page 316



Thread Gages For Petroleum Equipment
Page 316

DIGITAL THREAD PITCH MEASURING INSTRUMENT

MEET INTERNATIONAL
STANDARD API5B



application

step 1: set zero on standard block step 2: measurement



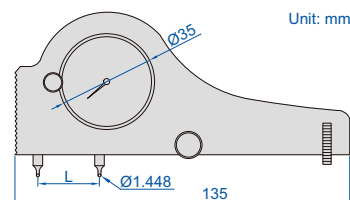
- Measure the pitch of external thread and internal thread with nominal diameter larger than 5 1/2" (139.7mm)
- Optional accessory: data output cable (code 7315-50M need receiver page 5, 7302-50M page 13), ball points (code 6252 series), standard pitch blocks (code 6251 series)

| Code | Range (L) | Digital indicator stroke | Resolution | Accuracy |
|--------|---------------------|--------------------------|----------------|----------|
| 2245-4 | 0.5-4"/12.7-101.6mm | 0.2"/5mm | 0.0005"/0.01mm | 0.02mm |

THREAD PITCH MEASURING INSTRUMENTS

MEET INTERNATIONAL
STANDARD API5B

13



application

step 1: set zero on standard block step 2: measurement



- Measure the pitch of external thread and internal thread with nominal diameter larger than 5 1/2" (139.7mm)
- Optional accessory: ball points (code 6252 series), standard pitch blocks (code 6251 series)

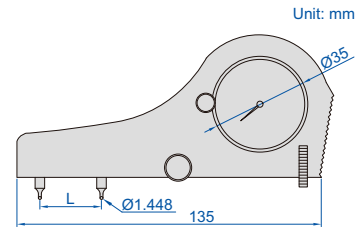
| Code | Range (L) | Dial indicator stroke | Dial indicator graduation | Accuracy |
|---------|---------------------|-----------------------|---------------------------|----------|
| 2234-4 | 0.5-4"/12.7-101.6mm | 0.5mm | 0.01mm | 0.02mm |
| 2234-4E | 0.5-4"/12.7-101.6mm | 0.025" | 0.0005" | 0.0008" |

MEET INTERNATIONAL
STANDARD API5B

INTERNAL THREAD PITCH MEASURING INSTRUMENTS

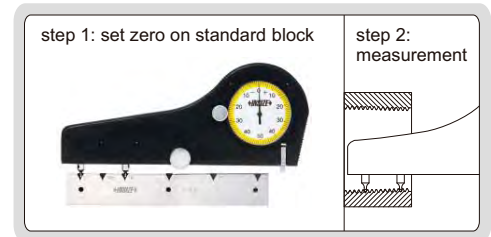


2235-4



- Measure the pitch of internal thread with nominal diameter larger than 1 1/2" (38.1mm) and less than 5 1/2" (139.7mm)
- Optional accessory: ball points (code 6252 series), standard pitch blocks (code 6251 series)

application



| Code | Range (L) | Dial indicator stroke | Dial indicator graduation | Accuracy |
|---------|---------------------|-----------------------|---------------------------|----------|
| 2235-4 | 0.5-4"/12.7-101.6mm | 0.5mm | 0.01mm | 0.02mm |
| 2235-4E | 0.5-4"/12.7-101.6mm | 0.025" | 0.0005" | 0.0008" |

CAN BE CUSTOMIZED
ACCORDING TO WORKPIECES

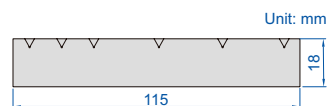
STANDARD PITCH BLOCKS 13



6251-S8

- Set zero of internal and external pitch measuring instruments (code 2234, 2235, 2245)

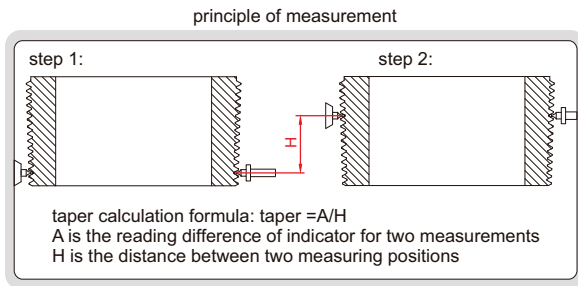
| Code | Taper | Threads per inch |
|---------|-------|------------------|
| 6251-S8 | 1:16 | 8, 10 |
| 6251-S5 | 1:16 | 5 |
| 6251-S4 | 1:6 | 4 |



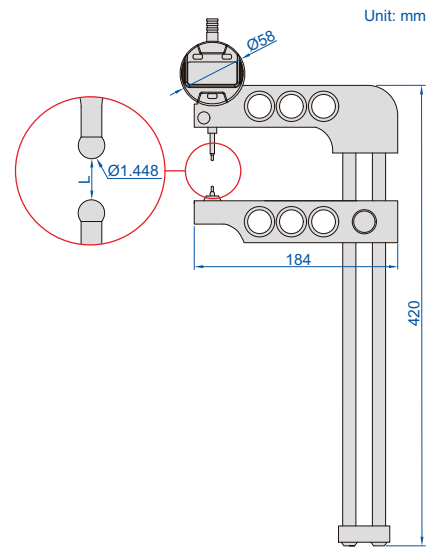
DIGITAL EXTERNAL THREAD TAPER MEASURING INSTRUMENT

MEET INTERNATIONAL STANDARD API5B

- Measure the taper of external thread
- Digital indicator stroke: 10mm/0.4"
- Optional accessory: data output cable (code **7315-50M** need receiver page 5, **7302-40M** page 13), ball points (code **6252** series)



2240-10

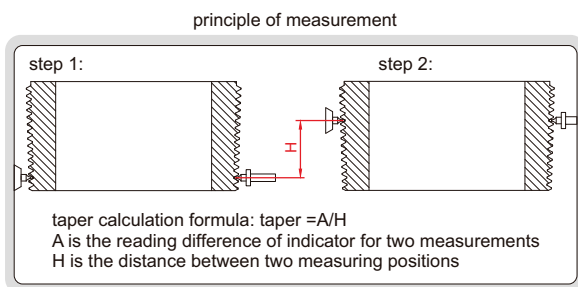


| Code | Range (L) | Resolution | Accuracy |
|---------|---------------|----------------|----------|
| 2240-10 | 0-10"/0-254mm | 0.0005"/0.01mm | 0.03mm |

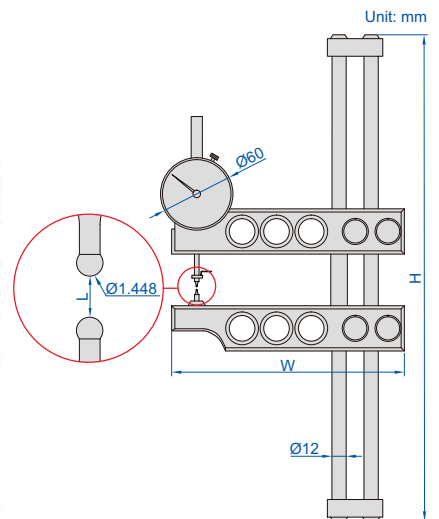
EXTERNAL THREAD TAPER MEASURING INSTRUMENTS

MEET INTERNATIONAL STANDARD API5B

- Measure the taper of external thread
- Dial indicator stroke: 0.5"
- Dial indicator graduation: 0.001"
- Optional accessory: ball points (code **6252** series)



2230-10



| Code | Range (L) | Accuracy | H | W |
|---------|-----------------------|----------|-------|-------|
| 2230-10 | 0-10"/0-254mm | 0.0015" | 400mm | 200mm |
| 2230-45 | 1-4 1/2"/25.4-114.3mm | 0.0015" | 278mm | 178mm |
| 2230-16 | 8-16"/203.2-406.4mm | 0.0015" | 600mm | 260mm |
| 2230-20 | 8-20"/203.2-508mm | 0.0015" | 680mm | 260mm |

MEET INTERNATIONAL
STANDARD API5B

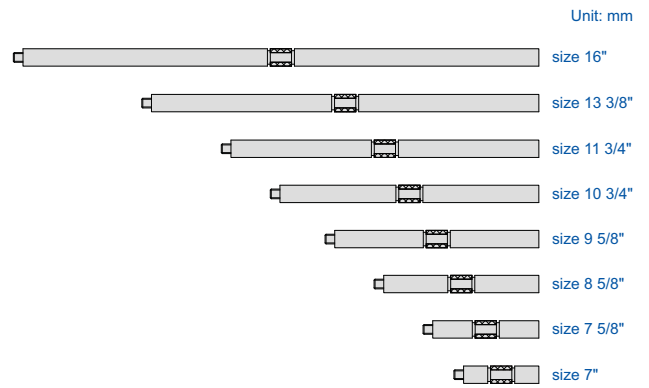
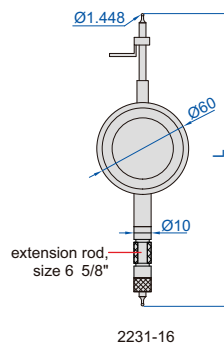
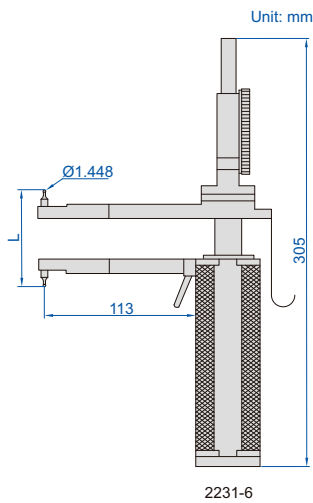
INTERNAL THREAD TAPER MEASURING INSTRUMENTS



2231-6

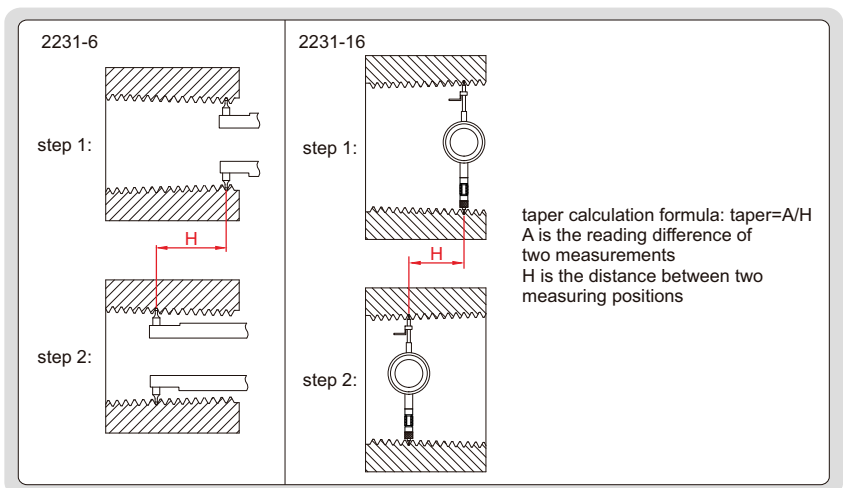


2231-16



- Measure the taper of internal thread
- Optional accessory: ball points (code 6252 series)

principle of measurement

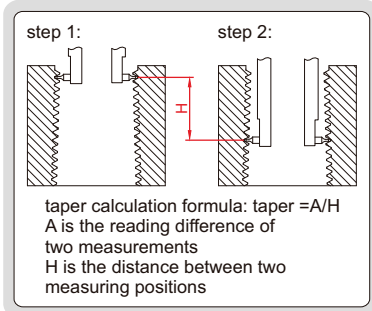


| Code | Range (L) | Dial indicator stroke | Dial indicator graduation | Accuracy | Remark |
|---------|-------------------------|-----------------------|---------------------------|----------|-----------------------|
| 2231-6 | 1.5-6"/38.1-152.4mm | 1" | 0.001" | 0.0015" | — |
| 2231-16 | 5 1/2-16"/139.7-406.4mm | 0.5" | 0.001" | 0.0015" | with 9 extension rods |

DIGITAL INTERNAL THREAD TAPER MEASURING INSTRUMENT

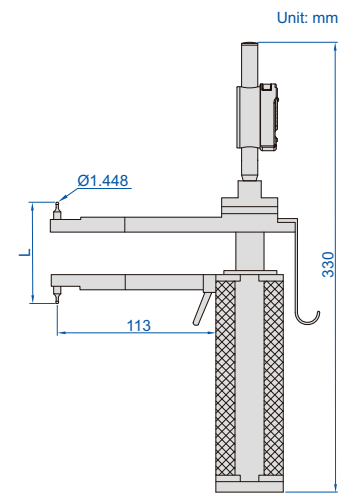
MEET INTERNATIONAL STANDARD API5B

principle of measurement



2241-6

- Measure the taper of internal thread
- Digital indicator stroke: 25.4mm/1"
- Optional accessory: data output cable (code 7315-50M need receiver page 5, 7302-40M page 13), ball points (code 6252 series)



| Code | Range (L) | Resolution | Accuracy |
|--------|---------------------|----------------|----------|
| 2241-6 | 1.5-6"/38.1-152.4mm | 0.0005"/0.01mm | 0.04mm |

BALL POINTS

13

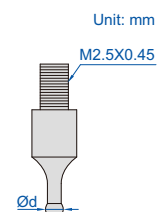
- Supplied in pair
- For taper measuring instruments (code 2230, 2231, 2240, 2241) and pitch measuring instruments (code 2234, 2235, 2245)



6252-B10

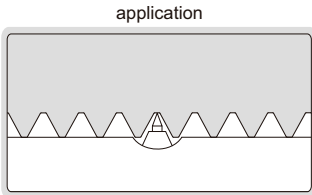
| Code | Thread type | Threads per inch | Ball dia. (Ød) | |
|-----------|-------------------------|------------------|----------------|----------|
| | | | taper | pitch |
| 6252-B8 | round thread, line pipe | 8 | 1.829mm | 1.829mm |
| 6252-B10 | round thread, line pipe | 10 | 1.448mm | 1.448mm |
| 6252-B115 | line pipe | 11.5 | 1.27mm | 1.27mm |
| 6252-B14 | line pipe | 14 | 1.041mm | 1.041mm |
| 6252-B18 | line pipe | 18 | 0.813mm | 0.813mm |
| 6252-B27 | line pipe | 27 | 0.533mm | 0.533mm |
| 6252-B5 | buttress thread | 5 | 2.286mm | — |
| 6252-B51 | buttress thread | 5 | — | 1.575mm |
| 6252-B52 | extreme line thread | 5,6 | 1.524mm | — |
| 6252-B53 | extreme line thread | 5 | — | 2.667mm* |
| 6252-B6 | extreme line thread | 6 | — | 2.210mm* |

* 0.58mm off the top of ball



MEET INTERNATIONAL
STANDARD API5B

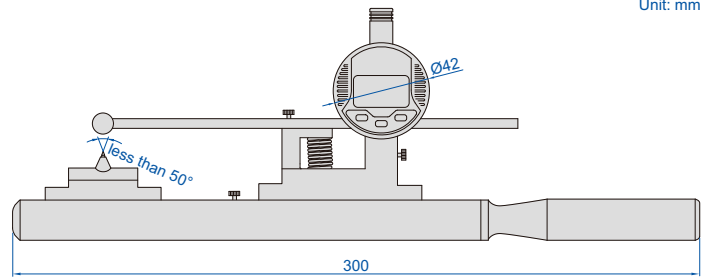
DIGITAL INTERNAL THREAD HEIGHT MEASURING INSTRUMENT



2243-35

- Measure the height of internal thread with nominal diameter less than 5 1/2" (139.7mm)
- Optional accessory: data output cable (code **7315-50M** need receiver page 5, **7302-50M** page 13), thread height standard blocks (code **6250**)

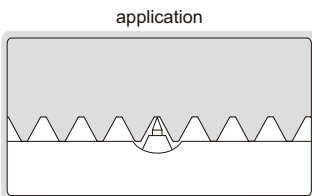
Unit: mm



| Code | Range | Resolution | Accuracy |
|---------|------------------|----------------|----------|
| 2243-35 | 0-0.135"/0-3.5mm | 0.0005"/0.01mm | 0.02mm |

MEET INTERNATIONAL
STANDARD API5B

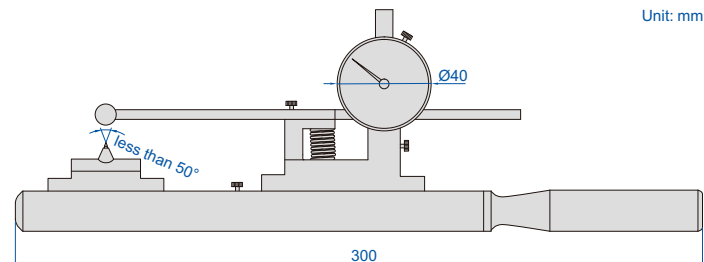
INTERNAL THREAD HEIGHT MEASURING INSTRUMENTS



2233-35

- Measure the height of internal thread with nominal diameter less than 5 1/2" (139.7mm)
- Optional accessory: thread height standard blocks (code **6250**)

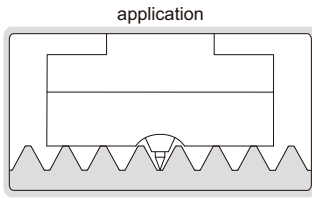
Unit: mm



| Code | Range | Dial indicator graduation | Accuracy |
|----------|---------|---------------------------|----------|
| 2233-35 | 0-3.5mm | 0.01mm | 0.02mm |
| 2233-35E | 0-1/4" | 0.0005" | 0.0008" |

DIGITAL THREAD HEIGHT MEASURING INSTRUMENT

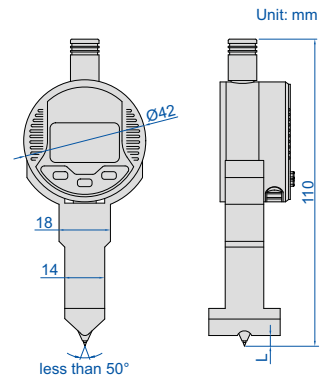
MEET INTERNATIONAL STANDARD API5B



- Measure the height of external thread and internal thread with nominal diameter larger than 5 1/2" (139.7mm)
- Optional accessory: data output cable (code 7315-50M need receiver page 5, 7302-40M page 13), thread height standard blocks (code 6250)



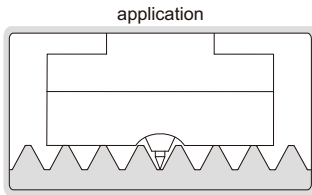
2242-35



| Code | Range (L) | Resolution | Accuracy |
|---------|------------------|----------------|----------|
| 2242-35 | 0-0.135"/0-3.5mm | 0.0005"/0.01mm | 0.02mm |

THREAD HEIGHT MEASURING INSTRUMENTS

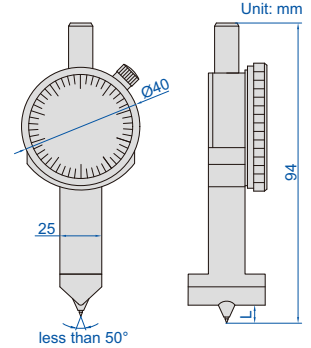
MEET INTERNATIONAL STANDARD API5B



- Measure the height of external thread and internal thread with nominal diameter larger than 5 1/2" (139.7mm)
- Optional accessory: thread height standard blocks (code 6250)



2232-35



| Code | Range (L) | Dial indicator graduation | Accuracy |
|----------|-----------|---------------------------|----------|
| 2232-35 | 0-3.5mm | 0.01mm | 0.02mm |
| 2232-35E | 0-1/4" | 0.0005" | 0.0008" |

THREAD HEIGHT STANDARD BLOCKS

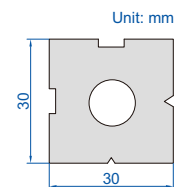
CAN BE CUSTOMIZED ACCORDING TO WORKPIECES

- Set zero of internal and external thread height measuring instruments (code 2232, 2233, 2242, 2243)

| Code | Taper | Number of thread per inch |
|---------|-------|---------------------------|
| 6250-4 | 1:4 | 4 |
| 6250-5 | 1:4 | 5 |
| 6250-8 | 1:16 | 8, 10 |
| 6250-51 | 1:16 | 5 |

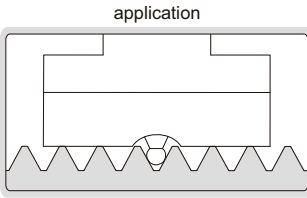


6250-8



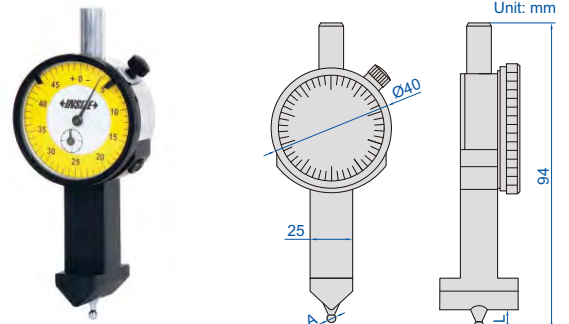
MEET INTERNATIONAL
STANDARD API 7-2

ROTARY SHOULDERS EXTERNAL THREAD CONNECTION HEIGHT MEASURING INSTRUMENTS



- Measure the height of rotary shouldered external thread connections
- Dial indicator graduation: 0.01mm
- Accuracy: 0.02mm
- Optional accessory: thread height standard blocks (code 6255)

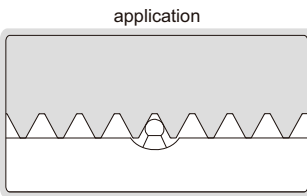
| Code | Form of thread to be inspected | Range (L) | A |
|----------|--------------------------------|-----------|----------|
| 2255-038 | V-0.038R | 0-3.5mm | Ø1.829mm |
| 2255-040 | V-0.040 | 0-3.5mm | Ø0.864mm |
| 2255-050 | V-0.050 | 0-5mm | Ø1.118mm |
| 2255-055 | V-0.055 | 0-3.5mm | Ø1.829mm |



2255-038

MEET INTERNATIONAL
STANDARD API 7-2

ROTARY SHOULDERS INTERNAL THREAD CONNECTION HEIGHT MEASURING INSTRUMENTS

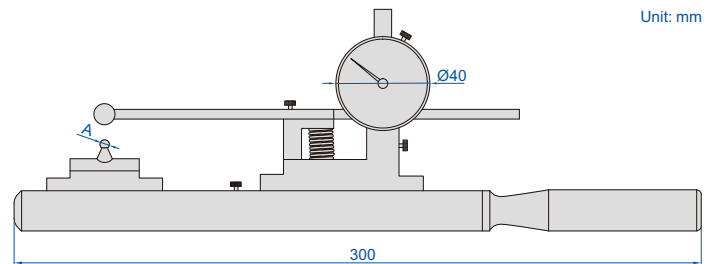


- Measure the height of rotary shouldered internal thread connections
- Dial indicator graduation: 0.01mm
- Accuracy: 0.02mm
- Optional accessory: thread height standard blocks (code 6255)

| Code | Form of thread to be inspected | Range (L) | A |
|----------|--------------------------------|-----------|----------|
| 2256-038 | V-0.038R | 0-3.5mm | Ø1.829mm |
| 2256-040 | V-0.040 | 0-3.5mm | Ø0.864mm |
| 2256-050 | V-0.050 | 0-5mm | Ø1.118mm |
| 2256-055 | V-0.055 | 0-3.5mm | Ø1.829mm |



2256-038



Unit: mm

13

THREAD HEIGHT STANDARD BLOCKS

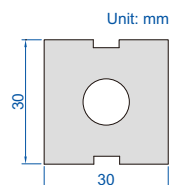
- Set zero of internal and external thread height measuring instruments (code 2255, 2256)

CAN BE CUSTOMIZED
ACCORDING TO WORKPIECES

| Code | Form of thread to be inspected | Taper | Number of thread per inch |
|----------|--------------------------------|-------------|---------------------------|
| 6255-038 | V-0.038R | 1:6 and 1:4 | 4 |
| 6255-040 | V-0.040 | 1:4 | 5 |
| 6255-050 | V-0.050 | 1:6 and 1:4 | 4 |
| 6255-055 | V-0.055 | 1:8 | 6 |



6255-038



Unit: mm

DIGITAL DEPTH GAGE (60° KNIFE EDGE BASE)

REFER TO PAGE 81
FOR DETAILS



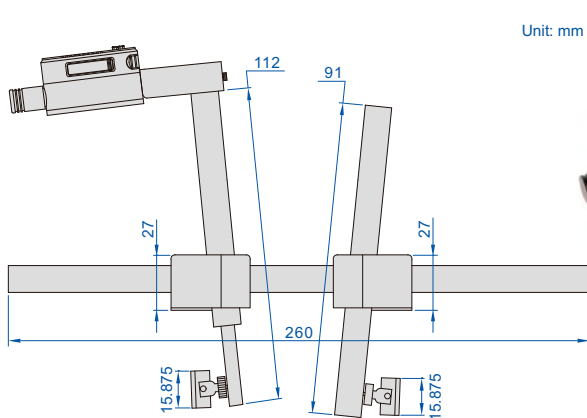
front view

side view

2143-101

DIGITAL INTERNAL THREAD CREST DIAMETER MEASURING INSTRUMENT

MEET INTERNATIONAL
STANDARD API5B

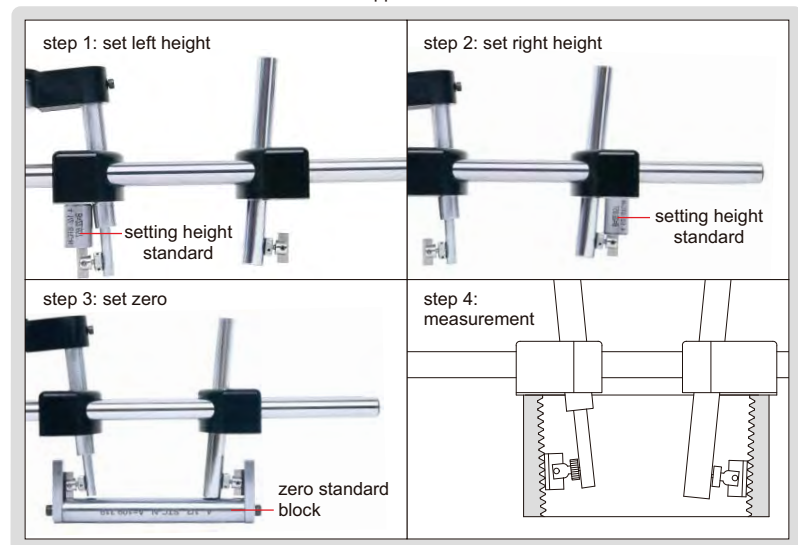


Unit: mm



2247-5

application



- Measure the crest diameter of internal thread with nominal diameter larger than 2 3/8" (60.325mm) and less than 5 1/2" (139.7mm)
- Optional accessory: data output cable (code 7315-50M need receiver page 5, 7302-40M page 13), height standard and zero standard block (code 2237-G□□□, 2237-K□□□)

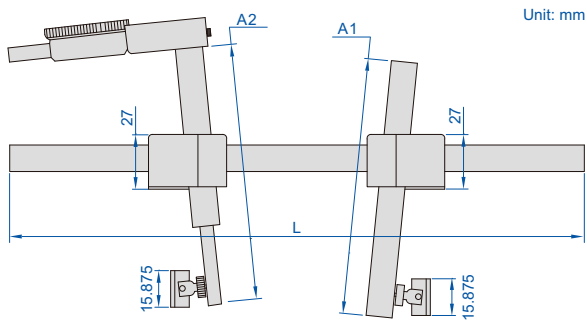
| Code | Range | Digital indicator stroke | Resolution | Accuracy |
|--------|-----------------------------|--------------------------|----------------|----------|
| 2247-5 | 2 3/8-5 1/2"/60.325-139.7mm | 0.2"/5mm | 0.0005"/0.01mm | 0.02mm |

MEET INTERNATIONAL
STANDARD API5B

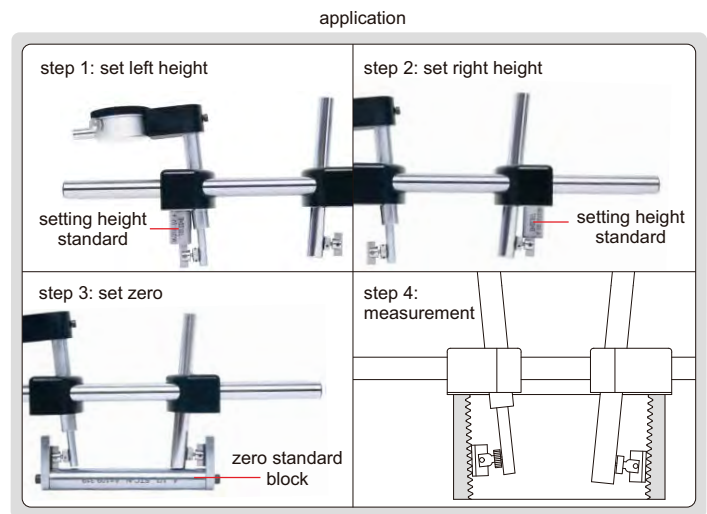
INTERNAL THREAD CREST DIAMETER MEASURING INSTRUMENTS



2237-5

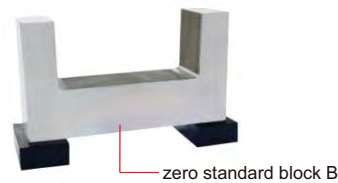


- Measure the crest diameter of internal thread with nominal diameter larger than 2 3/8" (60.325mm) and less than 20" (508mm)
- Optional accessory: height standard and zero standard block



| Code | Range | Dial indicator stroke | Dial indicator graduation | Accuracy | L | A1 | A2 |
|---------|-----------------------------|-----------------------|---------------------------|----------|-------------------|-------|-------|
| 2237-5 | 2 3/8-5 1/2"/60.325-139.7mm | 5mm | 0.01mm | 0.02mm | 260mm | 112mm | 91mm |
| 2237-5E | 2 3/8-5 1/2"/60.325-139.7mm | 0.25" | 0.0005" | 0.0008" | 260mm | 112mm | 91mm |
| 2237-20 | 4 1/2-20"/114.3-508mm | 0.50" | 0.0005" | 0.002" | 12", 18" or 24" * | 177mm | 182mm |

* Select suitable length of arm according to workpieces



HEIGHT STANDARD AND ZERO STANDARD BLOCK (optional)

| Code | Remark |
|-------------|---|
| 2237-G□□□** | including height standard and zero standard block A (without taper) |
| 2237-K□□□** | including height standard and zero standard block B (with taper) |

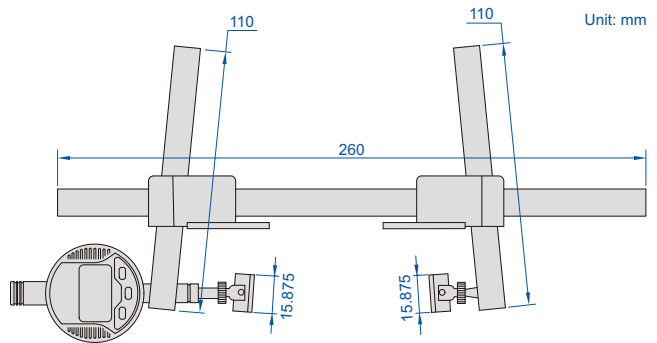
** Can be customized according to workpieces

DIGITAL EXTERNAL THREAD CREST DIAMETER MEASURING INSTRUMENT

MEET INTERNATIONAL
STANDARD API5B



2246-5



- Measure the crest diameter of external thread with nominal diameter larger than 2 3/8" (60.325mm) and less than 5 1/2" (139.7mm)
- Optional accessory: data output cable (code 7315-50M need receiver page 5, 7302-40M page 13), height standard and zero standard block (code 2236-G□□□, 2236-K□□□)

application

| | |
|---|--|
| <p>step 1: set left height</p> <p>setting height standard</p> | <p>step 2: set right height</p> <p>setting height standard</p> |
| <p>step 3: set zero</p> <p>zero standard block</p> | <p>step 4: measurement</p> |

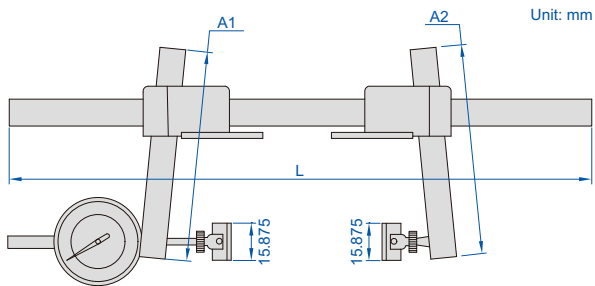
| Code | Range | Digital indicator stroke | Resolution | Accuracy |
|--------|-----------------------------|--------------------------|----------------|----------|
| 2246-5 | 2 3/8-5 1/2"/60.325-139.7mm | 0.2"/5mm | 0.0005"/0.01mm | 0.02mm |

MEET INTERNATIONAL
STANDARD API5B

EXTERNAL THREAD CREST DIAMETER MEASURING INSTRUMENTS

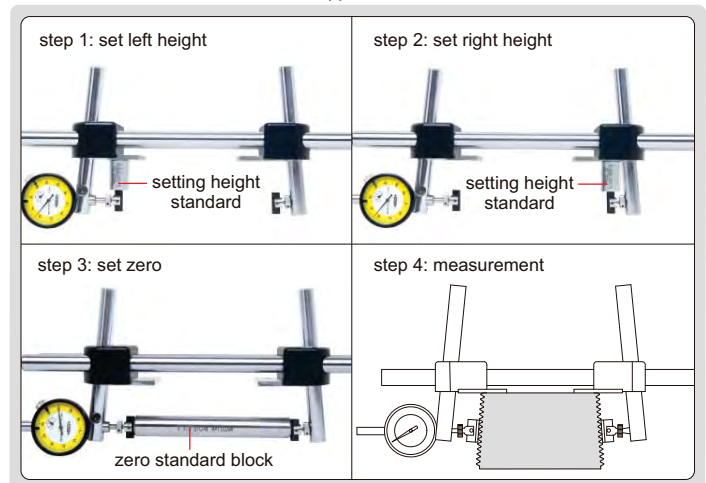


2236-5



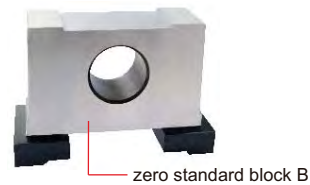
- Measure the crest diameter of external thread with nominal diameter larger than 2 3/8" (60.325mm) and less than 20" (508mm)
- Optional accessory: height standard and zero standard block

application



| Code | Range | Dial indicator stroke | Dial indicator graduation | Accuracy | L | A1 | A2 |
|---------|-----------------------------|-----------------------|---------------------------|----------|-------------------|-------|-------|
| 2236-5 | 2 3/8-5 1/2"/60.325-139.7mm | 5mm | 0.01mm | 0.02mm | 260mm | 110mm | 110mm |
| 2236-5E | 2 3/8-5 1/2"/60.325-139.7mm | 0.25" | 0.0005" | 0.0008" | 260mm | 110mm | 110mm |
| 2236-20 | 2 3/8-20"/60.325-508mm | 0.50" | 0.0005" | 0.002" | 12", 18" or 24" * | 177mm | 160mm |

* Select suitable length of arm according to workpieces



HEIGHT STANDARD AND ZERO STANDARD BLOCK (optional)

| Code | Remark |
|-------------|---|
| 2236-G□□□** | including height standard and zero standard block A (without taper) |
| 2236-K□□□** | including height standard and zero standard block B (with taper) |

** Can be customized according to workpieces

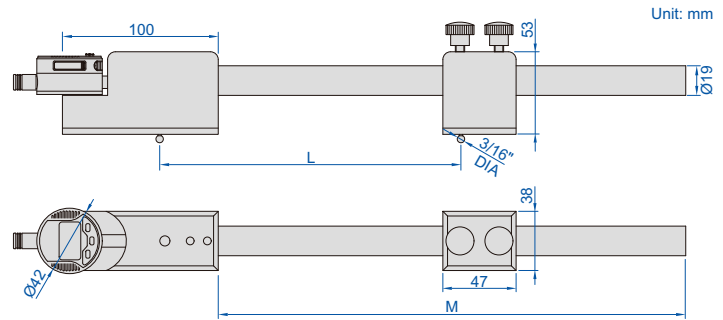
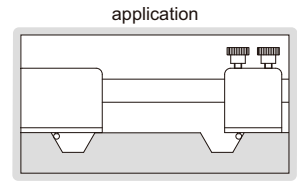
DIGITAL GROOVE DIAMETER MEASURING INSTRUMENT

POINT DIAMETER CAN BE CUSTOM-MADE



2261-5

- Measure the groove diameter of flange ring groove
- Point height is adjustable
- Optional: data output cable (code 7315-50M need receiver page 5, 7302-40M page 13), groove standard block (code 6254)



Unit: mm

Stem (optional)

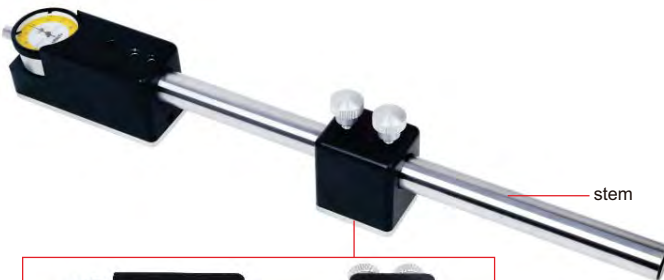
| Code | M |
|----------|-----------|
| 2261-M24 | 24"/600mm |
| 2261-M30 | 30"/750mm |
| 2261-M36 | 36"/900mm |

| Code | Range (L) | Movable point stroke | Resolution | Repeatability | M |
|--------|------------------|----------------------|------------------|---------------|-----------|
| 2261-5 | 2.6-13"/66-330mm | 0.2"/5mm | 0.00005"/0.001mm | 0.002mm | 12"/300mm |

GROOVE DIAMETER MEASURING INSTRUMENTS

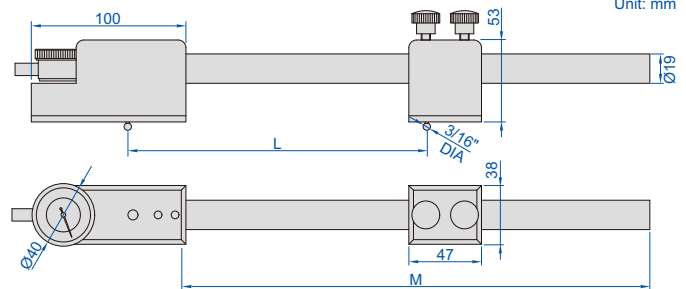
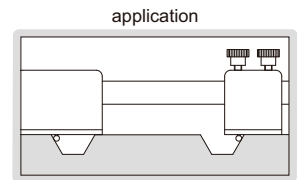
POINT DIAMETER CAN BE CUSTOM-MADE

13



2251-5

- Measure the groove diameter of flange ring groove
- Point height is adjustable
- Optional: groove standard block (code 6254)



Unit: mm

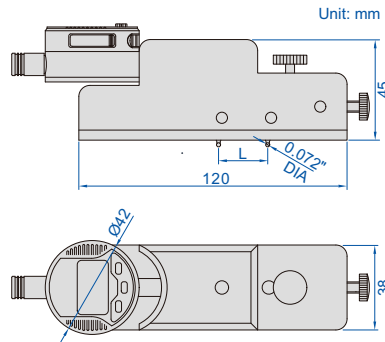
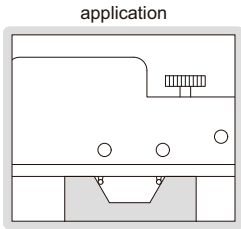
Stem (optional)

| Code | M |
|----------|-----------|
| 2261-M24 | 24"/600mm |
| 2261-M30 | 30"/750mm |
| 2261-M36 | 36"/900mm |

| Code | Range (L) | Movable point stroke | Graduation | Repeatability | M |
|---------|------------------|----------------------|------------|---------------|-----------|
| 2251-5 | 2.6-13"/66-330mm | 0.2"/5mm | 0.01mm | 0.005mm | 12"/300mm |
| 2251-5E | 2.6-13"/66-330mm | 0.2"/5mm | 0.0005" | 0.0002" | 12"/300mm |

POINT DIAMETER CAN BE CUSTOM-MADE

DIGITAL GROOVE WIDTH MEASURING INSTRUMENT



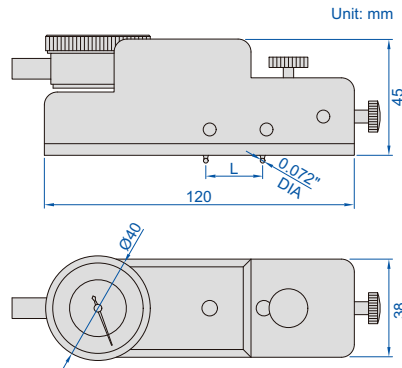
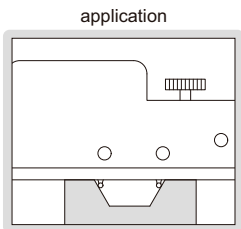
2260-4

- Measure the groove width of flange ring groove
- Point height is adjustable
- Optional: data output cable (code **7315-50M** need receiver page 5, **7302-40M** page 13), groove standard block (code **6254**)

| Code | Range (L) | Movable point stroke | Resolution | Repeatability |
|--------|---------------------|----------------------|------------------|---------------|
| 2260-4 | 0.55-1.4"/14-35.5mm | 0.16"/4mm | 0.00005"/0.001mm | 0.002mm |

POINT DIAMETER CAN BE CUSTOM-MADE

GROOVE WIDTH MEASURING INSTRUMENTS



2250-4

- Measure the groove width of flange ring groove
- Point height is adjustable
- Optional: groove standard block (code **6254**)

| Code | Range (L) | Movable point stroke | Graduation | Repeatability |
|---------|---------------------|----------------------|------------|---------------|
| 2250-4 | 0.55-1.4"/14-35.5mm | 0.16"/4mm | 0.01mm | 0.005mm |
| 2250-4E | 0.55-1.4"/14-35.5mm | 0.16"/4mm | 0.0005" | 0.0002" |

CUSTOM-MADE

STANDARD GROOVE BLOCK CODE 6254



- Set zero of groove width and groove diameter measuring instruments (code **2250**, **2251**, **2260**, **2261**)

DIGITAL CALIPERS WITH INTERCHANGEABLE BALL TIPS

REFER TO PAGE 61
FOR DETAILS



1527-3001



1528-3001

DIGITAL RTJ RING GROOVE CALIPERS

REFER TO PAGE 60
FOR DETAILS



1179-300



1179-600

THREAD GAGES FOR ROTARY SHOULDERED CONNECTIONS OF PETROLEUM EQUIPMENT

REFER TO PAGE 372
FOR DETAILS



4177-23

CASING, TUBING AND LINE PIPE THREAD GAGES OF PETROLEUM AND GAS EQUIPMENT

REFER TO PAGE
373-374 FOR DETAILS



4178-21T



Gage Blocks
Page 318-325



**Caliper Inspection Gage
Block Sets**
Page 326



**Micrometer Inspection
Gage Block Sets**
Page 327



Gage Block Holders
Page 327



Gage Block Accessories
Page 328



Cylinder Gage Blocks
Page 329



CMM Check Masters
Page 330-331



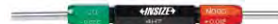
**Caliper/Height Gage
Checkers**
Page 332



Angle Gage Blocks
Page 333



Pin Gages
Page 334-337



Pin Gage Handles
Page 337-339



Cylinder Gages
Page 340



Adjustable Snap Gages
Page 341



Setting Rings
Page 342-344



Plain Plug Gages
Page 345-348



Measuring Balls
Page 349-350



**Threaded Hole Location
Gages**
Page 350-351



Thread Depth Gages
Page 352-353



Thread Ring/Plug Gages
Page 354-374



**Semi-Automatic Thread
Inspectors**
Page 374

GAGE BLOCKS

Accuracy according to ISO3650

| Nominal length (mm) | Grade 0 | | Grade 1 | | Grade 2 | |
|---------------------|---------------------------|---------------------------------------|---------------------------|---------------------------------------|---------------------------|---------------------------------------|
| | Limit deviation of length | Tolerance for the variation in length | Limit deviation of length | Tolerance for the variation in length | Limit deviation of length | Tolerance for the variation in length |
| over 0.5 to 10 | ±0.12µm | 0.10µm | ±0.20µm | 0.16µm | ±0.45µm | 0.30µm |
| over 10 to 25 | ±0.14µm | 0.10µm | ±0.30µm | 0.16µm | ±0.60µm | 0.30µm |
| over 25 to 50 | ±0.20µm | 0.10µm | ±0.40µm | 0.18µm | ±0.80µm | 0.30µm |
| over 50 to 75 | ±0.25µm | 0.12µm | ±0.50µm | 0.18µm | ±1.00µm | 0.35µm |
| over 75 to 100 | ±0.30µm | 0.12µm | ±0.60µm | 0.20µm | ±1.20µm | 0.35µm |
| over 100 to 150 | ±0.40µm | 0.14µm | ±0.80µm | 0.20µm | ±1.60µm | 0.40µm |
| over 150 to 200 | ±0.50µm | 0.16µm | ±1.00µm | 0.25µm | ±2.00µm | 0.40µm |
| over 200 to 250 | ±0.60µm | 0.16µm | ±1.20µm | 0.25µm | ±2.40µm | 0.45µm |
| over 250 to 300 | ±0.70µm | 0.18µm | ±1.40µm | 0.25µm | ±2.80µm | 0.50µm |
| over 300 to 400 | ±0.90µm | 0.20µm | ±1.80µm | 0.30µm | ±3.60µm | 0.50µm |
| over 400 to 500 | ±1.10µm | 0.25µm | ±2.20µm | 0.35µm | ±4.40µm | 0.60µm |
| over 500 to 600 | ±1.30µm | 0.25µm | ±2.60µm | 0.40µm | ±5.00µm | 0.70µm |
| over 600 to 700 | ±1.50µm | 0.30µm | ±3.00µm | 0.45µm | ±6.00µm | 0.70µm |
| over 700 to 800 | ±1.70µm | 0.30µm | ±3.40µm | 0.50µm | ±6.50µm | 0.80µm |
| over 800 to 900 | ±1.90µm | 0.35µm | ±3.80µm | 0.50µm | ±7.50µm | 0.90µm |
| over 900 to 1000 | ±2.00µm | 0.40µm | ±4.20µm | 0.60µm | ±8.00µm | 1.00µm |

Grade and application

| Grade | Application |
|-------|--|
| 0 | To be used as basic standards in calibration laboratories by skilled inspection staff, to calibrate or set high accuracy measuring instruments, to calibrate gage blocks of grade 1 and 2. |
| 1 | To be used in inspection rooms, to check gages, inspect high accuracy parts and set measuring instruments. |
| 2 | To be used in workshops, to check production gages, set measuring instruments and mount tools. |

WEAR BLOCK SETS

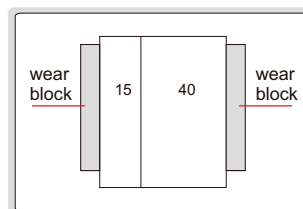


- Protect the measuring surfaces of gage blocks from excessive wear
- Meet ISO3650
- Supplied with manufacturer inspection certificate

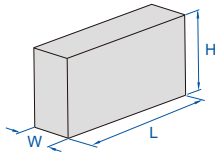


4111-2

| Blocks per set | Size | Material | Code | |
|----------------|-------|-------------|---------|----------|
| | | | Grade 0 | Grade 1 |
| 2 | 1.0mm | ceramic | 4111-1 | 4111-11 |
| 2 | 1.0mm | alloy steel | 4111-1A | 4111-11A |
| 2 | 2.0mm | ceramic | 4111-2 | 4111-12 |
| 2 | 2.0mm | alloy steel | 4111-2A | 4111-12A |



CERAMIC GAGE BLOCK SETS



Dimension:

| Size(L) | W | H |
|------------|-----|------|
| 0.5≤L≤10mm | 9mm | 30mm |
| L>10mm | 9mm | 35mm |



4105-87

- Made of ceramic, extremely wear resistance and corrosion resistance, excellent dimension stability
- Meet ISO3650
- Supplied with manufacturer inspection certificate

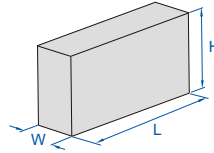
| Blocks per set | Gage blocks included in set | | | Code | |
|----------------|-----------------------------|-----------|----------|----------|-----------|
| | Size (mm) | Step (mm) | Quantity | Grade 0 | Grade 1 |
| 112 | 1.0005 | | 1 | 4105-112 | 4105-1112 |
| | 1.001-1.009 | 0.001 | 9 | | |
| | 1.01-1.49 | 0.01 | 49 | | |
| | 0.5-24.5 | 0.5 | 49 | | |
| | 25-100 | 25 | 4 | | |
| 103 | 1.005 | | 1 | 4105-103 | 4105-1103 |
| | 1.01-1.49 | 0.01 | 49 | | |
| | 0.5-24.5 | 0.5 | 49 | | |
| | 25-100 | 25 | 4 | | |
| 88 | 1.0005 | | 1 | 4105-88 | 4105-188 |
| | 1.001-1.009 | 0.001 | 9 | | |
| | 1.01-1.49 | 0.01 | 49 | | |
| | 0.5-9.5 | 0.5 | 19 | | |
| | 10-100 | 10 | 10 | | |
| 87 | 1.001-1.009 | 0.001 | 9 | 4105-87 | 4105-187 |
| | 1.01-1.49 | 0.01 | 49 | | |
| | 0.5-9.5 | 0.5 | 19 | | |
| | 10-100 | 10 | 10 | | |
| 76 | 1.005 | | 1 | 4105-76 | 4105-176 |
| | 1.01-1.49 | 0.01 | 49 | | |
| | 0.5-9.5 | 0.5 | 19 | | |
| | 10-40 | 10 | 4 | | |
| | 50-100 | 25 | 3 | | |
| 56 | 0.5 | | 1 | 4105-56 | 4105-156 |
| | 1.001-1.009 | 0.001 | 9 | | |
| | 1.01-1.09 | 0.01 | 9 | | |
| | 1.1-1.9 | 0.1 | 9 | | |
| | 1-24 | 1 | 24 | | |
| | 25-100 | 25 | 4 | | |

| Blocks per set | Gage blocks included in set | | | Code | |
|----------------|-----------------------------|-----------|----------|----------|-----------|
| | Size (mm) | Step (mm) | Quantity | Grade 0 | Grade 1 |
| 47 | 1.005 | | 1 | 4105-47A | 4105-147A |
| | 1.01-1.09 | 0.01 | 9 | | |
| | 1.1-1.9 | 0.1 | 9 | | |
| | 1-24 | 1 | 24 | | |
| | 25-100 | 25 | 4 | | |
| 47 | 1.005 | | 1 | 4105-47 | 4105-147 |
| | 1.01-1.19 | 0.01 | 19 | | |
| | 1.2-1.9 | 0.1 | 8 | | |
| | 1-9 | 1 | 9 | | |
| | 10-100 | 10 | 10 | | |
| 46 | 1.001-1.009 | 0.001 | 9 | 4105-46 | 4105-146 |
| | 1.01-1.09 | 0.01 | 9 | | |
| | 1.1-1.9 | 0.1 | 9 | | |
| | 1-9 | 1 | 9 | | |
| | 10-100 | 10 | 10 | | |
| 34 | 1.0005 | | 1 | 4105-34 | 4105-134 |
| | 1.001-1.009 | 0.001 | 9 | | |
| | 1.01-1.09 | 0.01 | 9 | | |
| | 1.1-1.9 | 0.1 | 9 | | |
| | 1-5 | 1 | 5 | | |
| 32 | 1.005 | | 1 | 4105-32 | 4105-132 |
| | 1.01-1.09 | 0.01 | 9 | | |
| | 1.1-1.9 | 0.1 | 9 | | |
| | 1-9 | 1 | 9 | | |
| | 10-30 | 10 | 3 | | |
| | 50 | | 1 | | |

CERAMIC INDIVIDUAL GAGE BLOCKS



4106-A80



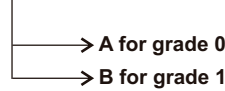
Dimension:

| Size(L) | W | H |
|----------------|-----|------|
| 0.5 ≤ L ≤ 10mm | 9mm | 30mm |
| L > 10mm | 9mm | 35mm |

- Grade 0 and 1 gage blocks are available
- Made of ceramic, extremely wear resistance and corrosion resistance
- Meet ISO3650
- Supplied with manufacturer inspection certificate

Code explanation:

4106-X□□□□□



Code examples:

| Size (L) | Grade | Code |
|----------|-------|----------|
| 0.5mm | 0 | 4106-AD5 |
| 10mm | 1 | 4106-B10 |

| Size | Code | Size | Code | Size | Code | Size | Code |
|----------|--------------|--------|------------|--------|------------|---------|-------------|
| 0.5mm | 4106-XD5 | 1.23mm | 4106-X1D23 | 3mm | 4106-X3 | 17.6mm | 4106-X17D6 |
| 1mm | 4106-X1 | 1.24mm | 4106-X1D24 | 3.5mm | 4106-X3D5 | 18mm | 4106-X18 |
| 1.0005mm | 4106-X1D0005 | 1.25mm | 4106-X1D25 | 4mm | 4106-X4 | 18.5mm | 4106-X18D5 |
| 1.001mm | 4106-X1D001 | 1.26mm | 4106-X1D26 | 4.5mm | 4106-X4D5 | 19mm | 4106-X19 |
| 1.002mm | 4106-X1D002 | 1.27mm | 4106-X1D27 | 5mm | 4106-X5 | 19.5mm | 4106-X19D5 |
| 1.003mm | 4106-X1D003 | 1.28mm | 4106-X1D28 | 5.1mm | 4106-X5D1 | 20mm | 4106-X20 |
| 1.004mm | 4106-X1D004 | 1.29mm | 4106-X1D29 | 5.5mm | 4106-X5D5 | 20.2mm | 4106-X20D2 |
| 1.005mm | 4106-X1D005 | 1.3mm | 4106-X1D3 | 6mm | 4106-X6 | 20.5mm | 4106-X20D5 |
| 1.006mm | 4106-X1D006 | 1.31mm | 4106-X1D31 | 6.5mm | 4106-X6D5 | 21mm | 4106-X21 |
| 1.007mm | 4106-X1D007 | 1.32mm | 4106-X1D32 | 7mm | 4106-X7 | 21.5mm | 4106-X21D5 |
| 1.008mm | 4106-X1D008 | 1.33mm | 4106-X1D33 | 7.5mm | 4106-X7D5 | 22mm | 4106-X22 |
| 1.009mm | 4106-X1D009 | 1.34mm | 4106-X1D34 | 7.7mm | 4106-X7D7 | 22.5mm | 4106-X22D5 |
| 1.01mm | 4106-X1D01 | 1.35mm | 4106-X1D35 | 8mm | 4106-X8 | 22.8mm | 4106-X22D8 |
| 1.02mm | 4106-X1D02 | 1.36mm | 4106-X1D36 | 8.5mm | 4106-X8D5 | 23mm | 4106-X23 |
| 1.03mm | 4106-X1D03 | 1.37mm | 4106-X1D37 | 9mm | 4106-X9 | 23.5mm | 4106-X23D5 |
| 1.04mm | 4106-X1D04 | 1.38mm | 4106-X1D38 | 9.5mm | 4106-X9D5 | 24mm | 4106-X24 |
| 1.05mm | 4106-X1D05 | 1.39mm | 4106-X1D39 | 10mm | 4106-X10 | 24.5mm | 4106-X24D5 |
| 1.06mm | 4106-X1D06 | 1.4mm | 4106-X1D4 | 10.3mm | 4106-X10D3 | 25mm | 4106-X25 |
| 1.07mm | 4106-X1D07 | 1.41mm | 4106-X1D41 | 10.5mm | 4106-X10D5 | 30mm | 4106-X30 |
| 1.08mm | 4106-X1D08 | 1.42mm | 4106-X1D42 | 11mm | 4106-X11 | 40mm | 4106-X40 |
| 1.09mm | 4106-X1D09 | 1.43mm | 4106-X1D43 | 11.5mm | 4106-X11D5 | 41.3mm | 4106-X41D3 |
| 1.1mm | 4106-X1D1 | 1.44mm | 4106-X1D44 | 12mm | 4106-X12 | 50mm | 4106-X50 |
| 1.11mm | 4106-X1D11 | 1.45mm | 4106-X1D45 | 12.5mm | 4106-X12D5 | 60mm | 4106-X60 |
| 1.12mm | 4106-X1D12 | 1.46mm | 4106-X1D46 | 12.9mm | 4106-X12D9 | 70mm | 4106-X70 |
| 1.13mm | 4106-X1D13 | 1.47mm | 4106-X1D47 | 13mm | 4106-X13 | 75mm | 4106-X75 |
| 1.14mm | 4106-X1D14 | 1.48mm | 4106-X1D48 | 13.5mm | 4106-X13D5 | 80mm | 4106-X80 |
| 1.15mm | 4106-X1D15 | 1.49mm | 4106-X1D49 | 14mm | 4106-X14 | 90mm | 4106-X90 |
| 1.16mm | 4106-X1D16 | 1.5mm | 4106-X1D5 | 14.5mm | 4106-X14D5 | 100mm | 4106-X100 |
| 1.17mm | 4106-X1D17 | 1.6mm | 4106-X1D6 | 15mm | 4106-X15 | 125mm | 4106-X125 |
| 1.18mm | 4106-X1D18 | 1.7mm | 4106-X1D7 | 15.5mm | 4106-X15D5 | 131.4mm | 4106-X131D4 |
| 1.19mm | 4106-X1D19 | 1.8mm | 4106-X1D8 | 16mm | 4106-X16 | 150mm | 4106-X150 |
| 1.2mm | 4106-X1D2 | 1.9mm | 4106-X1D9 | 16.5mm | 4106-X16D5 | | |
| 1.21mm | 4106-X1D21 | 2mm | 4106-X2 | 17mm | 4106-X17 | | |
| 1.22mm | 4106-X1D22 | 2.5mm | 4106-X2D5 | 17.5mm | 4106-X17D5 | | |



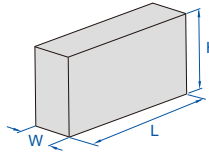
CUSTOM-MADE
CAN SUPPLY ANY SIZES FROM
0.5 TO 100MM, SUCH AS 70.672MM



CERAMIC INDIVIDUAL GAGE BLOCKS



4103-A80



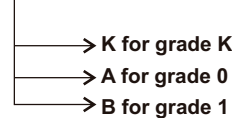
Dimension:

| Size (L) | W | H |
|----------------|-----|------|
| 0.5 ≤ L ≤ 10mm | 9mm | 30mm |
| L > 10mm | 9mm | 35mm |

- Grade K, 0 and 1 gage blocks are available
- Made of ceramic, extremely wear resistance and corrosion resistance
- Meet ISO3650
- Supplied with manufacturer inspection certificate

Code explanation:

4103-X□□□□□

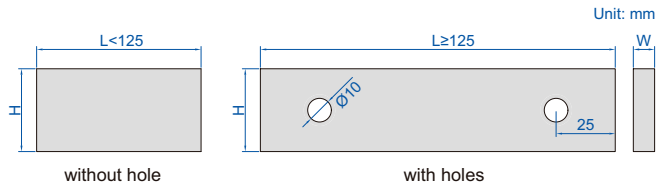


Code examples:

| Size (L) | Grade | Code |
|----------|-------|----------|
| 0.5mm | K | 4103-KD5 |
| 10mm | 0 | 4103-A10 |
| 10mm | 1 | 4103-B10 |

| Size | Code | Size | Code | Size | Code | Size | Code |
|----------|--------------|--------|------------|--------|------------|--------|------------|
| 0.5mm | 4103-XD5 | 1.23mm | 4103-X1D23 | 3mm | 4103-X3 | 20mm | 4103-X20 |
| 1mm | 4103-X1 | 1.24mm | 4103-X1D24 | 3.5mm | 4103-X3D5 | 20.5mm | 4103-X20D5 |
| 1.0005mm | 4103-X1D0005 | 1.25mm | 4103-X1D25 | 4mm | 4103-X4 | 21mm | 4103-X21 |
| 1.001mm | 4103-X1D001 | 1.26mm | 4103-X1D26 | 4.5mm | 4103-X4D5 | 21.5mm | 4103-X21D5 |
| 1.002mm | 4103-X1D002 | 1.27mm | 4103-X1D27 | 5mm | 4103-X5 | 22mm | 4103-X22 |
| 1.003mm | 4103-X1D003 | 1.28mm | 4103-X1D28 | 5.5mm | 4103-X5D5 | 22.5mm | 4103-X22D5 |
| 1.004mm | 4103-X1D004 | 1.29mm | 4103-X1D29 | 6mm | 4103-X6 | 23mm | 4103-X23 |
| 1.005mm | 4103-X1D005 | 1.3mm | 4103-X1D3 | 6.5mm | 4103-X6D5 | 23.5mm | 4103-X23D5 |
| 1.006mm | 4103-X1D006 | 1.31mm | 4103-X1D31 | 7mm | 4103-X7 | 24mm | 4103-X24 |
| 1.007mm | 4103-X1D007 | 1.32mm | 4103-X1D32 | 7.5mm | 4103-X7D5 | 24.5mm | 4103-X24D5 |
| 1.008mm | 4103-X1D008 | 1.33mm | 4103-X1D33 | 8mm | 4103-X8 | 25mm | 4103-X25 |
| 1.009mm | 4103-X1D009 | 1.34mm | 4103-X1D34 | 8.5mm | 4103-X8D5 | 30mm | 4103-X30 |
| 1.01mm | 4103-X1D01 | 1.35mm | 4103-X1D35 | 9mm | 4103-X9 | 40mm | 4103-X40 |
| 1.02mm | 4103-X1D02 | 1.36mm | 4103-X1D36 | 9.5mm | 4103-X9D5 | 50mm | 4103-X50 |
| 1.03mm | 4103-X1D03 | 1.37mm | 4103-X1D37 | 10mm | 4103-X10 | 60mm | 4103-X60 |
| 1.04mm | 4103-X1D04 | 1.38mm | 4103-X1D38 | 10.5mm | 4103-X10D5 | 70mm | 4103-X70 |
| 1.05mm | 4103-X1D05 | 1.39mm | 4103-X1D39 | 11mm | 4103-X11 | 75mm | 4103-X75 |
| 1.06mm | 4103-X1D06 | 1.4mm | 4103-X1D4 | 11.5mm | 4103-X11D5 | 80mm | 4103-X80 |
| 1.07mm | 4103-X1D07 | 1.41mm | 4103-X1D41 | 12mm | 4103-X12 | 90mm | 4103-X90 |
| 1.08mm | 4103-X1D08 | 1.42mm | 4103-X1D42 | 12.5mm | 4103-X12D5 | 100mm | 4103-X100 |
| 1.09mm | 4103-X1D09 | 1.43mm | 4103-X1D43 | 13mm | 4103-X13 | | |
| 1.1mm | 4103-X1D1 | 1.44mm | 4103-X1D44 | 13.5mm | 4103-X13D5 | | |
| 1.11mm | 4103-X1D11 | 1.45mm | 4103-X1D45 | 14mm | 4103-X14 | | |
| 1.12mm | 4103-X1D12 | 1.46mm | 4103-X1D46 | 14.5mm | 4103-X14D5 | | |
| 1.13mm | 4103-X1D13 | 1.47mm | 4103-X1D47 | 15mm | 4103-X15 | | |
| 1.14mm | 4103-X1D14 | 1.48mm | 4103-X1D48 | 15.5mm | 4103-X15D5 | | |
| 1.15mm | 4103-X1D15 | 1.49mm | 4103-X1D49 | 16mm | 4103-X16 | | |
| 1.16mm | 4103-X1D16 | 1.5mm | 4103-X1D5 | 16.5mm | 4103-X16D5 | | |
| 1.17mm | 4103-X1D17 | 1.6mm | 4103-X1D6 | 17mm | 4103-X17 | | |
| 1.18mm | 4103-X1D18 | 1.7mm | 4103-X1D7 | 17.5mm | 4103-X17D5 | | |
| 1.19mm | 4103-X1D19 | 1.8mm | 4103-X1D8 | 18mm | 4103-X18 | | |
| 1.2mm | 4103-X1D2 | 1.9mm | 4103-X1D9 | 18.5mm | 4103-X18D5 | | |
| 1.21mm | 4103-X1D21 | 2mm | 4103-X2 | 19mm | 4103-X19 | | |
| 1.22mm | 4103-X1D22 | 2.5mm | 4103-X2D5 | 19.5mm | 4103-X19D5 | | |

STEEL GAGE BLOCK SETS



Dimension:

| Size (L) | W | H |
|----------------|-----|------|
| 0.5 ≤ L ≤ 10mm | 9mm | 30mm |
| L > 10mm | 9mm | 35mm |

Code example:
"-122" stands for "4100-122"

- Made of alloy steel
- Meet ISO3650
- Gage blocks ≥ 125mm have clamping holes
- Supplied with manufacturer inspection certificate



POPULAR MODEL

4100-87

| Blocks per set | Gage blocks included in set | | | Code (4100) | | |
|----------------|-----------------------------|-----------|----------|-------------|--------------|--------------|
| | Size (mm) | Step (mm) | Quantity | Grade 0 | Grade 1 | Grade 2 |
| 122 | 1.0005 | | 1 | -122 | -1122 | -2122 |
| | 1.001-1.009 | 0.001 | 9 | | | |
| | 1.01-1.49 | 0.01 | 49 | | | |
| | 1.6-1.9 | 0.1 | 4 | | | |
| | 0.5-24.5 | 0.5 | 49 | | | |
| | 30-100 | 10 | 8 | | | |
| | 25-75 | 50 | 2 | | | |
| 112 | 1.0005 | | 1 | -112 | -1112 | -2112 |
| | 1.001-1.009 | 0.001 | 9 | | | |
| | 1.01-1.49 | 0.01 | 49 | | | |
| | 0.5-24.5 | 0.5 | 49 | | | |
| | 25-100 | 25 | 4 | | | |
| 103 | 1.005 | | 1 | -103 | -1103 | -2103 |
| | 1.01-1.49 | 0.01 | 49 | | | |
| | 0.5-24.5 | 0.5 | 49 | | | |
| | 25-100 | 25 | 4 | | | |
| 88 | 1.0005 | | 1 | -88 | -188 | -288 |
| | 1.001-1.009 | 0.001 | 9 | | | |
| | 1.01-1.49 | 0.01 | 49 | | | |
| | 0.5-9.5 | 0.5 | 19 | | | |
| | 10-100 | 10 | 10 | | | |
| 87 | 1.001-1.009 | 0.001 | 9 | -87 | -187 | -287 |
| | 1.01-1.49 | 0.01 | 49 | | | |
| | 0.5-9.5 | 0.5 | 19 | | | |
| | 10-100 | 10 | 10 | | | |
| 83 | 0.5 | | 1 | -83 | -183 | -283 |
| | 1 | | 1 | | | |
| | 1.005 | | 1 | | | |
| | 1.01-1.49 | 0.01 | 49 | | | |
| | 1.5-1.9 | 0.1 | 5 | | | |
| | 2-9.5 | 0.5 | 16 | | | |
| 10-100 | 10 | 10 | | | | |
| 76 | 1.005 | | 1 | -76 | -176 | -276 |
| | 1.01-1.49 | 0.01 | 49 | | | |
| | 0.5-9.5 | 0.5 | 19 | | | |
| | 10-40 | 10 | 4 | | | |
| | 50-100 | 25 | 3 | | | |

| Blocks per set | Gage blocks included in set | | | Code (4100) | | |
|----------------|-----------------------------|-----------|----------|-------------|--------------|--------------|
| | Size (mm) | Step (mm) | Quantity | Grade 0 | Grade 1 | Grade 2 |
| 56 | 0.5 | | 1 | -56 | -156 | -256 |
| | 1.001-1.009 | 0.001 | 9 | | | |
| | 1.01-1.09 | 0.01 | 9 | | | |
| | 1.1-1.9 | 0.1 | 9 | | | |
| | 1-24 | 1 | 24 | | | |
| | 25-100 | 25 | 4 | | | |
| | | | | | | |
| 47 | 1.005 | | 1 | -47A | -147A | -247A |
| | 1.01-1.09 | 0.01 | 9 | | | |
| | 1.1-1.9 | 0.1 | 9 | | | |
| | 1-24 | 1 | 24 | | | |
| | 25-100 | 25 | 4 | | | |
| 47 | 1.005 | | 1 | -47 | -147 | -247 |
| | 1.01-1.19 | 0.01 | 19 | | | |
| | 1.2-1.9 | 0.1 | 8 | | | |
| | 1-9 | 1 | 9 | | | |
| | 10-100 | 10 | 10 | | | |
| 46 | 1.001-1.009 | 0.001 | 9 | -46 | -146 | -246 |
| | 1.01-1.09 | 0.01 | 9 | | | |
| | 1.1-1.9 | 0.1 | 9 | | | |
| | 1-9 | 1 | 9 | | | |
| | 10-100 | 10 | 10 | | | |
| 34 | 1.0005 | | 1 | -34 | -134 | -234 |
| | 1.001-1.009 | 0.001 | 9 | | | |
| | 1.01-1.09 | 0.01 | 9 | | | |
| | 1.1-1.9 | 0.1 | 9 | | | |
| | 1-5 | 1 | 5 | | | |
| | 10 | | 1 | | | |
| 32 | 1.005 | | 1 | -32 | -132 | -232 |
| | 1.01-1.09 | 0.01 | 9 | | | |
| | 1.1-1.9 | 0.1 | 9 | | | |
| | 1-9 | 1 | 9 | | | |
| | 10-30 | 10 | 3 | | | |
| | 50 | | 1 | | | |
| 9 | 1.001-1.009 | 0.001 | 9 | -9 | -19 | -29 |
| 9 | 0.991-0.999 | 0.001 | 9 | -9A | -19A | -29A |
| 8 | 125-175 | 25 | 3 | -8 | -18 | -28 |
| | 200-250 | 50 | 2 | | | |
| | 300-500 | 100 | 3 | | | |



CUSTOM-MADE
CAN SUPPLY ANY SIZES FROM
0.5 TO 1000MM, SUCH AS 72.672MM



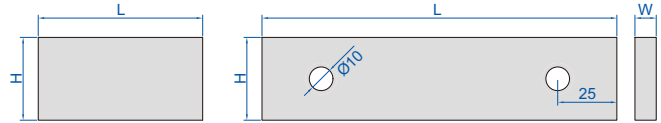
STEEL INDIVIDUAL GAGE BLOCKS



4101-A70

4101-A200

Unit: mm



without hole

with holes

- Grade 0, 1 and 2 gage blocks are available
- Made of alloy steel
- Meet ISO3650
- Gage blocks with clamping holes: 125, 150, 175, 200, 250, 300, 400, 500, 600, 700, 800, 900, 1000mm
- Supplied with manufacturer inspection certificate

Code explanation:

4101-X□□□□□

- A for grade 0
- B for grade 1
- C for grade 2

Code examples:

| Size (L) | Grade | Code |
|----------|-------|------------|
| 0.5mm | 0 | 4101-AD5 |
| 1mm | 1 | 4101-B1 |
| 10.5mm | 2 | 4101-C10D5 |

Dimension:

| Size (L) | W | H |
|----------------|-----|------|
| 0.5 ≤ L ≤ 10mm | 9mm | 30mm |
| L > 10mm | 9mm | 35mm |

| Size | Code | Size | Code | Size | Code | Size | Code |
|----------|--------------|--------|------------|--------|------------|---------|-------------|
| 0.5mm | 4101-XD5 | 1.19mm | 4101-X1D19 | 3.5mm | 4101-X3D5 | 20.2mm | 4101-X20D2 |
| 0.991mm | 4101-XD991 | 1.2mm | 4101-X1D2 | 4mm | 4101-X4 | 20.5mm | 4101-X20D5 |
| 0.992mm | 4101-XD992 | 1.21mm | 4101-X1D21 | 4.5mm | 4101-X4D5 | 21mm | 4101-X21 |
| 0.993mm | 4101-XD993 | 1.22mm | 4101-X1D22 | 5mm | 4101-X5 | 21.5mm | 4101-X21D5 |
| 0.994mm | 4101-XD994 | 1.23mm | 4101-X1D23 | 5.1mm | 4101-X5D1 | 22mm | 4101-X22 |
| 0.995mm | 4101-XD995 | 1.24mm | 4101-X1D24 | 5.5mm | 4101-X5D5 | 22.5mm | 4101-X22D5 |
| 0.996mm | 4101-XD996 | 1.25mm | 4101-X1D25 | 6mm | 4101-X6 | 22.8mm | 4101-X22D8 |
| 0.997mm | 4101-XD997 | 1.26mm | 4101-X1D26 | 6.5mm | 4101-X6D5 | 23mm | 4101-X23 |
| 0.998mm | 4101-XD998 | 1.27mm | 4101-X1D27 | 7mm | 4101-X7 | 23.5mm | 4101-X23D5 |
| 0.999mm | 4101-XD999 | 1.28mm | 4101-X1D28 | 7.5mm | 4101-X7D5 | 24mm | 4101-X24 |
| 1mm | 4101-X1 | 1.29mm | 4101-X1D29 | 7.7mm | 4101-X7D7 | 24.5mm | 4101-X24D5 |
| 1.0005mm | 4101-X1D0005 | 1.3mm | 4101-X1D3 | 8mm | 4101-X8 | 25mm | 4101-X25 |
| 1.001mm | 4101-X1D001 | 1.31mm | 4101-X1D31 | 8.5mm | 4101-X8D5 | 30mm | 4101-X30 |
| 1.002mm | 4101-X1D002 | 1.32mm | 4101-X1D32 | 9mm | 4101-X9 | 35mm | 4101-X35 |
| 1.003mm | 4101-X1D003 | 1.33mm | 4101-X1D33 | 9.5mm | 4101-X9D5 | 40mm | 4101-X40 |
| 1.004mm | 4101-X1D004 | 1.34mm | 4101-X1D34 | 10mm | 4101-X10 | 41.3mm | 4101-X41D3 |
| 1.005mm | 4101-X1D005 | 1.35mm | 4101-X1D35 | 10.3mm | 4101-X10D3 | 45mm | 4101-X45 |
| 1.006mm | 4101-X1D006 | 1.36mm | 4101-X1D36 | 10.5mm | 4101-X10D5 | 50mm | 4101-X50 |
| 1.007mm | 4101-X1D007 | 1.37mm | 4101-X1D37 | 11mm | 4101-X11 | 60mm | 4101-X60 |
| 1.008mm | 4101-X1D008 | 1.38mm | 4101-X1D38 | 11.5mm | 4101-X11D5 | 70mm | 4101-X70 |
| 1.009mm | 4101-X1D009 | 1.39mm | 4101-X1D39 | 12mm | 4101-X12 | 75mm | 4101-X75 |
| 1.01mm | 4101-X1D01 | 1.4mm | 4101-X1D4 | 12.5mm | 4101-X12D5 | 80mm | 4101-X80 |
| 1.02mm | 4101-X1D02 | 1.41mm | 4101-X1D41 | 12.9mm | 4101-X12D9 | 90mm | 4101-X90 |
| 1.03mm | 4101-X1D03 | 1.42mm | 4101-X1D42 | 13mm | 4101-X13 | 100mm | 4101-X100 |
| 1.04mm | 4101-X1D04 | 1.43mm | 4101-X1D43 | 13.5mm | 4101-X13D5 | 125mm | 4101-X125 |
| 1.05mm | 4101-X1D05 | 1.44mm | 4101-X1D44 | 14mm | 4101-X14 | 131.4mm | 4101-X131D4 |
| 1.06mm | 4101-X1D06 | 1.45mm | 4101-X1D45 | 14.5mm | 4101-X14D5 | 150mm | 4101-X150 |
| 1.07mm | 4101-X1D07 | 1.46mm | 4101-X1D46 | 15mm | 4101-X15 | 175mm | 4101-X175 |
| 1.08mm | 4101-X1D08 | 1.47mm | 4101-X1D47 | 15.5mm | 4101-X15D5 | 200mm | 4101-X200 |
| 1.09mm | 4101-X1D09 | 1.48mm | 4101-X1D48 | 16mm | 4101-X16 | 250mm | 4101-X250 |
| 1.1mm | 4101-X1D1 | 1.49mm | 4101-X1D49 | 16.5mm | 4101-X16D5 | 300mm | 4101-X300 |
| 1.11mm | 4101-X1D11 | 1.5mm | 4101-X1D5 | 17mm | 4101-X17 | 400mm | 4101-X400 |
| 1.12mm | 4101-X1D12 | 1.6mm | 4101-X1D6 | 17.5mm | 4101-X17D5 | 500mm | 4101-X500 |
| 1.13mm | 4101-X1D13 | 1.7mm | 4101-X1D7 | 17.6mm | 4101-X17D6 | 600mm | 4101-X600 |
| 1.14mm | 4101-X1D14 | 1.8mm | 4101-X1D8 | 18mm | 4101-X18 | 700mm | 4101-X700 |
| 1.15mm | 4101-X1D15 | 1.9mm | 4101-X1D9 | 18.5mm | 4101-X18D5 | 750mm | 4101-X750 |
| 1.16mm | 4101-X1D16 | 2mm | 4101-X2 | 19mm | 4101-X19 | 800mm | 4101-X800 |
| 1.17mm | 4101-X1D17 | 2.5mm | 4101-X2D5 | 19.5mm | 4101-X19D5 | 900mm | 4101-X900 |
| 1.18mm | 4101-X1D18 | 3mm | 4101-X3 | 20mm | 4101-X20 | 1000mm | 4101-X1000 |

STEEL INDIVIDUAL GAGE BLOCKS

INSIZE PLUS
MADE IN EUROPE



CUSTOM-MADE
CAN SUPPLY ANY SIZES FROM
0.1 TO 1000MM, SUCH AS 72.672MM



4104-A70

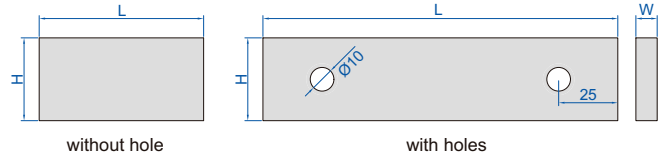


4104-A200

Code explanation:

4104-X□□□□□

- K for grade K
- A for grade 0
- B for grade 1



Code examples:

| Size (L) | Grade | Code |
|----------|-------|------------|
| 0.5mm | K | 4104-KD5 |
| 1mm | 0 | 4104-A1 |
| 10.5mm | 1 | 4104-B10D5 |

Dimension:

| Size (L) | W | H |
|----------------|-----|------|
| 0.5 ≤ L ≤ 10mm | 9mm | 30mm |
| L > 10mm | 9mm | 35mm |

- Grade K, 0 and 1 gage blocks are available
- Made of alloy steel
- Meet ISO3650
- Gage blocks with clamping holes: 125, 150, 175, 200, 250, 300, 400, 500, 600, 700, 800, 900, 1000mm
- Supplied with manufacturer inspection certificate

| Size | Code |
|----------|--------------|
| 0.1mm | 4104-XD1 |
| 0.2mm | 4104-XD2 |
| 0.3mm | 4104-XD3 |
| 0.4mm | 4104-XD4 |
| 0.5mm | 4104-XD5 |
| 1mm | 4104-X1 |
| 1.0005mm | 4104-X1D0005 |
| 1.001mm | 4104-X1D001 |
| 1.002mm | 4104-X1D002 |
| 1.003mm | 4104-X1D003 |
| 1.004mm | 4104-X1D004 |
| 1.005mm | 4104-X1D005 |
| 1.006mm | 4104-X1D006 |
| 1.007mm | 4104-X1D007 |
| 1.008mm | 4104-X1D008 |
| 1.009mm | 4104-X1D009 |
| 1.01mm | 4104-X1D01 |
| 1.02mm | 4104-X1D02 |
| 1.03mm | 4104-X1D03 |
| 1.04mm | 4104-X1D04 |
| 1.05mm | 4104-X1D05 |
| 1.06mm | 4104-X1D06 |
| 1.07mm | 4104-X1D07 |
| 1.08mm | 4104-X1D08 |
| 1.09mm | 4104-X1D09 |
| 1.1mm | 4104-X1D1 |
| 1.11mm | 4104-X1D11 |
| 1.12mm | 4104-X1D12 |
| 1.13mm | 4104-X1D13 |
| 1.14mm | 4104-X1D14 |
| 1.15mm | 4104-X1D15 |
| 1.16mm | 4104-X1D16 |
| 1.17mm | 4104-X1D17 |
| 1.18mm | 4104-X1D18 |
| 1.19mm | 4104-X1D19 |
| 1.2mm | 4104-X1D2 |

| Size | Code |
|--------|------------|
| 1.21mm | 4104-X1D21 |
| 1.22mm | 4104-X1D22 |
| 1.23mm | 4104-X1D23 |
| 1.24mm | 4104-X1D24 |
| 1.25mm | 4104-X1D25 |
| 1.26mm | 4104-X1D26 |
| 1.27mm | 4104-X1D27 |
| 1.28mm | 4104-X1D28 |
| 1.29mm | 4104-X1D29 |
| 1.3mm | 4104-X1D3 |
| 1.31mm | 4104-X1D31 |
| 1.32mm | 4104-X1D32 |
| 1.33mm | 4104-X1D33 |
| 1.34mm | 4104-X1D34 |
| 1.35mm | 4104-X1D35 |
| 1.36mm | 4104-X1D36 |
| 1.37mm | 4104-X1D37 |
| 1.38mm | 4104-X1D38 |
| 1.39mm | 4104-X1D39 |
| 1.4mm | 4104-X1D4 |
| 1.41mm | 4104-X1D41 |
| 1.42mm | 4104-X1D42 |
| 1.43mm | 4104-X1D43 |
| 1.44mm | 4104-X1D44 |
| 1.45mm | 4104-X1D45 |
| 1.46mm | 4104-X1D46 |
| 1.47mm | 4104-X1D47 |
| 1.48mm | 4104-X1D48 |
| 1.49mm | 4104-X1D49 |
| 1.5mm | 4104-X1D5 |
| 1.6mm | 4104-X1D6 |
| 1.7mm | 4104-X1D7 |
| 1.8mm | 4104-X1D8 |
| 1.9mm | 4104-X1D9 |
| 2mm | 4104-X2 |
| 2.5mm | 4104-X2D5 |

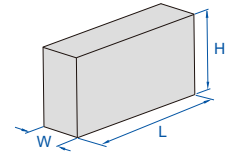
| Size | Code |
|--------|------------|
| 3mm | 4104-X3 |
| 3.5mm | 4104-X3D5 |
| 4mm | 4104-X4 |
| 4.5mm | 4104-X4D5 |
| 5mm | 4104-X5 |
| 5.5mm | 4104-X5D5 |
| 6mm | 4104-X6 |
| 6.5mm | 4104-X6D5 |
| 7mm | 4104-X7 |
| 7.5mm | 4104-X7D5 |
| 8mm | 4104-X8 |
| 8.5mm | 4104-X8D5 |
| 9mm | 4104-X9 |
| 9.5mm | 4104-X9D5 |
| 10mm | 4104-X10 |
| 10.5mm | 4104-X10D5 |
| 11mm | 4104-X11 |
| 11.5mm | 4104-X11D5 |
| 12mm | 4104-X12 |
| 12.5mm | 4104-X12D5 |
| 13mm | 4104-X13 |
| 13.5mm | 4104-X13D5 |
| 14mm | 4104-X14 |
| 14.5mm | 4104-X14D5 |
| 15mm | 4104-X15 |
| 15.5mm | 4104-X15D5 |
| 16mm | 4104-X16 |
| 16.5mm | 4104-X16D5 |
| 17mm | 4104-X17 |
| 17.5mm | 4104-X17D5 |
| 18mm | 4104-X18 |
| 18.5mm | 4104-X18D5 |
| 19mm | 4104-X19 |
| 19.5mm | 4104-X19D5 |
| 20mm | 4104-X20 |
| 20.5mm | 4104-X20D5 |

| Size | Code |
|---------|-------------|
| 21mm | 4104-X21 |
| 21.5mm | 4104-X21D5 |
| 22mm | 4104-X22 |
| 22.5mm | 4104-X22D5 |
| 23mm | 4104-X23 |
| 23.5mm | 4104-X23D5 |
| 24mm | 4104-X24 |
| 24.5mm | 4104-X24D5 |
| 25mm | 4104-X25 |
| 30mm | 4104-X30 |
| 40mm | 4104-X40 |
| 50mm | 4104-X50 |
| 60mm | 4104-X60 |
| 70mm | 4104-X70 |
| 75mm | 4104-X75 |
| 80mm | 4104-X80 |
| 90mm | 4104-X90 |
| 100mm | 4104-X100 |
| 125mm | 4104-X125 |
| 131.4mm | 4104-X131D4 |
| 150mm | 4104-X150 |
| 175mm | 4104-X175 |
| 200mm | 4104-X200 |
| 243.5mm | 4104-X243D5 |
| 250mm | 4104-X250 |
| 281.2mm | 4104-X281D2 |
| 300mm | 4104-X300 |
| 400mm | 4104-X400 |
| 481.1mm | 4104-X481D1 |
| 500mm | 4104-X500 |
| 550mm | 4104-X550 |
| 600mm | 4104-X600 |
| 700mm | 4104-X700 |
| 800mm | 4104-X800 |
| 900mm | 4104-X900 |
| 1000mm | 4104-X1000 |

CARBIDE GAGE BLOCK SETS



4164-32



- Made of carbide, extremely wear resistance and corrosion resistance, excellent dimension stability
- Meet ISO3650
- Supplied with manufacturer inspection certificate

Dimension:

| Size (L) | W | H |
|----------------|-----|------|
| 0.5 ≤ L ≤ 10mm | 9mm | 30mm |
| L > 10mm | 9mm | 35mm |

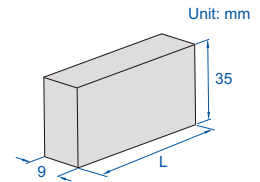
| Blocks per set | Gage blocks included in set | | | Code | |
|----------------|-----------------------------|-----------|----------|----------|-----------|
| | Size (mm) | Step (mm) | Quantity | Grade 0 | Grade 1 |
| 122 | 1.0005 | | 1 | 4164-122 | 4164-1122 |
| | 1.001-1.009 | 0.001 | 9 | | |
| | 1.01-1.49 | 0.01 | 49 | | |
| | 1.6-1.9 | 0.1 | 4 | | |
| | 0.5-24.5 | 0.5 | 49 | | |
| | 30-100 | 10 | 8 | | |
| | 25-75 | 50 | 2 | | |
| 112 | 1.0005 | | 1 | 4164-112 | 4164-1112 |
| | 1.001-1.009 | 0.001 | 9 | | |
| | 1.01-1.49 | 0.01 | 49 | | |
| | 0.5-24.5 | 0.5 | 49 | | |
| | 25-100 | 25 | 4 | | |
| 103 | 1.005 | | 1 | 4164-103 | 4164-1103 |
| | 1.01-1.49 | 0.01 | 49 | | |
| | 0.5-24.5 | 0.5 | 49 | | |
| | 25-100 | 25 | 4 | | |
| 87 | 1.001-1.009 | 0.001 | 9 | 4164-87 | 4164-187 |
| | 1.01-1.49 | 0.01 | 49 | | |
| | 0.5-9.5 | 0.5 | 19 | | |
| | 10-100 | 10 | 10 | | |
| 83 | 0.5 | | 1 | 4164-83 | 4164-183 |
| | 1 | | 1 | | |
| | 1.005 | | 1 | | |
| | 1.01-1.49 | 0.01 | 49 | | |
| | 1.5-1.9 | 0.1 | 5 | | |
| | 2-9.5 | 0.5 | 16 | | |
| | 10-100 | 10 | 10 | | |

| Blocks per set | Gage blocks included in set | | | Code | |
|----------------|-----------------------------|-----------|----------|----------|-----------|
| | Size (mm) | Step (mm) | Quantity | Grade 0 | Grade 1 |
| 76 | 1.005 | | 1 | 4164-76 | 4164-176 |
| | 1.01-1.49 | 0.01 | 49 | | |
| | 0.5-9.5 | 0.5 | 19 | | |
| | 10-40 | 10 | 4 | | |
| | 50-100 | 25 | 3 | | |
| 47 | 1.005 | | 1 | 4164-47A | 4164-147A |
| | 1.01-1.09 | 0.01 | 9 | | |
| | 1.1-1.9 | 0.1 | 9 | | |
| | 1-24 | 1 | 24 | | |
| 47 | 1.005 | | 1 | 4164-47 | 4164-147 |
| | 1.01-1.19 | 0.01 | 19 | | |
| | 1.2-1.9 | 0.1 | 8 | | |
| | 1-9 | 1 | 9 | | |
| | 10-100 | 10 | 10 | | |
| 46 | 1.001-1.009 | 0.001 | 9 | 4164-46 | 4164-146 |
| | 1.01-1.09 | 0.01 | 9 | | |
| | 1.1-1.9 | 0.1 | 9 | | |
| | 1-9 | 1 | 9 | | |
| | 10-100 | 10 | 10 | | |
| 32 | 1.005 | | 1 | 4164-32 | 4164-132 |
| | 1.01-1.09 | 0.01 | 9 | | |
| | 1.1-1.9 | 0.1 | 9 | | |
| | 1-9 | 1 | 9 | | |
| | 10-30 | 10 | 3 | | |
| | | | 10 | | |
| | 50 | | 1 | | |

CALIPER INSPECTION GAGE BLOCK SET



4108-3005



- Meet ISO3650/grade 2
- Supplied with manufacturer inspection certificate

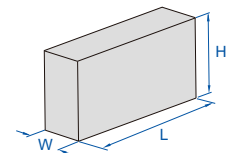
(mm)

| Code | Material | Gage blocks included in set (L) | Applicable calipers |
|-----------|-------------|---------------------------------|---------------------|
| 4108-3005 | alloy steel | 30, 41.3, 131.4, 243.5, 281.2 | 0-150, 0-200, 0-300 |

MICROMETER INSPECTION GAGE BLOCK SETS



4107-10



Dimension:

| Size (L) | W | H |
|----------------|-----|------|
| 0.5 ≤ L ≤ 10mm | 9mm | 30mm |
| L > 10mm | 9mm | 35mm |

- One piece of optical flat is included in 4107-10 and 4107-101
- Meet ISO3650/grade 0
- Supplied with manufacturer inspection certificate

| Code | Material | Gage blocks included in set (mm) | Applicable micrometer | Optical flat |
|----------|-------------|--|-----------------------|--------------|
| 4107-10 | ceramic | 2.5, 5.1, 7.7, 10.3, 12.9, 15, 17.6, 20.2, 22.8, 25, optical flat | 0-25mm | included |
| 4107-101 | alloy steel | 2.5, 5.1, 7.7, 10.3, 12.9, 15, 17.6, 20.2, 22.8, 25, optical flat | 0-25mm | included |
| 4107-112 | alloy steel | 25, 27.5, 30.1, 32.7, 35.3, 37.9, 40, 42.6, 45.2, 47.8, 50 | 25-50mm | not included |
| 4107-113 | alloy steel | 50, 52.5, 55.1, 57.7, 60.3, 62.9, 65, 67.6, 70.2, 72.8, 75 | 50-75mm | not included |
| 4107-114 | alloy steel | 75, 77.5, 80.1, 82.7, 85.3, 87.9, 90, 92.6, 95.2, 97.8, 100 | 75-100mm | not included |
| 4107-115 | alloy steel | 5.12, 10.24, 15.36, 21.5, 25, 30.12, 35.24, 40.36, 46.5, 50, 55.12, 60.24, 65.36, 71.5, 75, 80.12, 85.24, 90.36, 96.5, 100 | 0-100mm | not included |

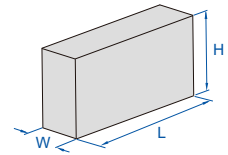


MICROMETER INSPECTION GAGE BLOCK SET

application



4160-10



Dimension:

| Size (L) | W | H |
|----------------|-----|------|
| 0.5 ≤ L ≤ 10mm | 9mm | 30mm |
| L > 10mm | 9mm | 35mm |

optical flat (included)



- Meet ISO3650/grade 0
- One piece of optical flat is included (size Ø30x12mm)
- Supplied with manufacturer inspection certificate

| Code | Material | Gage blocks included in set | Applicable micrometer |
|---------|-------------|---|-----------------------|
| 4160-10 | alloy steel | 2.5mm, 5.1mm, 7.7mm, 10.3mm, 12.9mm, 15mm, 17.6mm, 20.2mm, 22.8mm, 25mm | 0-25mm |

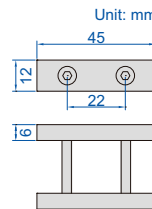
GAGE BLOCK HOLDERS

- Made of aluminum
- To be used with individual steel gage blocks (code 4101) as Go and No-Go gage

| Code | Applicable gage block size |
|--------|----------------------------|
| 6883-1 | 1.5-5mm |
| 6883-2 | 5-10mm |
| 6883-3 | 10-15mm |
| 6883-4 | 15-20mm |
| 6883-5 | 20-25mm |



6883-4



to be used as Go and No-Go gage



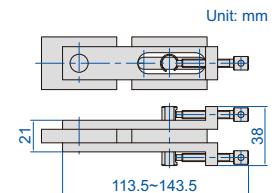
- For gage blocks over 125mm with clamping holes
- Optional accessory: gage block holder accessory, gage block accessory (code 6881)

GAGE BLOCK HOLDER

Code
6886-1

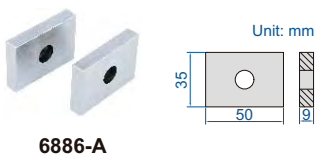


6886-1



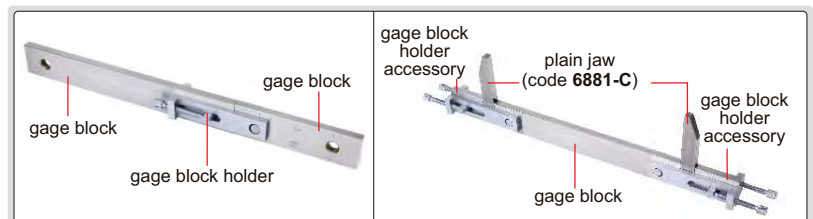
GAGE BLOCK HOLDER ACCESSORY

Code
6886-A

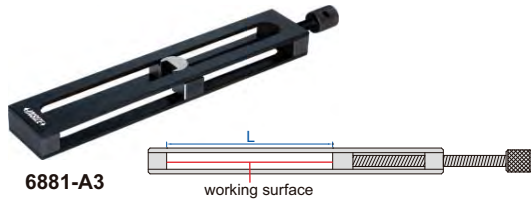


6886-A

application



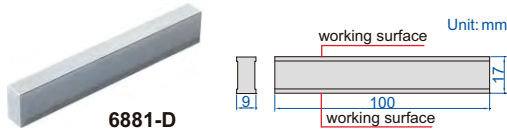
GAGE BLOCK ACCESSORIES



6881-A3

| Code | Name | Clamping range* (L) |
|-----------|--------|---------------------|
| 6881-A1 | holder | 0-25mm |
| 6881-A2 | holder | 25-50mm |
| 6881-A3 | holder | 50-100mm |
| 6881-A4 | holder | 100-200mm |
| 6881-A5 | holder | 200-300mm |
| 6881-A6** | holder | 300-500mm |
| 6881-A7** | holder | 500-750mm |
| 6881-A8** | holder | 750-1000mm |

*The actual clamping range should deduct the width of jaws
 **Not suitable for base 6881-B



6881-D

| Code | Name | Remark |
|--------|--------------|-----------------|
| 6881-D | parallel jaw | made of carbide |



6881-S17

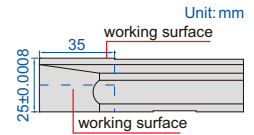
GAGE BLOCK ACCESSORY SET

| Code | Remark |
|----------|--------------------------------|
| 6881-S17 | 17 pcs (including below items) |

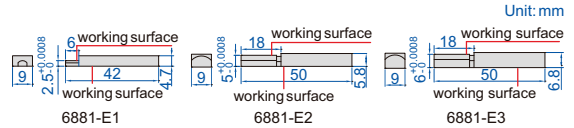
| | |
|--------------------------------------|--------|
| holder, 0-25mm (code 6881-A1) | 1 pc |
| holder, 25-50mm (code 6881-A2) | 1 pc |
| holder, 50-100mm (code 6881-A3) | 1 pc |
| holder, 100-200mm (code 6881-A4) | 1 pc |
| holder, 200-300mm (code 6881-A5) | 1 pc |
| base (code 6881-B) | 1 pc |
| plain jaw (code 6881-C) | 1 pair |
| parallel jaw (code 6881-D) | 1 pc |
| half round jaw, 2.5mm (code 6881-E1) | 1 pair |
| half round jaw, 5.0mm (code 6881-E2) | 1 pair |
| half round jaw, 6.0mm (code 6881-E3) | 1 pair |
| scraper (code 6881-F) | 1 pc |
| centre point (code 6881-G) | 1 pc |



6881-B



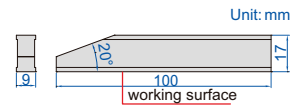
6881-E2



| Code | Name | Size | Remark |
|---------|----------------|-------|-----------------------------------|
| 6881-E1 | half round jaw | 2.5mm | made of carbide, supplied in pair |
| 6881-E2 | half round jaw | 5.0mm | made of carbide, supplied in pair |
| 6881-E3 | half round jaw | 6.0mm | made of carbide, supplied in pair |



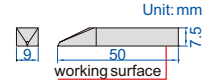
6881-C



| Code | Name | Remark |
|--------|-----------|-----------------------------------|
| 6881-C | plain jaw | made of carbide, supplied in pair |



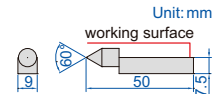
6881-F



| Code | Name | Remark |
|--------|---------|-----------------|
| 6881-F | scraper | made of carbide |



6881-G



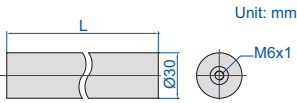
| Code | Name | Remark |
|--------|--------------|----------------------------|
| 6881-G | centre point | the tip is made of carbide |

application

| | | |
|---|--|--|
| <p>(plain jaw+holder) set zero for bore gage and inside micrometers</p> | <p>(base+holder+scraper) measure height or scribe</p> | <p>(half round jaw+holder) measure inside diameter</p> |
| <p>(scraper+centre point+holder) scribe circle</p> | <p>(plain jaw+parallel jaw+holder) Go and No Go inspection</p> | |

**CUSTOM-MADE
CAN SUPPLY ANY LENGTH, SUCH AS 80.672MM**

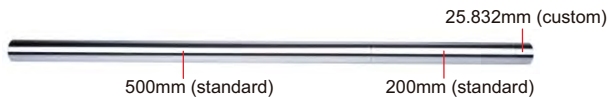
CYLINDER GAGE BLOCKS



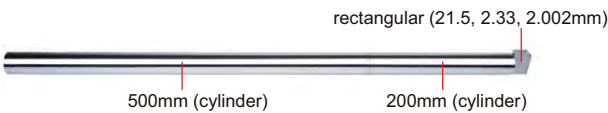
- Made of special alloy steel, hardness HRC64, high stability, wear resistance and easy combination
- Meet ISO3650 grade 1
- Can be connected with M6x1 screw and combined to any sizes up to 4m

can be combined to any sizes up to 4m

Combination 1: combined by several standard size cylinder gage blocks and one custom size cylinder gage block
For example: 500 (standard) + 200 (standard) + 25.832 (custom)=725.832mm
Note: in order to reduce cost, custom size should be within 100mm



Combination 2: combined by standard size cylinder gage blocks and rectangular gage blocks
For example: 500 (cylinder) + 200 (cylinder) + 21.5 (rectangular) + 2.33 (rectangular) + 2.002 (rectangular)=725.832mm



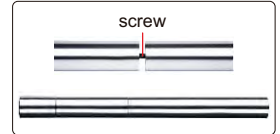
| Code | Length (L) |
|------------|------------|
| 4001-25 * | 25mm |
| 4001-50 * | 50mm |
| 4001-75 * | 75mm |
| 4001-100 * | 100mm |
| 4001-200 * | 200mm |
| 4001-300 * | 300mm |
| 4001-400 * | 400mm |
| 4001-500 * | 500mm |

* Supplied with manufacturer inspection certificate

high stability in vertical position, suitable for checking height gages



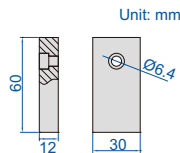
connected with M6x1mm screw



INTERNAL BLOCKS



4001-A



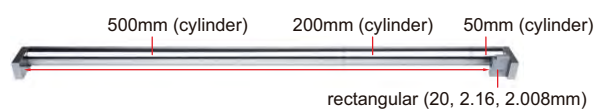
- Can be attached to cylinder and rectangular gage blocks
- Made of special alloy steel, hardness HRC64, high stability, wear resistance and easy combination
- Supplied in a matched pair

| Code | Size | Flatness |
|--------|------|----------|
| 4001-A | 12mm | 0.2µm |

Combination 1: combined by several standard size cylinder gage blocks and one custom size cylinder gage block
For example: 500 (standard) + 200 (standard) + 25.832 (custom)=725.832mm
Note: in order to reduce cost, custom size should be within 100mm



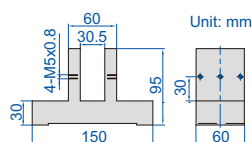
Combination 2: combined by standard size cylinder gage blocks and rectangular gage blocks
For example: 500 (cylinder) + 200 (cylinder) + 50 (rectangular) - 20 (rectangular) - 2.16 (rectangular) - 2.008 (rectangular)=725.832mm



BASE

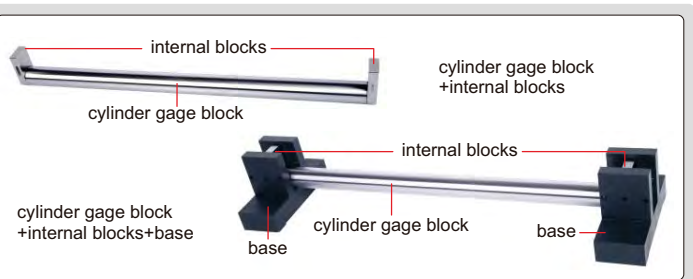


4001-B



| Code | Remark |
|--------|------------------|
| 4001-B | supplied in pair |

working with base

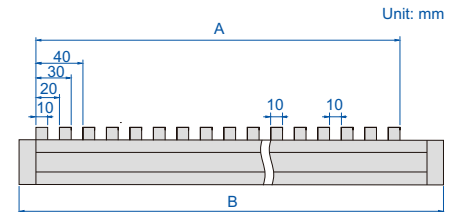


CMM CHECK MASTERS



6882-600A

- To check the accuracy of table movements of machine tools and calibrate CMM
- Horizontal use and vertical use
- Constructed with ceramic gage blocks
- Can be used with stand



Standard accuracy

| Code | Size | Step | A | B |
|--------------|----------|------|--------|--------|
| 6882-300A * | 0-300mm | 10mm | 310mm | 350mm |
| 6882-400A * | 0-400mm | 10mm | 410mm | 450mm |
| 6882-500A * | 0-500mm | 10mm | 510mm | 550mm |
| 6882-600A * | 0-600mm | 10mm | 610mm | 650mm |
| 6882-1000A * | 0-1000mm | 10mm | 1010mm | 1050mm |

High accuracy

| Code | Size | Step | A | B |
|--------------|----------|------|--------|--------|
| 6882-300H * | 0-300mm | 10mm | 310mm | 350mm |
| 6882-400H * | 0-400mm | 10mm | 410mm | 450mm |
| 6882-500H * | 0-500mm | 10mm | 510mm | 550mm |
| 6882-600H * | 0-600mm | 10mm | 610mm | 650mm |
| 6882-1000H * | 0-1000mm | 10mm | 1010mm | 1050mm |

* Supplied with manufacturer inspection certificate



horizontal use



can be used with stand (optional)

Accuracy

| Range (mm) | Standard accuracy | High accuracy |
|-------------|-------------------|---------------|
| ≤300 | ±1.3μm | ±0.8μm |
| >300, ≤400 | ±1.6μm | ±1.0μm |
| >400, ≤500 | ±2.0μm | ±1.0μm |
| >500, ≤600 | ±2.5μm | ±1.0μm |
| >600, ≤800 | ±3.0μm | ±2.5μm |
| >800, ≤1000 | ±4.0μm | ±2.5μm |

Stand (optional)

| Code | Applicable check masters |
|---------|--------------------------|
| 6882-S1 | 6882-300A, 6882-300H |
| 6882-S2 | 6882-400A, 6882-400H |
| 6882-S3 | 6882-500A, 6882-500H |
| 6882-S4 | 6882-600A, 6882-600H |
| 6882-S5 | 6882-1000A, 6882-1000H |

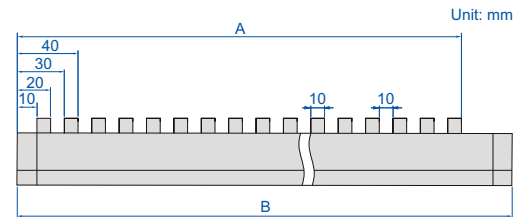


CMM CHECK MASTERS (ADVANCED TYPE)



6874-1000

- To check the accuracy of table movements of machine tools and calibrate CMM
- Horizontal use and vertical use
- Constructed with ceramic gage blocks
- Can be used with stand



| Code | Size | Step | A | B |
|-------------|----------|------|--------|--------|
| 6874-300 * | 0-300mm | 10mm | 320mm | 345mm |
| 6874-450 * | 0-450mm | 10mm | 470mm | 495mm |
| 6874-600 * | 0-600mm | 10mm | 620mm | 645mm |
| 6874-1000 * | 0-1000mm | 10mm | 1020mm | 1045mm |

* Supplied with ISO17025 calibration certificate of Shenzhen Institute of Metrology&Quality Inspection (SMQ)

Accuracy

| Range (mm) | Accuracy | Work face size variation |
|-------------|----------|--------------------------|
| ≤100 | ±1.0μm | 0.5μm |
| >100, ≤200 | ±1.1μm | 0.5μm |
| >200, ≤300 | ±1.3μm | 0.6μm |
| >300, ≤400 | ±1.6μm | 0.7μm |
| >400, ≤500 | ±2.0μm | 0.8μm |
| >500, ≤600 | ±2.5μm | 1.0μm |
| >600, ≤800 | ±3.0μm | 1.4μm |
| >800, ≤1000 | ±4.0μm | 1.8μm |

Stand (optional)

| Code | Applicable check masters |
|--------|------------------------------|
| 6874-A | 6874-300, 6874-450, 6874-600 |
| 6874-B | 6874-1000 |

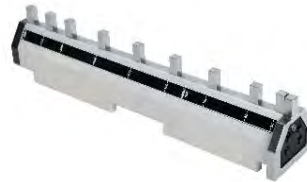
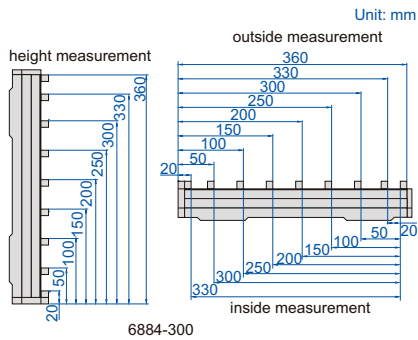


ISO17025 calibration certificate



can be used with stand (optional)

CALIPER/HEIGHT GAGE CHECKERS

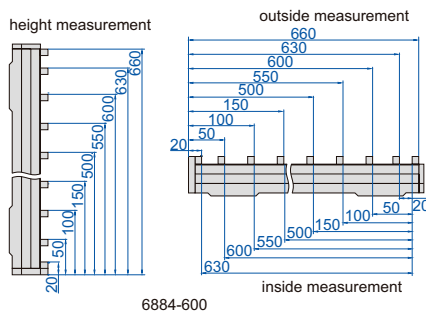


horizontal use

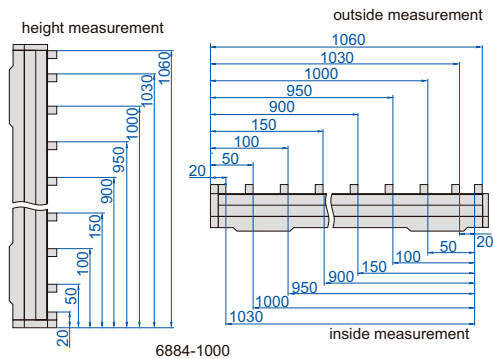


vertical use

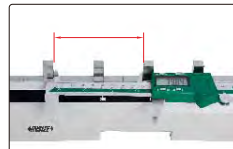
6884-300



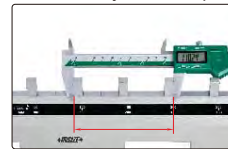
- To check calipers and height gages
- Constructed with steel gage blocks



check upper jaws of calipers



check lower jaws of calipers



check height gages



| Code | Size | Range of inside measurement | Range of outside measurement | Range of height measurement | Accuracy (mm) |
|------------|----------|--|--|--|---------------|
| 6884-300* | 0-300mm | 20, 50, 100, 150, 200, 250, 300, 330 | 20, 50, 100, 150, 200, 250, 300, 330, 360 | 20, 50, 100, 150, 200, 250, 300, 330, 360 | ±3µm |
| 6884-600* | 0-600mm | 20, 50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 630 | 20, 50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 630, 660 | 20, 50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 630, 660 | ±5µm |
| 6884-1000* | 0-1000mm | 20, 50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700, 750, 800, 850, 900, 950, 1000, 1030 | 20, 50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700, 750, 800, 850, 900, 950, 1000, 1030, 1060 | 20, 50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700, 750, 800, 850, 900, 950, 1000, 1030, 1060 | ±7µm |

*Supplied with manufacturer inspection certificate

INSIDE MICROMETER ACCESSORY

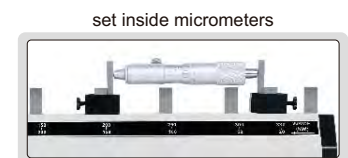
- Supplied with a pair of 5mm carbide gage blocks

Code
6884-A10*



6884-A10

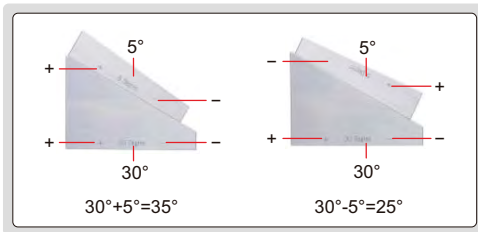
*Supplied with manufacturer inspection certificate



ANGLE GAGE BLOCKS



combination

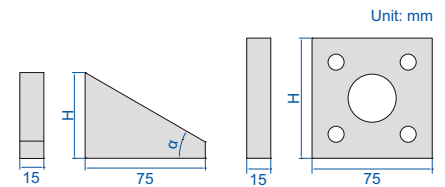


4002-15

- Accuracy: $\pm 2''$
- To inspect protractor, taper gage, index plate, index head and goniometer, can also be used to set angle
- Made of special alloy steel, hardness HRC64, high stability, wear resistance and easy combination
- Can be combined to any angle with interval 6 seconds after combination (6", 12", 18", ... , 360°)

Individual

| Code | Angle (α) | H (mm) |
|------------|--------------------|--------|
| 4002-A1 * | 1° | 11.5 |
| 4002-A3 * | 3° | 14.0 |
| 4002-A5 * | 5° | 16.5 |
| 4002-A9 * | 9° | 22.0 |
| 4002-A15 * | 15° | 30.5 |
| 4002-A27 * | 27° | 48.0 |
| 4002-A30 * | 30° | 53.5 |
| 4002-A41 * | 41° | 75.0 |
| 4002-A45 * | 45° | 84.0 |
| 4002-B1 * | 1' | 10.0 |
| 4002-B3 * | 3' | 10.0 |
| 4002-B5 * | 5' | 10.0 |
| 4002-B9 * | 9' | 10.0 |
| 4002-B20 * | 20' | 10.0 |
| 4002-B27 * | 27' | 10.0 |
| 4002-B30 * | 30' | 10.0 |
| 4002-C6 * | 6" | 10.0 |
| 4002-C12 * | 12" | 10.0 |
| 4002-C18 * | 18" | 10.0 |
| 4002-C30 * | 30" | 10.0 |
| 4002-D * | 90°/90°/90°/90° | 75.0 |



inspect angle



set angle of plate



Set

| Code | Angle (α) | Total quantity |
|-----------|--|----------------|
| 4002-13 * | 1°, 3°, 9°, 27°, 41°, 1', 3', 9', 27', 6", 18", 30", 90°/90°/90°/90° | 13 |
| 4002-15 * | 1°, 3°, 5°, 15°, 30°, 45°, 1', 3', 5', 20', 30', 6", 12", 30", 90°/90°/90°/90° | 15 |

* Supplied with manufacturer inspection certificate

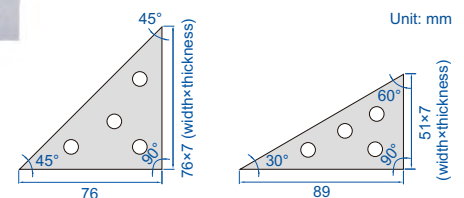
ANGLE BLOCK SET

- For angle set-up in tooling, production and inspection
- Accuracy of angle: ± 9 seconds
- Made of alloy steel
- Hardness HRC60 ± 2



6540-1

| Code | Angle plates included | Angle |
|--------|-----------------------|--------------------------------|
| 6540-1 | 2 | 45°, 45°, 90° 30°, 60°, 90° |



CARBIDE PIN GAGE SETS

- Meet DIN2269, grade 1
- Made of carbide
- Hardness HRA90-90.5
- Diameter accuracy: $\pm 1\mu\text{m}$



4194-10D

| Code | Diameter $\varnothing d$ (mm) | Step | Pin gages per set |
|----------|---------------------------------|--------|-------------------|
| 4194-1S | 0.30, 0.31, 0.32, ..., 1.00 | 0.01mm | 71 |
| 4194-2S | 1.00, 1.01, 1.02, ..., 2.00 | 0.01mm | 101 |
| 4194-3S | 2.00, 2.01, 2.02, ..., 3.00 | 0.01mm | 101 |
| 4194-4S | 3.00, 3.01, 3.02, ..., 4.00 | 0.01mm | 101 |
| 4194-5S | 4.00, 4.01, 4.02, ..., 5.00 | 0.01mm | 101 |
| 4194-6S | 5.00, 5.01, 5.02, ..., 6.00 | 0.01mm | 101 |
| 4194-7S | 6.00, 6.01, 6.02, ..., 7.00 | 0.01mm | 101 |
| 4194-8S | 7.00, 7.01, 7.02, ..., 8.00 | 0.01mm | 101 |
| 4194-9S | 8.00, 8.01, 8.02, ..., 9.00 | 0.01mm | 101 |
| 4194-10S | 9.00, 9.01, 9.02, ..., 10.00 | 0.01mm | 101 |
| 4194-10D | 10.00, 10.01, 10.02, ..., 10.50 | 0.01mm | 51 |
| 4194-11 | 10.50, 10.51, 10.52, ..., 11.00 | 0.01mm | 51 |
| 4194-11D | 11.00, 11.01, 11.02, ..., 11.50 | 0.01mm | 51 |
| 4194-12 | 11.50, 11.51, 11.52, ..., 12.00 | 0.01mm | 51 |
| 4194-12D | 12.00, 12.01, 12.02, ..., 12.50 | 0.01mm | 51 |
| 4194-13 | 12.50, 12.51, 12.52, ..., 13.00 | 0.01mm | 51 |
| 4194-13D | 13.00, 13.01, 13.02, ..., 13.50 | 0.01mm | 51 |
| 4194-14 | 13.50, 13.51, 13.52, ..., 14.00 | 0.01mm | 51 |
| 4194-14D | 14.00, 14.01, 14.02, ..., 14.50 | 0.01mm | 51 |
| 4194-15 | 14.50, 14.51, 14.52, ..., 15.00 | 0.01mm | 51 |

Unit: mm



CARBIDE INDIVIDUAL PIN GAGES



14

- Meet DIN2269, grade 1
- Diameter range: $\varnothing 0.300\text{--}\varnothing 30.000\text{mm}$ with three decimal, for example 0.311mm, 5.562mm, 16.298mm
- Diameter accuracy: $\pm 1\mu\text{m}$
- Made of carbide
- Hardness HRA90-90.5
- Optional accessory: wooden box (code 7340)



Unit: mm



Ordering examples:

| | |
|----------|-------------|
| Diameter | Code |
| 0.311mm | 4193-0D311 |
| 5.562mm | 4193-5D562 |
| 16.298mm | 4193-16D298 |

Note: "D" stands for "."

4193-8D015

| Code | Diameter range $\varnothing d$ (mm) |
|------------|-------------------------------------|
| 4193-□□□□* | 0.300~30.000 |

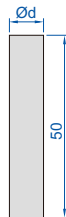
*Supplied with manufacturer inspection certificate

**POPULAR
MODEL**

STEEL PIN GAGE SETS

- Meet DIN2269, grade 1
- Made of alloy steel
- Hardness HRC62-65
- Diameter accuracy: $\pm 1\mu\text{m}$

Unit: mm



4166-10

| Code | Diameter $\varnothing d$ (mm) | Step | Pin gages per set |
|----------|-------------------------------|--------|-------------------|
| 4166-2S | 1.00, 1.01, 1.02, ..., 2.00 | 0.01mm | 101 |
| 4166-3S | 2.00, 2.01, 2.02, ..., 3.00 | 0.01mm | 101 |
| 4166-4S | 3.00, 3.01, 3.02, ..., 4.00 | 0.01mm | 101 |
| 4166-5S | 4.00, 4.01, 4.02, ..., 5.00 | 0.01mm | 101 |
| 4166-6S | 5.00, 5.01, 5.02, ..., 6.00 | 0.01mm | 101 |
| 4166-7S | 6.00, 6.01, 6.02, ..., 7.00 | 0.01mm | 101 |
| 4166-8S | 7.00, 7.01, 7.02, ..., 8.00 | 0.01mm | 101 |
| 4166-9S | 8.00, 8.01, 8.02, ..., 9.00 | 0.01mm | 101 |
| 4166-10S | 9.00, 9.01, 9.02, ..., 10.00 | 0.01mm | 101 |

| Code | Diameter $\varnothing d$ (mm) | Step | Pin gages per set |
|----------|-------------------------------|-------|-------------------|
| 4166-411 | 1.0, 1.1, 1.2, ..., 5.0 | 0.1mm | 41 |
| 4166-511 | 5.0, 5.1, 5.2, ..., 10.0 | 0.1mm | 51 |
| 4166-512 | 10.0, 10.1, 10.2, ..., 15.0 | 0.1mm | 51 |
| 4166-513 | 15.0, 15.1, 15.2, ..., 20.0 | 0.1mm | 51 |

| Code | Diameter $\varnothing d$ (mm) | Step | Pin gages per set |
|---------|-------------------------------|--------|-------------------|
| 4166-0D | 0.20, 0.21, 0.22, ..., 0.50 | 0.01mm | 31 |
| 4166-1 | 0.50, 0.51, 0.52, ..., 1.00 | 0.01mm | 51 |
| 4166-1D | 1.00, 1.01, 1.02, ..., 1.50 | 0.01mm | 51 |
| 4166-2 | 1.50, 1.51, 1.52, ..., 2.00 | 0.01mm | 51 |
| 4166-2D | 2.00, 2.01, 2.02, ..., 2.50 | 0.01mm | 51 |
| 4166-3 | 2.50, 2.51, 2.52, ..., 3.00 | 0.01mm | 51 |
| 4166-3D | 3.00, 3.01, 3.02, ..., 3.50 | 0.01mm | 51 |
| 4166-4 | 3.50, 3.51, 3.52, ..., 4.00 | 0.01mm | 51 |
| 4166-4D | 4.00, 4.01, 4.02, ..., 4.50 | 0.01mm | 51 |
| 4166-5 | 4.50, 4.51, 4.52, ..., 5.00 | 0.01mm | 51 |
| 4166-5D | 5.00, 5.01, 5.02, ..., 5.50 | 0.01mm | 51 |
| 4166-6 | 5.50, 5.51, 5.52, ..., 6.00 | 0.01mm | 51 |
| 4166-6D | 6.00, 6.01, 6.02, ..., 6.50 | 0.01mm | 51 |
| 4166-7 | 6.50, 6.51, 6.52, ..., 7.00 | 0.01mm | 51 |
| 4166-7D | 7.00, 7.01, 7.02, ..., 7.50 | 0.01mm | 51 |
| 4166-8 | 7.50, 7.51, 7.52, ..., 8.00 | 0.01mm | 51 |
| 4166-8D | 8.00, 8.01, 8.02, ..., 8.50 | 0.01mm | 51 |
| 4166-9 | 8.50, 8.51, 8.52, ..., 9.00 | 0.01mm | 51 |
| 4166-9D | 9.00, 9.01, 9.02, ..., 9.50 | 0.01mm | 51 |
| 4166-10 | 9.50, 9.51, 9.52, ..., 10.00 | 0.01mm | 51 |

| Code | Diameter $\varnothing d$ (mm) | Step | Pin gages per set |
|----------|---------------------------------|--------|-------------------|
| 4166-10D | 10.00, 10.01, 10.02, ..., 10.50 | 0.01mm | 51 |
| 4166-11 | 10.50, 10.51, 10.52, ..., 11.00 | 0.01mm | 51 |
| 4166-11D | 11.00, 11.01, 11.02, ..., 11.50 | 0.01mm | 51 |
| 4166-12 | 11.50, 11.51, 11.52, ..., 12.00 | 0.01mm | 51 |
| 4166-12D | 12.00, 12.01, 12.02, ..., 12.50 | 0.01mm | 51 |
| 4166-13 | 12.50, 12.51, 12.52, ..., 13.00 | 0.01mm | 51 |
| 4166-13D | 13.00, 13.01, 13.02, ..., 13.50 | 0.01mm | 51 |
| 4166-14 | 13.50, 13.51, 13.52, ..., 14.00 | 0.01mm | 51 |
| 4166-14D | 14.00, 14.01, 14.02, ..., 14.50 | 0.01mm | 51 |
| 4166-15 | 14.50, 14.51, 14.52, ..., 15.00 | 0.01mm | 51 |
| 4166-15D | 15.00, 15.01, 15.02, ..., 15.50 | 0.01mm | 51 |
| 4166-16 | 15.50, 15.51, 15.52, ..., 16.00 | 0.01mm | 51 |
| 4166-16D | 16.00, 16.01, 16.02, ..., 16.50 | 0.01mm | 51 |
| 4166-17 | 16.50, 16.51, 16.52, ..., 17.00 | 0.01mm | 51 |
| 4166-17D | 17.00, 17.01, 17.02, ..., 17.50 | 0.01mm | 51 |
| 4166-18 | 17.50, 17.51, 17.52, ..., 18.00 | 0.01mm | 51 |
| 4166-18D | 18.00, 18.01, 18.02, ..., 18.50 | 0.01mm | 51 |
| 4166-19 | 18.50, 18.51, 18.52, ..., 19.00 | 0.01mm | 51 |
| 4166-19D | 19.00, 19.01, 19.02, ..., 19.50 | 0.01mm | 51 |
| 4166-20 | 19.50, 19.51, 19.52, ..., 20.00 | 0.01mm | 51 |

STEEL INDIVIDUAL PIN GAGES WITH TWO DECIMAL PLACES (0.01MM STEP)

Ordering examples:

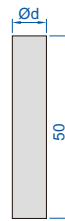
| Diameter | Code |
|----------|------------|
| 0.21mm | 4110-0D21 |
| 5.56mm | 4110-5D56 |
| 16.00mm | 4110-16D00 |

Note : "D" stands for "."



4110-9D98

Unit: mm



Diameter Ød (mm)

| |
|--|
| 0.20, 0.21, 0.22, 0.23, ..., 1.00 |
| 1.01, 1.02, 1.03, 1.04, ..., 2.00 |
| 2.01, 2.02, 2.03, 2.04, ..., 3.00 |
| 3.01, 3.02, 3.03, 3.04, ..., 4.00 |
| 4.01, 4.02, 4.03, 4.04, ..., 5.00 |
| 5.01, 5.02, 5.03, 5.04, ..., 6.00 |
| 6.01, 6.02, 6.03, 6.04, ..., 7.00 |
| 7.01, 7.02, 7.03, 7.04, ..., 8.00 |
| 8.01, 8.02, 8.03, 8.04, ..., 9.00 |
| 9.01, 9.02, 9.03, 9.04, ..., 10.00 |
| 10.01, 10.02, 10.03, 10.04, ..., 11.00 |
| 11.01, 11.02, 11.03, 11.04, ..., 12.00 |
| 12.01, 12.02, 12.03, 12.04, ..., 13.00 |
| 13.01, 13.02, 13.03, 13.04, ..., 14.00 |
| 14.01, 14.02, 14.03, 14.04, ..., 15.00 |
| 15.01, 15.02, 15.03, 15.04, ..., 16.00 |
| 16.01, 16.02, 16.03, 16.04, ..., 17.00 |
| 17.01, 17.02, 17.03, 17.04, ..., 18.00 |
| 18.01, 18.02, 18.03, 18.04, ..., 19.00 |
| 19.01, 19.02, 19.03, 19.04, ..., 20.00 |

- Meet DIN2269, grade 1
- Diameter range: Ø0.20~Ø20.00mm
- Diameter accuracy: ±1µm
- Made of alloy steel
- Hardness HRC62-65
- Optional accessory: wooden box (code 7340)

Code

4110-□□□□

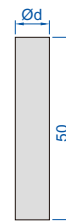
STEEL INDIVIDUAL PIN GAGES WITH THREE DECIMAL PLACES (0.001MM STEP)

- Meet DIN2269, grade 1
- Diameter range: Ø0.200~Ø30.000mm with three decimal, for example 0.211mm, 5.562mm, 16.298mm
- Diameter accuracy: ±1µm
- Made of alloy steel
- Hardness HRC62-65
- Optional accessory: wooden box (code 7340)



4118-8D015

Unit: mm



Ordering examples:

| Diameter | Code |
|----------|-------------|
| 0.211mm | 4118-0D211 |
| 5.562mm | 4118-5D562 |
| 16.298mm | 4118-16D298 |

Note: "D" stands for "."

Code

4118-□□□□*

Diameter range Ød (mm)

0.200~30.000

* Supplied with manufacturer inspection certificate

14

CERAMIC INDIVIDUAL PIN GAGES

- Meet DIN2269, grade 1
- Diameter range: Ø1.000~Ø15.000mm
- With three decimal, for example 1.211mm, 5.562mm, 14.955mm
- Diameter accuracy: ±1µm
- Made of ceramic, extremely wear resistance, corrosion resistance and dimensional stability
- Optional accessory: wooden box (code 7340)



4192-10D000

Unit: mm



Ordering examples:

| Diameter | Code |
|----------|-------------|
| 1.211mm | 4192-1D211 |
| 5.562mm | 4192-5D562 |
| 14.955mm | 4192-14D955 |

Note : "D" stands for "."

Code

4192-□□□□

Diameter range Ød (mm)

1.000-15.000

BOXES FOR PIN GAGES

- For individual pin gages (4110, 4118, 4192 and 4193 series)



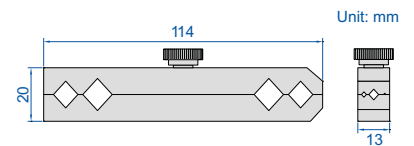
7340

| Code | Applicable pin gage diameter Ød | Quantity of pin gages |
|----------|---------------------------------|-----------------------|
| 7340 | 0.20-10.00mm | 51 pcs |
| 7340-101 | 0.20-10.00mm | 101 pcs |
| 7340-201 | 10.00-15.00mm | 51 pcs |
| 7340-202 | 15.00-20.00mm | 51 pcs |

PIN GAGE HANDLE



7345-13



- Operated without wrench
- Made of aluminum

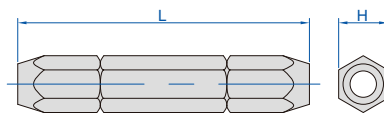
application



| Code | Applicable pin gage diameter |
|---------|------------------------------|
| 7345-13 | 1~13mm |

PIN GAGE HANDLES (OPERATED WITHOUT WRENCH)

- Operated without wrench
- Made of aluminum
- Pin gages can be installed



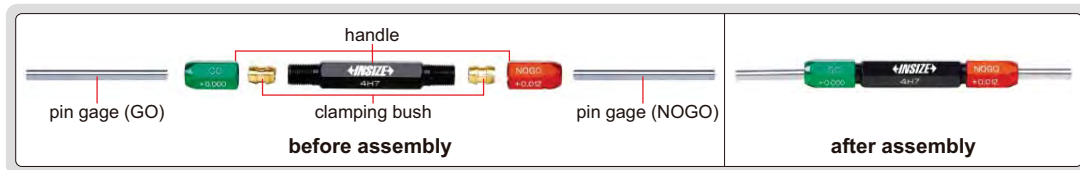
7342-M1

| Code | Applicable pin gage diameter | H | L |
|---------|------------------------------|----|-----|
| 7342-M0 | 0.30-1.50mm/0.011-0.049" | 10 | 112 |
| 7342-M1 | 1.51-6.35mm/0.050-0.250" | 24 | 131 |
| 7342-M2 | 6.36-12.70mm/0.251-0.500" | 32 | 152 |
| 7342-M3 | 12.71-15.88mm/0.501-0.625" | 37 | 152 |
| 7342-M4 | 15.89-19.00mm/0.626-0.750" | 37 | 152 |
| 7342-M5 | 19.01-21.13mm/0.751-0.832" | 40 | 158 |
| 7342-M6 | 21.14-23.27mm/0.833-0.916" | 40 | 158 |
| 7342-M7 | 23.28-25.40mm/0.917-1.000" | 40 | 158 |

application



PIN GAGE HANDLES (OPERATED WITH WRENCH)



handle



brass clamping bush
(0.2~7.14mm)



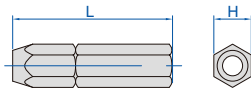
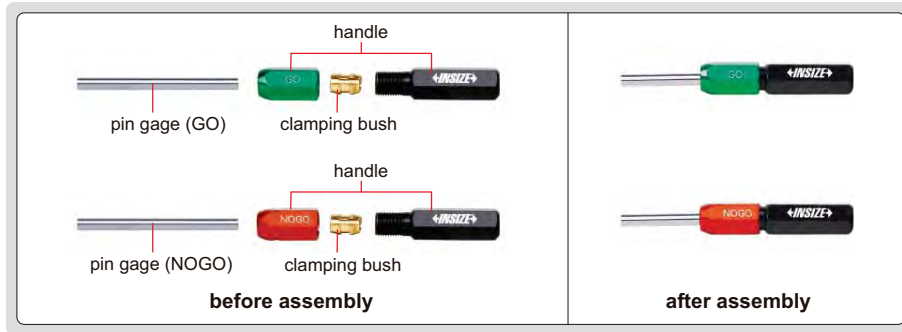
aluminum clamping bush
(7.14~24.80mm)

- Wrench is needed to install pins
- Clamping bushes (0.2~7.14mm) are made of brass, clamping bushes (7.14~24.80mm) are made of aluminum

(mm)

| Code | Applicable pin gage diameter | Including | | H | L |
|----------|------------------------------|-----------|---|----|-----|
| | | handle | clamping bush (mm) | | |
| 7341-0S | 0.2-1.02mm | 1 pc | 6 pairs (the clamping range are 0.2-0.38, 0.38-0.51, 0.51-0.64, 0.64-0.76, 0.76-0.89, 0.89-1.02) | 7 | 57 |
| 7341-1S | 1.02-1.91mm | 1 pc | 7 pairs (the clamping range are 1.02-1.14, 1.14-1.27, 1.27-1.40, 1.40-1.52, 1.52-1.65, 1.65-1.78, 1.78-1.91) | 7 | 57 |
| 7341-2S | 1.91-3.33mm | 1 pc | 8 pairs (the clamping range are 1.91-2.08, 2.08-2.26, 2.26-2.44, 2.44-2.62, 2.62-2.79, 2.79-2.97, 2.97-3.15, 3.15-3.33) | 9 | 73 |
| 7341-3S | 3.33-4.57mm | 1 pc | 7 pairs (the clamping range are 3.33-3.51, 3.51-3.68, 3.68-3.86, 3.86-4.04, 4.04-4.22, 4.22-4.39, 4.39-4.57) | 9 | 73 |
| 7341-4S | 4.57-5.79mm | 1 pc | 6 pairs (the clamping range are 4.57-4.78, 4.78-4.98, 4.98-5.18, 5.18-5.38, 5.38-5.59, 5.59-5.79) | 14 | 79 |
| 7341-5S | 5.79-7.14mm | 1 pc | 6 pairs (the clamping range are 5.79-5.99, 5.99-6.20, 6.20-6.40, 6.40-6.63, 6.63-6.88, 6.88-7.14) | 14 | 79 |
| 7341-6S | 7.14-8.66mm | 1 pc | 6 pairs (the clamping range are 7.14-7.39, 7.39-7.65, 7.65-7.90, 7.90-8.15, 8.15-8.41, 8.41-8.66) | 19 | 91 |
| 7341-7S | 8.66-10.31mm | 1 pc | 6 pairs (the clamping range are 8.66-8.92, 8.9-9.17, 9.17-9.42, 9.42-9.70, 9.70-10.01, 10.01-10.31) | 19 | 91 |
| 7341-8S | 10.31-11.81mm | 1 pc | 4 pairs (the clamping range are 10.31-10.67, 10.67-11.05, 11.05-11.43, 11.43-11.81) | 22 | 106 |
| 7341-9S | 11.81-12.95mm | 1 pc | 3 pairs (the clamping range are 11.81-12.19, 12.19-12.57, 12.57-12.95) | 22 | 106 |
| 7341-10S | 12.95-14.71mm | 1 pc | 4 pairs (the clamping range are 12.95-13.51, 13.51-13.89, 13.89-14.30, 14.30-14.71) | 24 | 115 |
| 7341-11S | 14.71-16.13mm | 1 pc | 4 pairs (the clamping range are 14.71-15.09, 15.09-15.49, 15.49-15.88, 15.88-16.13) | 24 | 115 |
| 7341-12S | 16.13-17.88mm | 1 pc | 4 pairs (the clamping range are 16.13-16.66, 16.66-17.07, 17.07-17.48, 17.48-17.88) | 27 | 118 |
| 7341-13S | 17.88-19.30mm | 1 pc | 4 pairs (the clamping range are 17.88-18.26, 18.26-18.67, 18.67-19.05, 19.05-19.30) | 27 | 118 |
| 7341-15S | 19.30-24.80mm | 1 pc | 8 pairs (the clamping range are 19.30-19.84, 19.84-20.62, 20.62-21.41, 21.41-22.23, 22.23-23.03, 23.03-23.80, 23.80-24.59, 24.59-24.80) | 32 | 133 |

SINGLE END PIN GAGE HANDLES (OPERATED WITH WRENCH)



7344-4G
green (GO)



7344-4R
red (NOGO)



brass clamping bush
(0.2~7.14mm)



aluminum clamping bush
(7.14~24.80mm)

- Wrench is needed to install pins
- Clamping bushes (0.2~7.14mm) are made of brass, clamping bushes (7.14~24.80mm) are made of aluminum

(mm)

| Code | | Including | | Applicable pin gage diameter | H | L |
|------------|------------|-----------|---|------------------------------|----|-----|
| green (GO) | red (NOGO) | handle | clamping bush (mm) | | | |
| 7344-0G | 7344-0R | 1 pc | 6 pcs (the clamping range are 0.2-0.38, 0.38-0.51, 0.51-0.64, 0.64-0.76, 0.76-0.89, 0.89-1.02) | 0.2-1.02mm | 7 | 52 |
| 7344-1G | 7344-1R | 1 pc | 7 pcs (the clamping range are 1.02-1.14, 1.14-1.27, 1.27-1.40, 1.40-1.52, 1.52-1.65, 1.65-1.78, 1.78-1.91) | 1.02-1.91mm | 7 | 52 |
| 7344-2G | 7344-2R | 1 pc | 8 pcs (the clamping range are 1.91-2.08, 2.08-2.26, 2.26-2.44, 2.44-2.62, 2.62-2.79, 2.79-2.97, 2.97-3.15, 3.15-3.33) | 1.91-3.33mm | 9 | 68 |
| 7344-3G | 7344-3R | 1 pc | 7 pcs (the clamping range are 3.33-3.51, 3.51-3.68, 3.68-3.86, 3.86-4.04, 4.04-4.22, 4.22-4.39, 4.39-4.57) | 3.33-4.57mm | 9 | 68 |
| 7344-4G | 7344-4R | 1 pc | 6 pcs (the clamping range are 4.57-4.78, 4.78-4.98, 4.98-5.18, 5.18-5.38, 5.38-5.59, 5.59-5.79) | 4.57-5.79mm | 14 | 73 |
| 7344-5G | 7344-5R | 1 pc | 6 pcs (the clamping range are 5.79-5.99, 5.99-6.20, 6.20-6.40, 6.40-6.63, 6.63-6.88, 6.88-7.14) | 5.79-7.14mm | 14 | 73 |
| 7344-6G | 7344-6R | 1 pc | 6 pcs (the clamping range are 7.14-7.39, 7.39-7.65, 7.65-7.90, 7.90-8.15, 8.15-8.41, 8.41-8.66) | 7.14-8.66mm | 19 | 79 |
| 7344-7G | 7344-7R | 1 pc | 6 pcs (the clamping range are 8.66-8.92, 8.92-9.17, 9.17-9.42, 9.42-9.70, 9.70-10.01, 10.01-10.31) | 8.66-10.31mm | 19 | 79 |
| 7344-8G | 7344-8R | 1 pc | 4 pcs (the clamping range are 10.31-10.67, 10.67-11.05, 11.05-11.43, 11.43-11.81) | 10.31-11.81mm | 22 | 93 |
| 7344-9G | 7344-9R | 1 pc | 3 pcs (the clamping range are 11.81-12.19, 12.19-12.57, 12.57-12.95) | 11.81-12.95mm | 22 | 93 |
| 7344-10G | 7344-10R | 1 pc | 4 pcs (the clamping range are 12.95-13.51, 13.51-13.89, 13.89-14.30, 14.30-14.71) | 12.95-14.71mm | 24 | 98 |
| 7344-11G | 7344-11R | 1 pc | 4 pcs (the clamping range are 14.71-15.09, 15.09-15.49, 15.49-15.88, 15.88-16.13) | 14.71-16.13mm | 24 | 98 |
| 7344-12G | 7344-12R | 1 pc | 4 pcs (the clamping range are 16.13-16.66, 16.66-17.07, 17.07-17.48, 17.48-17.88) | 16.13-17.88mm | 27 | 110 |
| 7344-13G | 7344-13R | 1 pc | 4 pcs (the clamping range are 17.88-18.26, 18.26-18.67, 18.67-19.05, 19.05-19.30) | 17.88-19.30mm | 27 | 110 |
| 7344-15G | 7344-15R | 1 pc | 8 pcs (the clamping range are 19.30-19.84, 19.84-20.62, 20.62-21.41, 21.41-22.23, 22.23-23.03, 23.03-23.80, 23.80-24.59, 24.59-24.80) | 19.30-24.80mm | 32 | 118 |

CAN SUPPLY CUSTOM SIZES FROM Ø3.000mm TO Ø200.000mm, FOR EXAMPLE, Ø20.218mm

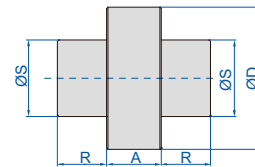
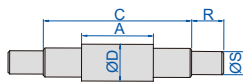


CYLINDER GAGES

- Made of tungsten steel, quenched, ultra-low temperature treatment
- Wear resistant, long life, dimension stability
- Hardness HRC60-62



6316-30

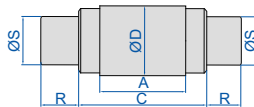


| Diameter ØD** | A | C | R | ØS | Size*** difference | Roundness and cylindricity |
|---------------|-------|-------|------|-----|--------------------|----------------------------|
| 3.0-3.81 | 9.52 | 17.46 | 11.1 | 2.4 | ±5µm | 0.5µm |
| 3.81-5.84 | 11.11 | 19.05 | 11.1 | 3.2 | ±5µm | 0.5µm |
| 5.84-9.27 | 12.7 | 20.64 | 11.1 | 5.6 | ±5µm | 0.5µm |

(mm)

| Diameter ØD** | A | ØS | R | Size*** difference | Roundness and cylindricity |
|---------------|------|------|------|--------------------|----------------------------|
| 38.35-51.05 | 31.8 | 22.2 | 15.8 | ±5µm | 1µm |
| 51.05-63.75 | 31.8 | 22.2 | 15.8 | ±5µm | 1µm |
| 63.75-76.45 | 38.1 | 25.4 | 39.8 | ±5µm | 1.2µm |
| 76.45-89.15 | 38.1 | 25.4 | 39.8 | ±5µm | 1.2µm |
| 89.15-101.85 | 38.1 | 25.4 | 39.8 | ±5µm | 1.2µm |
| 101.85-114.55 | 38.1 | 25.4 | 39.8 | ±5µm | 1.2µm |
| 114.55-127.25 | 38.1 | 25.4 | 39.8 | ±5µm | 1.6µm |
| 127.25-139.95 | 38.1 | 25.4 | 39.8 | ±5µm | 1.6µm |
| 139.95-152.62 | 38.1 | 25.4 | 39.8 | ±5µm | 1.6µm |
| 152.65-165.35 | 38.1 | 25.4 | 39.8 | ±5µm | 1.6µm |
| 165.35-178.05 | 38.1 | 25.4 | 39.8 | ±5µm | 2µm |
| 178.05-190.75 | 38.1 | 25.4 | 39.8 | ±5µm | 2µm |
| 190.75-203.45 | 38.1 | 25.4 | 39.8 | ±5µm | 2µm |

(mm)



| Diameter ØD** | A | C | R | ØS | Size*** difference | Roundness and cylindricity |
|---------------|-------|-------|------|------|--------------------|----------------------------|
| 9.27-12.95 | 14.29 | 22.22 | 12.7 | 8.7 | ±5µm | 0.5µm |
| 12.95-20.96 | 15.88 | 23.81 | 12.7 | 12.7 | ±5µm | 0.5µm |
| 20.96-28.83 | 17.46 | 25.4 | 15.9 | 19 | ±5µm | 0.7µm |
| 28.83-38.35 | 20.64 | 28.58 | 15.9 | 25.4 | ±5µm | 0.7µm |

(mm)

** For example, 3-3.81 indicates 3mm<D≤3.8mm

*** Size difference (difference between the ordered size and the size marked on the cylinder gages when supplied). For example, the ordered size is Ø3.000mm, the size marked on the cylinder gages when supplied may be Ø3.003mm

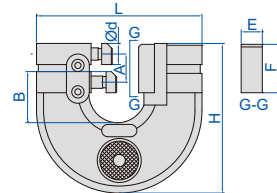
| Code | ØD | Code | ØD | Code | ØD | Code | ØD | Code | ØD |
|----------|-------|----------|-------|----------|-------|----------|-------|-----------|--------|
| 6316-3* | Ø3mm | 6316-16* | Ø16mm | 6316-29* | Ø29mm | 6316-42* | Ø42mm | 6316-70* | Ø70mm |
| 6316-4* | Ø4mm | 6316-17* | Ø17mm | 6316-30* | Ø30mm | 6316-43* | Ø43mm | 6316-75* | Ø75mm |
| 6316-5* | Ø5mm | 6316-18* | Ø18mm | 6316-31* | Ø31mm | 6316-44* | Ø44mm | 6316-80* | Ø80mm |
| 6316-6* | Ø6mm | 6316-19* | Ø19mm | 6316-32* | Ø32mm | 6316-45* | Ø45mm | 6316-85* | Ø85mm |
| 6316-7* | Ø7mm | 6316-20* | Ø20mm | 6316-33* | Ø33mm | 6316-46* | Ø46mm | 6316-87* | Ø87mm |
| 6316-8* | Ø8mm | 6316-21* | Ø21mm | 6316-34* | Ø34mm | 6316-47* | Ø47mm | 6316-90* | Ø90mm |
| 6316-9* | Ø9mm | 6316-22* | Ø22mm | 6316-35* | Ø35mm | 6316-48* | Ø48mm | 6316-95* | Ø95mm |
| 6316-10* | Ø10mm | 6316-23* | Ø23mm | 6316-36* | Ø36mm | 6316-49* | Ø49mm | 6316-100* | Ø100mm |
| 6316-11* | Ø11mm | 6316-24* | Ø24mm | 6316-37* | Ø37mm | 6316-50* | Ø50mm | 6316-125* | Ø125mm |
| 6316-12* | Ø12mm | 6316-25* | Ø25mm | 6316-38* | Ø38mm | 6316-55* | Ø55mm | 6316-150* | Ø150mm |
| 6316-13* | Ø13mm | 6316-26* | Ø26mm | 6316-39* | Ø39mm | 6316-60* | Ø60mm | 6316-175* | Ø175mm |
| 6316-14* | Ø14mm | 6316-27* | Ø27mm | 6316-40* | Ø40mm | 6316-62* | Ø62mm | 6316-200* | Ø200mm |
| 6316-15* | Ø15mm | 6316-28* | Ø28mm | 6316-41* | Ø41mm | 6316-65* | Ø65mm | | |

*Supplied with manufacturer inspection certificate

**FAST AND ACCURATE
MEASUREMENT OF CYLINDERS**

ADJUSTABLE SNAP GAGES

- Used as Go/No-Go gage by setting upper and lower limits
- Flatness of anvil: 1.5µm
- Parallelism of measuring faces:
range 0-32mm: 3µm
range 32-89mm: 4µm
range 89-300mm: 5µm



2187-19

(mm)

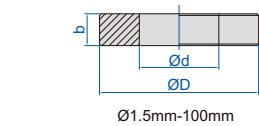
| Code | Range | L | A | B | E | F | H | Ød |
|----------|-----------|-------|------|-------|------|------|------|------|
| 2187-6 | 0-6mm | 74 | 15 | 17.5 | 12.2 | 27.2 | 71.5 | 7 |
| 2187-13 | 6-13mm | 85 | 15 | 26 | 12.2 | 27.2 | 79.5 | 12.3 |
| 2187-19 | 13-19mm | 93 | 15 | 27 | 12.2 | 27.2 | 83 | 12.3 |
| 2187-25 | 19-25mm | 100 | 15 | 33.5 | 12.2 | 27.2 | 89.5 | 12.3 |
| 2187-32 | 25-32mm | 111 | 18 | 38.5 | 15.2 | 35.2 | 104 | 15.3 |
| 2187-38 | 32-38mm | 117 | 18 | 41.5 | 15.2 | 35.2 | 105 | 15.3 |
| 2187-44 | 38-44mm | 123 | 18 | 44.5 | 15.2 | 35.2 | 109 | 15.3 |
| 2187-51 | 44-51mm | 130 | 18 | 48 | 15.2 | 35.2 | 117 | 15.3 |
| 2187-57 | 51-57mm | 136 | 18 | 45 | 15.2 | 35.2 | 119 | 15.3 |
| 2187-63 | 57-63mm | 143 | 18 | 50 | 15.2 | 35.2 | 122 | 15.3 |
| 2187-70 | 63-70mm | 156 | 20 | 58 | 15.2 | 35.2 | 132 | 15.3 |
| 2187-76 | 70-76mm | 163 | 20 | 60.5 | 15.2 | 35.2 | 137 | 15.3 |
| 2187-82 | 76-82mm | 169 | 20 | 64.5 | 15.2 | 35.2 | 140 | 15.3 |
| 2187-89 | 82-89mm | 175 | 20 | 66.5 | 15.2 | 35.2 | 146 | 15.3 |
| 2187-95 | 89-95mm | 181 | 20 | 69.5 | 15.2 | 35.2 | 149 | 15.3 |
| 2187-101 | 95-101mm | 188 | 20 | 70 | 15.2 | 35.2 | 154 | 15.3 |
| 2187-108 | 101-108mm | 198 | 24 | 79 | 15.2 | 39.2 | 166 | 15.3 |
| 2187-114 | 108-114mm | 204 | 24 | 81 | 15.2 | 39.2 | 172 | 15.3 |
| 2187-120 | 114-120mm | 210 | 24 | 86 | 15.2 | 39.2 | 179 | 15.3 |
| 2187-127 | 120-127mm | 217 | 24 | 89.5 | 15.2 | 39.2 | 186 | 15.3 |
| 2187-133 | 127-133mm | 223 | 24 | 92.5 | 15.2 | 39.2 | 192 | 15.3 |
| 2187-139 | 133-139mm | 229 | 24 | 95.5 | 15.2 | 39.2 | 197 | 15.3 |
| 2187-146 | 139-146mm | 235 | 24 | 98.5 | 15.2 | 39.2 | 201 | 15.3 |
| 2187-152 | 146-152mm | 242 | 24 | 102 | 15.2 | 39.2 | 205 | 15.3 |
| 2187-163 | 152-163mm | 273 | 21.4 | 106.7 | 18.2 | 39.2 | 211 | 18.3 |
| 2187-175 | 163-175mm | 273 | 21.4 | 106.7 | 18.2 | 39.2 | 211 | 18.3 |
| 2187-188 | 175-188mm | 298.5 | 21.4 | 119.7 | 18.2 | 39.2 | 227 | 18.3 |
| 2187-200 | 188-200mm | 298.5 | 21.4 | 119.7 | 18.2 | 39.2 | 227 | 18.3 |
| 2187-213 | 200-213mm | 324 | 21.4 | 131.7 | 18.2 | 39.2 | 242 | 18.3 |
| 2187-225 | 213-225mm | 324 | 21.4 | 131.7 | 18.2 | 39.2 | 242 | 18.3 |
| 2187-238 | 225-238mm | 349.5 | 21.4 | 144.7 | 18.2 | 39.2 | 250 | 18.3 |
| 2187-250 | 238-250mm | 349.5 | 21.4 | 149 | 18.2 | 39.2 | 250 | 18.3 |
| 2187-263 | 250-263mm | 375.5 | 21.4 | 157.7 | 18.2 | 39.2 | 278 | 18.3 |
| 2187-275 | 263-275mm | 375.5 | 21.4 | 157.7 | 18.2 | 39.2 | 278 | 18.3 |
| 2187-288 | 275-288mm | 400 | 21.4 | 170.7 | 18.2 | 39.2 | 291 | 18.3 |
| 2187-300 | 288-300mm | 400 | 21.4 | 170.7 | 18.2 | 39.2 | 291 | 18.3 |

SETTING RINGS

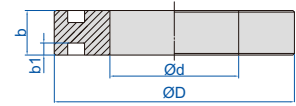


CAN SUPPLY CUSTOM SETTING RINGS FROM Ø1.50MM TO Ø400.00MM, FOR EXAMPLE, Ø17.08MM

- For zero setting of inside micrometers, three points internal micrometers and bore gages
- The size marked on the setting ring is checked at the direction of the marking line
- Size difference (difference between the ordered size and the size marked on the setting ring when supplied): For example, the ordered size is Ø10.12mm, the size marked on the setting ring when supplied may be Ø10.130mm
- Meet DIN2250-1:2008



Ø1.5mm-100mm



Ø100mm-400mm

| Diameter d** | b | ØD | Size difference | Roundness and cylindricity |
|--------------|----|-----|-----------------|----------------------------|
| Ø1.5-2.5 | 4 | 22 | ±10.0µm | 0.3µm |
| Ø2.5-3 | 5 | 22 | ±10.0µm | 0.3µm |
| Ø3-5 | 5 | 22 | ±10.0µm | 0.4µm |
| Ø5-10 | 8 | 32 | ±10.0µm | 0.4µm |
| Ø10-15 | 10 | 38 | ±10.0µm | 0.5µm |
| Ø15-18 | 12 | 45 | ±10.0µm | 0.5µm |
| Ø18-20 | 12 | 45 | ±10.0µm | 0.6µm |
| Ø20-25 | 14 | 53 | ±10.0µm | 0.6µm |
| Ø25-30 | 16 | 63 | ±10.0µm | 0.6µm |
| Ø30-32 | 16 | 63 | ±10.0µm | 0.7µm |
| Ø32-40 | 18 | 71 | ±10.0µm | 0.7µm |
| Ø40-50 | 20 | 85 | ±10.0µm | 0.7µm |
| Ø50-60 | 20 | 100 | ±10.0µm | 0.8µm |
| Ø60-70 | 24 | 112 | ±10.0µm | 0.8µm |
| Ø70-80 | 24 | 125 | ±10.0µm | 0.8µm |
| Ø80-90 | 24 | 140 | ±10.0µm | 1.0µm |
| Ø90-100 | 24 | 160 | ±10.0µm | 1.0µm |

** For example Ø3-5mm means Ø3mm< diameter d ≤ Ø5mm

| Diameter d** | b | b1 | ØD | Size difference | Roundness and cylindricity |
|--------------|----|----|-----|-----------------|----------------------------|
| Ø100-110 | 30 | 8 | 164 | ±10.0µm | 1.0µm |
| Ø110-130 | 34 | 10 | 192 | ±10.0µm | 1.0µm |
| Ø130-150 | 34 | 10 | 220 | ±10.0µm | 1.2µm |
| Ø150-170 | 36 | 10 | 248 | ±10.0µm | 1.5µm |
| Ø170-190 | 36 | 10 | 276 | ±10.0µm | 1.5µm |
| Ø190-210 | 38 | 10 | 300 | ±10.0µm | 1.5µm |
| Ø210-230 | 38 | 10 | 324 | ±10.0µm | 2.5µm |
| Ø230-250 | 40 | 12 | 350 | ±10.0µm | 2.5µm |
| Ø250-270 | 40 | 12 | 375 | ±10.0µm | 3.0µm |
| Ø270-290 | 42 | 12 | 400 | ±10.0µm | 3.0µm |
| Ø290-300 | 42 | 12 | 425 | ±10.0µm | 3.0µm |
| Ø300-320 | 42 | 12 | 430 | ±10.0µm | 4.0µm |
| Ø320-330 | 42 | 12 | 440 | ±10.0µm | 4.0µm |
| Ø330-340 | 42 | 12 | 450 | ±10.0µm | 4.0µm |
| Ø340-350 | 42 | 12 | 460 | ±10.0µm | 4.0µm |
| Ø350-360 | 42 | 12 | 470 | ±10.0µm | 4.0µm |
| Ø360-370 | 42 | 12 | 480 | ±10.0µm | 4.0µm |
| Ø370-380 | 42 | 12 | 490 | ±10.0µm | 4.0µm |
| Ø380-390 | 42 | 12 | 500 | ±10.0µm | 4.0µm |
| Ø390-400 | 42 | 12 | 510 | ±10.0µm | 4.0µm |

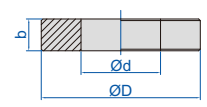
| (mm) | | (mm) | | (mm) | | (mm) | | (mm) | |
|-------------|-------|-------------|-------|-------------|-------|-----------|------|--------------|--------|
| Code | Size | Code | Size | Code | Size | Code | Size | Code | Size |
| 6312-1D5 * | Ø1.5 | 6312-12D5 * | Ø12.5 | 6312-23D5 * | Ø23.5 | 6312-39 * | Ø39 | 6312-95 * | Ø95 |
| 6312-2 * | Ø2 | 6312-13 * | Ø13 | 6312-24 * | Ø24 | 6312-40 * | Ø40 | 6312-100 * | Ø100 |
| 6312-2D5 * | Ø2.5 | 6312-13D5 * | Ø13.5 | 6312-24D5 * | Ø24.5 | 6312-41 * | Ø41 | 6312-112D5 * | Ø112.5 |
| 6312-3 * | Ø3 | 6312-14 * | Ø14 | 6312-25 * | Ø25 | 6312-42 * | Ø42 | 6312-125 * | Ø125 |
| 6312-3D5 * | Ø3.5 | 6312-14D5 * | Ø14.5 | 6312-25D5 * | Ø25.5 | 6312-43 * | Ø43 | 6312-137D5 * | Ø137.5 |
| 6312-4 * | Ø4 | 6312-15 * | Ø15 | 6312-26 * | Ø26 | 6312-44 * | Ø44 | 6312-150 * | Ø150 |
| 6312-4D5 * | Ø4.5 | 6312-15D5 * | Ø15.5 | 6312-26D5 * | Ø26.5 | 6312-45 * | Ø45 | 6312-162D5 * | Ø162.5 |
| 6312-5 * | Ø5 | 6312-16 * | Ø16 | 6312-27 * | Ø27 | 6312-46 * | Ø46 | 6312-175 * | Ø175 |
| 6312-5D5 * | Ø5.5 | 6312-16D5 * | Ø16.5 | 6312-27D5 * | Ø27.5 | 6312-47 * | Ø47 | 6312-187D5 * | Ø187.5 |
| 6312-6 * | Ø6 | 6312-17 * | Ø17 | 6312-28 * | Ø28 | 6312-48 * | Ø48 | 6312-200 * | Ø200 |
| 6312-6D5 * | Ø6.5 | 6312-17D5 * | Ø17.5 | 6312-28D5 * | Ø28.5 | 6312-49 * | Ø49 | 6312-212D5 * | Ø212.5 |
| 6312-7 * | Ø7 | 6312-18 * | Ø18 | 6312-29 * | Ø29 | 6312-50 * | Ø50 | 6312-225 * | Ø225 |
| 6312-7D5 * | Ø7.5 | 6312-18D5 * | Ø18.5 | 6312-29D5 * | Ø29.5 | 6312-55 * | Ø55 | 6312-237D5 * | Ø237.5 |
| 6312-8 * | Ø8 | 6312-19 * | Ø19 | 6312-30 * | Ø30 | 6312-60 * | Ø60 | 6312-250 * | Ø250 |
| 6312-8D5 * | Ø8.5 | 6312-19D5 * | Ø19.5 | 6312-31 * | Ø31 | 6312-62 * | Ø62 | 6312-262D5 * | Ø262.5 |
| 6312-9 * | Ø9 | 6312-20 * | Ø20 | 6312-32 * | Ø32 | 6312-65 * | Ø65 | 6312-275 * | Ø275 |
| 6312-9D5 * | Ø9.5 | 6312-20D5 * | Ø20.5 | 6312-33 * | Ø33 | 6312-70 * | Ø70 | 6312-287D5 * | Ø287.5 |
| 6312-10 * | Ø10 | 6312-21 * | Ø21 | 6312-34 * | Ø34 | 6312-75 * | Ø75 | 6312-300 * | Ø300 |
| 6312-10D5 * | Ø10.5 | 6312-21D5 * | Ø21.5 | 6312-35 * | Ø35 | 6312-80 * | Ø80 | 6312-350 * | Ø350 |
| 6312-11 * | Ø11 | 6312-22 * | Ø22 | 6312-36 * | Ø36 | 6312-85 * | Ø85 | 6312-400 * | Ø400 |
| 6312-11D5 * | Ø11.5 | 6312-22D5 * | Ø22.5 | 6312-37 * | Ø37 | 6312-87 * | Ø87 | | |
| 6312-12 * | Ø12 | 6312-23 * | Ø23 | 6312-38 * | Ø38 | 6312-90 * | Ø90 | | |

* Supplied with manufacturer inspection certificate



CAN SUPPLY CUSTOM SETTING RINGS FROM Ø0.40MM TO Ø50.00MM, FOR EXAMPLE, Ø17.08MM

CARBIDE SETTING RINGS



6317-10

- For zero setting of inside micrometers, three points internal micrometers and bore gages
- Size difference (difference between the ordered size and the size marked on the setting ring when supplied): For example, the ordered size is Ø10.00mm, the size marked on the setting ring when supplied may be Ø10.002mm
- Meet DIN2250-1:2008

| Diameter d ** | b | ØD | Size difference | Roundness and cylindricity |
|---------------|----|-----|-----------------|----------------------------|
| Ø0.4-0.5 | 4 | 10 | ±10µm | 0.3µm |
| Ø0.5-1.6 | 6 | 10 | ±10µm | 0.3µm |
| Ø1.6-12.1 | 8 | 30 | ±10µm | 0.3µm |
| Ø12.1-18.1 | 12 | 40 | ±10µm | 0.4µm |
| Ø18.1-25 | 15 | 50 | ±10µm | 0.4µm |
| Ø25-30 | 15 | 60 | ±10µm | 0.4µm |
| Ø30-35 | 18 | 80 | ±10µm | 0.4µm |
| Ø35-40 | 20 | 80 | ±10µm | 0.4µm |
| Ø40-45 | 20 | 90 | ±10µm | 0.4µm |
| Ø45-50 | 20 | 100 | ±10µm | 0.4µm |

** For example Ø0.4-0.5mm means Ø0.4mm < diameter d ≤ Ø0.5mm

| Code | Size |
|------------|--------|
| 6317-0D5 * | Ø0.5mm |
| 6317-1 * | Ø1mm |
| 6317-1D5 * | Ø1.5mm |
| 6317-2 * | Ø2mm |
| 6317-2D5 * | Ø2.5mm |
| 6317-3 * | Ø3mm |
| 6317-3D5 * | Ø3.5mm |
| 6317-4 * | Ø4mm |
| 6317-4D5 * | Ø4.5mm |
| 6317-5 * | Ø5mm |
| 6317-5D5 * | Ø5.5mm |
| 6317-6 * | Ø6mm |
| 6317-6D5 * | Ø6.5mm |
| 6317-7 * | Ø7mm |
| 6317-7D5 * | Ø7.5mm |
| 6317-8 * | Ø8mm |
| 6317-8D5 * | Ø8.5mm |
| 6317-9 * | Ø9mm |
| 6317-9D5 * | Ø9.5mm |
| 6317-10 * | Ø10mm |

| Code | Size |
|-------------|---------|
| 6317-10D5 * | Ø10.5mm |
| 6317-11 * | Ø11mm |
| 6317-11D5 * | Ø11.5mm |
| 6317-12 * | Ø12mm |
| 6317-12D5 * | Ø12.5mm |
| 6317-13 * | Ø13mm |
| 6317-13D5 * | Ø13.5mm |
| 6317-14 * | Ø14mm |
| 6317-14D5 * | Ø14.5mm |
| 6317-15 * | Ø15mm |
| 6317-15D5 * | Ø15.5mm |
| 6317-16 * | Ø16mm |
| 6317-16D5 * | Ø16.5mm |
| 6317-17 * | Ø17mm |
| 6317-17D5 * | Ø17.5mm |
| 6317-18 * | Ø18mm |
| 6317-18D5 * | Ø18.5mm |
| 6317-19 * | Ø19mm |
| 6317-19D5 * | Ø19.5mm |
| 6317-20 * | Ø20mm |

| Code | Size |
|-------------|---------|
| 6317-20D5 * | Ø20.5mm |
| 6317-21 * | Ø21mm |
| 6317-21D5 * | Ø21.5mm |
| 6317-22 * | Ø22mm |
| 6317-22D5 * | Ø22.5mm |
| 6317-23 * | Ø23mm |
| 6317-23D5 * | Ø23.5mm |
| 6317-24 * | Ø24mm |
| 6317-24D5 * | Ø24.5mm |
| 6317-25 * | Ø25mm |
| 6317-25D5 * | Ø25.5mm |
| 6317-26 * | Ø26mm |
| 6317-26D5 * | Ø26.5mm |
| 6317-27 * | Ø27mm |
| 6317-27D5 * | Ø27.5mm |
| 6317-28 * | Ø28mm |
| 6317-28D5 * | Ø28.5mm |
| 6317-29 * | Ø29mm |
| 6317-29D5 * | Ø29.5mm |
| 6317-30 * | Ø30mm |

| Code | Size |
|-----------|-------|
| 6317-31 * | Ø31mm |
| 6317-32 * | Ø32mm |
| 6317-33 * | Ø33mm |
| 6317-34 * | Ø34mm |
| 6317-35 * | Ø35mm |
| 6317-36 * | Ø36mm |
| 6317-37 * | Ø37mm |
| 6317-38 * | Ø38mm |
| 6317-39 * | Ø39mm |
| 6317-40 * | Ø40mm |
| 6317-41 * | Ø41mm |
| 6317-42 * | Ø42mm |
| 6317-43 * | Ø43mm |
| 6317-44 * | Ø44mm |
| 6317-45 * | Ø45mm |
| 6317-46 * | Ø46mm |
| 6317-47 * | Ø47mm |
| 6317-48 * | Ø48mm |
| 6317-49 * | Ø49mm |
| 6317-50 * | Ø50mm |

* Supplied with manufacturer inspection certificate

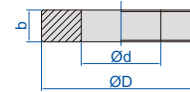
CERAMIC SETTING RINGS



CAN SUPPLY CUSTOM SETTING RINGS FROM Ø1.30MM TO Ø50.00MM, FOR EXAMPLE, Ø17.08MM



6319-10



- For zero setting of inside micrometers, three points internal micrometers and bore gages
- Size difference (difference between the ordered size and the size marked on the setting ring when supplied):
For example, the ordered size is Ø10.12mm, the size marked on the setting ring when supplied may be Ø10.130mm
- Made of ceramic, extremely wear resistance and corrosion resistance, dimensional stability
- Meet DIN2250-1:2008

(mm)

| Diameter d ** | b | ØD | Size difference | Roundness and cylindricity |
|---------------|----|-----|-----------------|----------------------------|
| Ø1.3-2.7 | 6 | 20 | ±10µm | 0.3µm |
| Ø2.7-12.1 | 8 | 30 | ±10µm | 0.3µm |
| Ø12.1-18.1 | 12 | 40 | ±10µm | 0.4µm |
| Ø18.1-25 | 15 | 50 | ±10µm | 0.4µm |
| Ø25-30 | 15 | 60 | ±10µm | 0.4µm |
| Ø30-35 | 18 | 80 | ±10µm | 0.4µm |
| Ø35-40 | 20 | 80 | ±10µm | 0.4µm |
| Ø40-45 | 20 | 90 | ±10µm | 0.4µm |
| Ø45-50 | 20 | 100 | ±10µm | 0.4µm |

** For example Ø1.3-2.7mm means Ø1.3mm < diameter d ≤ Ø2.7mm

| Code | Size |
|-------------|---------|
| 6319-1D5 * | Ø1.5mm |
| 6319-2 * | Ø2mm |
| 6319-2D5 * | Ø2.5mm |
| 6319-3 * | Ø3mm |
| 6319-3D5 * | Ø3.5mm |
| 6319-4 * | Ø4mm |
| 6319-4D5 * | Ø4.5mm |
| 6319-5 * | Ø5mm |
| 6319-5D5 * | Ø5.5mm |
| 6319-6 * | Ø6mm |
| 6319-6D5 * | Ø6.5mm |
| 6319-7 * | Ø7mm |
| 6319-7D5 * | Ø7.5mm |
| 6319-8 * | Ø8mm |
| 6319-8D5 * | Ø8.5mm |
| 6319-9 * | Ø9mm |
| 6319-9D5 * | Ø9.5mm |
| 6319-10 * | Ø10mm |
| 6319-10D5 * | Ø10.5mm |

| Code | Size |
|-------------|---------|
| 6319-11 * | Ø11mm |
| 6319-11D5 * | Ø11.5mm |
| 6319-12 * | Ø12mm |
| 6319-12D5 * | Ø12.5mm |
| 6319-13 * | Ø13mm |
| 6319-13D5 * | Ø13.5mm |
| 6319-14 * | Ø14mm |
| 6319-14D5 * | Ø14.5mm |
| 6319-15 * | Ø15mm |
| 6319-15D5 * | Ø15.5mm |
| 6319-16 * | Ø16mm |
| 6319-16D5 * | Ø16.5mm |
| 6319-17 * | Ø17mm |
| 6319-17D5 * | Ø17.5mm |
| 6319-18 * | Ø18mm |
| 6319-18D5 * | Ø18.5mm |
| 6319-19 * | Ø19mm |
| 6319-19D5 * | Ø19.5mm |
| 6319-20 * | Ø20mm |

| Code | Size |
|-------------|---------|
| 6319-20D5 * | Ø20.5mm |
| 6319-21 * | Ø21mm |
| 6319-21D5 * | Ø21.5mm |
| 6319-22 * | Ø22mm |
| 6319-22D5 * | Ø22.5mm |
| 6319-23 * | Ø23mm |
| 6319-23D5 * | Ø23.5mm |
| 6319-24 * | Ø24mm |
| 6319-24D5 * | Ø24.5mm |
| 6319-25 * | Ø25mm |
| 6319-25D5 * | Ø25.5mm |
| 6319-26 * | Ø26mm |
| 6319-26D5 * | Ø26.5mm |
| 6319-27 * | Ø27mm |
| 6319-27D5 * | Ø27.5mm |
| 6319-28 * | Ø28mm |
| 6319-28D5 * | Ø28.5mm |
| 6319-29 * | Ø29mm |
| 6319-29D5 * | Ø29.5mm |
| 6319-30 * | Ø30mm |

| Code | Size |
|-----------|-------|
| 6319-31 * | Ø31mm |
| 6319-32 * | Ø32mm |
| 6319-33 * | Ø33mm |
| 6319-34 * | Ø34mm |
| 6319-35 * | Ø35mm |
| 6319-36 * | Ø36mm |
| 6319-37 * | Ø37mm |
| 6319-38 * | Ø38mm |
| 6319-39 * | Ø39mm |
| 6319-40 * | Ø40mm |
| 6319-41 * | Ø41mm |
| 6319-42 * | Ø42mm |
| 6319-43 * | Ø43mm |
| 6319-44 * | Ø44mm |
| 6319-45 * | Ø45mm |
| 6319-46 * | Ø46mm |
| 6319-47 * | Ø47mm |
| 6319-48 * | Ø48mm |
| 6319-49 * | Ø49mm |
| 6319-50 * | Ø50mm |

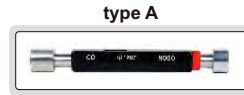
* Supplied with manufacturer inspection certificate

CUSTOM-MADE
 OTHER CLASSES ARE AVAILABLE, SUCH AS H8, H9
 OTHER DIAMETERS ARE AVAILABLE, SUCH AS 19.003mm
 OTHER LENGTHS ARE AVAILABLE, SUCH AS 70mm

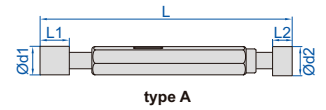
PLAIN PLUG GAGES



4124-12



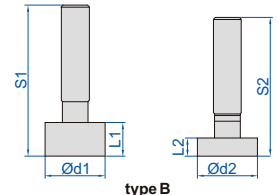
type A



type A



type B



type B

- Supplied with Go and No-Go gages together
- Class H7
- Hardness HRC 60±2
- Standard DIN7150-2

Size tolerance of H7

(mm)

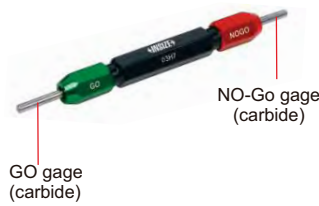
| Diameter ϕd | Type | Size tolerance of Go gage (µm) | Size tolerance of No-Go gage (µm) | L1 | L2 | L | S1, S2 |
|----------------|------|-----------------------------------|--------------------------------------|-----|-----|-----|----------|
| ≥2, ≤3 | A | +0.5 / +2.5 | +9 / +11 | 6.5 | 4.5 | 62 | – |
| >3, ≤6 | A | +0.75 / +3.25 | +10.75 / +13.25 | 8 | 6 | 74 | – |
| >6, ≤10 | A | +0.75 / +3.25 | +13.75 / +16.25 | 10 | 7 | 87 | – |
| >10, ≤14 | A | +1 / +4 | +16.5 / +19.5 | 12 | 8 | 99 | – |
| >14, ≤18 | A | +1 / +4 | +16.5 / +19.5 | 14 | 10 | 114 | – |
| >18, ≤24 | A | +1 / +5 | +19 / +23 | 16 | 12 | 132 | – |
| >24, ≤30 | A | +1 / +5 | +19 / +23 | 18 | 14 | 136 | – |
| >30, ≤40 | A | +1.5 / +5.5 | +23 / +27 | 20 | 15 | 155 | – |
| >40, ≤50 | A | +1.5 / +5.5 | +23 / +27 | 25 | 18 | 169 | – |
| >50, ≤65 | B | +1.5 / +6.5 | +27.5 / +32.5 | 30 | 18 | – | 164, 152 |
| >65, ≤80 | B | +1.5 / +6.5 | +27.5 / +32.5 | 35 | 25 | – | 169, 159 |
| >80, ≤100 | B | +2 / +8 | +32 / +38 | 35 | 25 | – | 169, 159 |

| Code | Diameter | Type | Code | Diameter | Type | Code | Diameter | Type | Code | Diameter | Type |
|---------|----------|------|---------|----------|------|---------|----------|------|----------|----------|------|
| 4124-2 | 2mm | A | 4124-17 | 17mm | A | 4124-32 | 32mm | A | 4124-47 | 47mm | A |
| 4124-3 | 3mm | A | 4124-18 | 18mm | A | 4124-33 | 33mm | A | 4124-48 | 48mm | A |
| 4124-4 | 4mm | A | 4124-19 | 19mm | A | 4124-34 | 34mm | A | 4124-49 | 49mm | A |
| 4124-5 | 5mm | A | 4124-20 | 20mm | A | 4124-35 | 35mm | A | 4124-50 | 50mm | A |
| 4124-6 | 6mm | A | 4124-21 | 21mm | A | 4124-36 | 36mm | A | 4124-52 | 52mm | B |
| 4124-7 | 7mm | A | 4124-22 | 22mm | A | 4124-37 | 37mm | A | 4124-55 | 55mm | B |
| 4124-8 | 8mm | A | 4124-23 | 23mm | A | 4124-38 | 38mm | A | 4124-60 | 60mm | B |
| 4124-9 | 9mm | A | 4124-24 | 24mm | A | 4124-39 | 39mm | A | 4124-65 | 65mm | B |
| 4124-10 | 10mm | A | 4124-25 | 25mm | A | 4124-40 | 40mm | A | 4124-70 | 70mm | B |
| 4124-11 | 11mm | A | 4124-26 | 26mm | A | 4124-41 | 41mm | A | 4124-75 | 75mm | B |
| 4124-12 | 12mm | A | 4124-27 | 27mm | A | 4124-42 | 42mm | A | 4124-80 | 80mm | B |
| 4124-13 | 13mm | A | 4124-28 | 28mm | A | 4124-43 | 43mm | A | 4124-85 | 85mm | B |
| 4124-14 | 14mm | A | 4124-29 | 29mm | A | 4124-44 | 44mm | A | 4124-90 | 90mm | B |
| 4124-15 | 15mm | A | 4124-30 | 30mm | A | 4124-45 | 45mm | A | 4124-95 | 95mm | B |
| 4124-16 | 16mm | A | 4124-31 | 31mm | A | 4124-46 | 46mm | A | 4124-100 | 100mm | B |

CARBIDE PLAIN PLUG GAGES



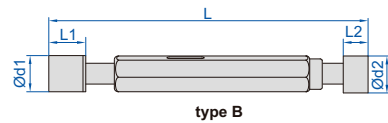
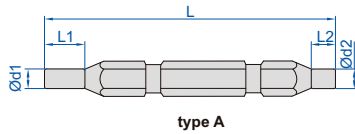
CUSTOM-MADE
OTHER CLASSES ARE AVAILABLE, SUCH AS H8, H9, G7
OTHER DIAMETERS ARE AVAILABLE, SUCH AS 19.003mm
OTHER LENGTHS ARE AVAILABLE, SUCH AS 70mm



4128-3



4128-50



- Supplied with Go and No-Go gages together
- Standard DIN7150-2

Size tolerance of H7

(mm)

| Diameter | Size tolerance of Go gage Ød1 (µm) | Size tolerance of No-Go gage Ød2 (µm) | L1 | L2 | L |
|----------|------------------------------------|---------------------------------------|----|----|------|
| ≥1, ≤1.9 | +0.5/+2.5 | +9/+11 | 15 | 12 | 67 |
| >1.9, ≤3 | +0.5/+2.5 | +9/+11 | 15 | 12 | 79 |
| >3, ≤4.7 | +0.75/+3.25 | +10.75/+13.25 | 15 | 12 | 79 |
| >4.7, ≤6 | +0.75/+3.25 | +10.75/+13.25 | 15 | 12 | 88.5 |
| >6, ≤7.1 | +0.75/+3.25 | +13.75/+16.25 | 15 | 12 | 88.5 |
| >7.1, ≤8 | +0.75/+3.25 | +13.75/+16.25 | 15 | 12 | 99 |
| >8, ≤10 | +0.75/+3.25 | +13.75/+16.25 | 12 | 7 | 75 |
| >10, ≤14 | +1/+4 | +16.5/+19.5 | 12 | 7 | 82 |
| >14, ≤18 | +1/+4 | +16.5/+19.5 | 17 | 10 | 97 |
| >18, ≤24 | +1/+5 | +19/+23 | 17 | 12 | 109 |
| >24, ≤30 | +1/+5 | +19/+23 | 17 | 14 | 111 |
| >30, ≤40 | +1.5/+5.5 | +23/+27 | 20 | 15 | 115 |
| >40, ≤50 | +1.5/+5.5 | +23/+27 | 20 | 15 | 160 |
| >50, ≤60 | +1.5/+6.5 | +27.5/+32.5 | 20 | 15 | 160 |

14

H7

(mm)

| Code | Diameter | Type | Code | Diameter | Type | Code | Diameter | Type | Code | Diameter | Type |
|----------|----------|------|----------|----------|------|----------|----------|------|----------|----------|------|
| 4128-1* | 1 | A | 4128-14* | 14 | B | 4128-27* | 27 | B | 4128-40* | 40 | B |
| 4128-2* | 2 | A | 4128-15* | 15 | B | 4128-28* | 28 | B | 4128-41* | 41 | B |
| 4128-3* | 3 | A | 4128-16* | 16 | B | 4128-29* | 29 | B | 4128-42* | 42 | B |
| 4128-4* | 4 | A | 4128-17* | 17 | B | 4128-30* | 30 | B | 4128-43* | 43 | B |
| 4128-5* | 5 | A | 4128-18* | 18 | B | 4128-31* | 31 | B | 4128-44* | 44 | B |
| 4128-6* | 6 | A | 4128-19* | 19 | B | 4128-32* | 32 | B | 4128-45* | 45 | B |
| 4128-7* | 7 | A | 4128-20* | 20 | B | 4128-33* | 33 | B | 4128-46* | 46 | B |
| 4128-8* | 8 | A | 4128-21* | 21 | B | 4128-34* | 34 | B | 4128-47* | 47 | B |
| 4128-9* | 9 | B | 4128-22* | 22 | B | 4128-35* | 35 | B | 4128-48* | 48 | B |
| 4128-10* | 10 | B | 4128-23* | 23 | B | 4128-36* | 36 | B | 4128-49* | 49 | B |
| 4128-11* | 11 | B | 4128-24* | 24 | B | 4128-37* | 37 | B | 4128-50* | 50 | B |
| 4128-12* | 12 | B | 4128-25* | 25 | B | 4128-38* | 38 | B | 4128-52* | 52 | B |
| 4128-13* | 13 | B | 4128-26* | 26 | B | 4128-39* | 39 | B | 4128-55* | 55 | B |
| | | | | | | | | | 4128-60* | 60 | B |

* Supplied with manufacturer inspection certificate

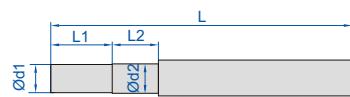


CARBIDE PLAIN PLUG GAGES (SINGLE END)

CUSTOM-MADE
 OTHER CLASSES ARE AVAILABLE, SUCH AS H8, H9, G7
 OTHER DIAMETERS ARE AVAILABLE, SUCH AS 19.003mm
 OTHER LENGTHS ARE AVAILABLE, SUCH AS 70mm



6331-9



- Supplied with Go and No-Go gages together
- Standard DIN7150-2

Size tolerance of H7 (mm)

| Diameter | Size tolerance of Go gage Ød1 (µm) | Size tolerance of No-Go gage Ød2 (µm) | L1 | L2 | L |
|----------|------------------------------------|---------------------------------------|----|----|-----|
| ≥0.5, ≤3 | +0.5/+2.5 | +9/+11 | 20 | 15 | 95 |
| >3, ≤6 | +0.75/+3.25 | +10.75/+13.25 | 20 | 15 | 95 |
| >6, ≤10 | +0.75/+3.25 | +13.75/+16.25 | 20 | 15 | 95 |
| >10, ≤15 | +1/+4 | +16.5/+19.5 | 20 | 15 | 95 |
| >15, ≤18 | +1/+4 | +16.5/+19.5 | 20 | 15 | 115 |
| >18, ≤30 | +1/+5 | +19/+23 | 20 | 15 | 115 |
| >30, ≤40 | +1.5/+5.5 | +23/+27 | 20 | 15 | 115 |

| H7 | | (mm) | |
|-----------|----------|-----------|----------|
| Code | Diameter | Code | Diameter |
| 6331-1 * | 1 | 6331-21 * | 21 |
| 6331-2 * | 2 | 6331-22 * | 22 |
| 6331-3 * | 3 | 6331-23 * | 23 |
| 6331-4 * | 4 | 6331-24 * | 24 |
| 6331-5 * | 5 | 6331-25 * | 25 |
| 6331-6 * | 6 | 6331-26 * | 26 |
| 6331-7 * | 7 | 6331-27 * | 27 |
| 6331-8 * | 8 | 6331-28 * | 28 |
| 6331-9 * | 9 | 6331-29 * | 29 |
| 6331-10 * | 10 | 6331-30 * | 30 |
| 6331-11 * | 11 | 6331-31 * | 31 |
| 6331-12 * | 12 | 6331-32 * | 32 |
| 6331-13 * | 13 | 6331-33 * | 33 |
| 6331-14 * | 14 | 6331-34 * | 34 |
| 6331-15 * | 15 | 6331-35 * | 35 |
| 6331-16 * | 16 | 6331-36 * | 36 |
| 6331-17 * | 17 | 6331-37 * | 37 |
| 6331-18 * | 18 | 6331-38 * | 38 |
| 6331-19 * | 19 | 6331-39 * | 39 |
| 6331-20 * | 20 | 6331-40 * | 40 |

* Supplied with manufacturer inspection certificate

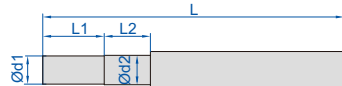


CERAMIC PLAIN PLUG GAGES (SINGLE END)

CUSTOM-MADE
 OTHER CLASSES ARE AVAILABLE, SUCH AS H8, H9, G7
 OTHER DIAMETERS ARE AVAILABLE, SUCH AS 19.003mm
 OTHER LENGTHS ARE AVAILABLE, SUCH AS 70mm



6333-10



- Supplied with Go and No-Go gages together
- Made of ceramic, extremely wear resistance and corrosion resistance, dimensional stability
- Standard DIN7150-2

Size tolerance of H7 (mm)

| Diameter | Size tolerance of Go gage Ød1 (µm) | Size tolerance of No-Go gage Ød2 (µm) | L1 | L2 | L |
|----------|------------------------------------|---------------------------------------|----|----|-----|
| ≥0.5, ≤3 | +0.5/+2.5 | +9/+11 | 20 | 15 | 95 |
| >3, ≤6 | +0.75/+3.25 | +10.75/+13.25 | 20 | 15 | 95 |
| >6, ≤10 | +0.75/+3.25 | +13.75/+16.25 | 20 | 15 | 95 |
| >10, ≤15 | +1/+4 | +16.5/+19.5 | 20 | 15 | 95 |
| >15, ≤18 | +1/+4 | +16.5/+19.5 | 20 | 15 | 115 |
| >18, ≤30 | +1/+5 | +19/+23 | 20 | 15 | 115 |
| >30, ≤40 | +1.5/+5.5 | +23/+27 | 20 | 15 | 115 |

| H7 | | (mm) | |
|-----------|----------|-----------|----------|
| Code | Diameter | Code | Diameter |
| 6333-1 * | 1 | 6333-21 * | 21 |
| 6333-2 * | 2 | 6333-22 * | 22 |
| 6333-3 * | 3 | 6333-23 * | 23 |
| 6333-4 * | 4 | 6333-24 * | 24 |
| 6333-5 * | 5 | 6333-25 * | 25 |
| 6333-6 * | 6 | 6333-26 * | 26 |
| 6333-7 * | 7 | 6333-27 * | 27 |
| 6333-8 * | 8 | 6333-28 * | 28 |
| 6333-9 * | 9 | 6333-29 * | 29 |
| 6333-10 * | 10 | 6333-30 * | 30 |
| 6333-11 * | 11 | 6333-31 * | 31 |
| 6333-12 * | 12 | 6333-32 * | 32 |
| 6333-13 * | 13 | 6333-33 * | 33 |
| 6333-14 * | 14 | 6333-34 * | 34 |
| 6333-15 * | 15 | 6333-35 * | 35 |
| 6333-16 * | 16 | 6333-36 * | 36 |
| 6333-17 * | 17 | 6333-37 * | 37 |
| 6333-18 * | 18 | 6333-38 * | 38 |
| 6333-19 * | 19 | 6333-39 * | 39 |
| 6333-20 * | 20 | 6333-40 * | 40 |

* Supplied with manufacturer inspection certificate

CERAMIC PLAIN PLUG GAGES

CUSTOM-MADE
OTHER CLASSES ARE AVAILABLE, SUCH AS H8, H9, G7
OTHER DIAMETERS ARE AVAILABLE, SUCH AS 19.003mm
OTHER LENGTHS ARE AVAILABLE, SUCH AS 70mm

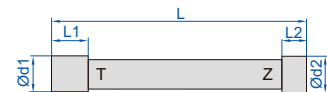


GO gage
(ceramic)

NO-GO gage
(ceramic)

6332-17

- Supplied with Go and No-Go gages together
- Made of ceramic, extremely wear resistance and corrosion resistance, dimensional stability
- Standard DIN7150-2



Size tolerance of H7

(mm)

| Diameter | Size tolerance of Go gage Ød1 (µm) | Size tolerance of No-Go gage Ød2 (µm) | L1 | L2 | L |
|----------|------------------------------------|---------------------------------------|----|----|-----|
| ≥0.5, ≤3 | +0.5/+2.5 | +9/+11 | 20 | 15 | 95 |
| >3, ≤6 | +0.75/+3.25 | +10.75/+13.25 | 20 | 15 | 95 |
| >6, ≤10 | +0.75/+3.25 | +13.75/+16.25 | 20 | 15 | 95 |
| >10, ≤15 | +1/+4 | +16.5/+19.5 | 20 | 15 | 95 |
| >15, ≤18 | +1/+4 | +16.5/+19.5 | 20 | 15 | 115 |
| >18, ≤30 | +1/+5 | +19/+23 | 20 | 15 | 115 |
| >30, ≤40 | +1.5/+5.5 | +23/+27 | 20 | 15 | 115 |

H7

(mm)

| Code | Diameter | Code | Diameter | Code | Diameter |
|-----------|----------|-----------|----------|-----------|----------|
| 6332-1 * | 1 | 6332-17 * | 17 | 6332-34 * | 34 |
| 6332-2 * | 2 | 6332-18 * | 18 | 6332-35 * | 35 |
| 6332-3 * | 3 | 6332-19 * | 19 | 6332-36 * | 36 |
| 6332-4 * | 4 | 6332-20 * | 20 | 6332-37 * | 37 |
| 6332-5 * | 5 | 6332-21 * | 21 | 6332-38 * | 38 |
| 6332-6 * | 6 | 6332-22 * | 22 | 6332-39 * | 39 |
| 6332-7 * | 7 | 6332-23 * | 23 | 6332-40 * | 40 |
| 6332-8 * | 8 | 6332-24 * | 24 | 6332-41 * | 41 |
| 6332-9 * | 9 | 6332-25 * | 25 | 6332-42 * | 42 |
| 6332-10 * | 10 | 6332-26 * | 26 | 6332-43 * | 43 |
| 6332-11 * | 11 | 6332-27 * | 27 | 6332-44 * | 44 |
| 6332-12 * | 12 | 6332-28 * | 28 | 6332-45 * | 45 |
| 6332-13 * | 13 | 6332-29 * | 29 | 6332-46 * | 46 |
| 6332-14 * | 14 | 6332-30 * | 30 | 6332-47 * | 47 |
| 6332-15 * | 15 | 6332-31 * | 31 | 6332-48 * | 48 |
| 6332-16 * | 16 | 6332-32 * | 32 | 6332-49 * | 49 |
| | | 6332-33 * | 33 | 6332-50 * | 50 |

* Supplied with manufacturer inspection certificate



CERAMIC MEASURING BALLS



4190-40D000

- Zirconia material, high strength and hardness, extremely wear resistance and corrosion resistance, good insulation, antistatic and magnetic resistance
- Mirror surface without holes
- Supplied with manufacturer inspection certificate

Individual

| Code | Diameter | Accuracy | Roundness |
|------------|------------------|----------|-----------|
| 4190-1D000 | 1.000mm | ±2µm | 0.5µm |
| 4190-1D200 | 1.200mm | ±2µm | 0.5µm |
| 4190-1D300 | 1.300mm | ±2µm | 0.5µm |
| 4190-1D340 | 1.340mm | ±2µm | 0.5µm |
| 4190-1D500 | 1.500mm | ±2µm | 0.5µm |
| 4190-1D588 | 1.588mm (1/16") | ±2µm | 0.5µm |
| 4190-1D750 | 1.750mm | ±2µm | 0.5µm |
| 4190-2D000 | 2.000mm | ±2µm | 0.5µm |
| 4190-2D381 | 2.381mm (3/32") | ±2µm | 0.5µm |
| 4190-2D500 | 2.500mm | ±2µm | 0.5µm |
| 4190-2D778 | 2.778mm (7/64") | ±2µm | 0.5µm |
| 4190-3D000 | 3.000mm | ±2µm | 0.5µm |
| 4190-3D175 | 3.175mm (1/8") | ±2µm | 0.5µm |
| 4190-3D500 | 3.500mm | ±2µm | 0.5µm |
| 4190-3D969 | 3.969mm (5/32") | ±2µm | 0.5µm |
| 4190-4D000 | 4.000mm | ±2µm | 0.5µm |
| 4190-4D500 | 4.500mm | ±2µm | 0.5µm |
| 4190-4D763 | 4.763mm (3/16") | ±2µm | 0.5µm |
| 4190-5D000 | 5.000mm | ±2µm | 0.5µm |
| 4190-5D556 | 5.556mm (7/32") | ±2µm | 0.5µm |
| 4190-5D953 | 5.953mm (15/64") | ±2µm | 0.5µm |
| 4190-6D000 | 6.000mm | ±2µm | 0.5µm |
| 4190-6D350 | 6.350mm (1/4") | ±2µm | 0.5µm |
| 4190-6D500 | 6.500mm | ±2µm | 0.5µm |
| 4190-6D747 | 6.747mm (17/64") | ±2µm | 0.5µm |
| 4190-7D000 | 7.000mm | ±2µm | 0.5µm |
| 4190-7D144 | 7.144mm (9/32") | ±2µm | 0.5µm |
| 4190-7D500 | 7.500mm | ±2µm | 0.5µm |
| 4190-7D938 | 7.938mm (5/16") | ±2µm | 0.5µm |
| 4190-8D000 | 8.000mm | ±2µm | 0.5µm |
| 4190-8D731 | 8.731mm (11/32") | ±2µm | 0.5µm |

Individual

| Code | Diameter | Accuracy | Roundness |
|-------------|-------------------|----------|-----------|
| 4190-9D525 | 9.525mm (3/8") | ±2µm | 0.5µm |
| 4190-10D000 | 10.000mm | ±2µm | 0.5µm |
| 4190-10D318 | 10.318mm (13/32") | ±2µm | 0.5µm |
| 4190-11D000 | 11.000mm | ±2µm | 0.5µm |
| 4190-11D113 | 11.113mm (7/16") | ±2µm | 0.5µm |
| 4190-11D509 | 11.509mm (29/64") | ±2µm | 0.5µm |
| 4190-11D906 | 11.906mm (15/32") | ±2µm | 0.5µm |
| 4190-12D000 | 12.000mm | ±2µm | 0.5µm |
| 4190-12D303 | 12.303mm (31/64") | ±2µm | 0.5µm |
| 4190-12D700 | 12.700mm (1/2") | ±2µm | 0.5µm |
| 4190-13D000 | 13.000mm | ±2µm | 0.6µm |
| 4190-13D494 | 13.494mm (17/32") | ±2µm | 0.6µm |
| 4190-14D000 | 14.000mm | ±2µm | 0.6µm |
| 4190-14D288 | 14.288mm (9/16") | ±2µm | 0.6µm |
| 4190-15D000 | 15.000mm | ±2µm | 0.6µm |
| 4190-15D081 | 15.081mm (19/32") | ±2.5µm | 0.6µm |
| 4190-15D875 | 15.875mm (5/8 ") | ±2.5µm | 0.6µm |
| 4190-16D000 | 16.000mm | ±2.5µm | 0.6µm |
| 4190-16D669 | 16.669mm (21/32") | ±2.5µm | 0.6µm |
| 4190-17D462 | 17.462mm (11/16") | ±2.5µm | 0.6µm |
| 4190-18D000 | 18.000mm | ±2.5µm | 0.6µm |
| 4190-18D256 | 18.256mm (23/32") | ±2.5µm | 0.6µm |
| 4190-19D050 | 19.050mm (3/4") | ±2.5µm | 0.6µm |
| 4190-19D844 | 19.844mm (25/32") | ±2.5µm | 0.6µm |
| 4190-20D000 | 20.000mm | ±2.5µm | 0.6µm |
| 4190-22D000 | 22.000mm | ±2.5µm | 1µm |
| 4190-22D225 | 22.225mm (7/8") | ±2.5µm | 1µm |
| 4190-23D812 | 23.812mm (15/16") | ±2.5µm | 1µm |
| 4190-25D000 | 25.000mm | ±2.5µm | 1µm |
| 4190-40D000 | 40.000mm | ±2.5µm | 1.5µm |

Set (25 pairs)

| Code | Ceramic balls included (one pair per size) |
|----------|--|
| 4190-S25 | 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5, 6, 6.5, 7, 7.5, 8, 10, 11, 12, 13, 14, 15, 16, 18, 20, 22, 25mm |

STEEL MEASURING BALLS

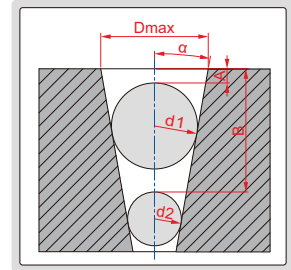


- To measure angle and diameter of taper holes
- Material: tool steel
- Hardness: HRC63
- Diameter accuracy: $\pm 3\mu\text{m}$
- Roundness: $1\mu\text{m}$
- Supplied with manufacturer inspection certificate



4168-S25

calculate angle (α) and diameter (D_{max}) according to the ball diameter (d_1 , d_2), height (A) and depth (B)



Individual

| Code | Diameter |
|---------|----------|
| 4168-01 | 1mm |
| 4168-02 | 2mm |
| 4168-03 | 3mm |
| 4168-04 | 4mm |
| 4168-05 | 5mm |
| 4168-06 | 6mm |
| 4168-07 | 7mm |
| 4168-08 | 8mm |
| 4168-09 | 9mm |
| 4168-10 | 10mm |
| 4168-11 | 11mm |
| 4168-12 | 12mm |
| 4168-13 | 13mm |

Individual

| Code | Diameter |
|---------|----------|
| 4168-14 | 14mm |
| 4168-15 | 15mm |
| 4168-16 | 16mm |
| 4168-17 | 17mm |
| 4168-18 | 18mm |
| 4168-19 | 19mm |
| 4168-20 | 20mm |
| 4168-21 | 21mm |
| 4168-22 | 22mm |
| 4168-23 | 23mm |
| 4168-24 | 24mm |
| 4168-25 | 25mm |

Set (25 pairs)

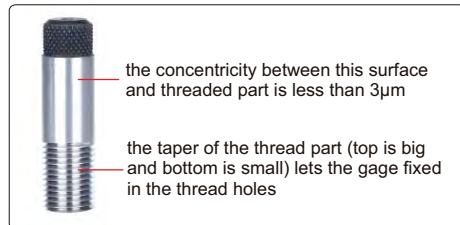
| Code | Steel balls included (one pair per size) |
|----------|---|
| 4168-S25 | 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25mm |

THREADED HOLE LOCATION GAGES



ANY SIZE WITHIN THE RANGE OF M3-M150MM CAN BE CUSTOMIZED

ACCURACY CLASS CAN BE CUSTOMIZED

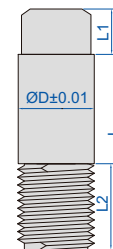


4662-12R



4662-3

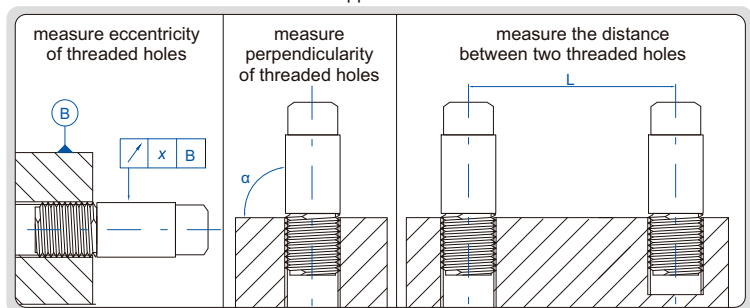
Unit: mm



| Code | Size | L | L1 | L2 | ØD |
|----------|-------------|------|----|-----|----|
| 4662-3 | M3×0.5-6H | 29 | 8 | 6 | 3 |
| 4662-4 | M4×0.7-6H | 31.4 | 8 | 8.4 | 4 |
| 4662-5 | M5×0.8-6H | 32.6 | 8 | 9.6 | 5 |
| 4662-6 | M6×1-6H | 47 | 10 | 12 | 6 |
| 4662-8 | M8×1.25-6H | 50 | 10 | 15 | 8 |
| 4662-8P | M8×1-6H | 47 | 10 | 12 | 8 |
| 4662-10 | M10×1.5-6H | 53 | 10 | 18 | 10 |
| 4662-10P | M10×1-6H | 47 | 10 | 12 | 10 |
| 4662-12 | M12×1.75-6H | 56 | 10 | 21 | 12 |
| 4662-12P | M12×1-6H | 47 | 10 | 12 | 12 |
| 4662-12R | M12×1.5-6H | 53 | 10 | 18 | 12 |
| 4662-14 | M14×2-6H | 59 | 10 | 24 | 14 |
| 4662-14P | M14×1-6H | 47 | 10 | 12 | 14 |
| 4662-14R | M14×1.5-6H | 53 | 10 | 18 | 14 |
| 4662-16 | M16×2-6H | 59 | 10 | 24 | 16 |
| 4662-16P | M16×1-6H | 47 | 10 | 12 | 16 |
| 4662-16R | M16×1.5-6H | 53 | 10 | 18 | 16 |
| 4662-20 | M20×2.5-6H | 65 | 10 | 30 | 20 |
| 4662-20P | M20×1-6H | 47 | 10 | 12 | 20 |
| 4662-20R | M20×1.5-6H | 53 | 10 | 18 | 20 |

- Hardness: HRC60-63

application



THREADED HOLE LOCATION GAGES

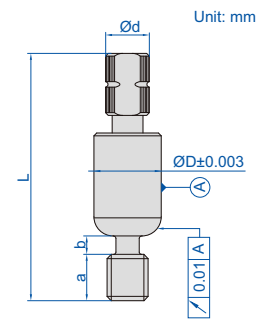
INSIZE PLUS
MADE IN EUROPE

ATTENTION: ONLY FOR THE WORKPIECES THAT THE CHAMFER IS CONCENTRIC WITH THE SCREW PART

the concentricity between this surface and threaded part is less than 0.01mm



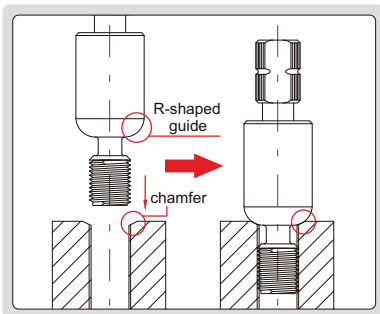
4676-12



- Only for the workpieces that the chamfer is concentric with the screw part

application

there is a R-shaped guide, which leads the gage to the center of the threaded holes by fitting the R-shaped guide on the chamfer of the threaded holes



(mm)

| Code | Size | Ød | ØD | a | b | L |
|---------|----------|-----|----|----|-----|----|
| 4676-3 | M3×0.5 | 4 | 7 | 4 | 2 | 26 |
| 4676-4 | M4×0.7 | 4 | 7 | 4 | 2 | 26 |
| 4676-5 | M5×0.8 | 5.5 | 9 | 6 | 2 | 33 |
| 4676-6 | M6×1.0 | 5.5 | 9 | 6 | 2 | 33 |
| 4676-8 | M8×1.25 | 8.5 | 13 | 9 | 3.5 | 48 |
| 4676-10 | M10×1.5 | 8.5 | 13 | 9 | 3.5 | 48 |
| 4676-12 | M12×1.75 | 12 | 17 | 10 | 3.5 | 55 |

DIGITAL THREAD DEPTH GAGES

INSIZE PLUS
MADE IN EUROPE

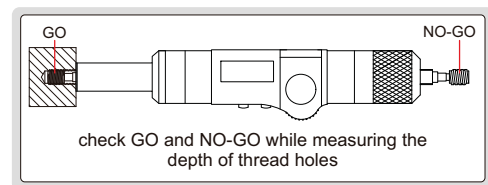
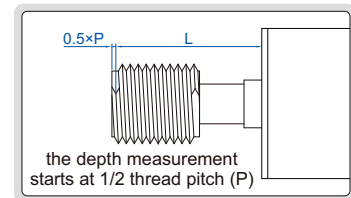
INSPECTION
CERTIFICATE

DATA
OUTPUT



4649-6

- Supplied with GO and NO-GO gages together
- Check GO and NO-GO while measuring the depth of thread holes
- Resolution: 0.01mm/0.0005"
- Depth 0-40mm: accuracy ± 0.04 mm;
Depth 40-80mm: accuracy ± 0.06 mm
- Data output
- Button function: on/of, inch/metric conversion, reading hold, data preset, absolute/incremental measurement
- Battery CR2032, automatic power off, move the digital unit to turn on power
- The GO gage can be replaced after wear
- Optional accessory: data output cable (code **7302-85**), zero block (code **4668-SETTER**), removal tool (code **4668-TOOL**)



Metric thread

| Code | Size (mm) | Depth range |
|------------|--------------|-------------|
| 4649-2 * | M2x0.4-6H | 0-8mm |
| 4649-2D5 * | M2.5x0.45-6H | 0-10mm |
| 4649-3 * | M3x0.5-6H | 0-12mm |
| 4649-3D5 * | M3.5x0.6-6H | 0-14mm |
| 4649-4 * | M4x0.7-6H | 0-16mm |
| 4649-5 * | M5x0.8-6H | 0-20mm |
| 4649-6 * | M6x1-6H | 0-24mm |
| 4649-7 * | M7x1-6H | 0-28mm |
| 4649-8 * | M8x1.25-6H | 0-32mm |
| 4649-10 * | M10x1.5-6H | 0-40mm |
| 4649-12 * | M12x1.75-6H | 0-48mm |
| 4649-14 * | M14x2-6H | 0-56mm |
| 4649-16 * | M16x2-6H | 0-64mm |
| 4649-18 * | M18x2.5-6H | 0-72mm |
| 4649-20 * | M20x2.5-6H | 0-80mm |
| 4649-22 * | M22x2.5-6H | 0-80mm |
| 4649-24 * | M24x3-6H | 0-80mm |
| 4649-27 * | M27x3-6H | 0-80mm |
| 4649-30 * | M30x3.5-6H | 0-80mm |

Metric fine thread

| Code | Size (mm) | Depth range |
|------------|-------------|-------------|
| 4649-8P * | M8x1-6H | 0-32mm |
| 4649-10P * | M10x1-6H | 0-40mm |
| 4649-10T * | M10x1.25-6H | 0-40mm |
| 4649-12P * | M12x1-6H | 0-48mm |
| 4649-12T * | M12x1.25-6H | 0-48mm |
| 4649-12R * | M12x1.5-6H | 0-48mm |
| 4649-14P * | M14x1-6H | 0-56mm |
| 4649-14T * | M14x1.25-6H | 0-56mm |
| 4649-14R * | M14x1.5-6H | 0-56mm |
| 4649-16P * | M16x1-6H | 0-64mm |
| 4649-16R * | M16x1.5-6H | 0-64mm |
| 4649-18P * | M18x1-6H | 0-72mm |
| 4649-18R * | M18x1.5-6H | 0-72mm |
| 4649-20P * | M20x1-6H | 0-80mm |
| 4649-20R * | M20x1.5-6H | 0-80mm |
| 4649-22P * | M22x1-6H | 0-80mm |
| 4649-22R * | M22x1.5-6H | 0-80mm |
| 4649-24P * | M24x1-6H | 0-80mm |
| 4649-24R * | M24x1.5-6H | 0-80mm |

* Supplied with manufacturer inspection certificate

THREAD DEPTH GAGES

INSIZE PLUS
MADE IN EUROPE

**INSPECTION
CERTIFICATE**

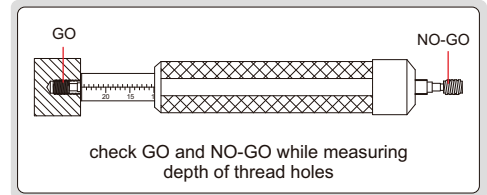
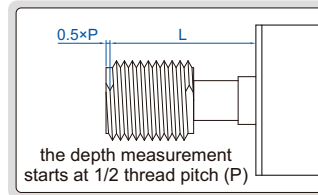


4666-6

- Supplied with GO and NO-GO gages together
- Check GO and NO-GO while measuring the depth thread holes
- The GO gage can be replaced after wear
- Optional accessory: zero block (code 4668-SETTER), removal tool (code 4668-TOOL)



4666-14PA



Metric thread (without vernier reading,
graduation: 0.5mm, accuracy: ±0.25mm)

| Code | Size (mm) | Depth range |
|-----------|--------------|-------------|
| 4666-2* | M2x0.4-6H | 0-8mm |
| 4666-2D5* | M2.5x0.45-6H | 0-10mm |
| 4666-3* | M3x0.5-6H | 0-12mm |
| 4666-3D5* | M3.5x0.6-6H | 0-14mm |
| 4666-4* | M4x0.7-6H | 0-16mm |
| 4666-5* | M5x0.8-6H | 0-20mm |
| 4666-6* | M6x1-6H | 0-24mm |
| 4666-7* | M7x1-6H | 0-28mm |
| 4666-8* | M8x1.25-6H | 0-32mm |
| 4666-10* | M10x1.5-6H | 0-40mm |
| 4666-12* | M12x1.75-6H | 0-48mm |
| 4666-14* | M14x2-6H | 0-56mm |
| 4666-16* | M16x2-6H | 0-64mm |
| 4666-18* | M18x2.5-6H | 0-72mm |
| 4666-20* | M20x2.5-6H | 0-80mm |
| 4666-22* | M22x2.5-6H | 0-80mm |
| 4666-24* | M24x3-6H | 0-80mm |
| 4666-27* | M27x3-6H | 0-80mm |
| 4666-30* | M30x3.5-6H | 0-80mm |

Metric thread (with vernier reading,
graduation: 0.1mm, accuracy: ±0.1mm)

| Code | Size (mm) | Depth range |
|------------|--------------|-------------|
| 4666-2A* | M2x0.4-6H | 0-8mm |
| 4666-2D5A* | M2.5x0.45-6H | 0-10mm |
| 4666-3A* | M3x0.5-6H | 0-12mm |
| 4666-3D5A* | M3.5x0.6-6H | 0-14mm |
| 4666-4A* | M4x0.7-6H | 0-16mm |
| 4666-5A* | M5x0.8-6H | 0-20mm |
| 4666-6A | M6x1-6H | 0-24mm |
| 4666-7A* | M7x1-6H | 0-28mm |
| 4666-8A* | M8x1.25-6H | 0-32mm |
| 4666-10A* | M10x1.5-6H | 0-40mm |
| 4666-12A* | M12x1.75-6H | 0-48mm |
| 4666-14A* | M14x2-6H | 0-56mm |
| 4666-16A* | M16x2-6H | 0-64mm |
| 4666-18A* | M18x2.5-6H | 0-72mm |
| 4666-20A* | M20x2.5-6H | 0-80mm |
| 4666-22A* | M22x2.5-6H | 0-80mm |
| 4666-24A* | M24x3-6H | 0-80mm |
| 4666-27A* | M27x3-6H | 0-80mm |
| 4666-30A* | M30x3.5-6H | 0-80mm |



Metric fine thread (without vernier reading,
graduation: 0.5mm, accuracy: ±0.25mm)

| Code | Size (mm) | Depth range |
|-----------|-------------|-------------|
| 4666-8P* | M8x1-6H | 0-32mm |
| 4666-10P* | M10x1-6H | 0-40mm |
| 4666-10T* | M10x1.25-6H | 0-40mm |
| 4666-12P* | M12x1-6H | 0-48mm |
| 4666-12T* | M12x1.25-6H | 0-48mm |
| 4666-12R* | M12x1.5-6H | 0-48mm |
| 4666-14P* | M14x1-6H | 0-56mm |
| 4666-14T* | M14x1.25-6H | 0-56mm |
| 4666-14R* | M14x1.5-6H | 0-56mm |
| 4666-16P* | M16x1-6H | 0-64mm |
| 4666-16R* | M16x1.5-6H | 0-64mm |
| 4666-18P* | M18x1-6H | 0-72mm |
| 4666-18R* | M18x1.5-6H | 0-72mm |
| 4666-20P* | M20x1-6H | 0-80mm |
| 4666-20R* | M20x1.5-6H | 0-80mm |
| 4666-22P* | M22x1-6H | 0-80mm |
| 4666-22R* | M22x1.5-6H | 0-80mm |
| 4666-24P* | M24x1-6H | 0-80mm |
| 4666-24R* | M24x1.5-6H | 0-80mm |

Metric fine thread (with vernier reading,
graduation: 0.1mm, accuracy: ±0.1mm)

| Code | Size (mm) | Depth range |
|------------|-------------|-------------|
| 4666-8PA* | M8x1-6H | 0-32mm |
| 4666-10PA* | M10x1-6H | 0-40mm |
| 4666-10TA* | M10x1.25-6H | 0-40mm |
| 4666-12PA* | M12x1-6H | 0-48mm |
| 4666-12TA* | M12x1.25-6H | 0-48mm |
| 4666-12RA* | M12x1.5-6H | 0-48mm |
| 4666-14PA* | M14x1-6H | 0-56mm |
| 4666-14TA* | M14x1.25-6H | 0-56mm |
| 4666-14RA* | M14x1.5-6H | 0-56mm |
| 4666-16PA* | M16x1-6H | 0-64mm |
| 4666-16RA* | M16x1.5-6H | 0-64mm |
| 4666-18PA* | M18x1-6H | 0-72mm |
| 4666-18RA* | M18x1.5-6H | 0-72mm |
| 4666-20PA* | M20x1-6H | 0-80mm |
| 4666-20RA* | M20x1.5-6H | 0-80mm |
| 4666-22PA* | M22x1-6H | 0-80mm |
| 4666-22RA* | M22x1.5-6H | 0-80mm |
| 4666-24PA* | M24x1-6H | 0-80mm |
| 4666-24RA* | M24x1.5-6H | 0-80mm |

* Supplied with manufacturer inspection certificate

DLC COATED THREAD RING GAGES AND PLUG GAGES



DLC coated GO ring gage



DLC coated GO plug gage

Code example:

| Original code | DLC coating code |
|---------------|------------------|
| 4120-12 | 4120-12-DLC |
| 4130-4 | 4130-4-DLC |

DLC coating characteristics

| | |
|----------------------|--------------------|
| Hardness | 6000HV |
| Friction coefficient | 0.15 |
| Coating color | interference color |

- The DLC coating has the following advantages:
 - High hardness, extremely wear resistance
 - Low friction coefficient
 - Corrosion resistance
- Plug gages: GO is coated, NO-GO is not; Ring gages: GO is coated, NO-GO is not
- The following thread ring gages and plug gages are available with DLC coating:
 - Metric fine thread ring gages and plug gages (4139, 4129 series);
 - Metric thread ring gages and plug gages (4130, 4120 series);
 - American standard thread ring gages and plug gages (4131, 4121 series)

METRIC THREAD PLUG GAGES

WARNING: LIFE TIME IS LIMITED, CAN BE USED ABOUT 2000 TIMES

- Supplied with Go and No-Go gages together
- Standard ISO1502
- Supplied with manufacturer inspection certificate



4130-10



Individual

| Size (mm) | | Code | | |
|------------------|-------|----------|-----------|-----------|
| Nominal diameter | Pitch | Class 6H | Class 6G | Class 4H |
| M0.8 | 0.2 | 4130-D8 | 4130-D8G | 4130-D8H |
| M0.9 | 0.225 | 4130-D9 | 4130-D9G | 4130-D9H |
| M1 | 0.25 | 4130-1 | 4130-1G | 4130-1H |
| M1.1 | 0.25 | 4130-1D1 | 4130-1D1G | 4130-1D1H |
| M1.2 | 0.25 | 4130-1D2 | 4130-1D2G | 4130-1D2H |
| M1.4 | 0.3 | 4130-1D4 | 4130-1D4G | 4130-1D4H |
| M1.6 | 0.35 | 4130-1D6 | 4130-1D6G | 4130-1D6H |
| M1.7 | 0.35 | 4130-1D7 | 4130-1D7G | 4130-1D7H |
| M1.8 | 0.35 | 4130-1D8 | 4130-1D8G | 4130-1D8H |
| M2 | 0.4 | 4130-2 | 4130-2G | 4130-2H |
| M2.2 | 0.45 | 4130-2D2 | 4130-2D2G | 4130-2D2H |
| M2.3 | 0.4 | 4130-2D3 | 4130-2D3G | 4130-2D3H |
| M2.5 | 0.45 | 4130-2D5 | 4130-2D5G | 4130-2D5H |
| M2.6 | 0.45 | 4130-2D6 | 4130-2D6G | 4130-2D6H |
| M3 | 0.5 | 4130-3 | 4130-3G | 4130-3H |
| M3.5 | 0.6 | 4130-3D5 | 4130-3D5G | 4130-3D5H |
| M4 | 0.7 | 4130-4 | 4130-4G | 4130-4H |
| M4.5 | 0.75 | 4130-4D5 | 4130-4D5G | 4130-4D5H |
| M5 | 0.8 | 4130-5 | 4130-5G | 4130-5H |
| M6 | 1 | 4130-6 | 4130-6G | 4130-6H |
| M7 | 1 | 4130-7 | 4130-7G | 4130-7H |
| M8 | 1.25 | 4130-8 | 4130-8G | 4130-8H |

Individual

| Size (mm) | | Code | | |
|------------------|-------|----------|----------|----------|
| Nominal diameter | Pitch | Class 6H | Class 6G | Class 4H |
| M9 | 1.25 | 4130-9 | 4130-9G | 4130-9H |
| M10 | 1.5 | 4130-10 | 4130-10G | 4130-10H |
| M11 | 1.5 | 4130-11 | 4130-11G | 4130-11H |
| M12 | 1.75 | 4130-12 | 4130-12G | 4130-12H |
| M14 | 2 | 4130-14 | 4130-14G | 4130-14H |
| M16 | 2 | 4130-16 | 4130-16G | 4130-16H |
| M18 | 2.5 | 4130-18 | 4130-18G | 4130-18H |
| M20 | 2.5 | 4130-20 | 4130-20G | 4130-20H |
| M22 | 2.5 | 4130-22 | 4130-22G | 4130-22H |
| M24 | 3 | 4130-24 | 4130-24G | 4130-24H |
| M27 | 3 | 4130-27 | 4130-27G | 4130-27H |
| M30 | 3.5 | 4130-30 | 4130-30G | 4130-30H |
| M33 | 3.5 | 4130-33 | 4130-33G | 4130-33H |
| M36 | 4 | 4130-36 | 4130-36G | 4130-36H |
| M39 | 4 | 4130-39 | 4130-39G | 4130-39H |
| M42 | 4.5 | 4130-42 | 4130-42G | 4130-42H |
| M45 | 4.5 | 4130-45 | 4130-45G | 4130-45H |
| M48 | 5 | 4130-48 | 4130-48G | 4130-48H |
| M52 | 5 | 4130-52 | 4130-52G | 4130-52H |
| M56 | 5.5 | 4130-56 | 4130-56G | 4130-56H |
| M60 | 5.5 | 4130-60 | 4130-60G | 4130-60H |
| M64 | 6 | 4130-64 | 4130-64G | 4130-64H |
| M68 | 6 | 4130-68 | 4130-68G | 4130-68H |

Set (class 6H)

| Code | Thread plug gages included (mm) |
|---------|---|
| 4130-S7 | M3x0.5 (4130-3), M4x0.7 (4130-4), M5x0.8 (4130-5), M6x1 (4130-6), M8x1.25 (4130-8), M10x1.5 (4130-10), M12x1.75 (4130-12) |

WARNING: LIFE TIME IS LIMITED,
CAN BE USED ABOUT 2000 TIMES

METRIC FINE THREAD PLUG GAGES



4139-20G

- Supplied with Go and No-Go gages together
- Standard ISO1502
- Supplied with manufacturer inspection certificate

Code example:
“-1A” stands for “4139-1A”

| Size (mm) | | Code (4139) | | |
|------------------|-------|-------------|----------|----------|
| Nominal diameter | Pitch | Class 6H | Class 6G | Class 4H |
| M1 | 0.2 | -1A | -1AG | -1AH |
| M1.2 | 0.2 | -1D2A | -1D2AG | -1D2AH |
| M1.4 | 0.2 | -1D4A | -1D4AG | -1D4AH |
| M1.6 | 0.2 | -1D6A | -1D6AG | -1D6AH |
| M1.8 | 0.2 | -1D8A | -1D8AG | -1D8AH |
| M2 | 0.2 | -2A | -2AG | -2AH |
| | 0.25 | -2B | -2BG | -2BH |
| M2.5 | 0.2 | -2D5A | -2D5AG | -2D5AH |
| | 0.25 | -2D5B | -2D5BG | -2D5BH |
| | 0.35 | -2D5D | -2D5DG | -2D5DH |
| M3 | 0.25 | -3B | -3BG | -3BH |
| | 0.35 | -3D | -3DG | -3DH |
| M3.5 | 0.25 | -3D5B | -3D5BG | -3D5BH |
| | 0.35 | -3D5D | -3D5DG | -3D5DH |
| | 0.5 | -3D5G | -3D5GG | -3D5GH |
| M4 | 0.25 | -4B | -4BG | -4BH |
| | 0.35 | -4D | -4DG | -4DH |
| M4.5 | 0.5 | -4G | -4GG | -4GH |
| | 0.35 | -4D5D | -4D5DG | -4D5DH |
| M5 | 0.5 | -4D5G | -4D5GG | -4D5GH |
| | 0.25 | -5B | -5BG | -5BH |
| M5.5 | 0.35 | -5D | -5DG | -5DH |
| | 0.5 | -5G | -5GG | -5GH |
| M6 | 0.5 | -5D5G | -5D5GG | -5D5GH |
| | 0.25 | -6B | -6BG | -6BH |
| M6.5 | 0.35 | -6D | -6DG | -6DH |
| | 0.5 | -6G | -6GG | -6GH |
| M7 | 0.5 | -6D5G | -6D5GG | -6D5GH |
| | 0.35 | -7D | -7DG | -7DH |
| M7.5 | 0.5 | -7G | -7GG | -7GH |
| | 0.35 | -7D5G | -7D5GG | -7D5GH |
| M8 | 0.5 | -8D | -8DG | -8DH |
| | 0.5 | -8G | -8GG | -8GH |

| Size (mm) | | Code (4139) | | |
|------------------|-------|-------------|----------|----------|
| Nominal diameter | Pitch | Class 6H | Class 6G | Class 4H |
| M8 | 1 | -8P | -8PG | -8PH |
| M8.5 | 0.5 | -8D5G | -8D5GG | -8D5GH |
| | 0.35 | -9D | -9DG | -9DH |
| M9 | 0.5 | -9G | -9GG | -9GH |
| | 0.75 | -9L | -9LG | -9LH |
| M10 | 1 | -9P | -9PG | -9PH |
| | 0.35 | -10D | -10DG | -10DH |
| | 0.5 | -10G | -10GG | -10GH |
| M11 | 1 | -10P | -10PG | -10PH |
| | 1.25 | -10Q | -10QG | -10QH |
| M12 | 0.5 | -11G | -11GG | -11GH |
| | 1 | -11P | -11PG | -11PH |
| M13 | 0.5 | -12G | -12GG | -12GH |
| | 1 | -12P | -12PG | -12PH |
| | 1.25 | -12Q | -12QG | -12QH |
| M14 | 1.5 | -12R | -12RG | -12RH |
| | 0.5 | -13G | -13GG | -13GH |
| M15 | 1 | -13P | -13PG | -13PH |
| | 1.5 | -13R | -13RG | -13RH |
| M16 | 0.5 | -14G | -14GG | -14GH |
| | 1 | -14P | -14PG | -14PH |
| M17 | 1.25 | -14Q | -14QG | -14QH |
| | 1.5 | -14R | -14RG | -14RH |
| M18 | 0.5 | -15G | -15GG | -15GH |
| | 1 | -15P | -15PG | -15PH |
| M19 | 1.5 | -15R | -15RG | -15RH |
| | 0.5 | -16G | -16GG | -16GH |
| M20 | 1 | -16P | -16PG | -16PH |
| | 1.25 | -16Q | -16QG | -16QH |
| M21 | 1.5 | -16R | -16RG | -16RH |
| | 0.5 | -17G | -17GG | -17GH |
| M22 | 1 | -17P | -17PG | -17PH |
| | 1.5 | -17R | -17RG | -17RH |

To be continued

Continued from previous page

| Size (mm) | | Code (4139) | | |
|------------------|-------|-------------|----------|----------|
| Nominal diameter | Pitch | Class 6H | Class 6G | Class 4H |
| M18 | 0.5 | -18G | -18GG | -18GH |
| | 1 | -18P | -18PG | -18PH |
| | 1.25 | -18Q | -18QG | -18QH |
| | 1.5 | -18R | -18RG | -18RH |
| | 2 | -18T | -18TG | -18TH |
| M19 | 0.5 | -19G | -19GG | -19GH |
| | 1 | -19P | -19PG | -19PH |
| | 1.5 | -19R | -19RG | -19RH |
| M20 | 0.5 | -20G | -20GG | -20GH |
| | 1 | -20P | -20PG | -20PH |
| | 1.25 | -20Q | -20QG | -20QH |
| | 1.5 | -20R | -20RG | -20RH |
| | 2 | -20T | -20TG | -20TH |
| M21 | 0.5 | -21G | -21GG | -21GH |
| | 1 | -21P | -21PG | -21PH |
| | 1.5 | -21R | -21RG | -21RH |
| M22 | 0.5 | -22G | -22GG | -22GH |
| | 1 | -22P | -22PG | -22PH |
| | 1.25 | -22Q | -22QG | -22QH |
| | 1.5 | -22R | -22RG | -22RH |
| M23 | 2 | -22T | -22TG | -22TH |
| | 0.5 | -23G | -23GG | -23GH |
| | 1 | -23P | -23PG | -23PH |
| M24 | 0.5 | -24G | -24GG | -24GH |
| | 1 | -24P | -24PG | -24PH |
| | 1.25 | -24Q | -24QG | -24QH |
| | 1.5 | -24R | -24RG | -24RH |
| | 2 | -24T | -24TG | -24TH |
| M25 | 0.5 | -25G | -25GG | -25GH |
| | 1 | -25P | -25PG | -25PH |
| | 1.5 | -25R | -25RG | -25RH |
| | 2 | -25T | -25TG | -25TH |
| M26 | 0.5 | -26G | -26GG | -26GH |
| | 1 | -26P | -26PG | -26PH |
| | 1.5 | -26R | -26RG | -26RH |
| | 2 | -26T | -26TG | -26TH |
| M27 | 0.5 | -27G | -27GG | -27GH |
| | 1 | -27P | -27PG | -27PH |
| | 1.5 | -27R | -27RG | -27RH |
| | 2 | -27T | -27TG | -27TH |
| M28 | 0.5 | -28G | -28GG | -28GH |
| | 1 | -28P | -28PG | -28PH |
| | 1.5 | -28R | -28RG | -28RH |
| | 2 | -28T | -28TG | -28TH |
| M29 | 0.5 | -29G | -29GG | -29GH |
| | 0.75 | -29L | -29LG | -29LH |
| | 1 | -29P | -29PG | -29PH |
| M30 | 0.5 | -30G | -30GG | -30GH |
| | 0.75 | -30L | -30LG | -30LH |
| | 1 | -30P | -30PG | -30PH |
| | 1.5 | -30R | -30RG | -30RH |
| | 2 | -30T | -30TG | -30TH |
| 3 | -30V | -30VG | -30VH | |

| Size (mm) | | Code (4139) | | |
|------------------|-------|-------------|----------|----------|
| Nominal diameter | Pitch | Class 6H | Class 6G | Class 4H |
| M31 | 0.5 | -31G | -31GG | -31GH |
| | 0.75 | -31L | -31LG | -31LH |
| M32 | 0.5 | -32G | -32GG | -32GH |
| | 0.75 | -32L | -32LG | -32LH |
| | 1 | -32P | -32PG | -32PH |
| | 1.5 | -32R | -32RG | -32RH |
| | 2 | -32T | -32TG | -32TH |
| M33 | 0.5 | -33G | -33GG | -33GH |
| | 0.75 | -33L | -33LG | -33LH |
| | 1 | -33P | -33PG | -33PH |
| | 1.5 | -33R | -33RG | -33RH |
| | 2 | -33T | -33TG | -33TH |
| M34 | 3 | -33V | -33VG | -33VH |
| | 0.75 | -34L | -34LG | -34LH |
| | 1 | -34P | -34PG | -34PH |
| | 1.5 | -34R | -34RG | -34RH |
| M35 | 2 | -34T | -34TG | -34TH |
| | 0.75 | -35L | -35LG | -35LH |
| | 1 | -35P | -35PG | -35PH |
| M36 | 1.5 | -35R | -35RG | -35RH |
| | 2 | -35T | -35TG | -35TH |
| | 0.75 | -36L | -36LG | -36LH |
| | 1 | -36P | -36PG | -36PH |
| | 1.5 | -36R | -36RG | -36RH |
| M37 | 2 | -36T | -36TG | -36TH |
| | 3 | -36V | -36VG | -36VH |
| | 0.75 | -37L | -37LG | -37LH |
| M38 | 1 | -38P | -38PG | -38PH |
| | 1.5 | -38R | -38RG | -38RH |
| | 2 | -38T | -38TG | -38TH |
| M39 | 0.75 | -39L | -39LG | -39LH |
| | 1 | -39P | -39PG | -39PH |
| | 1.5 | -39R | -39RG | -39RH |
| | 2 | -39T | -39TG | -39TH |
| M40 | 3 | -39V | -39VG | -39VH |
| | 0.75 | -40L | -40LG | -40LH |
| | 1 | -40P | -40PG | -40PH |
| | 1.5 | -40R | -40RG | -40RH |
| | 2 | -40T | -40TG | -40TH |
| M42 | 3 | -40V | -40VG | -40VH |
| | 1 | -42P | -42PG | -42PH |
| | 1.5 | -42R | -42RG | -42RH |
| | 2 | -42T | -42TG | -42TH |
| M45 | 3 | -42V | -42VG | -42VH |
| | 1 | -45P | -45PG | -45PH |
| | 1.5 | -45R | -45RG | -45RH |
| | 2 | -45T | -45TG | -45TH |
| | 3 | -45V | -45VG | -45VH |
| M48 | 1 | -48P | -48PG | -48PH |
| | 1.5 | -48R | -48RG | -48RH |
| | 2 | -48T | -48TG | -48TH |
| 3 | -48V | -48VG | -48VH | |

To be continued



Continued from previous page

| Size (mm) | | Code (4139) | | |
|------------------|-------|-------------|----------|----------|
| Nominal diameter | Pitch | Class 6H | Class 6G | Class 4H |
| M50 | 1 | -50P | -50PG | -50PH |
| | 1.5 | -50R | -50RG | -50RH |
| | 2 | -50T | -50TG | -50TH |
| | 3 | -50V | -50VG | -50VH |
| M52 | 1 | -52P | -52PG | -52PH |
| | 1.5 | -52R | -52RG | -52RH |
| | 2 | -52T | -52TG | -52TH |
| | 3 | -52V | -52VG | -52VH |
| | 4 | -52X | -52XG | -52XH |
| M55 | 1 | -55P | -55PG | -55PH |
| | 1.5 | -55R | -55RG | -55RH |
| | 2 | -55T | -55TG | -55TH |
| | 3 | -55V | -55VG | -55VH |
| | 4 | -55X | -55XG | -55XH |
| M56 | 1 | -56P | -56PG | -56PH |
| | 1.5 | -56R | -56RG | -56RH |
| | 2 | -56T | -56TG | -56TH |
| | 3 | -56V | -56VG | -56VH |
| | 4 | -56X | -56XG | -56XH |
| M58 | 1 | -58P | -58PG | -58PH |
| | 1.5 | -58R | -58RG | -58RH |
| | 2 | -58T | -58TG | -58TH |
| | 3 | -58V | -58VG | -58VH |
| | 4 | -58X | -58XG | -58XH |
| M60 | 1 | -60P | -60PG | -60PH |
| | 1.5 | -60R | -60RG | -60RH |
| | 2 | -60T | -60TG | -60TH |
| | 3 | -60V | -60VG | -60VH |
| | 4 | -60X | -60XG | -60XH |
| M62 | 1.5 | -62R | -62RG | -62RH |
| | 2 | -62T | -62TG | -62TH |
| | 3 | -62V | -62VG | -62VH |
| | 4 | -62X | -62XG | -62XH |
| | M64 | 1.5 | -64R | -64RG |
| 2 | | -64T | -64TG | -64TH |
| 3 | | -64V | -64VG | -64VH |
| 4 | | -64X | -64XG | -64XH |
| M65 | | 1.5 | -65R | -65RG |
| | 2 | -65T | -65TG | -65TH |
| | 3 | -65V | -65VG | -65VH |
| | 4 | -65X | -65XG | -65XH |
| | M68 | 1.5 | -68R | -68RG |
| 2 | | -68T | -68TG | -68TH |
| 3 | | -68V | -68VG | -68VH |
| 4 | | -68X | -68XG | -68XH |
| M70 | | 1.5 | -70R | -70RG |
| | 2 | -70T | -70TG | -70TH |
| | 3 | -70V | -70VG | -70VH |
| | 4 | -70X | -70XG | -70XH |
| | 6 | -70O | -70OG | -70OH |
| M72 | 1.5 | -72R | -72RG | -72RH |

| Size (mm) | | Code (4139) | | | |
|------------------|-------|-------------|----------|----------|-------|
| Nominal diameter | Pitch | Class 6H | Class 6G | Class 4H | |
| M72 | 2 | -72T | -72TG | -72TH | |
| | 3 | -72V | -72VG | -72VH | |
| | 4 | -72X | -72XG | -72XH | |
| | 6 | -72O | -72OG | -72OH | |
| M75 | 1.5 | -75R | -75RG | -75RH | |
| | 2 | -75T | -75TG | -75TH | |
| | 3 | -75V | -75VG | -75VH | |
| | 4 | -75X | -75XG | -75XH | |
| M76 | 1.5 | -76R | -76RG | -76RH | |
| | 2 | -76T | -76TG | -76TH | |
| | 3 | -76V | -76VG | -76VH | |
| | 4 | -76X | -76XG | -76XH | |
| M78 | 6 | -76O | -76OG | -76OH | |
| | 2 | -78T | -78TG | -78TH | |
| | M80 | 1.5 | -80R | -80RG | -80RH |
| | | 2 | -80T | -80TG | -80TH |
| 3 | | -80V | -80VG | -80VH | |
| 4 | | -80X | -80XG | -80XH | |
| 6 | | -80O | -80OG | -80OH | |
| M82 | 2 | -82T | -82TG | -82TH | |
| M85 | 2 | -85T | -85TG | -85TH | |
| | 3 | -85V | -85VG | -85VH | |
| | 4 | -85X | -85XG | -85XH | |
| | 6 | -85O | -85OG | -85OH | |
| M90 | 2 | -90T | -90TG | -90TH | |
| | 3 | -90V | -90VG | -90VH | |
| | 4 | -90X | -90XG | -90XH | |
| | 6 | -90O | -90OG | -90OH | |
| M95 | 2 | -95T | -95TG | -95TH | |
| | 3 | -95V | -95VG | -95VH | |
| | 4 | -95X | -95XG | -95XH | |
| | 6 | -95O | -95OG | -95OH | |
| M100 | 2 | -100T | -100TG | -100TH | |
| | 3 | -100V | -100VG | -100VH | |
| | 4 | -100X | -100XG | -100XH | |
| | 6 | -100O | -100OG | -100OH | |
| M105 | 2 | -105T | -105TG | -105TH | |
| | 3 | -105V | -105VG | -105VH | |
| | 4 | -105X | -105XG | -105XH | |
| | 6 | -105O | -105OG | -105OH | |
| M110 | 2 | -110T | -110TG | -110TH | |
| | 3 | -110V | -110VG | -110VH | |
| | 4 | -110X | -110XG | -110XH | |
| | 6 | -110O | -110OG | -110OH | |
| M115 | 2 | -115T | -115TG | -115TH | |
| | 3 | -115V | -115VG | -115VH | |
| | 4 | -115X | -115XG | -115XH | |
| M120 | 6 | -115O | -115OG | -115OH | |
| | 2 | -120T | -120TG | -120TH | |
| | 3 | -120V | -120VG | -120VH | |
| | 4 | -120X | -120XG | -120XH | |
| | 6 | -120O | -120OG | -120OH | |

METRIC THREAD RING GAGES

WARNING: LIFE TIME IS LIMITED,
CAN BE USED ABOUT 2000 TIMES



- Standard ISO1502
- Supplied with manufacturer inspection certificate



4120-16



4120-16N

Code example:
"-2" stands for "4120-2"

Individual

| Size (mm) | | Code (4120) | | | | | |
|------------------|-------|-------------|-------|----------|--------|----------|--------|
| | | Class 6g | | Class 6e | | Class 6h | |
| Nominal diameter | Pitch | GO | NOGO | GO | NOGO | GO | NOGO |
| M2 | 0.4 | -2 | -2N | -2E | -2EN | -2H | -2HN |
| M2.2 | 0.45 | -2D2 | -2D2N | -2D2E | -2D2EN | -2D2H | -2D2HN |
| M2.3 | 0.4 | -2D3 | -2D3N | -2D3E | -2D3EN | -2D3H | -2D3HN |
| M2.5 | 0.45 | -2D5 | -2D5N | -2D5E | -2D5EN | -2D5H | -2D5HN |
| M2.6 | 0.45 | -2D6 | -2D6N | -2D6E | -2D6EN | -2D6H | -2D6HN |
| M3 | 0.5 | -3 | -3N | -3E | -3EN | -3H | -3HN |
| M3.5 | 0.6 | -3D5 | -3D5N | -3D5E | -3D5EN | -3D5H | -3D5HN |
| M4 | 0.7 | -4 | -4N | -4E | -4EN | -4H | -4HN |
| M4.5 | 0.75 | -4D5 | -4D5N | -4D5E | -4D5EN | -4D5H | -4D5HN |
| M5 | 0.8 | -5 | -5N | -5E | -5EN | -5H | -5HN |
| M6 | 1 | -6 | -6N | -6E | -6EN | -6H | -6HN |
| M7 | 1 | -7 | -7N | -7E | -7EN | -7H | -7HN |
| M8 | 1.25 | -8 | -8N | -8E | -8EN | -8H | -8HN |
| M9 | 1.25 | -9 | -9N | -9E | -9EN | -9H | -9HN |
| M10 | 1.5 | -10 | -10N | -10E | -10EN | -10H | -10HN |
| M11 | 1.5 | -11 | -11N | -11E | -11EN | -11H | -11HN |
| M12 | 1.75 | -12 | -12N | -12E | -12EN | -12H | -12HN |
| M14 | 2 | -14 | -14N | -14E | -14EN | -14H | -14HN |
| M16 | 2 | -16 | -16N | -16E | -16EN | -16H | -16HN |
| M18 | 2.5 | -18 | -18N | -18E | -18EN | -18H | -18HN |
| M20 | 2.5 | -20 | -20N | -20E | -20EN | -20H | -20HN |
| M22 | 2.5 | -22 | -22N | -22E | -22EN | -22H | -22HN |
| M24 | 3 | -24 | -24N | -24E | -24EN | -24H | -24HN |
| M27 | 3 | -27 | -27N | -27E | -27EN | -27H | -27HN |
| M30 | 3.5 | -30 | -30N | -30E | -30EN | -30H | -30HN |
| M33 | 3.5 | -33 | -33N | -33E | -33EN | -33H | -33HN |
| M36 | 4 | -36 | -36N | -36E | -36EN | -36H | -36HN |
| M39 | 4 | -39 | -39N | -39E | -39EN | -39H | -39HN |
| M42 | 4.5 | -42 | -42N | -42E | -42EN | -42H | -42HN |
| M45 | 4.5 | -45 | -45N | -45E | -45EN | -45H | -45HN |
| M48 | 5 | -48 | -48N | -48E | -48EN | -48H | -48HN |
| M52 | 5 | -52 | -52N | -52E | -52EN | -52H | -52HN |
| M56 | 5.5 | -56 | -56N | -56E | -56EN | -56H | -56HN |
| M60 | 5.5 | -60 | -60N | -60E | -60EN | -60H | -60HN |
| M64 | 6 | -64 | -64N | -64E | -64EN | -64H | -64HN |
| M68 | 6 | -68 | -68N | -68E | -68EN | -68H | -68HN |

Go ring gage set (Class 6g)

| Code | Thread ring gages included (mm) |
|---------|--|
| 4120-S7 | M3x0.5 (4120-3), M4x0.7 (4120-4), M5x0.8 (4120-5), M6x1 (4120-6), M8x1.25 (4120-8), M10x1.5 (4120-10), M12x1.75 (4120-12) |

No Go ring gage set (Class 6g)

| Code | Thread ring gages included (mm) |
|----------|---|
| 4120-S7N | M3x0.5 (4120-3N), M4x0.7 (4120-4N), M5x0.8 (4120-5N), M6x1 (4120-6N), M8x1.25 (4120-8N), M10x1.5 (4120-10N), M12x1.75 (4120-12N) |



**WARNING: LIFE TIME IS LIMITED,
CAN BE USED ABOUT 2000 TIMES**

METRIC FINE THREAD RING GAGES

- Standard ISO1502
- Supplied with manufacturer inspection certificate (except gages larger than M100)



4129-10P



4129-10PN

Code example:
“-3D5G” stands for “4129-3D5G”

| Size (mm) | | Code (4129) | | | | | |
|------------------|-------|-------------|--------|----------|---------|----------|---------|
| Nominal diameter | Pitch | Class 6g | | Class 6e | | Class 6h | |
| | | GO | NOGO | GO | NOGO | GO | NOGO |
| M3.5 | 0.5 | -3D5G | -3D5GN | -3D5GE | -3D5GEN | -3D5GH | -3D5GHN |
| M4 | 0.5 | -4G | -4GN | -4GE | -4GEN | -4GH | -4GHN |
| M4.5 | 0.5 | -4D5G | -4D5GN | -4D5GE | -4D5GEN | -4D5GH | -4D5GHN |
| M5 | 0.5 | -5G | -5GN | -5GE | -5GEN | -5GH | -5GHN |
| M5.5 | 0.5 | -5D5G | -5D5GN | -5D5GE | -5D5GEN | -5D5GH | -5D5GHN |
| M6 | 0.5 | -6G | -6GN | -6GE | -6GEN | -6GH | -6GHN |
| | 0.75 | -6L | -6LN | -6LE | -6LEN | -6LH | -6LHN |
| M6.5 | 0.5 | -6D5G | -6D5GN | -6D5GE | -6D5GEN | -6D5GH | -6D5GHN |
| M7 | 0.5 | -7G | -7GN | -7GE | -7GEN | -7GH | -7GHN |
| | 0.75 | -7L | -7LN | -7LE | -7LEN | -7LH | -7LHN |
| M7.5 | 0.5 | -7D5G | -7D5GN | -7D5GE | -7D5GEN | -7D5GH | -7D5GHN |
| M8 | 0.5 | -8G | -8GN | -8GE | -8GEN | -8GH | -8GHN |
| | 0.75 | -8L | -8LN | -8LE | -8LEN | -8LH | -8LHN |
| | 1 | -8P | -8PN | -8PE | -8PEN | -8PH | -8PHN |
| M8.5 | 0.5 | -8D5G | -8D5GN | -8D5GE | -8D5GEN | -8D5GH | -8D5GHN |
| M9 | 0.5 | -9G | -9GN | -9GE | -9GEN | -9GH | -9GHN |
| | 0.75 | -9L | -9LN | -9LE | -9LEN | -9LH | -9LHN |
| | 1 | -9P | -9PN | -9PE | -9PEN | -9PH | -9PHN |
| M10 | 0.5 | -10G | -10GN | -10GE | -10GEN | -10GH | -10GHN |
| | 0.75 | -10L | -10LN | -10LE | -10LEN | -10LH | -10LHN |
| | 1 | -10P | -10PN | -10PE | -10PEN | -10PH | -10PHN |
| | 1.25 | -10Q | -10QN | -10QE | -10QEN | -10QH | -10QHN |
| M11 | 0.5 | -11G | -11GN | -11GE | -11GEN | -11GH | -11GHN |
| | 0.75 | -11L | -11LN | -11LE | -11LEN | -11LH | -11LHN |
| | 1 | -11P | -11PN | -11PE | -11PEN | -11PH | -11PHN |
| M12 | 0.5 | -12G | -12GN | -12GE | -12GEN | -12GH | -12GHN |
| | 0.75 | -12L | -12LN | -12LE | -12LEN | -12LH | -12LHN |
| | 1 | -12P | -12PN | -12PE | -12PEN | -12PH | -12PHN |
| | 1.25 | -12Q | -12QN | -12QE | -12QEN | -12QH | -12QHN |
| M13 | 1.5 | -12R | -12RN | -12RE | -12REN | -12RH | -12RHN |
| | 0.5 | -13G | -13GN | -13GE | -13GEN | -13GH | -13GHN |
| | 0.75 | -13L | -13LN | -13LE | -13LEN | -13LH | -13LHN |
| | 1 | -13P | -13PN | -13PE | -13PEN | -13PH | -13PHN |
| M14 | 1.5 | -13R | -13RN | -13RE | -13REN | -13RH | -13RHN |
| | 0.5 | -14G | -14GN | -14GE | -14GEN | -14GH | -14GHN |
| | 0.75 | -14L | -14LN | -14LE | -14LEN | -14LH | -14LHN |
| | 1 | -14P | -14PN | -14PE | -14PEN | -14PH | -14PHN |
| M14 | 1.25 | -14Q | -14QN | -14QE | -14QEN | -14QH | -14QHN |
| | 1.5 | -14R | -14RN | -14RE | -14REN | -14RH | -14RHN |

To be continued

Continued from previous page

| Size (mm) | | Code (4129) | | | | | |
|------------------|-------|-------------|-------|----------|--------|----------|--------|
| Nominal diameter | Pitch | Class 6g | | Class 6e | | Class 6h | |
| | | GO | NOGO | GO | NOGO | GO | NOGO |
| M15 | 0.5 | -15G | -15GN | -15GE | -15GEN | -15GH | -15GHN |
| | 0.75 | -15L | -15LN | -15LE | -15LEN | -15LH | -15LHN |
| | 1 | -15P | -15PN | -15PE | -15PEN | -15PH | -15PHN |
| | 1.5 | -15R | -15RN | -15RE | -15REN | -15RH | -15RHN |
| M16 | 0.5 | -16G | -16GN | -16GE | -16GEN | -16GH | -16GHN |
| | 0.75 | -16L | -16LN | -16LE | -16LEN | -16LH | -16LHN |
| | 1 | -16P | -16PN | -16PE | -16PEN | -16PH | -16PHN |
| | 1.25 | -16Q | -16QN | -16QE | -16QEN | -16QH | -16QHN |
| | 1.5 | -16R | -16RN | -16RE | -16REN | -16RH | -16RHN |
| M17 | 0.5 | -17G | -17GN | -17GE | -17GEN | -17GH | -17GHN |
| | 0.75 | -17L | -17LN | -17LE | -17LEN | -17LH | -17LHN |
| | 1 | -17P | -17PN | -17PE | -17PEN | -17PH | -17PHN |
| | 1.5 | -17R | -17RN | -17RE | -17REN | -17RH | -17RHN |
| M18 | 0.5 | -18G | -18GN | -18GE | -18GEN | -18GH | -18GHN |
| | 0.75 | -18L | -18LN | -18LE | -18LEN | -18LH | -18LHN |
| | 1 | -18P | -18PN | -18PE | -18PEN | -18PH | -18PHN |
| | 1.25 | -18Q | -18QN | -18QE | -18QEN | -18QH | -18QHN |
| | 1.5 | -18R | -18RN | -18RE | -18REN | -18RH | -18RHN |
| | 2 | -18T | -18TN | -18TE | -18TEN | -18TH | -18THN |
| M19 | 0.5 | -19G | -19GN | -19GE | -19GEN | -19GH | -19GHN |
| | 0.75 | -19L | -19LN | -19LE | -19LEN | -19LH | -19LHN |
| | 1 | -19P | -19PN | -19PE | -19PEN | -19PH | -19PHN |
| | 1.5 | -19R | -19RN | -19RE | -19REN | -19RH | -19RHN |
| M20 | 0.5 | -20G | -20GN | -20GE | -20GEN | -20GH | -20GHN |
| | 0.75 | -20L | -20LN | -20LE | -20LEN | -20LH | -20LHN |
| | 1 | -20P | -20PN | -20PE | -20PEN | -20PH | -20PHN |
| | 1.25 | -20Q | -20QN | -20QE | -20QEN | -20QH | -20QHN |
| | 1.5 | -20R | -20RN | -20RE | -20REN | -20RH | -20RHN |
| | 2 | -20T | -20TN | -20TE | -20TEN | -20TH | -20THN |
| M21 | 0.75 | -21L | -21LN | -21LE | -21LEN | -21LH | -21LHN |
| | 1 | -21P | -21PN | -21PE | -21PEN | -21PH | -21PHN |
| | 1.5 | -21R | -21RN | -21RE | -21REN | -21RH | -21RHN |
| M22 | 0.75 | -22L | -22LN | -22LE | -22LEN | -22LH | -22LHN |
| | 1 | -22P | -22PN | -22PE | -22PEN | -22PH | -22PHN |
| | 1.25 | -22Q | -22QN | -22QE | -22QEN | -22QH | -22QHN |
| | 1.5 | -22R | -22RN | -22RE | -22REN | -22RH | -22RHN |
| | 2 | -22T | -22TN | -22TE | -22TEN | -22TH | -22THN |
| M23 | 0.75 | -23L | -23LN | -23LE | -23LEN | -23LH | -23LHN |
| | 1 | -23P | -23PN | -23PE | -23PEN | -23PH | -23PHN |
| M24 | 0.75 | -24L | -24LN | -24LE | -24LEN | -24LH | -24LHN |
| | 1 | -24P | -24PN | -24PE | -24PEN | -24PH | -24PHN |
| | 1.25 | -24Q | -24QN | -24QE | -24QEN | -24QH | -24QHN |
| | 1.5 | -24R | -24RN | -24RE | -24REN | -24RH | -24RHN |
| | 2 | -24T | -24TN | -24TE | -24TEN | -24TH | -24THN |
| M25 | 0.75 | -25L | -25LN | -25LE | -25LEN | -25LH | -25LHN |
| | 1 | -25P | -25PN | -25PE | -25PEN | -25PH | -25PHN |
| | 1.5 | -25R | -25RN | -25RE | -25REN | -25RH | -25RHN |
| | 2 | -25T | -25TN | -25TE | -25TEN | -25TH | -25THN |
| M26 | 0.75 | -26L | -26LN | -26LE | -26LEN | -26LH | -26LHN |
| | 1 | -26P | -26PN | -26PE | -26PEN | -26PH | -26PHN |
| | 1.5 | -26R | -26RN | -26RE | -26REN | -26RH | -26RHN |
| | 2 | -26T | -26TN | -26TE | -26TEN | -26TH | -26THN |



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| Size (mm) | | Code (4129) | | | | | |
|------------------|-------|-------------|-------|----------|--------|----------|--------|
| Nominal diameter | Pitch | Class 6g | | Class 6e | | Class 6h | |
| | | GO | NOGO | GO | NOGO | GO | NOGO |
| M27 | 0.75 | -27L | -27LN | -27LE | -27LEN | -27LH | -27LHN |
| | 1 | -27P | -27PN | -27PE | -27PEN | -27PH | -27PHN |
| | 1.5 | -27R | -27RN | -27RE | -27REN | -27RH | -27RHN |
| M28 | 0.75 | -28L | -28LN | -28LE | -28LEN | -28LH | -28LHN |
| | 1 | -28P | -28PN | -28PE | -28PEN | -28PH | -28PHN |
| | 1.5 | -28R | -28RN | -28RE | -28REN | -28RH | -28RHN |
| M29 | 0.75 | -29L | -29LN | -29LE | -29LEN | -29LH | -29LHN |
| | 1 | -29P | -29PN | -29PE | -29PEN | -29PH | -29PHN |
| | 1.5 | -29R | -29RN | -29RE | -29REN | -29RH | -29RHN |
| M30 | 0.75 | -30L | -30LN | -30LE | -30LEN | -30LH | -30LHN |
| | 1 | -30P | -30PN | -30PE | -30PEN | -30PH | -30PHN |
| | 1.5 | -30R | -30RN | -30RE | -30REN | -30RH | -30RHN |
| | 2 | -30T | -30TN | -30TE | -30TEN | -30TH | -30THN |
| M31 | 0.75 | -31L | -31LN | -31LE | -31LEN | -31LH | -31LHN |
| | 1 | -31P | -31PN | -31PE | -31PEN | -31PH | -31PHN |
| | 1.5 | -31R | -31RN | -31RE | -31REN | -31RH | -31RHN |
| M32 | 0.75 | -32L | -32LN | -32LE | -32LEN | -32LH | -32LHN |
| | 1 | -32P | -32PN | -32PE | -32PEN | -32PH | -32PHN |
| | 1.5 | -32R | -32RN | -32RE | -32REN | -32RH | -32RHN |
| M33 | 0.75 | -33L | -33LN | -33LE | -33LEN | -33LH | -33LHN |
| | 1 | -33P | -33PN | -33PE | -33PEN | -33PH | -33PHN |
| | 1.5 | -33R | -33RN | -33RE | -33REN | -33RH | -33RHN |
| | 2 | -33T | -33TN | -33TE | -33TEN | -33TH | -33THN |
| M34 | 0.75 | -34L | -34LN | -34LE | -34LEN | -34LH | -34LHN |
| | 1 | -34P | -34PN | -34PE | -34PEN | -34PH | -34PHN |
| | 1.5 | -34R | -34RN | -34RE | -34REN | -34RH | -34RHN |
| M35 | 0.75 | -35L | -35LN | -35LE | -35LEN | -35LH | -35LHN |
| | 1 | -35P | -35PN | -35PE | -35PEN | -35PH | -35PHN |
| | 1.5 | -35R | -35RN | -35RE | -35REN | -35RH | -35RHN |
| M36 | 0.75 | -36L | -36LN | -36LE | -36LEN | -36LH | -36LHN |
| | 1 | -36P | -36PN | -36PE | -36PEN | -36PH | -36PHN |
| | 1.5 | -36R | -36RN | -36RE | -36REN | -36RH | -36RHN |
| | 2 | -36T | -36TN | -36TE | -36TEN | -36TH | -36THN |
| M38 | 0.75 | -38L | -38LN | -38LE | -38LEN | -38LH | -38LHN |
| | 1 | -38P | -38PN | -38PE | -38PEN | -38PH | -38PHN |
| | 1.5 | -38R | -38RN | -38RE | -38REN | -38RH | -38RHN |
| M39 | 0.75 | -39L | -39LN | -39LE | -39LEN | -39LH | -39LHN |
| | 1 | -39P | -39PN | -39PE | -39PEN | -39PH | -39PHN |
| | 1.5 | -39R | -39RN | -39RE | -39REN | -39RH | -39RHN |
| | 2 | -39T | -39TN | -39TE | -39TEN | -39TH | -39THN |
| M40 | 0.75 | -40L | -40LN | -40LE | -40LEN | -40LH | -40LHN |
| | 1 | -40P | -40PN | -40PE | -40PEN | -40PH | -40PHN |
| | 1.5 | -40R | -40RN | -40RE | -40REN | -40RH | -40RHN |
| M42 | 0.75 | -42L | -42LN | -42LE | -42LEN | -42LH | -42LHN |
| | 1 | -42P | -42PN | -42PE | -42PEN | -42PH | -42PHN |
| | 1.5 | -42R | -42RN | -42RE | -42REN | -42RH | -42RHN |
| M45 | 0.75 | -45L | -45LN | -45LE | -45LEN | -45LH | -45LHN |
| | 1 | -45P | -45PN | -45PE | -45PEN | -45PH | -45PHN |
| | 1.5 | -45R | -45RN | -45RE | -45REN | -45RH | -45RHN |

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| Size (mm) | | Code (4129) | | | | | |
|------------------|-------|-------------|-------|----------|--------|----------|--------|
| Nominal diameter | Pitch | Class 6g | | Class 6e | | Class 6h | |
| | | GO | NOGO | GO | NOGO | GO | NOGO |
| M48 | 1.5 | -48R | -48RN | -48RE | -48REN | -48RH | -48RHN |
| | 2 | -48T | -48TN | -48TE | -48TEN | -48TH | -48THN |
| | 3 | -48V | -48VN | -48VE | -48VEN | -48VH | -48VHN |
| M50 | 1.5 | -50R | -50RN | -50RE | -50REN | -50RH | -50RHN |
| | 2 | -50T | -50TN | -50TE | -50TEN | -50TH | -50THN |
| | 3 | -50V | -50VN | -50VE | -50VEN | -50VH | -50VHN |
| M52 | 1.5 | -52R | -52RN | -52RE | -52REN | -52RH | -52RHN |
| | 2 | -52T | -52TN | -52TE | -52TEN | -52TH | -52THN |
| | 3 | -52V | -52VN | -52VE | -52VEN | -52VH | -52VHN |
| | 4 | -52X | -52XN | -52XE | -52XEN | -52XH | -52XHN |
| M55 | 1.5 | -55R | -55RN | -55RE | -55REN | -55RH | -55RHN |
| | 2 | -55T | -55TN | -55TE | -55TEN | -55TH | -55THN |
| | 3 | -55V | -55VN | -55VE | -55VEN | -55VH | -55VHN |
| | 4 | -55X | -55XN | -55XE | -55XEN | -55XH | -55XHN |
| M56 | 1.5 | -56R | -56RN | -56RE | -56REN | -56RH | -56RHN |
| | 2 | -56T | -56TN | -56TE | -56TEN | -56TH | -56THN |
| | 3 | -56V | -56VN | -56VE | -56VEN | -56VH | -56VHN |
| | 4 | -56X | -56XN | -56XE | -56XEN | -56XH | -56XHN |
| M58 | 1.5 | -58R | -58RN | -58RE | -58REN | -58RH | -58RHN |
| | 2 | -58T | -58TN | -58TE | -58TEN | -58TH | -58THN |
| | 3 | -58V | -58VN | -58VE | -58VEN | -58VH | -58VHN |
| | 4 | -58X | -58XN | -58XE | -58XEN | -58XH | -58XHN |
| M60 | 1.5 | -60R | -60RN | -60RE | -60REN | -60RH | -60RHN |
| | 2 | -60T | -60TN | -60TE | -60TEN | -60TH | -60THN |
| | 3 | -60V | -60VN | -60VE | -60VEN | -60VH | -60VHN |
| | 4 | -60X | -60XN | -60XE | -60XEN | -60XH | -60XHN |
| M62 | 1.5 | -62R | -62RN | -62RE | -62REN | -62RH | -62RHN |
| | 2 | -62T | -62TN | -62TE | -62TEN | -62TH | -62THN |
| | 3 | -62V | -62VN | -62VE | -62VEN | -62VH | -62VHN |
| | 4 | -62X | -62XN | -62XE | -62XEN | -62XH | -62XHN |
| M64 | 1.5 | -64R | -64RN | -64RE | -64REN | -64RH | -64RHN |
| | 2 | -64T | -64TN | -64TE | -64TEN | -64TH | -64THN |
| | 3 | -64V | -64VN | -64VE | -64VEN | -64VH | -64VHN |
| | 4 | -64X | -64XN | -64XE | -64XEN | -64XH | -64XHN |
| M65 | 1.5 | -65R | -65RN | -65RE | -65REN | -65RH | -65RHN |
| | 2 | -65T | -65TN | -65TE | -65TEN | -65TH | -65THN |
| | 3 | -65V | -65VN | -65VE | -65VEN | -65VH | -65VHN |
| | 4 | -65X | -65XN | -65XE | -65XEN | -65XH | -65XHN |
| M68 | 1.5 | -68R | -68RN | -68RE | -68REN | -68RH | -68RHN |
| | 2 | -68T | -68TN | -68TE | -68TEN | -68TH | -68THN |
| | 3 | -68V | -68VN | -68VE | -68VEN | -68VH | -68VHN |
| | 4 | -68X | -68XN | -68XE | -68XEN | -68XH | -68XHN |
| M70 | 1.5 | -70R | -70RN | -70RE | -70REN | -70RH | -70RHN |
| | 2 | -70T | -70TN | -70TE | -70TEN | -70TH | -70THN |
| | 3 | -70V | -70VN | -70VE | -70VEN | -70VH | -70VHN |
| | 4 | -70X | -70XN | -70XE | -70XEN | -70XH | -70XHN |
| M72 | 6 | -70O | -70ON | -70OE | -70OEN | -70OH | -70OHN |
| | 1.5 | -72R | -72RN | -72RE | -72REN | -72RH | -72RHN |
| M72 | 2 | -72T | -72TN | -72TE | -72TEN | -72TH | -72THN |



Continued from previous page

| Size (mm) | | Code (4129) | | | | | |
|------------------|-------|-------------|--------|----------|---------|----------|---------|
| Nominal diameter | Pitch | Class 6g | | Class 6e | | Class 6h | |
| | | GO | NOGO | GO | NOGO | GO | NOGO |
| M72 | 3 | -72V | -72VN | -72VE | -72VEN | -72VH | -72VHN |
| | 4 | -72X | -72XN | -72XE | -72XEN | -72XH | -72XHN |
| | 6 | -72O | -72ON | -72OE | -72OEN | -72OH | -72OHN |
| M75 | 1.5 | -75R | -75RN | -75RE | -75REN | -75RH | -75RHN |
| | 2 | -75T | -75TN | -75TE | -75TEN | -75TH | -75THN |
| | 3 | -75V | -75VN | -75VE | -75VEN | -75VH | -75VHN |
| | 4 | -75X | -75XN | -75XE | -75XEN | -75XH | -75XHN |
| M76 | 1.5 | -76R | -76RN | -76RE | -76REN | -76RH | -76RHN |
| | 2 | -76T | -76TN | -76TE | -76TEN | -76TH | -76THN |
| | 3 | -76V | -76VN | -76VE | -76VEN | -76VH | -76VHN |
| | 4 | -76X | -76XN | -76XE | -76XEN | -76XH | -76XHN |
| | 6 | -76O | -76ON | -76OE | -76OEN | -76OH | -76OHN |
| M78 | 2 | -78T | -78TN | -78TE | -78TEN | -78TH | -78THN |
| M80 | 1.5 | -80R | -80RN | -80RE | -80REN | -80RH | -80RHN |
| | 2 | -80T | -80TN | -80TE | -80TEN | -80TH | -80THN |
| | 3 | -80V | -80VN | -80VE | -80VEN | -80VH | -80VHN |
| | 4 | -80X | -80XN | -80XE | -80XEN | -80XH | -80XHN |
| | 6 | -80O | -80ON | -80OE | -80OEN | -80OH | -80OHN |
| M82 | 2 | -82T | -82TN | -82TE | -82TEN | -82TH | -82THN |
| M85 | 2 | -85T | -85TN | -85TE | -85TEN | -85TH | -85THN |
| | 3 | -85V | -85VN | -85VE | -85VEN | -85VH | -85VHN |
| | 4 | -85X | -85XN | -85XE | -85XEN | -85XH | -85XHN |
| | 6 | -85O | -85ON | -85OE | -85OEN | -85OH | -85OHN |
| M90 | 2 | -90T | -90TN | -90TE | -90TEN | -90TH | -90THN |
| | 3 | -90V | -90VN | -90VE | -90VEN | -90VH | -90VHN |
| | 4 | -90X | -90XN | -90XE | -90XEN | -90XH | -90XHN |
| | 6 | -90O | -90ON | -90OE | -90OEN | -90OH | -90OHN |
| M95 | 2 | -95T | -95TN | -95TE | -95TEN | -95TH | -95THN |
| | 3 | -95V | -95VN | -95VE | -95VEN | -95VH | -95VHN |
| | 4 | -95X | -95XN | -95XE | -95XEN | -95XH | -95XHN |
| | 6 | -95O | -95ON | -95OE | -95OEN | -95OH | -95OHN |
| M100 | 2 | -100T | -100TN | -100TE | -100TEN | -100TH | -100THN |
| | 3 | -100V | -100VN | -100VE | -100VEN | -100VH | -100VHN |
| | 4 | -100X | -100XN | -100XE | -100XEN | -100XH | -100XHN |
| | 6 | -100O | -100ON | -100OE | -100OEN | -100OH | -100OHN |
| M105 | 2 | -105T | -105TN | -105TE | -105TEN | -105TH | -105THN |
| | 3 | -105V | -105VN | -105VE | -105VEN | -105VH | -105VHN |
| | 4 | -105X | -105XN | -105XE | -105XEN | -105XH | -105XHN |
| | 6 | -105O | -105ON | -105OE | -105OEN | -105OH | -105OHN |
| M110 | 2 | -110T | -110TN | -110TE | -110TEN | -110TH | -110THN |
| | 3 | -110V | -110VN | -110VE | -110VEN | -110VH | -110VHN |
| | 4 | -110X | -110XN | -110XE | -110XEN | -110XH | -110XHN |
| | 6 | -110O | -110ON | -110OE | -110OEN | -110OH | -110OHN |
| M115 | 2 | -115T | -115TN | -115TE | -115TEN | -115TH | -115THN |
| | 3 | -115V | -115VN | -115VE | -115VEN | -115VH | -115VHN |
| | 4 | -115X | -115XN | -115XE | -115XEN | -115XH | -115XHN |
| | 6 | -115O | -115ON | -115OE | -115OEN | -115OH | -115OHN |
| M120 | 2 | -120T | -120TN | -120TE | -120TEN | -120TH | -120THN |
| | 3 | -120V | -120VN | -120VE | -120VEN | -120VH | -120VHN |
| | 4 | -120X | -120XN | -120XE | -120XEN | -120XH | -120XHN |
| | 6 | -120O | -120ON | -120OE | -120OEN | -120OH | -120OHN |

AMERICAN STANDARD THREAD PLUG GAGES

WARNING: LIFE TIME IS LIMITED,
CAN BE USED ABOUT 2000 TIMES



4131-102

- Supplied with Go and No-Go gages together
- Standard ANSI/ASME B1.2
- Supplied with manufacturer inspection certificate

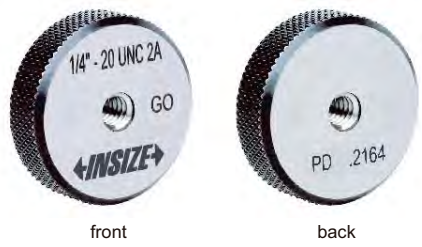
| Size | Code | |
|---------------|----------|-----------|
| | Class 2B | Class 3B |
| No. 0-80UNF | 4131-02 | 4131-02B |
| No. 1-64UNC | 4131-11 | 4131-11B |
| No. 1-72UNF | 4131-12 | 4131-12B |
| No. 2-56UNC | 4131-21 | 4131-21B |
| No. 2-64UNF | 4131-22 | 4131-22B |
| No. 3-48UNC | 4131-31 | 4131-31B |
| No. 3-56UNF | 4131-32 | 4131-32B |
| No. 4-40UNC | 4131-41 | 4131-41B |
| No. 4-48UNF | 4131-42 | 4131-42B |
| No. 5-40UNC | 4131-51 | 4131-51B |
| No. 5-44UNF | 4131-52 | 4131-52B |
| No. 6-32UNC | 4131-61 | 4131-61B |
| No. 6-40UNF | 4131-62 | 4131-62B |
| No. 8-32UNC | 4131-81 | 4131-81B |
| No. 8-36UNF | 4131-82 | 4131-82B |
| No. 10-24UNC | 4131-101 | 4131-101B |
| No. 10-32UNF | 4131-102 | 4131-102B |
| No. 12-24UNC | 4131-121 | 4131-121B |
| No. 12-28UNF | 4131-122 | 4131-122B |
| No. 12-32UNEF | 4131-123 | 4131-123B |
| 1/4-20UNC | 4131-1B1 | 4131-1B1B |
| 1/4-28UNF | 4131-1B2 | 4131-1B2B |
| 1/4-32UNEF | 4131-1B3 | 4131-1B3B |
| 1/4-36UNS | 4131-1B4 | 4131-1B4B |
| 5/16-18UNC | 4131-5D1 | 4131-5D1B |
| 5/16-24UNF | 4131-5D2 | 4131-5D2B |
| 5/16-32UNEF | 4131-5D3 | 4131-5D3B |
| 3/8-16UNC | 4131-3C1 | 4131-3C1B |
| 3/8-24UNF | 4131-3C2 | 4131-3C2B |
| 3/8-32UNEF | 4131-3C3 | 4131-3C3B |
| 7/16-14UNC | 4131-7D1 | 4131-7D1B |
| 7/16-20UNF | 4131-7D2 | 4131-7D2B |
| 7/16-28UNEF | 4131-7D3 | 4131-7D3B |
| 1/2-13UNC | 4131-1A1 | 4131-1A1B |
| 1/2-20UNF | 4131-1A2 | 4131-1A2B |
| 1/2-28UNEF | 4131-1A3 | 4131-1A3B |

| Size | Code | |
|---------------|-------------|--------------|
| | Class 2B | Class 3B |
| 9/16-12UNC | 4131-9D1 | 4131-9D1B |
| 9/16-18UNC | 4131-9D2 | 4131-9D2B |
| 9/16-24UNEF | 4131-9D3 | 4131-9D3B |
| 5/8-11UNC | 4131-5C1 | 4131-5C1B |
| 5/8-18UNF | 4131-5C2 | 4131-5C2B |
| 5/8-24UNEF | 4131-5C3 | 4131-5C3B |
| 11/16-16UN | 4131-11D516 | 4131-11D516B |
| 11/16-24UNEF | 4131-11D3 | 4131-11D3B |
| 3/4-10UNC | 4131-3B1 | 4131-3B1B |
| 3/4-16UNF | 4131-3B2 | 4131-3B2B |
| 3/4-20UNEF | 4131-3B3 | 4131-3B3B |
| 13/16-16UN | 4131-13D516 | 4131-13D516B |
| 13/16-20UNEF | 4131-13D3 | 4131-13D3B |
| 7/8-9UNC | 4131-7C1 | 4131-7C1B |
| 7/8-14UNF | 4131-7C2 | 4131-7C2B |
| 7/8-16UN | 4131-7C516 | 4131-7C516B |
| 7/8-20UNEF | 4131-7C3 | 4131-7C3B |
| 15/16-20UNEF | 4131-15D3 | 4131-15D3B |
| 1-8UNC | 4131-2A1 | 4131-2A1B |
| 1-12UNF | 4131-2A2 | 4131-2A2B |
| 1-14UNS | 4131-2A514 | 4131-2A514B |
| 1-20UNEF | 4131-2A3 | 4131-2A3B |
| 1-32UN | 4131-2A532 | 4131-2A532B |
| 1 1/16-12UN | 4131-1E512 | 4131-1E512B |
| 1 1/16-18UNEF | 4131-1E3 | 4131-1E3B |
| 1 1/8-7UNC | 4131-1F1 | 4131-1F1B |
| 1 1/8-8UN | 4131-1F58 | 4131-1F58B |
| 1 1/8-12UNF | 4131-1F2 | 4131-1F2B |
| 1 1/8-18UNEF | 4131-1F3 | 4131-1F3B |
| 1 3/16-12UN | 4131-3E512 | 4131-3E512B |
| 1 3/16-18UNEF | 4131-3E3 | 4131-3E3B |
| 1 1/4-7UNC | 4131-1G1 | 4131-1G1B |
| 1 1/4-8UN | 4131-1G58 | 4131-1G58B |
| 1 1/4-12UNF | 4131-1G2 | 4131-1G2B |
| 1 1/4-18UNEF | 4131-1G3 | 4131-1G3B |
| 1 5/16-12UN | 4131-5E512 | 4131-5E512B |



**WARNING: LIFE TIME IS LIMITED,
CAN BE USED ABOUT 2000 TIMES**

AMERICAN STANDARD THREAD RING GAGES



front back

4121-1B1



front back

4121-1B1N

- Standard ANSI/ASME B1.2
- Class 2A
- Supplied with manufacturer inspection certificate

| Size | Code | |
|---------------|----------|-----------|
| | GO | NOGO |
| No. 4-40UNC | 4121-41 | 4121-41N |
| No. 4-48UNF | 4121-42 | 4121-42N |
| No. 5-40UNC | 4121-51 | 4121-51N |
| No. 5-44UNF | 4121-52 | 4121-52N |
| No. 6-32UNC | 4121-61 | 4121-61N |
| No. 6-40UNF | 4121-62 | 4121-62N |
| No. 8-32UNC | 4121-81 | 4121-81N |
| No. 8-36UNF | 4121-82 | 4121-82N |
| No. 10-24UNC | 4121-101 | 4121-101N |
| No. 10-32UNF | 4121-102 | 4121-102N |
| No. 12-24UNC | 4121-121 | 4121-121N |
| No. 12-28UNF | 4121-122 | 4121-122N |
| No. 12-32UNEF | 4121-123 | 4121-123N |
| 1/4-20UNC | 4121-1B1 | 4121-1B1N |
| 1/4-28UNF | 4121-1B2 | 4121-1B2N |
| 1/4-32UNEF | 4121-1B3 | 4121-1B3N |
| 1/4-36UNS | 4121-1B4 | 4121-1B4N |
| 5/16-18UNC | 4121-5D1 | 4121-5D1N |
| 5/16-24UNF | 4121-5D2 | 4121-5D2N |
| 5/16-32UNEF | 4121-5D3 | 4121-5D3N |
| 3/8-16UNC | 4121-3C1 | 4121-3C1N |
| 3/8-24UNF | 4121-3C2 | 4121-3C2N |
| 3/8-32UNEF | 4121-3C3 | 4121-3C3N |
| 7/16-14UNC | 4121-7D1 | 4121-7D1N |
| 7/16-20UNF | 4121-7D2 | 4121-7D2N |
| 7/16-28UNEF | 4121-7D3 | 4121-7D3N |
| 1/2-13UNC | 4121-1A1 | 4121-1A1N |
| 1/2-20UNF | 4121-1A2 | 4121-1A2N |
| 1/2-28UNEF | 4121-1A3 | 4121-1A3N |
| 9/16-12UNC | 4121-9D1 | 4121-9D1N |
| 9/16-18UNF | 4121-9D2 | 4121-9D2N |
| 9/16-24UNEF | 4121-9D3 | 4121-9D3N |

| Size | Code | |
|---------------|-------------|--------------|
| | GO | NOGO |
| 5/8-11UNC | 4121-5C1 | 4121-5C1N |
| 5/8-18UNF | 4121-5C2 | 4121-5C2N |
| 5/8-24UNEF | 4121-5C3 | 4121-5C3N |
| 11/16-16UN | 4121-11D516 | 4121-11D516N |
| 11/16-24UNEF | 4121-11D3 | 4121-11D3N |
| 3/4-10UNC | 4121-3B1 | 4121-3B1N |
| 3/4-16UNF | 4121-3B2 | 4121-3B2N |
| 3/4-20UNEF | 4121-3B3 | 4121-3B3N |
| 13/16-16UN | 4121-13D516 | 4121-13D516N |
| 13/16-20UNEF | 4121-13D3 | 4121-13D3N |
| 7/8-9UNC | 4121-7C1 | 4121-7C1N |
| 7/8-14UNF | 4121-7C2 | 4121-7C2N |
| 7/8-16UN | 4121-7C516 | 4121-7C516N |
| 7/8-20UNEF | 4121-7C3 | 4121-7C3N |
| 15/16-20UNEF | 4121-15D3 | 4121-15D3N |
| 1-8UNC | 4121-2A1 | 4121-2A1N |
| 1-12UNF | 4121-2A2 | 4121-2A2N |
| 1-14UNS | 4121-2A514 | 4121-2A514N |
| 1-20UNEF | 4121-2A3 | 4121-2A3N |
| 1-32UN | 4121-2A532 | 4121-2A532N |
| 1 1/16-12UN | 4121-1E512 | 4121-1E512N |
| 1 1/16-18UNEF | 4121-1E3 | 4121-1E3N |
| 1 1/8-7UNC | 4121-1F1 | 4121-1F1N |
| 1 1/8-8UN | 4121-1F58 | 4121-1F58N |
| 1 1/8-12UNF | 4121-1F2 | 4121-1F2N |
| 1 1/8-18UNEF | 4121-1F3 | 4121-1F3N |
| 1 3/16-12UN | 4121-3E512 | 4121-3E512N |
| 1 3/16-18UNEF | 4121-3E3 | 4121-3E3N |
| 1 1/4-7UNC | 4121-1G1 | 4121-1G1N |
| 1 1/4-8UN | 4121-1G58 | 4121-1G58N |
| 1 1/4-12UNF | 4121-1G2 | 4121-1G2N |
| 1 1/4-18UNEF | 4121-1G3 | 4121-1G3N |
| 1 5/16-12UN | 4121-5E512 | 4121-5E512N |

CHECK PLUGS FOR METRIC THREAD RING GAGES



4647-10



4647-10N

- Standard ISO1502
- Check thread ring gages
- Supplied with manufacturer inspection certificate

Code example:
“-2” stands for “4647-2”

| Size (mm) | | Code (4647) | | | | | |
|------------------|-------|-------------|-------|----------|--------|----------|--------|
| | | Class 6g | | Class 6e | | Class 6h | |
| Nominal diameter | Pitch | GO | NOGO | GO | NOGO | GO | NOGO |
| M2 | 0.4 | -2 | -2N | -2E | -2EN | -2H | -2HN |
| M2.2 | 0.45 | -2D2 | -2D2N | -2D2E | -2D2EN | -2D2H | -2D2HN |
| M2.3 | 0.4 | -2D3 | -2D3N | -2D3E | -2D3EN | -2D3H | -2D3HN |
| M2.5 | 0.45 | -2D5 | -2D5N | -2D5E | -2D5EN | -2D5H | -2D5HN |
| M2.6 | 0.45 | -2D6 | -2D6N | -2D6E | -2D6EN | -2D6H | -2D6HN |
| M3 | 0.5 | -3 | -3N | -3E | -3EN | -3H | -3HN |
| M3.5 | 0.6 | -3D5 | -3D5N | -3D5E | -3D5EN | -3D5H | -3D5HN |
| M4 | 0.7 | -4 | -4N | -4E | -4EN | -4H | -4HN |
| M4.5 | 0.75 | -4D5 | -4D5N | -4D5E | -4D5EN | -4D5H | -4D5HN |
| M5 | 0.8 | -5 | -5N | -5E | -5EN | -5H | -5HN |
| M6 | 1 | -6 | -6N | -6E | -6EN | -6H | -6HN |
| M7 | 1 | -7 | -7N | -7E | -7EN | -7H | -7HN |
| M8 | 1.25 | -8 | -8N | -8E | -8EN | -8H | -8HN |
| M9 | 1.25 | -9 | -9N | -9E | -9EN | -9H | -9HN |
| M10 | 1.5 | -10 | -10N | -10E | -10EN | -10H | -10HN |
| M11 | 1.5 | -11 | -11N | -11E | -11EN | -11H | -11HN |
| M12 | 1.75 | -12 | -12N | -12E | -12EN | -12H | -12HN |
| M14 | 2 | -14 | -14N | -14E | -14EN | -14H | -14HN |
| M16 | 2 | -16 | -16N | -16E | -16EN | -16H | -16HN |
| M18 | 2.5 | -18 | -18N | -18E | -18EN | -18H | -18HN |
| M20 | 2.5 | -20 | -20N | -20E | -20EN | -20H | -20HN |
| M22 | 2.5 | -22 | -22N | -22E | -22EN | -22H | -22HN |
| M24 | 3 | -24 | -24N | -24E | -24EN | -24H | -24HN |
| M27 | 3 | -27 | -27N | -27E | -27EN | -27H | -27HN |
| M30 | 3.5 | -30 | -30N | -30E | -30EN | -30H | -30HN |
| M33 | 3.5 | -33 | -33N | -33E | -33EN | -33H | -33HN |
| M36 | 4 | -36 | -36N | -36E | -36EN | -36H | -36HN |
| M39 | 4 | -39 | -39N | -39E | -39EN | -39H | -39HN |
| M42 | 4.5 | -42 | -42N | -42E | -42EN | -42H | -42HN |
| M45 | 4.5 | -45 | -45N | -45E | -45EN | -45H | -45HN |
| M48 | 5 | -48 | -48N | -48E | -48EN | -48H | -48HN |
| M52 | 5 | -52 | -52N | -52E | -52EN | -52H | -52HN |
| M56 | 5.5 | -56 | -56N | -56E | -56EN | -56H | -56HN |
| M60 | 5.5 | -60 | -60N | -60E | -60EN | -60H | -60HN |
| M64 | 6 | -64 | -64N | -64E | -64EN | -64H | -64HN |
| M68 | 6 | -68 | -68N | -68E | -68EN | -68H | -68HN |



CHECK PLUGS FOR METRIC FINE THREAD RING GAGES



4677-10P



4677-10PN

- Standard ISO1502
- Check thread ring gages
- Supplied with manufacturer inspection certificate

Code example:
“-3D5G” stands for “4677-3D5G”

| Size (mm) | | Code (4677) | | | | | |
|------------------|-------|-------------|--------|----------|---------|----------|---------|
| | | Class 6g | | Class 6e | | Class 6h | |
| Nominal diameter | Pitch | GO | NOGO | GO | NOGO | GO | NOGO |
| M3.5 | 0.5 | -3D5G | -3D5GN | -3D5GE | -3D5GEN | -3D5GH | -3D5GHN |
| M4 | 0.5 | -4G | -4GN | -4GE | -4GEN | -4GH | -4GHN |
| M4.5 | 0.5 | -4D5G | -4D5GN | -4D5GE | -4D5GEN | -4D5GH | -4D5GHN |
| M5 | 0.5 | -5G | -5GN | -5GE | -5GEN | -5GH | -5GHN |
| M5.5 | 0.5 | -5D5G | -5D5GN | -5D5GE | -5D5GEN | -5D5GH | -5D5GHN |
| M6 | 0.5 | -6G | -6GN | -6GE | -6GEN | -6GH | -6GHN |
| | 0.75 | -6L | -6LN | -6LE | -6LEN | -6LH | -6LHN |
| M6.5 | 0.5 | -6D5G | -6D5GN | -6D5GE | -6D5GEN | -6D5GH | -6D5GHN |
| M7 | 0.5 | -7G | -7GN | -7GE | -7GEN | -7GH | -7GHN |
| | 0.75 | -7L | -7LN | -7LE | -7LEN | -7LH | -7LHN |
| M7.5 | 0.5 | -7D5G | -7D5GN | -7D5GE | -7D5GEN | -7D5GH | -7D5GHN |
| M8 | 0.5 | -8G | -8GN | -8GE | -8GEN | -8GH | -8GHN |
| | 0.75 | -8L | -8LN | -8LE | -8LEN | -8LH | -8LHN |
| | 1 | -8P | -8PN | -8PE | -8PEN | -8PH | -8PHN |
| M8.5 | 0.5 | -8D5G | -8D5GN | -8D5GE | -8D5GEN | -8D5GH | -8D5GHN |
| M9 | 0.5 | -9G | -9GN | -9GE | -9GEN | -9GH | -9GHN |
| | 0.75 | -9L | -9LN | -9LE | -9LEN | -9LH | -9LHN |
| | 1 | -9P | -9PN | -9PE | -9PEN | -9PH | -9PHN |
| M10 | 0.5 | -10G | -10GN | -10GE | -10GEN | -10GH | -10GHN |
| | 0.75 | -10L | -10LN | -10LE | -10LEN | -10LH | -10LHN |
| | 1 | -10P | -10PN | -10PE | -10PEN | -10PH | -10PHN |
| | 1.25 | -10Q | -10QN | -10QE | -10QEN | -10QH | -10QHN |
| M11 | 0.5 | -11G | -11GN | -11GE | -11GEN | -11GH | -11GHN |
| | 0.75 | -11L | -11LN | -11LE | -11LEN | -11LH | -11LHN |
| | 1 | -11P | -11PN | -11PE | -11PEN | -11PH | -11PHN |
| M12 | 0.5 | -12G | -12GN | -12GE | -12GEN | -12GH | -12GHN |
| | 0.75 | -12L | -12LN | -12LE | -12LEN | -12LH | -12LHN |
| | 1 | -12P | -12PN | -12PE | -12PEN | -12PH | -12PHN |
| | 1.25 | -12Q | -12QN | -12QE | -12QEN | -12QH | -12QHN |
| | 1.5 | -12R | -12RN | -12RE | -12REN | -12RH | -12RHN |
| M13 | 0.5 | -13G | -13GN | -13GE | -13GEN | -13GH | -13GHN |
| | 0.75 | -13L | -13LN | -13LE | -13LEN | -13LH | -13LHN |
| | 1 | -13P | -13PN | -13PE | -13PEN | -13PH | -13PHN |
| | 1.5 | -13R | -13RN | -13RE | -13REN | -13RH | -13RHN |
| M14 | 0.5 | -14G | -14GN | -14GE | -14GEN | -14GH | -14GHN |
| | 0.75 | -14L | -14LN | -14LE | -14LEN | -14LH | -14LHN |
| | 1 | -14P | -14PN | -14PE | -14PEN | -14PH | -14PHN |
| | 1.25 | -14Q | -14QN | -14QE | -14QEN | -14QH | -14QHN |
| | 1.5 | -14R | -14RN | -14RE | -14REN | -14RH | -14RHN |

To be continued

Continued from previous page

| Size (mm) | | Code (4677) | | | | | |
|------------------|-------|-------------|-------|----------|--------|----------|--------|
| | | Class 6g | | Class 6e | | Class 6h | |
| Nominal diameter | Pitch | GO | NOGO | GO | NOGO | GO | NOGO |
| M15 | 0.5 | -15G | -15GN | -15GE | -15GEN | -15GH | -15GHN |
| | 0.75 | -15L | -15LN | -15LE | -15LEN | -15LH | -15LHN |
| | 1 | -15P | -15PN | -15PE | -15PEN | -15PH | -15PHN |
| | 1.5 | -15R | -15RN | -15RE | -15REN | -15RH | -15RHN |
| M16 | 0.5 | -16G | -16GN | -16GE | -16GEN | -16GH | -16GHN |
| | 0.75 | -16L | -16LN | -16LE | -16LEN | -16LH | -16LHN |
| | 1 | -16P | -16PN | -16PE | -16PEN | -16PH | -16PHN |
| | 1.25 | -16Q | -16QN | -16QE | -16QEN | -16QH | -16QHN |
| | 1.5 | -16R | -16RN | -16RE | -16REN | -16RH | -16RHN |
| M17 | 0.5 | -17G | -17GN | -17GE | -17GEN | -17GH | -17GHN |
| | 0.75 | -17L | -17LN | -17LE | -17LEN | -17LH | -17LHN |
| | 1 | -17P | -17PN | -17PE | -17PEN | -17PH | -17PHN |
| | 1.5 | -17R | -17RN | -17RE | -17REN | -17RH | -17RHN |
| M18 | 0.5 | -18G | -18GN | -18GE | -18GEN | -18GH | -18GHN |
| | 0.75 | -18L | -18LN | -18LE | -18LEN | -18LH | -18LHN |
| | 1 | -18P | -18PN | -18PE | -18PEN | -18PH | -18PHN |
| | 1.25 | -18Q | -18QN | -18QE | -18QEN | -18QH | -18QHN |
| | 1.5 | -18R | -18RN | -18RE | -18REN | -18RH | -18RHN |
| | 2 | -18T | -18TN | -18TE | -18TEN | -18TH | -18THN |
| M19 | 0.5 | -19G | -19GN | -19GE | -19GEN | -19GH | -19GHN |
| | 0.75 | -19L | -19LN | -19LE | -19LEN | -19LH | -19LHN |
| | 1 | -19P | -19PN | -19PE | -19PEN | -19PH | -19PHN |
| | 1.5 | -19R | -19RN | -19RE | -19REN | -19RH | -19RHN |
| M20 | 0.5 | -20G | -20GN | -20GE | -20GEN | -20GH | -20GHN |
| | 0.75 | -20L | -20LN | -20LE | -20LEN | -20LH | -20LHN |
| | 1 | -20P | -20PN | -20PE | -20PEN | -20PH | -20PHN |
| | 1.25 | -20Q | -20QN | -20QE | -20QEN | -20QH | -20QHN |
| | 1.5 | -20R | -20RN | -20RE | -20REN | -20RH | -20RHN |
| | 2 | -20T | -20TN | -20TE | -20TEN | -20TH | -20THN |
| M21 | 0.75 | -21L | -21LN | -21LE | -21LEN | -21LH | -21LHN |
| | 1 | -21P | -21PN | -21PE | -21PEN | -21PH | -21PHN |
| | 1.5 | -21R | -21RN | -21RE | -21REN | -21RH | -21RHN |
| M22 | 0.75 | -22L | -22LN | -22LE | -22LEN | -22LH | -22LHN |
| | 1 | -22P | -22PN | -22PE | -22PEN | -22PH | -22PHN |
| | 1.25 | -22Q | -22QN | -22QE | -22QEN | -22QH | -22QHN |
| | 1.5 | -22R | -22RN | -22RE | -22REN | -22RH | -22RHN |
| | 2 | -22T | -22TN | -22TE | -22TEN | -22TH | -22THN |
| M23 | 0.75 | -23L | -23LN | -23LE | -23LEN | -23LH | -23LHN |
| | 1 | -23P | -23PN | -23PE | -23PEN | -23PH | -23PHN |
| M24 | 0.75 | -24L | -24LN | -24LE | -24LEN | -24LH | -24LHN |
| | 1 | -24P | -24PN | -24PE | -24PEN | -24PH | -24PHN |
| | 1.25 | -24Q | -24QN | -24QE | -24QEN | -24QH | -24QHN |
| | 1.5 | -24R | -24RN | -24RE | -24REN | -24RH | -24RHN |
| | 2 | -24T | -24TN | -24TE | -24TEN | -24TH | -24THN |
| M25 | 0.75 | -25L | -25LN | -25LE | -25LEN | -25LH | -25LHN |
| | 1 | -25P | -25PN | -25PE | -25PEN | -25PH | -25PHN |
| | 1.5 | -25R | -25RN | -25RE | -25REN | -25RH | -25RHN |
| | 2 | -25T | -25TN | -25TE | -25TEN | -25TH | -25THN |
| M26 | 0.75 | -26L | -26LN | -26LE | -26LEN | -26LH | -26LHN |
| | 1 | -26P | -26PN | -26PE | -26PEN | -26PH | -26PHN |
| | 1.5 | -26R | -26RN | -26RE | -26REN | -26RH | -26RHN |
| | 2 | -26T | -26TN | -26TE | -26TEN | -26TH | -26THN |



Continued from previous page

| Size (mm) | | Code (4677) | | | | | |
|------------------|-------|-------------|-------|----------|--------|----------|--------|
| | | Class 6g | | Class 6e | | Class 6h | |
| Nominal diameter | Pitch | GO | NOGO | GO | NOGO | GO | NOGO |
| M27 | 0.75 | -27L | -27LN | -27LE | -27LEN | -27LH | -27LHN |
| | 1 | -27P | -27PN | -27PE | -27PEN | -27PH | -27PHN |
| | 1.5 | -27R | -27RN | -27RE | -27REN | -27RH | -27RHN |
| | 2 | -27T | -27TN | -27TE | -27TEN | -27TH | -27THN |
| M28 | 0.75 | -28L | -28LN | -28LE | -28LEN | -28LH | -28LHN |
| | 1 | -28P | -28PN | -28PE | -28PEN | -28PH | -28PHN |
| | 1.5 | -28R | -28RN | -28RE | -28REN | -28RH | -28RHN |
| | 2 | -28T | -28TN | -28TE | -28TEN | -28TH | -28THN |
| M29 | 0.75 | -29L | -29LN | -29LE | -29LEN | -29LH | -29LHN |
| | 1 | -29P | -29PN | -29PE | -29PEN | -29PH | -29PHN |
| M30 | 0.75 | -30L | -30LN | -30LE | -30LEN | -30LH | -30LHN |
| | 1 | -30P | -30PN | -30PE | -30PEN | -30PH | -30PHN |
| | 1.5 | -30R | -30RN | -30RE | -30REN | -30RH | -30RHN |
| | 2 | -30T | -30TN | -30TE | -30TEN | -30TH | -30THN |
| | 3 | -30V | -30VN | -30VE | -30VEN | -30VH | -30VHN |
| M31 | 0.75 | -31L | -31LN | -31LE | -31LEN | -31LH | -31LHN |
| | | | | | | | |
| M32 | 0.75 | -32L | -32LN | -32LE | -32LEN | -32LH | -32LHN |
| | 1 | -32P | -32PN | -32PE | -32PEN | -32PH | -32PHN |
| | 1.5 | -32R | -32RN | -32RE | -32REN | -32RH | -32RHN |
| | 2 | -32T | -32TN | -32TE | -32TEN | -32TH | -32THN |
| M33 | 0.75 | -33L | -33LN | -33LE | -33LEN | -33LH | -33LHN |
| | 1 | -33P | -33PN | -33PE | -33PEN | -33PH | -33PHN |
| | 1.5 | -33R | -33RN | -33RE | -33REN | -33RH | -33RHN |
| | 2 | -33T | -33TN | -33TE | -33TEN | -33TH | -33THN |
| | 3 | -33V | -33VN | -33VE | -33VEN | -33VH | -33VHN |
| M34 | 1 | -34P | -34PN | -34PE | -34PEN | -34PH | -34PHN |
| | 1.5 | -34R | -34RN | -34RE | -34REN | -34RH | -34RHN |
| | 2 | -34T | -34TN | -34TE | -34TEN | -34TH | -34THN |
| M35 | 1 | -35P | -35PN | -35PE | -35PEN | -35PH | -35PHN |
| | 1.5 | -35R | -35RN | -35RE | -35REN | -35RH | -35RHN |
| | 2 | -35T | -35TN | -35TE | -35TEN | -35TH | -35THN |
| M36 | 1 | -36P | -36PN | -36PE | -36PEN | -36PH | -36PHN |
| | 1.5 | -36R | -36RN | -36RE | -36REN | -36RH | -36RHN |
| | 2 | -36T | -36TN | -36TE | -36TEN | -36TH | -36THN |
| | 3 | -36V | -36VN | -36VE | -36VEN | -36VH | -36VHN |
| M38 | 1 | -38P | -38PN | -38PE | -38PEN | -38PH | -38PHN |
| | 1.5 | -38R | -38RN | -38RE | -38REN | -38RH | -38RHN |
| | 2 | -38T | -38TN | -38TE | -38TEN | -38TH | -38THN |
| M39 | 1 | -39P | -39PN | -39PE | -39PEN | -39PH | -39PHN |
| | 1.5 | -39R | -39RN | -39RE | -39REN | -39RH | -39RHN |
| | 2 | -39T | -39TN | -39TE | -39TEN | -39TH | -39THN |
| | 3 | -39V | -39VN | -39VE | -39VEN | -39VH | -39VHN |
| M40 | 1.5 | -40R | -40RN | -40RE | -40REN | -40RH | -40RHN |
| | 2 | -40T | -40TN | -40TE | -40TEN | -40TH | -40THN |
| | 3 | -40V | -40VN | -40VE | -40VEN | -40VH | -40VHN |
| M42 | 1.5 | -42R | -42RN | -42RE | -42REN | -42RH | -42RHN |
| | 2 | -42T | -42TN | -42TE | -42TEN | -42TH | -42THN |
| | 3 | -42V | -42VN | -42VE | -42VEN | -42VH | -42VHN |
| M45 | 1.5 | -45R | -45RN | -45RE | -45REN | -45RH | -45RHN |
| | 2 | -45T | -45TN | -45TE | -45TEN | -45TH | -45THN |
| | 3 | -45V | -45VN | -45VE | -45VEN | -45VH | -45VHN |

To be continued

Continued from previous page

| Size (mm) | | Code (4677) | | | | | |
|------------------|-------|-------------|-------|----------|--------|----------|--------|
| | | Class 6g | | Class 6e | | Class 6h | |
| Nominal diameter | Pitch | GO | NOGO | GO | NOGO | GO | NOGO |
| M48 | 1.5 | -48R | -48RN | -48RE | -48REN | -48RH | -48RHN |
| | 2 | -48T | -48TN | -48TE | -48TEN | -48TH | -48THN |
| | 3 | -48V | -48VN | -48VE | -48VEN | -48VH | -48VHN |
| M50 | 1.5 | -50R | -50RN | -50RE | -50REN | -50RH | -50RHN |
| | 2 | -50T | -50TN | -50TE | -50TEN | -50TH | -50THN |
| | 3 | -50V | -50VN | -50VE | -50VEN | -50VH | -50VHN |
| M52 | 1.5 | -52R | -52RN | -52RE | -52REN | -52RH | -52RHN |
| | 2 | -52T | -52TN | -52TE | -52TEN | -52TH | -52THN |
| | 3 | -52V | -52VN | -52VE | -52VEN | -52VH | -52VHN |
| | 4 | -52X | -52XN | -52XE | -52XEN | -52XH | -52XHN |
| M55 | 1.5 | -55R | -55RN | -55RE | -55REN | -55RH | -55RHN |
| | 2 | -55T | -55TN | -55TE | -55TEN | -55TH | -55THN |
| | 3 | -55V | -55VN | -55VE | -55VEN | -55VH | -55VHN |
| | 4 | -55X | -55XN | -55XE | -55XEN | -55XH | -55XHN |
| M56 | 1.5 | -56R | -56RN | -56RE | -56REN | -56RH | -56RHN |
| | 2 | -56T | -56TN | -56TE | -56TEN | -56TH | -56THN |
| | 3 | -56V | -56VN | -56VE | -56VEN | -56VH | -56VHN |
| | 4 | -56X | -56XN | -56XE | -56XEN | -56XH | -56XHN |
| M58 | 1.5 | -58R | -58RN | -58RE | -58REN | -58RH | -58RHN |
| | 2 | -58T | -58TN | -58TE | -58TEN | -58TH | -58THN |
| | 3 | -58V | -58VN | -58VE | -58VEN | -58VH | -58VHN |
| | 4 | -58X | -58XN | -58XE | -58XEN | -58XH | -58XHN |
| M60 | 1.5 | -60R | -60RN | -60RE | -60REN | -60RH | -60RHN |
| | 2 | -60T | -60TN | -60TE | -60TEN | -60TH | -60THN |
| | 3 | -60V | -60VN | -60VE | -60VEN | -60VH | -60VHN |
| | 4 | -60X | -60XN | -60XE | -60XEN | -60XH | -60XHN |
| M62 | 1.5 | -62R | -62RN | -62RE | -62REN | -62RH | -62RHN |
| | 2 | -62T | -62TN | -62TE | -62TEN | -62TH | -62THN |
| | 3 | -62V | -62VN | -62VE | -62VEN | -62VH | -62VHN |
| | 4 | -62X | -62XN | -62XE | -62XEN | -62XH | -62XHN |
| M64 | 1.5 | -64R | -64RN | -64RE | -64REN | -64RH | -64RHN |
| | 2 | -64T | -64TN | -64TE | -64TEN | -64TH | -64THN |
| | 3 | -64V | -64VN | -64VE | -64VEN | -64VH | -64VHN |
| | 4 | -64X | -64XN | -64XE | -64XEN | -64XH | -64XHN |
| M65 | 1.5 | -65R | -65RN | -65RE | -65REN | -65RH | -65RHN |
| | 2 | -65T | -65TN | -65TE | -65TEN | -65TH | -65THN |
| | 3 | -65V | -65VN | -65VE | -65VEN | -65VH | -65VHN |
| | 4 | -65X | -65XN | -65XE | -65XEN | -65XH | -65XHN |
| M68 | 1.5 | -68R | -68RN | -68RE | -68REN | -68RH | -68RHN |
| | 2 | -68T | -68TN | -68TE | -68TEN | -68TH | -68THN |
| | 3 | -68V | -68VN | -68VE | -68VEN | -68VH | -68VHN |
| | 4 | -68X | -68XN | -68XE | -68XEN | -68XH | -68XHN |
| M70 | 1.5 | -70R | -70RN | -70RE | -70REN | -70RH | -70RHN |
| | 2 | -70T | -70TN | -70TE | -70TEN | -70TH | -70THN |
| | 3 | -70V | -70VN | -70VE | -70VEN | -70VH | -70VHN |
| | 4 | -70X | -70XN | -70XE | -70XEN | -70XH | -70XHN |
| | 6 | -70O | -70ON | -70OE | -70OEN | -70OH | -70OHN |
| M72 | 1.5 | -72R | -72RN | -72RE | -72REN | -72RH | -72RHN |
| | 2 | -72T | -72TN | -72TE | -72TEN | -72TH | -72THN |
| | 3 | -72V | -72VN | -72VE | -72VEN | -72VH | -72VHN |



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| Size (mm) | | Code (4677) | | | | | |
|------------------|-------|-------------|--------|----------|---------|----------|---------|
| | | Class 6g | | Class 6e | | Class 6h | |
| Nominal diameter | Pitch | GO | NOGO | GO | NOGO | GO | NOGO |
| M72 | 4 | -72X | -72XN | -72XE | -72XEN | -72XH | -72XHN |
| | 6 | -72O | -72ON | -72OE | -72OEN | -72OH | -72OHN |
| M75 | 1.5 | -75R | -75RN | -75RE | -75REN | -75RH | -75RHN |
| | 2 | -75T | -75TN | -75TE | -75TEN | -75TH | -75THN |
| | 3 | -75V | -75VN | -75VE | -75VEN | -75VH | -75VHN |
| | 4 | -75X | -75XN | -75XE | -75XEN | -75XH | -75XHN |
| M76 | 1.5 | -76R | -76RN | -76RE | -76REN | -76RH | -76RHN |
| | 2 | -76T | -76TN | -76TE | -76TEN | -76TH | -76THN |
| | 3 | -76V | -76VN | -76VE | -76VEN | -76VH | -76VHN |
| | 4 | -76X | -76XN | -76XE | -76XEN | -76XH | -76XHN |
| | 6 | -76O | -76ON | -76OE | -76OEN | -76OH | -76OHN |
| M78 | 2 | -78T | -78TN | -78TE | -78TEN | -78TH | -78THN |
| M80 | 1.5 | -80R | -80RN | -80RE | -80REN | -80RH | -80RHN |
| | 2 | -80T | -80TN | -80TE | -80TEN | -80TH | -80THN |
| | 3 | -80V | -80VN | -80VE | -80VEN | -80VH | -80VHN |
| | 4 | -80X | -80XN | -80XE | -80XEN | -80XH | -80XHN |
| M82 | 6 | -80O | -80ON | -80OE | -80OEN | -80OH | -80OHN |
| | 2 | -82T | -82TN | -82TE | -82TEN | -82TH | -82THN |
| M85 | 2 | -85T | -85TN | -85TE | -85TEN | -85TH | -85THN |
| | 3 | -85V | -85VN | -85VE | -85VEN | -85VH | -85VHN |
| | 4 | -85X | -85XN | -85XE | -85XEN | -85XH | -85XHN |
| | 6 | -85O | -85ON | -85OE | -85OEN | -85OH | -85OHN |
| M90 | 2 | -90T | -90TN | -90TE | -90TEN | -90TH | -90THN |
| | 3 | -90V | -90VN | -90VE | -90VEN | -90VH | -90VHN |
| | 4 | -90X | -90XN | -90XE | -90XEN | -90XH | -90XHN |
| | 6 | -90O | -90ON | -90OE | -90OEN | -90OH | -90OHN |
| M95 | 2 | -95T | -95TN | -95TE | -95TEN | -95TH | -95THN |
| | 3 | -95V | -95VN | -95VE | -95VEN | -95VH | -95VHN |
| | 4 | -95X | -95XN | -95XE | -95XEN | -95XH | -95XHN |
| | 6 | -95O | -95ON | -95OE | -95OEN | -95OH | -95OHN |
| M100 | 2 | -100T | -100TN | -100TE | -100TEN | -100TH | -100THN |
| | 3 | -100V | -100VN | -100VE | -100VEN | -100VH | -100VHN |
| | 4 | -100X | -100XN | -100XE | -100XEN | -100XH | -100XHN |
| | 6 | -100O | -100ON | -100OE | -100OEN | -100OH | -100OHN |
| M105 | 2 | -105T | -105TN | -105TE | -105TEN | -105TH | -105THN |
| | 3 | -105V | -105VN | -105VE | -105VEN | -105VH | -105VHN |
| | 4 | -105X | -105XN | -105XE | -105XEN | -105XH | -105XHN |
| | 6 | -105O | -105ON | -105OE | -105OEN | -105OH | -105OHN |
| M110 | 2 | -110T | -110TN | -110TE | -110TEN | -110TH | -110THN |
| | 3 | -110V | -110VN | -110VE | -110VEN | -110VH | -110VHN |
| | 4 | -110X | -110XN | -110XE | -110XEN | -110XH | -110XHN |
| | 6 | -110O | -110ON | -110OE | -110OEN | -110OH | -110OHN |
| M115 | 2 | -115T | -115TN | -115TE | -115TEN | -115TH | -115THN |
| | 3 | -115V | -115VN | -115VE | -115VEN | -115VH | -115VHN |
| | 4 | -115X | -115XN | -115XE | -115XEN | -115XH | -115XHN |
| M120 | 6 | -115O | -115ON | -115OE | -115OEN | -115OH | -115OHN |
| | 2 | -120T | -120TN | -120TE | -120TEN | -120TH | -120THN |
| | 3 | -120V | -120VN | -120VE | -120VEN | -120VH | -120VHN |
| M120 | 4 | -120X | -120XN | -120XE | -120XEN | -120XH | -120XHN |
| | 6 | -120O | -120ON | -120OE | -120OEN | -120OH | -120OHN |

THREAD GAGES FOR ROTARY SHOULDERED CONNECTIONS OF PETROLEUM EQUIPMENT

API PRODUCTION LICENSE



■ Measure the thread of rotary shouldered connections

4177-23

Number style gages

| Code | Gage code | Form of thread to be inspected | Number of thread per inch | Taper | Angle of thread | Basic pitch dia |
|---------|-----------|--------------------------------|---------------------------|-------|-----------------|-----------------|
| 4177-10 | NC10 | V-0.055 | 6 | 1:8 | 60° | 27.000mm |
| 4177-12 | NC12 | V-0.055 | 6 | 1:8 | 60° | 32.121mm |
| 4177-13 | NC13 | V-0.055 | 6 | 1:8 | 60° | 35.331mm |
| 4177-16 | NC16 | V-0.055 | 6 | 1:8 | 60° | 40.869mm |
| 4177-23 | NC23 | V-0.038R | 4 | 1:6 | 60° | 59.817mm |
| 4177-26 | NC26 | V-0.038R | 4 | 1:6 | 60° | 67.767mm |
| 4177-31 | NC31 | V-0.038R | 4 | 1:6 | 60° | 80.848mm |
| 4177-35 | NC35 | V-0.038R | 4 | 1:6 | 60° | 89.687mm |
| 4177-38 | NC38 | V-0.038R | 4 | 1:6 | 60° | 96.723mm |
| 4177-40 | NC40 | V-0.038R | 4 | 1:6 | 60° | 103.429mm |
| 4177-44 | NC44 | V-0.038R | 4 | 1:6 | 60° | 112.192mm |
| 4177-46 | NC46 | V-0.038R | 4 | 1:6 | 60° | 117.500mm |
| 4177-50 | NC50 | V-0.038R | 4 | 1:6 | 60° | 128.059mm |
| 4177-56 | NC56 | V-0.038R | 4 | 1:4 | 60° | 142.646mm |
| 4177-61 | NC61 | V-0.038R | 4 | 1:4 | 60° | 156.921mm |
| 4177-70 | NC70 | V-0.038R | 4 | 1:4 | 60° | 179.146mm |
| 4177-77 | NC77 | V-0.038R | 4 | 1:4 | 60° | 196.621mm |

Regular style gages

| Code | Gage code | Form of thread to be inspected | Number of thread per inch | Taper | Angle of thread | Basic pitch dia |
|----------|-----------|--------------------------------|---------------------------|-------|-----------------|-----------------|
| 4177-2R | 2 3/8 REG | V-0.040 | 5 | 1:4 | 60° | 60.080mm |
| 4177-21R | 2 7/8 REG | V-0.040 | 5 | 1:4 | 60° | 69.605mm |
| 4177-3R | 3 1/2 REG | V-0.040 | 5 | 1:4 | 60° | 82.293mm |
| 4177-4R | 4 1/2 REG | V-0.040 | 5 | 1:4 | 60° | 110.868mm |
| 4177-5R | 5 1/2 REG | V-0.050 | 4 | 1:4 | 60° | 132.944mm |
| 4177-6R | 6 5/8 REG | V-0.050 | 4 | 1:6 | 60° | 146.248mm |
| 4177-7R | 7 5/8 REG | V-0.050 | 4 | 1:4 | 60° | 170.549mm |
| 4177-8R | 8 5/8 REG | V-0.050 | 4 | 1:4 | 60° | 194.731mm |

Full-hole style gages

| Code | Gage code | Form of thread to be inspected | Number of thread per inch | Taper | Angle of thread | Basic pitch dia |
|---------|-----------|--------------------------------|---------------------------|-------|-----------------|-----------------|
| 4177-3H | 3 1/2 FH | V-0.040 | 5 | 1:4 | 60° | 94.844mm |
| 4177-4H | 4 1/2 FH | V-0.040 | 5 | 1:4 | 60° | 115.113mm |
| 4177-5H | 5 1/2 FH | V-0.050 | 4 | 1:6 | 60° | 142.011mm |
| 4177-6H | 6 5/8 FH | V-0.050 | 4 | 1:6 | 60° | 165.598mm |

Internal-flush style gage

| Code | Gage code | Form of thread to be inspected | Number of thread per inch | Taper | Angle of thread | Basic pitch dia |
|---------|-----------|--------------------------------|---------------------------|-------|-----------------|-----------------|
| 4177-5F | 5 1/2 IF | V-0.065 | 4 | 1:6 | 60° | 157.201mm |

CASING, TUBING AND LINE PIPE THREAD GAGES OF PETROLEUM AND GAS EQUIPMENT

Casing round thread gages

| Code | Gage code | Outer dia | Number of thread per inch | Taper | Angle of thread |
|----------|-------------|-----------|---------------------------|-------|-----------------|
| 4178-4 | 4 1/2 CSG | 114.30mm | 8 | 1:16 | 60° |
| 4178-4L | 4 1/2 LCSG | | | | |
| 4178-5 | 5 CSG | 127.00mm | 8 | 1:16 | 60° |
| 4178-5L | 5 LCSG | | | | |
| 4178-51 | 5 1/2 CSG | 139.70mm | 8 | 1:16 | 60° |
| 4178-51L | 5 1/2 LCSG | | | | |
| 4178-6 | 6 5/8 CSG | 168.28mm | 8 | 1:16 | 60° |
| 4178-6L | 6 5/8 LCSG | | | | |
| 4178-7 | 7 CSG | 177.80mm | 8 | 1:16 | 60° |
| 4178-7L | 7 LCSG | | | | |
| 4178-71 | 7 5/8 CSG | 193.68mm | 8 | 1:16 | 60° |
| 4178-71L | 7 5/8 LCSG | | | | |
| 4178-8 | 8 5/8 CSG | 219.08mm | 8 | 1:16 | 60° |
| 4178-8L | 8 5/8 LCSG | | | | |
| 4178-9 | 9 5/8 CSG | 244.48mm | 8 | 1:16 | 60° |
| 4178-9L | 9 5/8 LCSG | | | | |
| 4178-10 | 10 3/4 CSG | 273.05mm | 8 | 1:16 | 60° |
| 4178-10L | 10 3/4 LCSG | | | | |
| 4178-11 | 11 3/4 CSG | 298.45mm | 8 | 1:16 | 60° |
| 4178-11L | 11 3/4 LCSG | | | | |
| 4178-13 | 13 3/8 CSG | 339.73mm | 8 | 1:16 | 60° |
| 4178-13L | 13 3/8 LCSG | | | | |
| 4178-16 | 16 CSG | 406.40mm | 8 | 1:16 | 60° |
| 4178-16L | 16 LCSG | | | | |



4178-21T

- Measure the casing, tubing and line pipe threads

Non-upset tubing thread gages

| Code | Gage code | Outer dia | Number of thread per inch | Taper | Angle of thread |
|----------|-----------|-----------|---------------------------|-------|-----------------|
| 4178-11T | 1.050 TBG | 26.67mm | 10 | 1:16 | 60° |
| 4178-13T | 1.315 TBG | 33.40mm | 10 | 1:16 | 60° |
| 4178-16T | 1.660 TBG | 42.16mm | 10 | 1:16 | 60° |
| 4178-19T | 1.900 TBG | 48.26mm | 10 | 1:16 | 60° |
| 4178-2T | 2 3/8 TBG | 60.33mm | 10 | 1:16 | 60° |
| 4178-21T | 2 7/8 TBG | 73.03mm | 10 | 1:16 | 60° |
| 4178-3T | 3 1/2 TBG | 88.90mm | 10 | 1:16 | 60° |
| 4178-4T | 4 TBG | 101.60mm | 8 | 1:16 | 60° |
| 4178-41T | 4 1/2 TBG | 114.30mm | 8 | 1:16 | 60° |

External-upset tubing thread gages

| Code | Gage code | Outer dia | Number of thread per inch | Taper | Angle of thread |
|----------|--------------|-----------|---------------------------|-------|-----------------|
| 4178-11U | 1.050 UP TBG | 26.67mm | 10 | 1:16 | 60° |
| 4178-13U | 1.315 UP TBG | 33.40mm | 10 | 1:16 | 60° |
| 4178-16U | 1.660 UP TBG | 42.16mm | 10 | 1:16 | 60° |
| 4178-19U | 1.900 UP TBG | 48.26mm | 10 | 1:16 | 60° |
| 4178-2U | 2 3/8 UP TBG | 60.33mm | 8 | 1:16 | 60° |
| 4178-21U | 2 7/8 UP TBG | 73.03mm | 8 | 1:16 | 60° |
| 4178-3U | 3 1/2 UP TBG | 88.90mm | 8 | 1:16 | 60° |
| 4178-4U | 4 UP TBG | 101.60mm | 8 | 1:16 | 60° |
| 4178-41U | 4 1/2 UP TBG | 114.30mm | 8 | 1:16 | 60° |

To be continued

Continued from previous page

Buttress casing thread gages

| Code | Gage code | Outer dia | Number of thread per inch | Taper | Angle of thread |
|----------|-------------|-----------|---------------------------|-------|-----------------|
| 4178-4B | 4 1/2 BCSG | 114.30mm | 5 | 1:16 | 3°, 10° |
| 4178-5B | 5 BCSG | 127.00mm | 5 | 1:16 | 3°, 10° |
| 4178-51B | 5 1/2 BCSG | 139.70mm | 5 | 1:16 | 3°, 10° |
| 4178-6B | 6 5/8 BCSG | 168.28mm | 5 | 1:16 | 3°, 10° |
| 4178-7B | 7 BCSG | 177.80mm | 5 | 1:16 | 3°, 10° |
| 4178-71B | 7 5/8 BCSG | 193.68mm | 5 | 1:16 | 3°, 10° |
| 4178-8B | 8 5/8 BCSG | 219.08mm | 5 | 1:16 | 3°, 10° |
| 4178-9B | 9 5/8 BCSG | 244.48mm | 5 | 1:16 | 3°, 10° |
| 4178-10B | 10 3/4 BCSG | 273.05mm | 5 | 1:16 | 3°, 10° |
| 4178-11B | 11 3/4 BCSG | 298.45mm | 5 | 1:16 | 3°, 10° |
| 4178-13B | 13 3/8 BCSG | 339.73mm | 5 | 1:16 | 3°, 10° |
| 4178-16B | 16 BCSG | 406.40mm | 5 | 1:12 | 3°, 10° |

Line pipe thread gages

| Code | Gage code | Outer dia | Number of thread per inch | Taper | Angle of thread |
|-----------|-----------|-----------|---------------------------|-------|-----------------|
| 4178-01P | 1/8 LP | 3.18mm | 27 | 1:16 | 60° |
| 4178-02P | 1/4 LP | 6.35mm | 18 | 1:16 | 60° |
| 4178-03P | 3/8 LP | 9.53mm | 18 | 1:16 | 60° |
| 4178-05P | 1/2 LP | 12.70mm | 14 | 1:16 | 60° |
| 4178-07P | 3/4 LP | 19.05mm | 14 | 1:16 | 60° |
| 4178-10P | 1 LP | 25.40mm | 11 1/2 | 1:16 | 60° |
| 4178-12P | 1 1/4 LP | 31.75mm | 11 1/2 | 1:16 | 60° |
| 4178-15P | 1 1/2 LP | 38.10mm | 11 1/2 | 1:16 | 60° |
| 4178-20P | 2 LP | 50.80mm | 11 1/2 | 1:16 | 60° |
| 4178-25P | 2 1/2 LP | 63.50mm | 8 | 1:16 | 60° |
| 4178-30P | 3 LP | 76.20mm | 8 | 1:16 | 60° |
| 4178-35P | 3 1/2 LP | 88.90mm | 8 | 1:16 | 60° |
| 4178-40P | 4 LP | 101.60mm | 8 | 1:16 | 60° |
| 4178-50P | 5 LP | 127.00mm | 8 | 1:16 | 60° |
| 4178-60P | 6 LP | 152.40mm | 8 | 1:16 | 60° |
| 4178-80P | 8 LP | 203.20mm | 8 | 1:16 | 60° |
| 4178-100P | 10 LP | 254.00mm | 8 | 1:16 | 60° |

SEMI-AUTOMATIC THREAD INSPECTOR

CUSTOM-MADE

- Rapid inspection of thread
- Speed and torque are adjustable
- Reverse button: if abnormal thread is detected, thread gage will be stuck, press the reverse button to exit
- Different thread gages and workpiece fixtures can be replaced
- Thread gages with DLC coating, excellent wear resistance
- For different length of thread by adjusting the position of approach switch

SPECIFICATION

| | |
|-----------------|--|
| Measuring range | external thread: M5~M20 (Go thread ring gage) internal thread: M3~M36 (Go thread plug gage) |
| Torque range | clearance fit: 0.1~0.35Nm, interference fit: 0.4~1.4Nm |
| Speed range | 100~2200r/min |
| Power supply | power adapter |
| Rated power | 24W |
| Weight | 3kg |
| Dimension | 160×190×250mm |



Code No. example (thread gages are optional)
TGI-□□□ (□□□ is the code No. of Go thread gage)

| | |
|-------------|---|
| TGI-4641-6T | thread inspector with M6-6H Go thread plug gage |
| TGI-4631-8 | thread inspector with M8-6g Go thread ring gage |

ANGLE, STRAIGHTNESS, FLATNESS MEASUREMENT

15



Angle Meters
Page 376



Protractors
Page 376-381



Granite Squares
Page 381-382



Cylinder Squares
Page 382



Perpendicularity Testers
Page 383



Squares
Page 383-389



Straight Edges
Page 389



Straight Edges
Page 390-391



Optical Flats
Page 391



Flatness Measurement Stands
Page 392

DIGITAL ANGLE METER CODE 2177-121



- Clockwise and counter-clockwise operation
- 9 target angle values can be set, with audible and visible alarm:
 - Green LED light on and buzzer sounds when angle value is 80%~99.5% of target angle
 - Both green and red LED light on and buzzer sounds when angle value is over 99.5% of target angle
- Memory of 250 results, can upload to the computer
- Back with magnet
- Power off in 2 minutes automatically

SPECIFICATION

| | |
|---------------|-------------------------------|
| Display range | 0~999° |
| Setting range | 1~360° (increment 1°) |
| Resolution | 0.1° |
| Accuracy | ±2° for 90° rotation @30°/sec |
| Power supply | 2×1.5V AAA batteries |
| Dimension | 58×58×41mm |
| Weight | 70g |

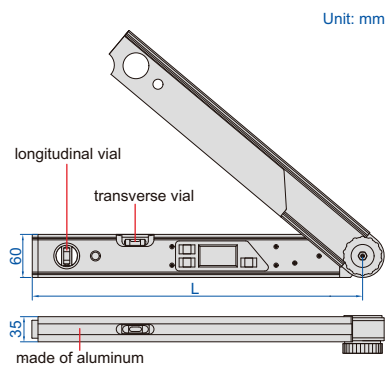


WATERPROOF DIGITAL PROTRACTOR (HEAVY DUTY)

AUTOMATIC
BACKLIGHT

ABSOLUTE
LEVEL

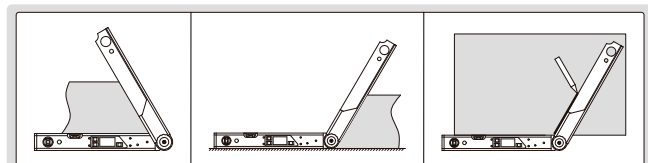
IP54
WATERPROOF



2174-225

- Suitable for setting horizontal and vertical mitre angles of cutting machines
- Buttons: ON/OFF, HOLD/SUP, SPR/CNR/MTR/BVL
- IP54 dust/waterproof
- With transverse and longitudinal vials
- 2xAAA batteries
- Absolute level, zero setting is not needed when batteries are replaced
- Backlight turns off in one minute after reading is stable, automatic power off in 5 minutes

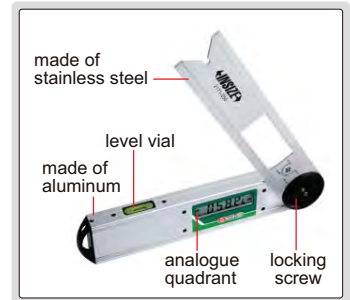
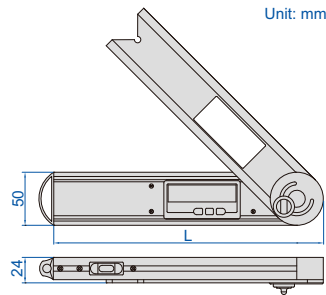
| Code | Size (L) | Range | Resolution | Accuracy |
|----------|----------|--------|------------|----------|
| 2174-225 | 460mm | 0-225° | 0.05° | ±0.10° |



DIGITAL PROTRACTOR

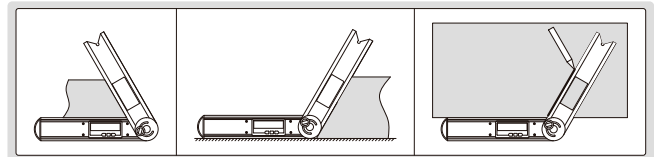


2171-250



- Buttons: on/off, hold (keep the reading), zero, ABS (absolute and incremental measurement)
- Fix the locking screw at 4 positions for different measuring ranges: 0°~225°, -225°~0°, -45°~180°, -180°~45°
- Remove the locking screw for 360° range
- With level vial
- Battery CR2032, automatic power off

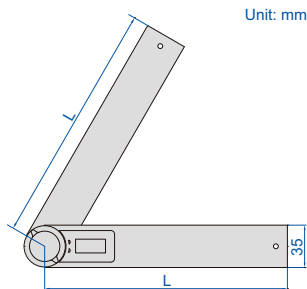
| Code | Size (L) | Range | Resolution | Accuracy |
|----------|----------|--------|------------|----------|
| 2171-250 | 250mm | 0-360° | 0.05° | ±0.15° |



DIGITAL PROTRACTORS

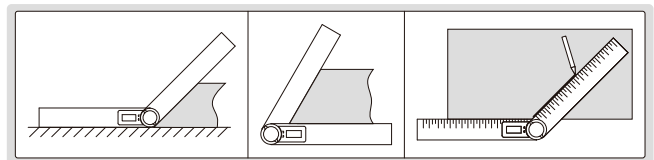


2176-200



- Buttons: on/off, zero
- With clamping screw to lock the blades
- Graduation of blade: 1mm and 1/32"
- Made of stainless steel
- CR2032 battery
- Automatic power off

| Code | Size (L) | Range | Resolution | Accuracy |
|----------|----------|--------|------------|----------|
| 2176-200 | 200mm | 0-360° | 0.1° | ±0.3° |
| 2176-300 | 300mm | 0-360° | 0.1° | ±0.3° |



REFER TO PAGE 498-500 FOR DETAILS

DIGITAL LEVELS AND SLOPE METERS



2179-360



2175-360



2199-1



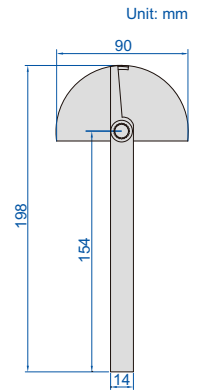
2170-1

PROTRACTOR (ECONOMIC TYPE)

- Graduation: 1°
- Made of stainless steel
- With clamping screw

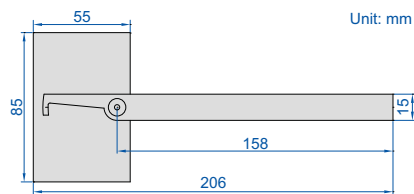


4780-85A



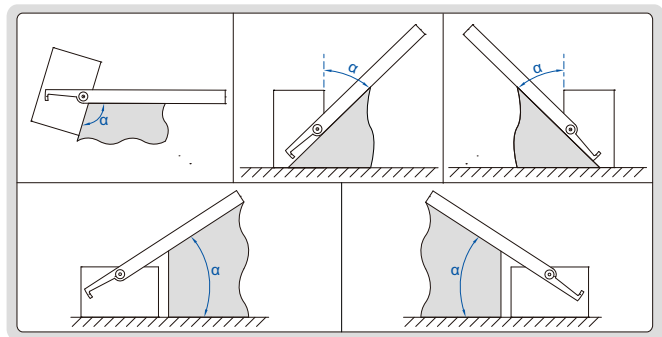
| Code | Size | Range | Accuracy |
|----------|----------|--------|----------|
| 4780-85A | 90x154mm | 0-180° | ±0.5° |

PROTRACTOR



4781-85A

- Made of stainless steel
- Satin chrome plated scale
- With clamping screw



| Code | Size | Range | Graduation | Accuracy |
|----------|----------|--------|------------|----------|
| 4781-85A | 85x158mm | 0-180° | 1° | ±0.3° |

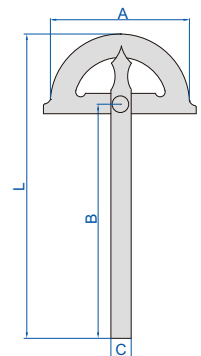
PROTRACTORS

15

- Graduation: 1°
- Made of stainless steel
(4799-1300 is made of carbon steel)
- Satin chrome plated scale
- With clamping screw



4799-180



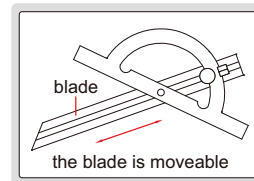
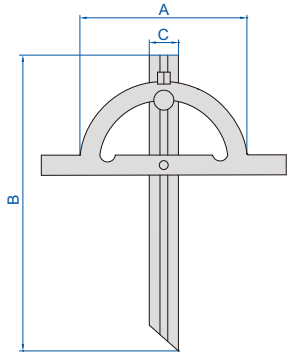
| Code | Size (AxB) | Range | Accuracy | L | C |
|-----------|------------|--------|----------|-------|------|
| 4799-180 | 80x120mm | 0-180° | ±0.3° | 168mm | 11mm |
| 4799-1120 | 120x150mm | 0-180° | ±0.3° | 220mm | 14mm |
| 4799-1150 | 150x200mm | 0-180° | ±0.3° | 285mm | 16mm |
| 4799-1200 | 200x300mm | 0-180° | ±0.3° | 413mm | 20mm |
| 4799-1300 | 300x500mm | 0-180° | ±0.3° | 675mm | 30mm |

PROTRACTORS

- Graduation: 1°
- Made of carbon steel
- Satin chrome plated
- With clamping screw
- The blade is moveable



4797-100

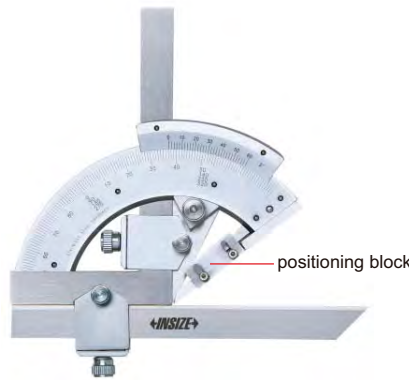


| Code | Size (AxB) | Range | Accuracy | C |
|----------|------------|---------|----------|------|
| 4797-100 | 100x150mm | 10-170° | ±0.3° | 18mm |
| 4797-150 | 150x300mm | 10-170° | ±0.3° | 22mm |
| 4797-200 | 200x400mm | 10-170° | ±0.3° | 24mm |
| 4797-250 | 250x500mm | 10-170° | ±0.3° | 28mm |
| 4797-300 | 300x600mm | 10-170° | ±0.3° | 32mm |

PROTRACTORS

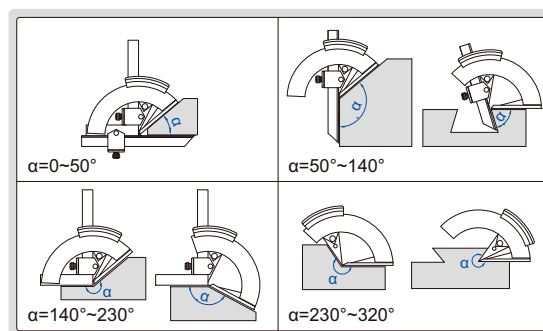
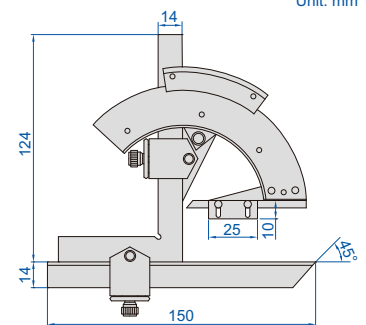


2374-320



2374-320D

Unit: mm



- Made of stainless steel
- Satin chrome plated scale

application of 2374-320D

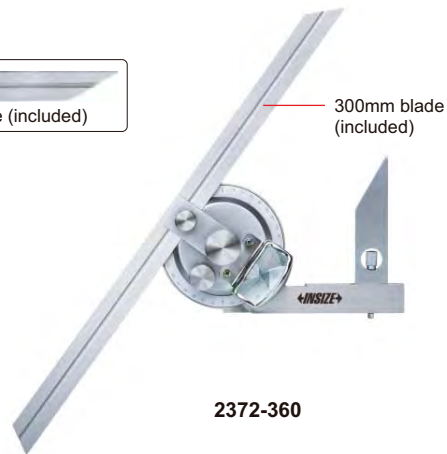
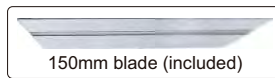
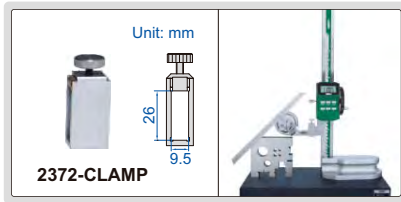


the positioning block can be moved down for positioning, and moved up when not in use

| Code | Range | Graduation | Accuracy | Remark |
|-----------|--------|------------|----------|---------------------------|
| 2374-320 | 0-320° | 2' | ±2' | without positioning block |
| 2374-320D | 0-320° | 2' | ±2' | with positioning block |

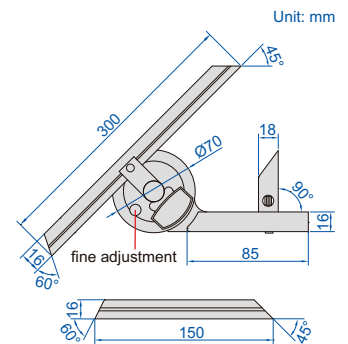
UNIVERSAL PROTRACTOR

clamp for height gages (optional)



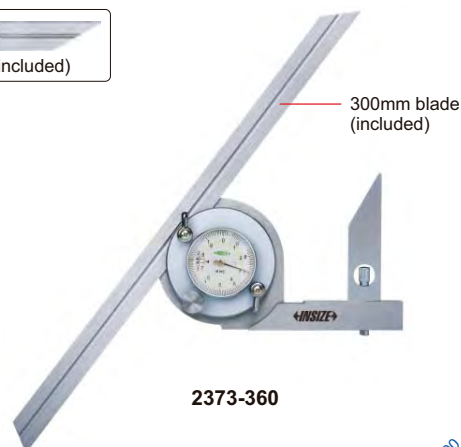
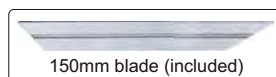
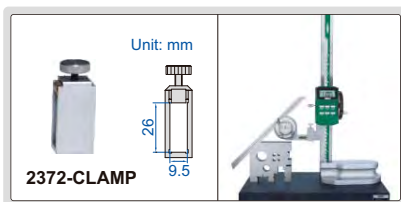
- Parallax-free reading
- Made of stainless steel
- Optional accessory: clamp (code **2372-CLAMP**), suitable for height gages **1156**, **1150-300**, **1351**, **1250** and **1151**

| Code | Range | Graduation | Accuracy |
|----------|--------|------------|----------|
| 2372-360 | 0-360° | 5' | ±5' |



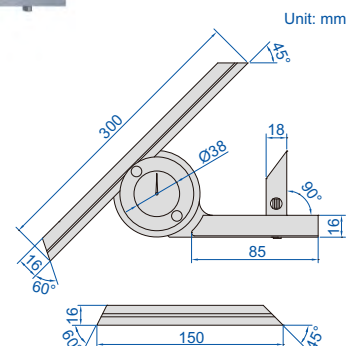
DIAL PROTRACTOR

clamp for height gages (optional)



- Made of stainless steel
- Optional accessory: clamp (code **2372-CLAMP**), suitable for height gages **1156**, **1150-300**, **1351**, **1250** and **1151**

| Code | Range | Graduation | Accuracy |
|----------|--------|------------|----------|
| 2373-360 | 0-360° | 5' | ±5' |

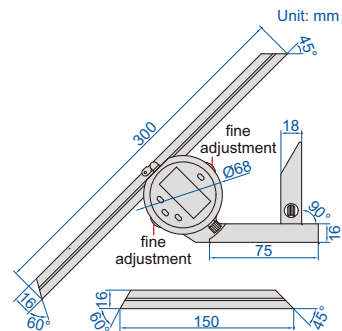
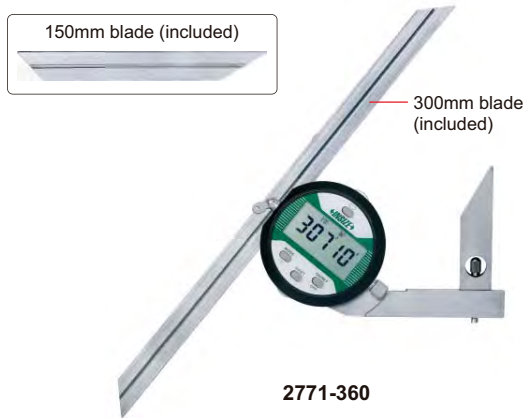


DATA
OUTPUT

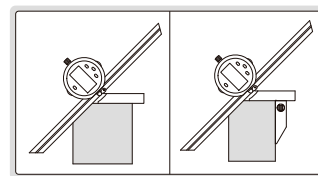
ABSOLUTE
ZERO

POPULAR
MODEL

DIGITAL PROTRACTOR



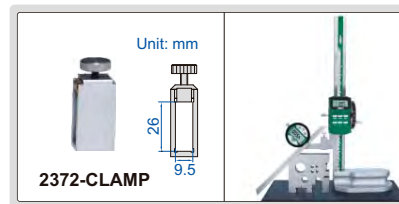
- Absolute zero, zero setting is not needed when batteries are replaced
- Button function: choose 0-90°, 0-180° or 0-360° display, change resolution, display flips over, data hold, zero, on/off supplementary angle measurement
- Battery CR2032, automatic power off, data output
- Made of stainless steel
- Optional square for zero setting
- Optional accessory: clamp (code **2372-CLAMP**), suitable for height gages **1156**, **1150-300**, **1351**, **1250** and **1151**, data output cable (code **7315-2771** need receiver page 6, **7302-50M** page 13)



square (optional)



clamp for height gages (optional)



Square
(for zero setting,
optional)

Code
2771-S90

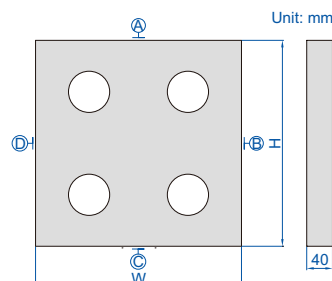
| Code | Range | Resolution | Accuracy |
|----------|--------|------------|----------|
| 2771-360 | 0-360° | 1/0.01° | ±5' |

GRANITE SQUARE

CUSTOM-MADE
SUPPLY SPECIAL SIZES ACCORDING
TO CUSTOMER'S REQUEST



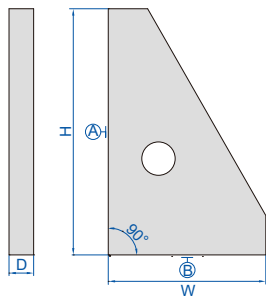
4144-315



| Code | Size (HxW) | Flatness of A, B, C and D | Squareness and parallelism between A, B, C and D |
|----------|------------|---------------------------|--|
| 4144-315 | 315x315mm | 1.1µm | 2.6µm |

GRANITE SQUARES

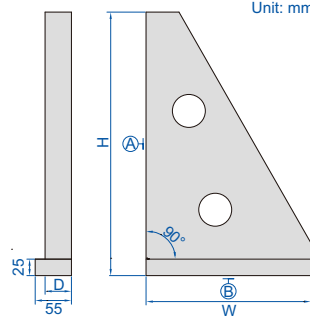
CUSTOM-MADE
SUPPLY SPECIAL SIZES ACCORDING
TO CUSTOMER'S REQUEST



type A



4141-250



type B

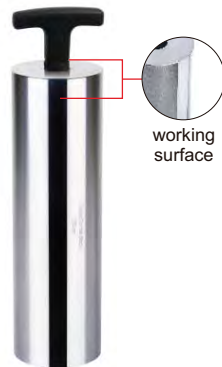
Unit: mm



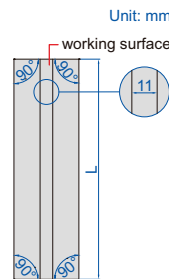
4141-400B

| Code | Size (HxW) | Type | Flatness of A | Flatness of B | Squareness of A to B | D |
|-----------|------------|------|---------------|---------------|----------------------|------|
| 4141-250 | 250x160mm | A | 1µm | 1µm | 2µm | 25mm |
| 4141-400 | 400x250mm | A | 1.5µm | 1µm | 3µm | 40mm |
| 4141-630 | 630x400mm | A | 2µm | 1.5µm | 4µm | 63mm |
| 4141-400B | 400x250mm | B | 1.5µm | 1µm | 3µm | 40mm |

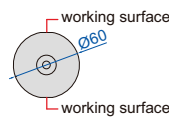
CYLINDER SQUARES



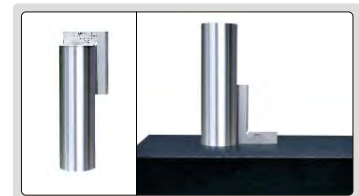
4710-200



Unit: mm



inspect 90° internal and external angles

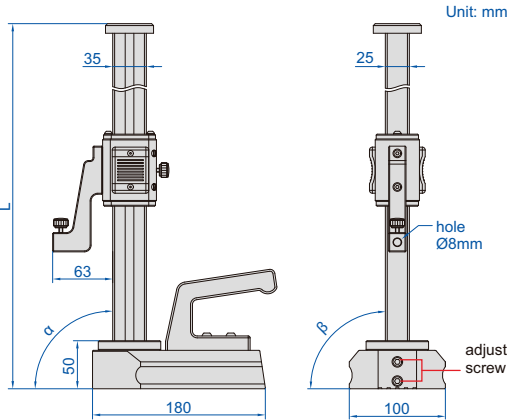


- Made of special alloy steel, hardness HRC58~60
- The handle can be removed

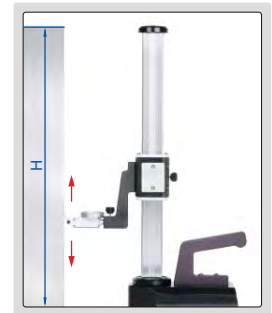
| Code | Length (L) | Squareness |
|-----------|------------|------------|
| 4710-200* | 200mm | 1µm |
| 4710-300* | 300mm | 2µm |

* Supplied with manufacturer inspection certificate

PERPENDICULARITY TESTERS



4770-300



- Optional accessory: dial test indicators (graduation: 1μm or 2μm)

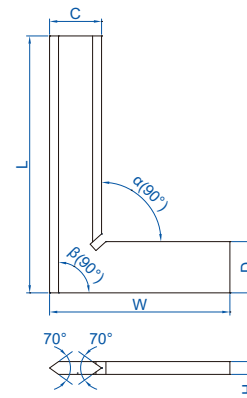
| Code | Range (H) | Perpendicularity (α) | Side perpendicularity (β) | L |
|----------|-----------|----------------------|---------------------------|-------|
| 4770-300 | 0-300mm | 3μm | 10μm | 460mm |
| 4770-600 | 0-600mm | 5μm | 20μm | 760mm |

90° BEVELED EDGE SQUARES

- Satin chrome plating
- Beveled edges for inside and outside measurements
- Made of hardened stainless steel



4790-0100



DIN875 grade 00 (mm)

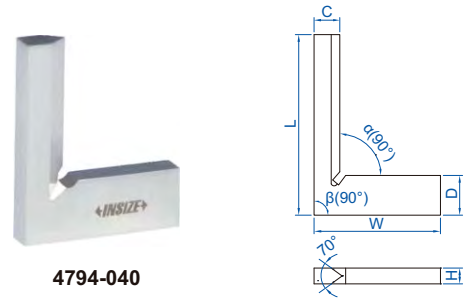
| Code | Size (LxW) | Squareness | | C | D | H |
|-----------|------------|------------|-------------|----|----|---|
| | | Inside (α) | Outside (β) | | | |
| 4790-050 | 50x40mm | 2.4μm | 2.5μm | 13 | 13 | 4 |
| 4790-075 | 75x50mm | 2.6μm | 2.8μm | 15 | 15 | 4 |
| 4790-0100 | 100x70mm | 2.8μm | 3.0μm | 20 | 20 | 5 |
| 4790-0150 | 150x100mm | 3.2μm | 3.5μm | 30 | 30 | 6 |
| 4790-0200 | 200x130mm | 3.7μm | 4.0μm | 34 | 34 | 7 |
| 4790-0250 | 250x165mm | 4.2μm | 4.5μm | 35 | 35 | 7 |
| 4790-0300 | 300x200mm | 4.6μm | 5.0μm | 40 | 40 | 8 |

DIN875 grade 0 (mm)

| Code | Size (LxW) | Squareness | | C | D | H |
|-----------|------------|------------|-------------|----|----|---|
| | | Inside (α) | Outside (β) | | | |
| 4790-500 | 50x40mm | 6μm | 6μm | 13 | 13 | 4 |
| 4790-750 | 75x50mm | 6μm | 7μm | 15 | 15 | 4 |
| 4790-1000 | 100x70mm | 7μm | 7μm | 20 | 20 | 5 |
| 4790-1500 | 150x100mm | 7μm | 8μm | 30 | 30 | 6 |
| 4790-2000 | 200x130mm | 8μm | 9μm | 34 | 34 | 7 |
| 4790-2500 | 250x165mm | 9μm | 10μm | 35 | 35 | 7 |
| 4790-3000 | 300x200mm | 10μm | 11μm | 40 | 40 | 8 |

90° TOOL MAKER SQUARES

- DIN875 grade 00
- Beveled edge for inside measurement
- Made of hardened stainless steel



4794-040

(mm)

| Code | Size (LxW) | Squareness | | C | D | H |
|----------|------------|---------------------|---------------------|-----|-----|-----|
| | | Inside (α) | Outside (β) | | | |
| 4794-025 | 25x20mm | 2.2 μ m | 2.3 μ m | 4 | 6.5 | 3.5 |
| 4794-040 | 40x28mm | 2.3 μ m | 2.4 μ m | 5.5 | 8.5 | 3.5 |

90° FLAT EDGE SQUARES

- Made of hardened stainless steel

DIN875 grade 0 (mm)

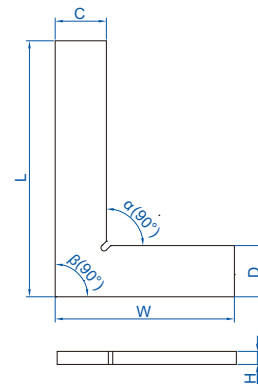
| Code | Size (LxW) | Squareness | | C | D | H |
|----------|------------|---------------------|---------------------|----|----|---|
| | | Inside (α) | Outside (β) | | | |
| 4791-50 | 50x40mm | 6 μ m | 6 μ m | 15 | 15 | 4 |
| 4791-75 | 75x50mm | 6 μ m | 7 μ m | 15 | 15 | 4 |
| 4791-100 | 100x70mm | 7 μ m | 7 μ m | 20 | 20 | 5 |
| 4791-150 | 150x100mm | 7 μ m | 8 μ m | 30 | 30 | 6 |
| 4791-200 | 200x130mm | 8 μ m | 9 μ m | 30 | 30 | 7 |
| 4791-250 | 250x165mm | 9 μ m | 10 μ m | 35 | 35 | 7 |
| 4791-300 | 300x200mm | 10 μ m | 11 μ m | 40 | 40 | 8 |



4791-100

DIN875 grade 1 (mm)

| Code | Size (LxW) | Squareness | | C | D | H |
|-----------|------------|---------------------|---------------------|----|----|---|
| | | Inside (α) | Outside (β) | | | |
| 4791-501 | 50x40mm | 12 μ m | 13 μ m | 15 | 15 | 4 |
| 4791-751 | 75x50mm | 13 μ m | 14 μ m | 15 | 15 | 4 |
| 4791-1001 | 100x70mm | 14 μ m | 15 μ m | 20 | 20 | 5 |
| 4791-1501 | 150x100mm | 16 μ m | 18 μ m | 30 | 30 | 6 |
| 4791-2001 | 200x130mm | 19 μ m | 20 μ m | 30 | 30 | 7 |
| 4791-2501 | 250x165mm | 21 μ m | 23 μ m | 35 | 35 | 7 |
| 4791-3001 | 300x200mm | 23 μ m | 25 μ m | 40 | 40 | 8 |



DIN875 grade 2 (mm)

| Code | Size (LxW) | Squareness | | C | D | H |
|-----------|------------|---------------------|---------------------|----|----|---|
| | | Inside (α) | Outside (β) | | | |
| 4791-502 | 50x40mm | 24 μ m | 25 μ m | 15 | 15 | 4 |
| 4791-752 | 75x50mm | 26 μ m | 28 μ m | 15 | 15 | 4 |
| 4791-1002 | 100x70mm | 28 μ m | 30 μ m | 20 | 20 | 5 |
| 4791-1502 | 150x100mm | 33 μ m | 35 μ m | 30 | 30 | 6 |
| 4791-2002 | 200x130mm | 38 μ m | 40 μ m | 30 | 30 | 7 |
| 4791-2502 | 250x165mm | 43 μ m | 45 μ m | 35 | 35 | 7 |
| 4791-3002 | 300x200mm | 47 μ m | 50 μ m | 40 | 40 | 8 |

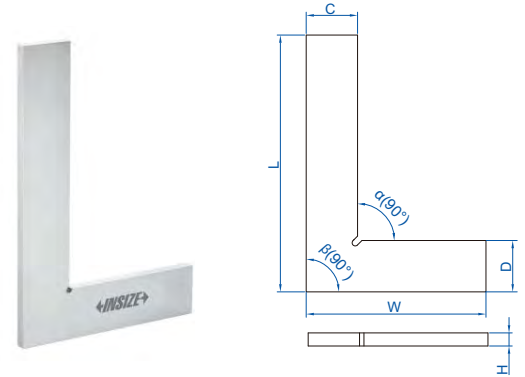


ATTENTION: NO ANTI-RUST TREATMENT, NOT HARDEND

MACHINIST SQUARES (ECONOMIC TYPE)

- DIN875 grade 2
- Made of carbon steel, no anti-rust treatment, not hardend

| Code | Size (LxW) | Squareness | | C | D | H | (mm) | |
|----------|------------|---------------------|---------------------|----|----|---|------|--|
| | | Inside (α) | Outside (β) | | | | | |
| 4796-50 | 50x30mm | 24 μ m | 25 μ m | 12 | 12 | 3 | | |
| 4796-75 | 75x50mm | 26 μ m | 28 μ m | 16 | 16 | 3 | | |
| 4796-100 | 100x70mm | 28 μ m | 30 μ m | 19 | 19 | 5 | | |
| 4796-125 | 125x80mm | 30 μ m | 33 μ m | 22 | 22 | 5 | | |
| 4796-150 | 150x100mm | 33 μ m | 35 μ m | 25 | 25 | 6 | | |
| 4796-200 | 200x130mm | 38 μ m | 40 μ m | 25 | 25 | 6 | | |
| 4796-250 | 250x165mm | 43 μ m | 45 μ m | 25 | 25 | 6 | | |
| 4796-300 | 300x200mm | 47 μ m | 50 μ m | 30 | 30 | 6 | | |
| 4796-350 | 350x200mm | 51 μ m | 55 μ m | 38 | 38 | 6 | | |
| 4796-400 | 400x200mm | 56 μ m | 60 μ m | 38 | 38 | 9 | | |
| 4796-450 | 450x250mm | 58 μ m | 65 μ m | 38 | 38 | 9 | | |
| 4796-500 | 500x300mm | 69 μ m | 70 μ m | 38 | 38 | 9 | | |



4796-150

90° FLAT EDGE SQUARES WITH WIDE BASE

- Made of hardened stainless steel

DIN875 grade 0 (mm)

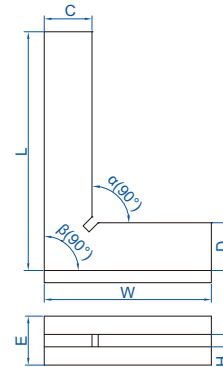
| Code | Size (LxW) | Squareness | | C | D | H | E |
|----------|------------|---------------------|---------------------|----|----|---|----|
| | | Inside (α) | Outside (β) | | | | |
| 4793-50 | 50x40mm | 6 μ m | 6 μ m | 15 | 15 | 4 | 13 |
| 4793-75 | 75x50mm | 6 μ m | 7 μ m | 15 | 15 | 4 | 15 |
| 4793-100 | 100x70mm | 7 μ m | 7 μ m | 20 | 20 | 5 | 20 |
| 4793-150 | 150x100mm | 7 μ m | 8 μ m | 30 | 30 | 6 | 30 |
| 4793-200 | 200x130mm | 8 μ m | 9 μ m | 30 | 30 | 7 | 30 |
| 4793-250 | 250x165mm | 9 μ m | 10 μ m | 35 | 35 | 7 | 35 |
| 4793-300 | 300x200mm | 10 μ m | 11 μ m | 40 | 40 | 8 | 40 |



4793-100

DIN875 grade 1 (mm)

| Code | Size (LxW) | Squareness | | C | D | H | E |
|-----------|------------|---------------------|---------------------|----|----|---|----|
| | | Inside (α) | Outside (β) | | | | |
| 4793-501 | 50x40mm | 12 μ m | 13 μ m | 15 | 15 | 4 | 13 |
| 4793-751 | 75x50mm | 13 μ m | 14 μ m | 15 | 15 | 4 | 15 |
| 4793-1001 | 100x70mm | 14 μ m | 15 μ m | 20 | 20 | 5 | 20 |
| 4793-1501 | 150x100mm | 16 μ m | 18 μ m | 30 | 30 | 6 | 30 |
| 4793-2001 | 200x130mm | 19 μ m | 20 μ m | 30 | 30 | 7 | 30 |
| 4793-2501 | 250x165mm | 21 μ m | 23 μ m | 35 | 35 | 7 | 35 |
| 4793-3001 | 300x200mm | 23 μ m | 25 μ m | 40 | 40 | 8 | 40 |



DIN875 grade 2 (mm)

| Code | Size (LxW) | Squareness | | C | D | H | E |
|-----------|------------|---------------------|---------------------|----|----|---|----|
| | | Inside (α) | Outside (β) | | | | |
| 4793-502 | 50x40mm | 24 μ m | 25 μ m | 15 | 15 | 4 | 13 |
| 4793-752 | 75x50mm | 26 μ m | 28 μ m | 15 | 15 | 4 | 15 |
| 4793-1002 | 100x70mm | 28 μ m | 30 μ m | 20 | 20 | 5 | 20 |
| 4793-1502 | 150x100mm | 33 μ m | 35 μ m | 30 | 30 | 6 | 30 |
| 4793-2002 | 200x130mm | 38 μ m | 40 μ m | 30 | 30 | 7 | 30 |
| 4793-2502 | 250x165mm | 43 μ m | 45 μ m | 35 | 35 | 7 | 35 |
| 4793-3002 | 300x200mm | 47 μ m | 50 μ m | 40 | 40 | 8 | 40 |

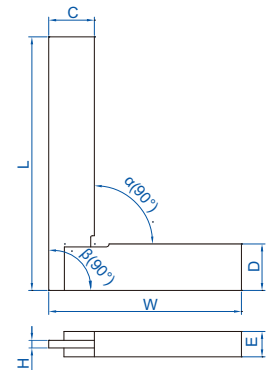
90° FLAT EDGE SQUARES WITH WIDE BASE

- DIN875 grade 0
- Made of hardened stainless steel

| Code | Size (LxW) | Squareness | | C | D | H | E |
|----------|------------|---------------------|---------------------|----|----|---|----|
| | | Inside (α) | Outside (β) | | | | |
| 4792-50 | 50x40mm | 6 μ m | 6 μ m | 12 | 12 | 3 | 10 |
| 4792-75 | 75x50mm | 6 μ m | 7 μ m | 14 | 14 | 3 | 10 |
| 4792-100 | 100x70mm | 7 μ m | 7 μ m | 18 | 18 | 3 | 10 |
| 4792-150 | 150x100mm | 8 μ m | 8 μ m | 22 | 22 | 4 | 12 |
| 4792-200 | 200x130mm | 9 μ m | 9 μ m | 25 | 25 | 4 | 12 |



4792-100



MACHINIST SQUARES WITH WIDE BASE (ECONOMIC TYPE)

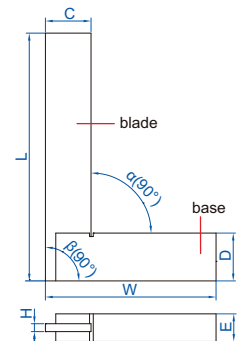
ATTENTION: NO ANTI-RUST TREATMENT, NOT HARDEND

- DIN875 grade 2
- Made of carbon steel, no anti-rust treatment, not hardend

| Code | Size (LxW) | Squareness | | C | D | H | E |
|-----------|------------|---------------------|---------------------|----|----|---|----|
| | | Inside (α) | Outside (β) | | | | |
| 4707-50 | 50x40mm | 24 μ m | 25 μ m | 16 | 12 | 3 | 9 |
| 4707-75 | 75x50mm | 26 μ m | 28 μ m | 16 | 16 | 3 | 9 |
| 4707-100 | 100x70mm | 28 μ m | 30 μ m | 19 | 19 | 3 | 12 |
| 4707-150 | 150x100mm | 33 μ m | 35 μ m | 25 | 25 | 3 | 16 |
| 4707-200 | 200x130mm | 37 μ m | 40 μ m | 30 | 32 | 4 | 16 |
| 4707-250 | 250x165mm | 42 μ m | 45 μ m | 30 | 32 | 4 | 19 |
| 4707-300 | 300x200mm | 47 μ m | 50 μ m | 32 | 32 | 4 | 19 |
| 4707-400 | 400x250mm | 56 μ m | 60 μ m | 38 | 38 | 5 | 22 |
| 4707-500 | 500x300mm | 65 μ m | 70 μ m | 45 | 50 | 6 | 25 |
| 4707-600 | 600x350mm | 75 μ m | 80 μ m | 50 | 50 | 6 | 30 |
| 4707-750 | 750x400mm | 90 μ m | 95 μ m | 55 | 55 | 6 | 50 |
| 4707-900 | 900x500mm | 103 μ m | 110 μ m | 65 | 75 | 9 | 50 |
| 4707-1000 | 1000x550mm | 113 μ m | 120 μ m | 65 | 75 | 9 | 50 |



4707-100



90° BEVELED EDGE SQUARES WITH WIDE BASE

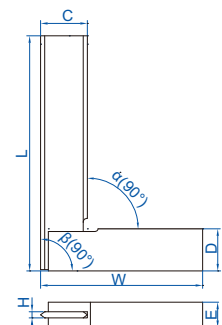
15

- DIN875 grade 0
- Beveled edges for inside and outside measurements
- Made of hardened stainless steel

| Code | Size (LxW) | Squareness | | C | D | H | E |
|----------|------------|---------------------|---------------------|----|----|---|----|
| | | Inside (α) | Outside (β) | | | | |
| 4795-50 | 50x40mm | 6 μ m | 6 μ m | 12 | 12 | 3 | 10 |
| 4795-75 | 75x50mm | 6 μ m | 7 μ m | 14 | 14 | 3 | 10 |
| 4795-100 | 100x70mm | 7 μ m | 7 μ m | 18 | 18 | 3 | 10 |
| 4795-150 | 150x100mm | 8 μ m | 8 μ m | 22 | 22 | 4 | 12 |
| 4795-200 | 200x130mm | 9 μ m | 9 μ m | 25 | 25 | 4 | 12 |



4795-100



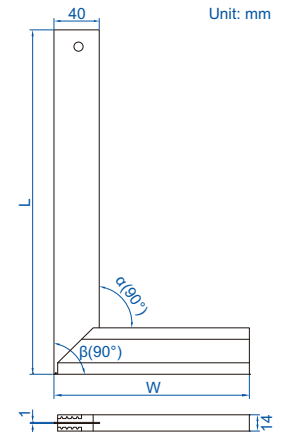
TRY SQUARE

- Graduation: 1mm
- Stainless steel blade, aluminum base

| Code | Size (LxW) | Squareness | |
|----------|------------|---------------------|---------------------|
| | | Inside (α) | Outside (β) |
| 2275-300 | 300x170mm | 0.5mm | 0.5mm |



2275-300



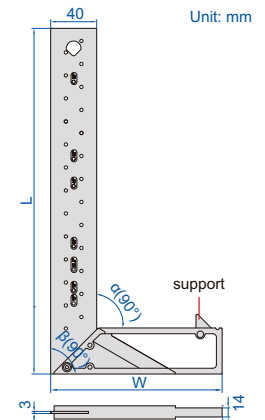
TRY SQUARE

- Graduation: 1mm
- Aluminum blade and base
- 4 milled surfaces
- Retractable metal ledge support
- Etchings and holes for beveling and framing: 10°, 15°, 22.5°, 30°, 45°, 50° and 60°
- Etchings and holes every cm for fluid pencil marking

| Code | Size (LxW) | Squareness | |
|----------|------------|---------------------|---------------------|
| | | Inside (α) | Outside (β) |
| 2280-300 | 300x150mm | 0.5mm | 0.5mm |

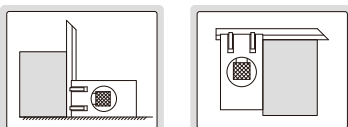


2280-300

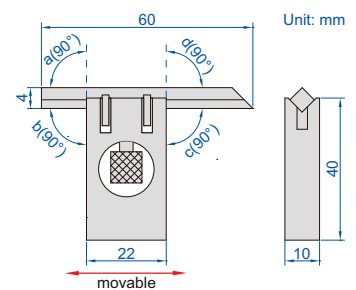


ADJUSTABLE SQUARE

- The straight edge can move and can be locked by the clamping screw
- Made of hardened stainless steel



4701-1

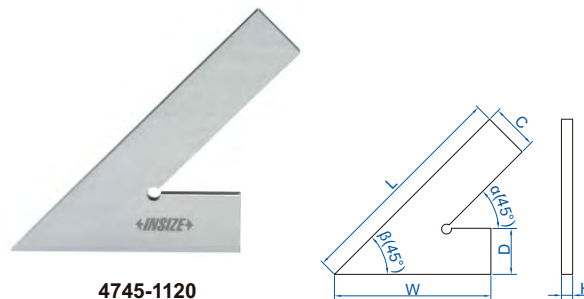


| Code | Squareness (a, b, c, d) |
|--------|-------------------------|
| 4701-1 | 7 μ m |

45° SQUARES

- Made of hardened stainless steel

| Code | Size (LxW) | Accuracy | | C | D | H | (mm) |
|-----------|------------|---------------------|---------------------|----|----|---|------|
| | | Inside (α) | Outside (β) | | | | |
| 4745-1120 | 120x80mm | 29 μ m | 32 μ m | 20 | 20 | 5 | |
| 4745-1150 | 150x100mm | 32 μ m | 35 μ m | 20 | 20 | 5 | |
| 4745-1200 | 200x130mm | 36 μ m | 40 μ m | 25 | 25 | 5 | |

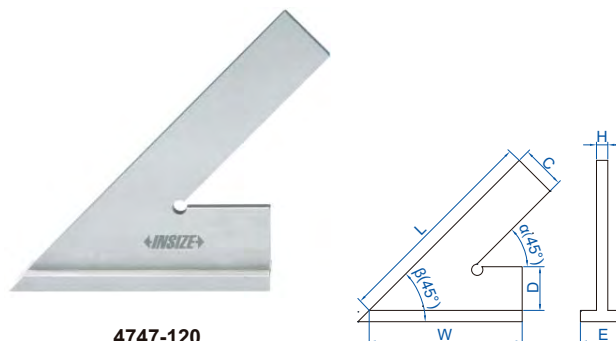


4745-1120

45° SQUARES WITH WIDE BASE

- Made of hardened stainless steel

| Code | Size (LxW) | Accuracy | | C | D | H | E | (mm) |
|----------|------------|---------------------|---------------------|----|----|---|----|------|
| | | Inside (α) | Outside (β) | | | | | |
| 4747-120 | 120x80mm | 29 μ m | 33 μ m | 20 | 20 | 5 | 20 | |
| 4747-150 | 150x100mm | 32 μ m | 36 μ m | 20 | 20 | 5 | 20 | |
| 4747-200 | 200x130mm | 36 μ m | 41 μ m | 25 | 25 | 5 | 25 | |

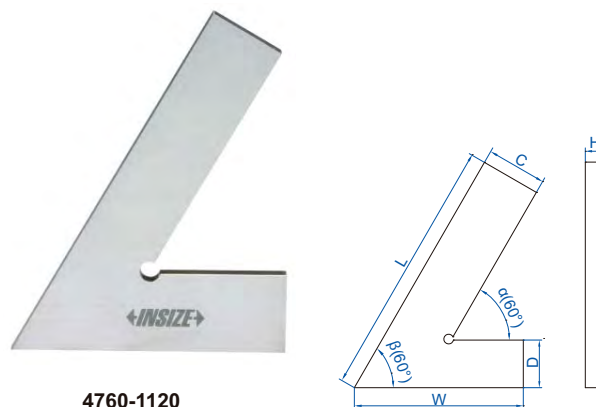


4747-120

60° SQUARES

- Made of hardened stainless steel

| Code | Size (LxW) | Accuracy | | C | D | H | (mm) |
|-----------|------------|---------------------|---------------------|----|----|---|------|
| | | Inside (α) | Outside (β) | | | | |
| 4760-1120 | 120x80mm | 30 μ m | 32 μ m | 20 | 20 | 5 | |
| 4760-1150 | 150x100mm | 32 μ m | 35 μ m | 20 | 20 | 5 | |
| 4760-1200 | 200x130mm | 37 μ m | 40 μ m | 25 | 25 | 5 | |

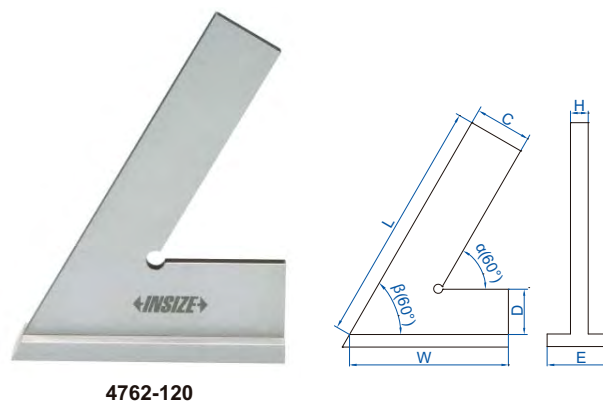


4760-1120

60° SQUARES WITH WIDE BASE

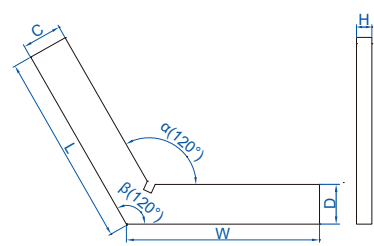
- Made of hardened stainless steel

| Code | Size (LxW) | Accuracy | | C | D | H | E | (mm) |
|----------|------------|---------------------|---------------------|----|----|---|----|------|
| | | Inside (α) | Outside (β) | | | | | |
| 4762-120 | 120x80mm | 30 μ m | 33 μ m | 20 | 20 | 5 | 20 | |
| 4762-150 | 150x100mm | 33 μ m | 36 μ m | 20 | 20 | 5 | 20 | |
| 4762-200 | 200x130mm | 37 μ m | 41 μ m | 25 | 25 | 5 | 25 | |



4762-120

120° SQUARES



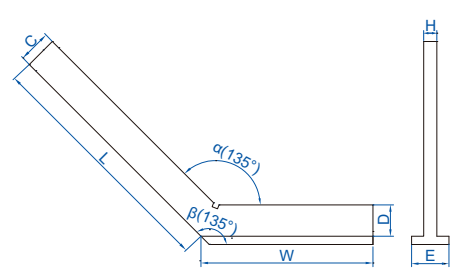
(mm)

| Code | Size (LxW) | Accuracy | | C | D | H |
|-----------|------------|---------------------|---------------------|----|----|---|
| | | Inside (α) | Outside (β) | | | |
| 4706-150 | 50x50mm | 24 μ m | 25 μ m | 15 | 15 | 5 |
| 4706-175 | 75x75mm | 26 μ m | 28 μ m | 20 | 20 | 5 |
| 4706-1100 | 100x100mm | 29 μ m | 30 μ m | 20 | 20 | 5 |
| 4706-1150 | 150x150mm | 34 μ m | 35 μ m | 25 | 25 | 5 |
| 4706-1200 | 200x200mm | 38 μ m | 40 μ m | 30 | 30 | 7 |



4706-1100

- Made of hardened stainless steel



(mm)

| Code | Size (LxW) | Accuracy | | C | D | H | E |
|-----------|------------|---------------------|---------------------|----|----|---|----|
| | | Inside (α) | Outside (β) | | | | |
| 4754-3120 | 120x80mm | 31 μ m | 33 μ m | 20 | 20 | 5 | 20 |
| 4754-3150 | 150x100mm | 34 μ m | 36 μ m | 20 | 20 | 5 | 20 |
| 4754-3200 | 200x130mm | 39 μ m | 41 μ m | 30 | 30 | 7 | 30 |

135° SQUARES WITH WIDE BASE



4754-3120

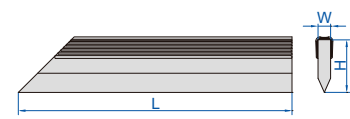
- Made of hardened stainless steel

| Code | Size (L) | Straightness | W | H |
|----------|----------|--------------|------|------|
| 4700-50 | 50mm | 2.2 μ m | 5mm | 20mm |
| 4700-75 | 75mm | 2.3 μ m | 5mm | 25mm |
| 4700-100 | 100mm | 2.4 μ m | 5mm | 25mm |
| 4700-125 | 125mm | 2.5 μ m | 6mm | 30mm |
| 4700-150 | 150mm | 2.6 μ m | 6mm | 30mm |
| 4700-200 | 200mm | 2.8 μ m | 6mm | 30mm |
| 4700-250 | 250mm | 3.0 μ m | 8mm | 40mm |
| 4700-300 | 300mm | 3.2 μ m | 8mm | 40mm |
| 4700-400 | 400mm | 3.6 μ m | 10mm | 50mm |
| 4700-500 | 500mm | 4.0 μ m | 10mm | 50mm |

STRAIGHT EDGES



4700-100



- DIN874
- Beveled edge
- Made of hardened stainless steel
- Satin chrome plating

Unit: mm

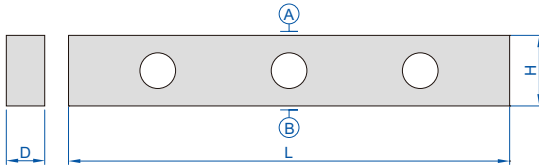
4702-1

| Code |
|--------|
| 4702-1 |

SQUARE SET

- Includes:
 - 90° tool maker square 25x20mm DIN875 grade 00 (code 4794-025)
 - 90° tool maker square 40x28mm DIN875 grade 00 (code 4794-040)
 - 90° beveled edge square 75x50mm DIN875 grade 00 (code 4790-075)
 - straight edge 100mm DIN874 (code 4700-100)
 - scriber
- Made of hardened stainless steel

GRANITE STRAIGHT EDGES



4147-500A

| Code | Length (L) | Flatness of A and B | Parallelism between A and B | D | H |
|------------|------------|---------------------|-----------------------------|------|-------|
| 4147-500A | 500mm | 2.1µm | 3.2µm | 50mm | 80mm |
| 4147-1000A | 1000mm | 3.0µm | 4.5µm | 60mm | 120mm |

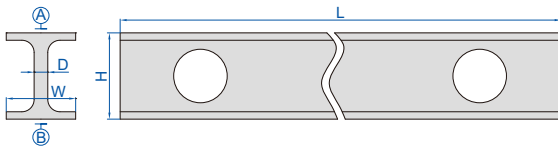
MAGNALIUM STRAIGHT EDGES

LIGHT WEIGHT

- Made of magnalium, light weight, non-deform, no rusty



4180-1500



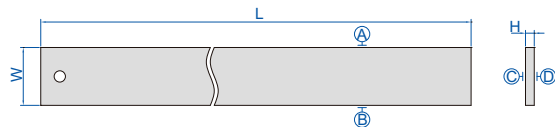
| Code | Length (L) | Flatness of A and B | Parallelism between A and B | H | W | D | Weight |
|-----------|------------|---------------------|-----------------------------|-------|------|-----|--------|
| 4180-500 | 500mm | 3µm | 4µm | 60mm | 30mm | 5mm | 1kg |
| 4180-1000 | 1000mm | 5µm | 8µm | 60mm | 30mm | 5mm | 1.5kg |
| 4180-1500 | 1500mm | 15µm | 22µm | 100mm | 40mm | 7mm | 4.5kg |
| 4180-2000 | 2000mm | 18µm | 27µm | 100mm | 40mm | 7mm | 6kg |
| 4180-2500 | 2500mm | 22µm | 33µm | 100mm | 40mm | 7mm | 7.5kg |
| 4180-3000 | 3000mm | 48µm | 72µm | 150mm | 80mm | 8mm | 21kg |

PRECISION STRAIGHT EDGES

15

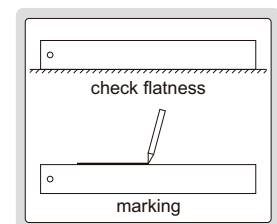


7117-300



- Check flatness and for marking
- Made of tool steel

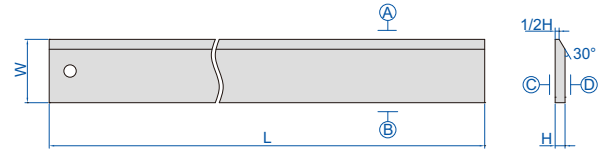
| Code | Range (L) | Flatness of A and B | Flatness of C and D | W | H |
|----------|-----------|---------------------|---------------------|------|-------|
| 7117-300 | 305mm | 0.005mm | 0.05mm | 41mm | 6.3mm |
| 7117-600 | 610mm | 0.006mm | 0.06mm | 51mm | 7.9mm |
| 7117-900 | 914mm | 0.007mm | 0.06mm | 64mm | 9.5mm |



PRECISION STRAIGHT EDGES WITH BEVELED EDGE

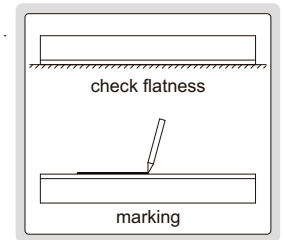


7118-300



- Check flatness and for marking
- Made of tool steel

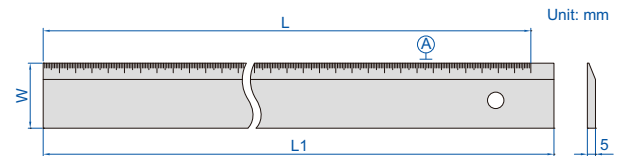
| Code | Range (L) | Flatness of A and B | Flatness of C and D | W | H |
|----------|-----------|---------------------|---------------------|------|-------|
| 7118-300 | 305mm | 0.005mm | 0.05mm | 41mm | 6.3mm |
| 7118-600 | 610mm | 0.006mm | 0.06mm | 51mm | 7.9mm |
| 7118-900 | 914mm | 0.007mm | 0.06mm | 64mm | 9.5mm |



STRAIGHT EDGES

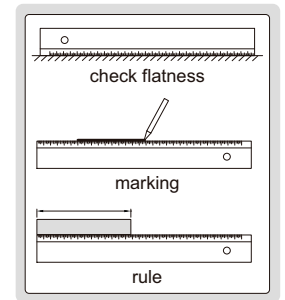


7111-300A



- Check flatness and straightness, as well as for marking
- Graduation on the beveled edge
- Made of hardened tool steel
- Chrome plated
- Graduation: 1mm

| Code | Range (L) | Straightness of A | L1 | W |
|------------|-----------|-------------------|--------|------|
| 7111-300A | 300mm | 0.02mm | 310mm | 40mm |
| 7111-500A | 500mm | 0.03mm | 510mm | 40mm |
| 7111-1000A | 1000mm | 0.04mm | 1010mm | 50mm |

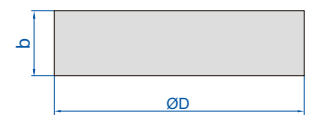


OPTICAL FLATS

- Check flatness
- Single working face, the arrow indicates the working face



4191-45B



| Code | b | ØD | Flatness |
|----------|------|------|----------|
| 4191-45A | 12mm | 45mm | 0.03µm |
| 4191-60A | 15mm | 60mm | 0.03µm |

| Code | b | ØD | Flatness |
|----------|------|------|----------|
| 4191-45B | 12mm | 45mm | 0.1µm |
| 4191-60B | 15mm | 60mm | 0.1µm |

STRAIGHTNESS/FLATNESS GAGE



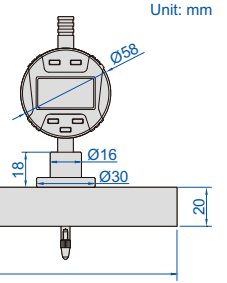
GRANITE HOLDER CAN BE CUSTOMIZED ACCORDING TO WORKPIECES

DATA OUTPUT

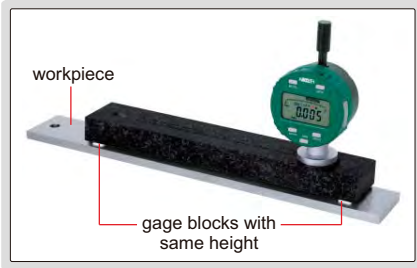
- Optional accessory: data output cable (code 7315-50M need receiver page 5, 7302-40M page 13)



2144-200



application



| Code | Range | Digital indicator resolution | Straightness measurement accuracy | Parallelism of top and bottom surfaces of granite holder | Flatness of top and bottom surfaces of granite holder |
|----------|-------|------------------------------|-----------------------------------|--|---|
| 2144-200 | 200mm | 0.001mm/0.00005" | 3µm | 2µm | 1.5µm |

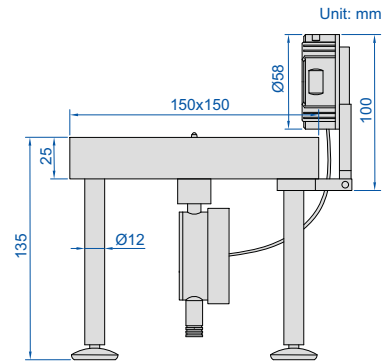
FLATNESS MEASUREMENT STAND

DATA OUTPUT

GRANITE PLATE CAN BE CUSTOMIZED ACCORDING TO WORKPIECES



6852-150



application



- Optional accessory: data output cable (code 7315-50M need receiver page 5, 7302-40M page 13, 7305-40M page 9)

| Code | Digital indicator resolution | Flatness measurement accuracy | Flatness of granite plate |
|----------|------------------------------|-------------------------------|---------------------------|
| 6852-150 | 0.001mm/0.00005" | 2µm | 2µm |



Concentricity Gages
Page 394-398

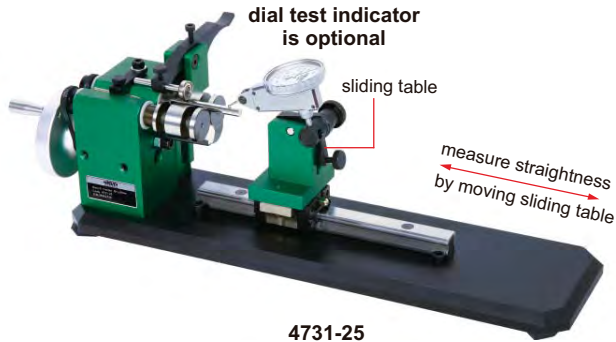


Bench Centers
Page 398-404



Shank Runout Testers
Page 405

CONCENTRICITY GAGE WITH STRAIGHTNESS MEASUREMENT

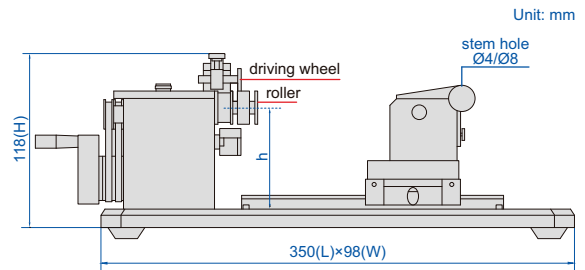
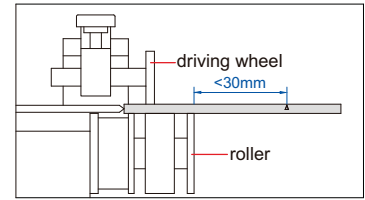


4731-25

- Maximum moving range of sliding table: 120mm
- Optional accessory: dial test indicator

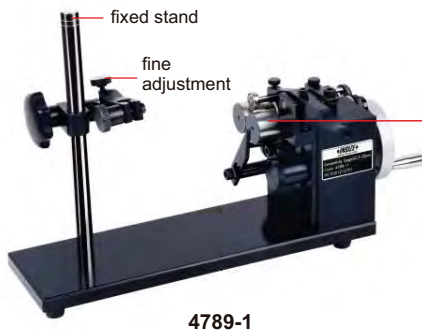


to ensure the accuracy 2 μ m, the distance between measuring point and roller should be <30mm

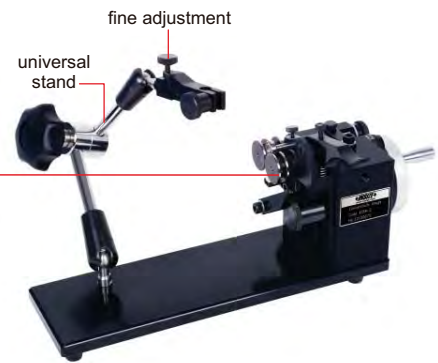
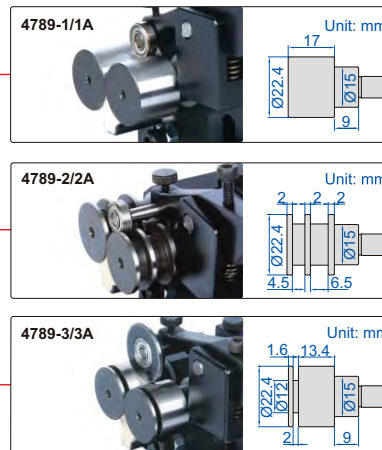


| Code | Diameter range | Workpiece length | Roller concentricity accuracy | Straightness measurement accuracy | Center height (h) | L×W×H | Weight |
|---------|----------------|------------------|-------------------------------|-----------------------------------|-------------------|--------------|--------|
| 4731-25 | Ø1-25mm | 15-80mm | 2 μ m | 0.01mm | 70mm | 350×98×118mm | 5.3kg |

CONCENTRICITY GAGES

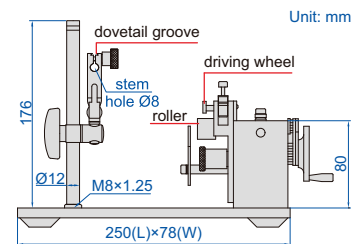
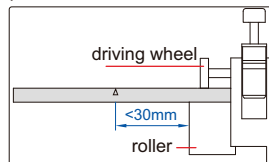


4789-1



4789-2A

to ensure the accuracy 2 μ m, the distance between measuring point and roller should be <30mm



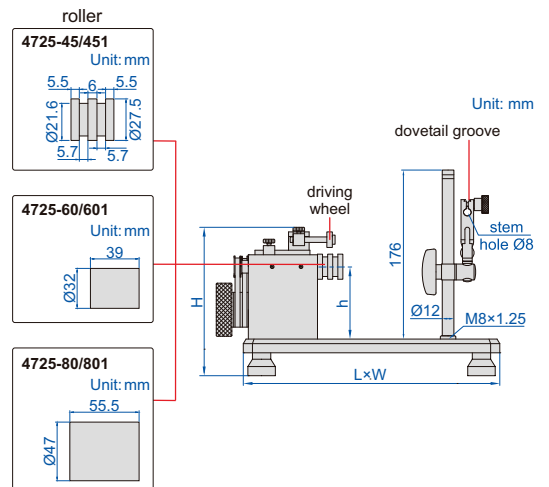
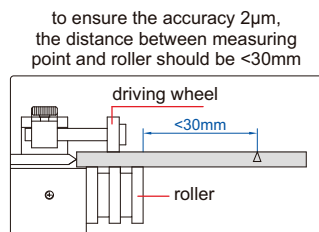
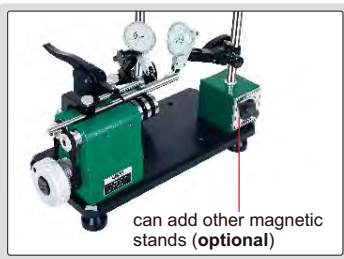
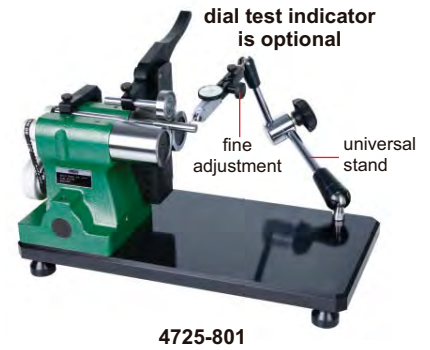
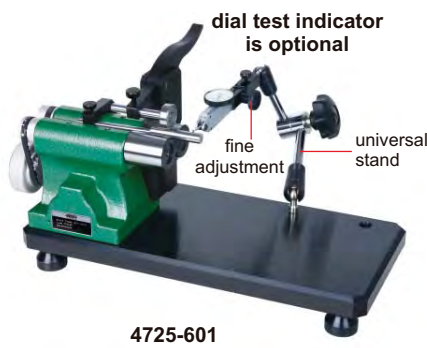
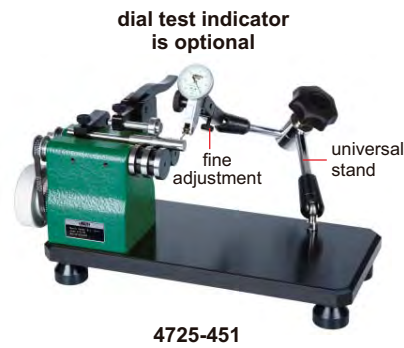
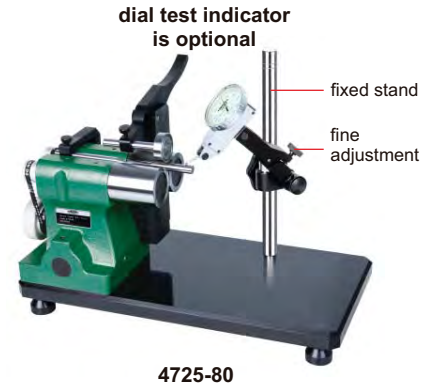
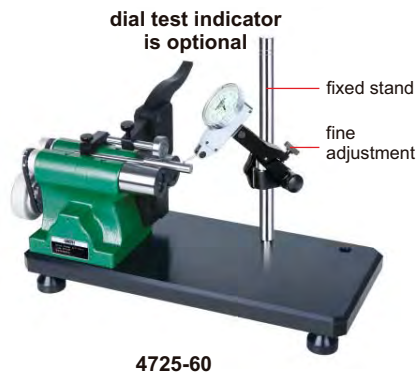
4789-1

- Accuracy 2 μ m
- Optional accessory: dial test indicator

| Code | Applicable diameter | Remark |
|---------|---------------------|---|
| 4789-1 | Ø3.5mm-25mm | fixed stand, high accuracy, inconvenient operation |
| 4789-2 | Ø1mm-25mm | fixed stand, high accuracy, inconvenient operation |
| 4789-3 | Ø1mm-25mm | fixed stand, high accuracy, inconvenient operation |
| 4789-1A | Ø3.5mm-25mm | universal stand, low accuracy, convenient operation |
| 4789-2A | Ø1mm-25mm | universal stand, low accuracy, convenient operation |
| 4789-3A | Ø1mm-25mm | universal stand, low accuracy, convenient operation |

HIGH STABILITY,
LONG WORKING LIFE

CONCENTRICITY GAGES

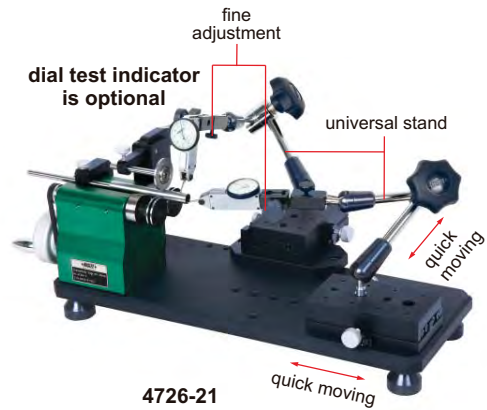
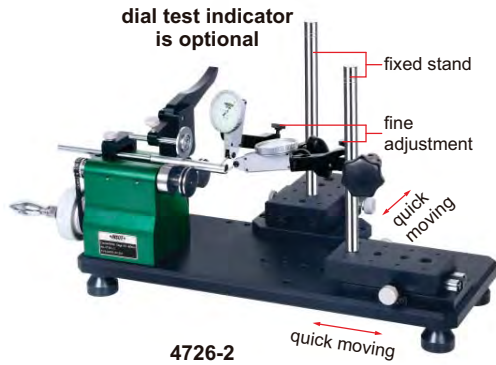


- With ball bearing, high stability, long working life
- Accuracy: 2 μ m
- Optional accessory: dial test indicator

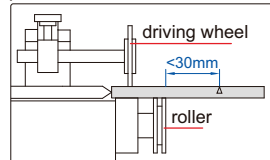
| Code | Diameter range | Center height (h) | L×W×H | Weight | Remark |
|----------|----------------|-------------------|---------------|--------|---|
| 4725-45 | Ø3-45mm | 80mm | 280×130×170mm | 6kg | fixed stand, high accuracy, inconvenient operation |
| 4725-60 | Ø8-60mm | 90mm | 350×160×190mm | 15.6kg | fixed stand, high accuracy, inconvenient operation |
| 4725-80 | Ø8-80mm | 130mm | 400×200×250mm | 25kg | fixed stand, high accuracy, inconvenient operation |
| 4725-451 | Ø3-45mm | 80mm | 280×130×170mm | 6kg | universal stand, low accuracy, convenient operation |
| 4725-601 | Ø8-60mm | 90mm | 350×160×190mm | 15.6kg | universal stand, low accuracy, convenient operation |
| 4725-801 | Ø8-80mm | 130mm | 400×200×250mm | 25kg | universal stand, low accuracy, convenient operation |

CONCENTRICITY GAGES

QUICK-POSITIONING, SUITABLE FOR MASS MEASUREMENT

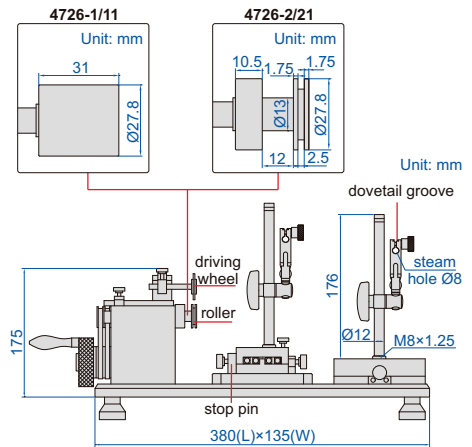


to ensure the accuracy $2\mu\text{m}$, the distance between measuring point and roller should be $<30\text{mm}$



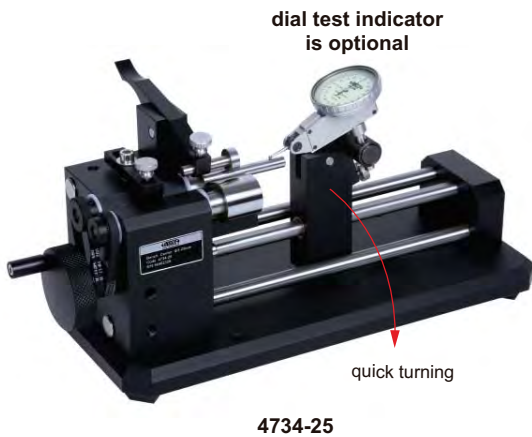
- With ball bearing, high stability, long working life
- Accuracy: $2\mu\text{m}$
- Optional accessory: dial test indicator

| Code | Applicable diameter | Remark |
|---------|------------------------------------|---|
| 4726-1 | $\varnothing 4\text{-}40\text{mm}$ | fixed stand, high accuracy, inconvenient operation |
| 4726-2 | $\varnothing 2\text{-}40\text{mm}$ | fixed stand, high accuracy, inconvenient operation |
| 4726-11 | $\varnothing 4\text{-}40\text{mm}$ | universal stand, low accuracy, convenient operation |
| 4726-21 | $\varnothing 2\text{-}40\text{mm}$ | universal stand, low accuracy, convenient operation |

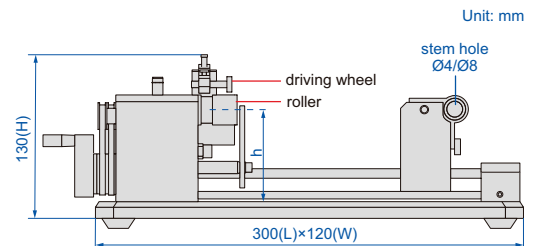
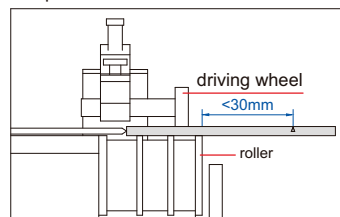


QUICK POSITIONING CONCENTRICITY GAGE

QUICK-POSITIONING, SUITABLE FOR MASS MEASUREMENT



to ensure the accuracy $2\mu\text{m}$, the distance between measuring point and roller should be $<30\text{mm}$

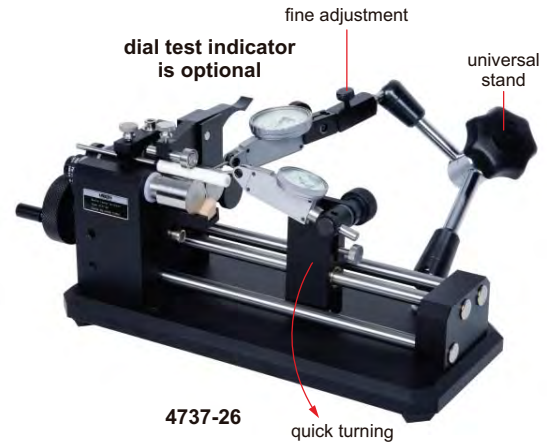
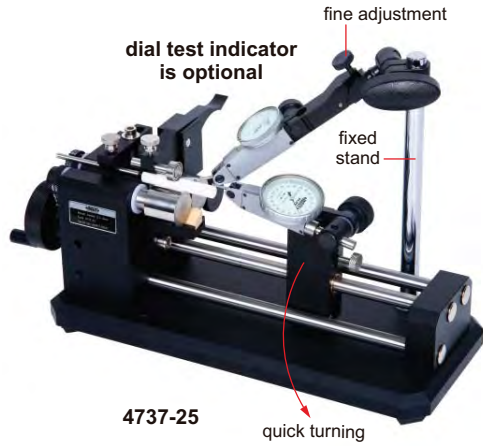


- Quick positioning, suitable for mass measurement
- Optional accessory: dial test indicators

| Code | Diameter range | Workpiece length | Accuracy | Center height (h) | L \times W \times H | Weight |
|---------|------------------------------------|------------------|----------------|-------------------|---------------------------------|--------|
| 4734-25 | $\varnothing 3\text{-}25\text{mm}$ | 15-100mm | $2\mu\text{m}$ | 70mm | 300 \times 120 \times 130mm | 3kg |

QUICK-POSITIONING, SUITABLE FOR MASS MEASUREMENT

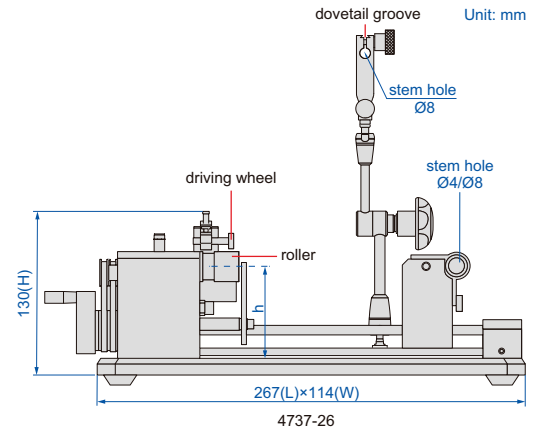
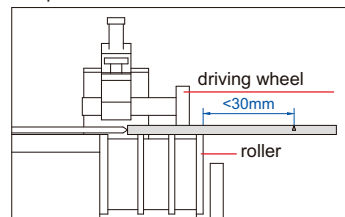
QUICK POSITIONING CONCENTRICITY GAGES



standard rod (included)



to ensure the accuracy 2 μ m, the distance between measuring point and roller should be <30mm



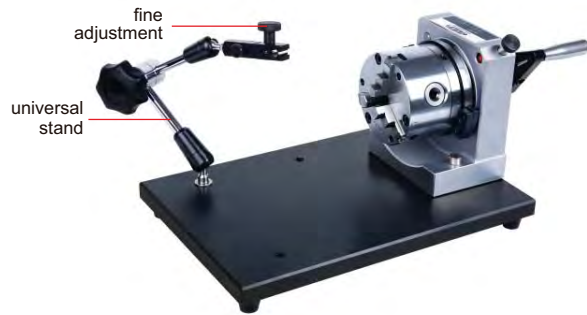
- Quick positioning, suitable for mass measurement
- Supplied with standard rod to verify accuracy
- Optional accessory: dial test indicators

| Code | Diameter range | Workpiece length | Accuracy | Center height (h) | L×W×H | Weight | Remark |
|---------|----------------|------------------|-----------|-------------------|---------------|--------|---|
| 4737-25 | Ø3-25mm | 15-100mm | 2 μ m | 70mm | 267×114×130mm | 3kg | fixed stand, high accuracy, inconvenient operation |
| 4737-26 | Ø3-25mm | 15-100mm | 2 μ m | 70mm | 267×114×130mm | 3kg | universal stand, low accuracy, convenient operation |

CONCENTRICITY GAGES



4786-1

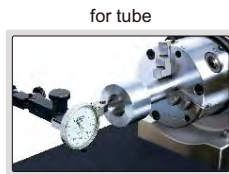


4786-2

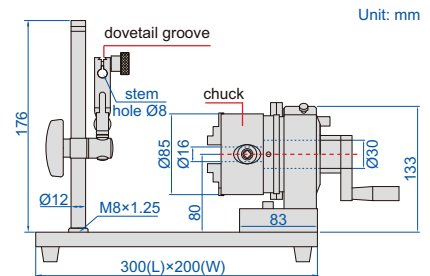
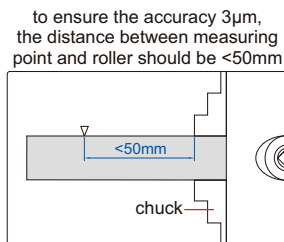
- Accuracy: 3 μ m
- \varnothing 50mm setting ring and \varnothing 55mm calibration cylinder are included
- Optional accessory: dial test indicator



for cylinder

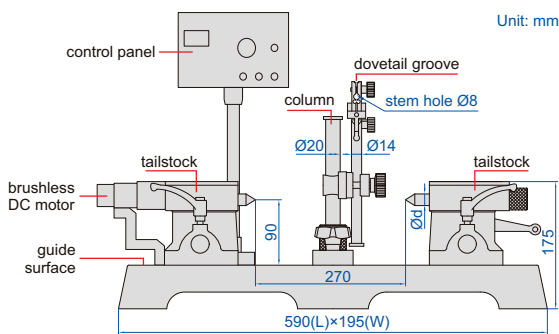


for tube



| Code | Applicable inside diameter | Applicable outside diameter | Remark |
|--------|----------------------------|-----------------------------|---|
| 4786-1 | \varnothing 24-64mm | \varnothing 2-70mm | fixed stand, high accuracy, inconvenient operation |
| 4786-2 | \varnothing 24-64mm | \varnothing 2-70mm | universal stand, low accuracy, convenient operation |

MOTORIZED BENCH CENTER



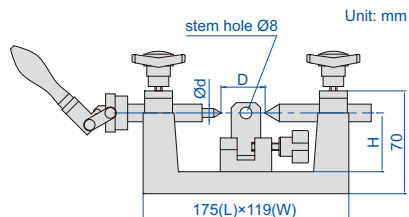
4735-270

- Moveable column
- Hardened cast-iron guide surface
- Motorized measurement is suitable for mass production inspection
- Power supply: AC220V/10A/(50/60)Hz
- Optional accessory: dial test indicators

| Code | Parallelism* | Runout accuracy | Center height | Distance between two centers | Diameter of center (\varnothing d) | Taper of center | Weight | Load |
|----------|--------------|-----------------|---------------|------------------------------|---------------------------------------|-----------------|--------|------|
| 4735-270 | 0.010mm | 2 μ m | 90mm | 270mm | 18mm | MT2 | 40kg | 25kg |

*Parallelism of two centers to the guide surface

MINI BENCH CENTER



4721-75A

| Code | Runout accuracy | Center height (H) | Distance between two centers (D) | Diameter of center (Ød) | Taper of center | Weight | Load |
|----------|-----------------|-------------------|----------------------------------|-------------------------|-----------------|--------|------|
| 4721-75A | 2µm | 40mm | 35-100mm | 6mm | MT1 | 4.5kg | 4kg |

BENCH CENTERS

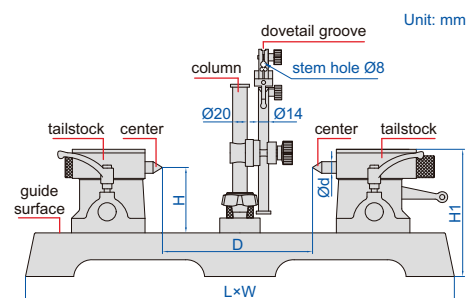
umbrella centers
(optional)



rotary centers
(optional)



4788-300



- Movable column
- Optional accessory: umbrella centers, rotary centers

High accuracy

(mm)

| Code | Parallelism* | Runout accuracy | Center height (H) | Distance between two centers (D) | L | W | H1 | Diameter of center (Ød) | Taper of center | Weight | Load |
|-------------|--------------|-----------------|-------------------|----------------------------------|------|-----|-----|-------------------------|-----------------|--------|------|
| 4788-300 | 0.010mm | 2µm | 90 | 300 | 590 | 192 | 175 | 18.0 | MT2 | 34kg | 25kg |
| 4788-400 | 0.010mm | 2µm | 130 | 400 | 770 | 206 | 241 | 24.1 | MT3 | 66kg | 60kg |
| 4788-600 | 0.010mm | 2µm | 130 | 600 | 930 | 220 | 250 | 24.1 | MT3 | 90kg | 60kg |
| 4788-600H2 | 0.010mm | 2µm | 200 | 600 | 930 | 220 | 325 | 24.1 | MT3 | 105kg | 60kg |
| 4788-1000 | 0.010mm | 3µm | 130 | 1000 | 1330 | 220 | 262 | 24.1 | MT3 | 112kg | 60kg |
| 4788-1000H2 | 0.010mm | 3µm | 200 | 1000 | 1330 | 220 | 337 | 24.1 | MT3 | 125kg | 85kg |
| 4788-1000H3 | 0.010mm | 3µm | 300 | 1000 | 1330 | 220 | 442 | 31.6 | MT4 | 165kg | 85kg |

Standard accuracy

(mm)

| Code | Parallelism* | Runout accuracy | Center height (H) | Distance between two centers (D) | L | W | H1 | Diameter of center (Ød) | Taper of center | Weight | Load |
|----------|--------------|-----------------|-------------------|----------------------------------|------|-----|-----|-------------------------|-----------------|--------|------|
| 4788-D2 | 0.010mm | 3µm | 90 | 200 | 490 | 180 | 175 | 20.0 | MT2 | 27kg | 25kg |
| 4788-D3 | 0.010mm | 3µm | 90 | 300 | 590 | 195 | 175 | 20.0 | MT2 | 36kg | 25kg |
| 4788-D4 | 0.012mm | 3µm | 130 | 400 | 730 | 205 | 241 | 28.0 | MT3 | 68kg | 60kg |
| 4788-D6 | 0.015mm | 3µm | 130 | 600 | 930 | 220 | 250 | 28.0 | MT3 | 91kg | 60kg |
| 4788-D8 | 0.015mm | 3µm | 130 | 800 | 1130 | 220 | 250 | 28.0 | MT3 | 99kg | 60kg |
| 4788-D10 | 0.015mm | 3µm | 130 | 1000 | 1330 | 220 | 262 | 28.0 | MT3 | 116kg | 60kg |

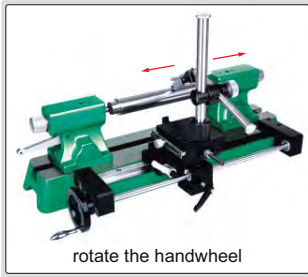
* Parallelism of two centers to the guide surface

BENCH CENTER WITH STRAIGHTNESS MEASUREMENT

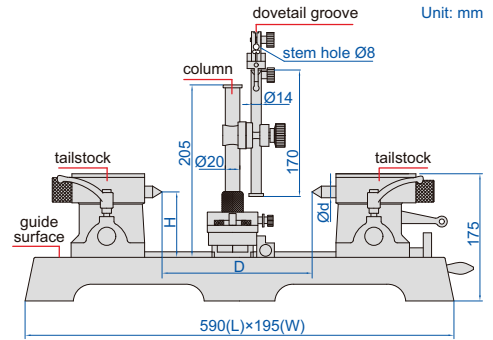


VIDEO

straightness measurement



4723-300



- Hardened cast-iron guide surface

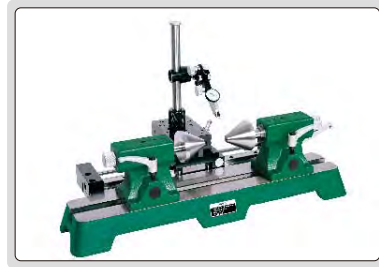
| Code | Parallelism * | Runout accuracy | Accuracy of straightness measurement | Center height (H) | Distance between two centers (D) | Diameter of center (Ød) | Taper of center | Weight | Load |
|----------|---------------|-----------------|--------------------------------------|-------------------|----------------------------------|-------------------------|-----------------|--------|------|
| 4723-300 | 4µm | 2µm | 0.02mm | 90mm | 300mm | 18mm | MT2 | 38kg | 25kg |

*Parallelism of two centers to the guide surface

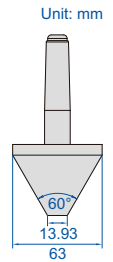
BULL NOSE CENTERS

- Supplied in pair
- Suitable for 4723 and 4788 series bench centers

application



6391-MT2



| Code | Taper of handle |
|----------|-----------------|
| 6391-MT2 | MT2 |
| 6391-MT3 | MT3 |

VERTICAL AND HORIZONTAL BENCH CENTER



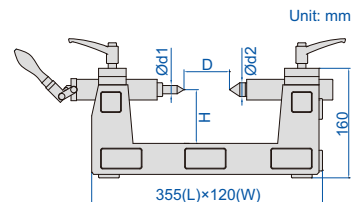
vertical use



horizontal use



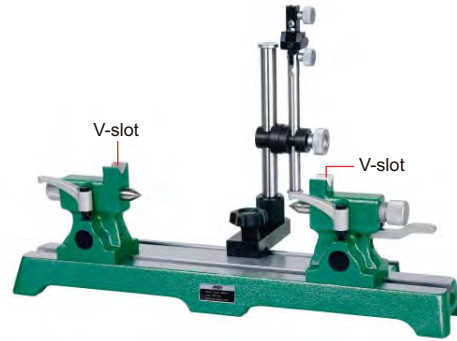
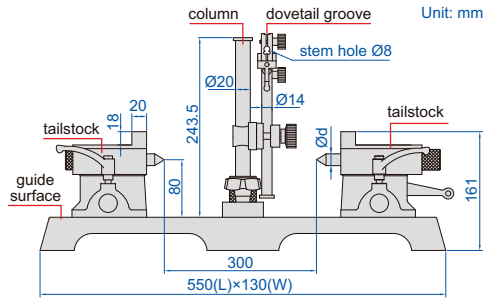
side use



- For vertical, side and horizontal use

| Code | Runout accuracy | Center height (H) | Distance between two centers (D) | Diameter of center (Ød1/Ød2) | Weight | Load |
|----------|-----------------|-------------------|----------------------------------|------------------------------|--------|------|
| 4722-200 | 2µm | 80mm | 200mm | 16mm/20.2mm | 22kg | 25kg |

BENCH CENTER (BASIC TYPE)



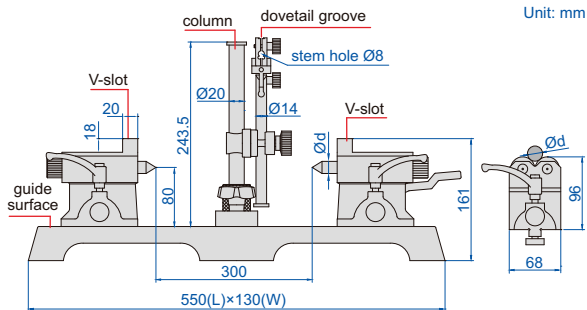
4782-300

- Hardened cast-iron guide surface
- Movable column
- V-slot for cylinder Ø4~Ø22mm

| Code | Parallelism* | Runout accuracy | Center height | Distance between two centers | Diameter of center (Ød) | Load |
|----------|--------------|-----------------|---------------|------------------------------|-------------------------|------|
| 4782-300 | 0.01mm | 2µm | 80mm | 300mm | Ø16mm | 25kg |

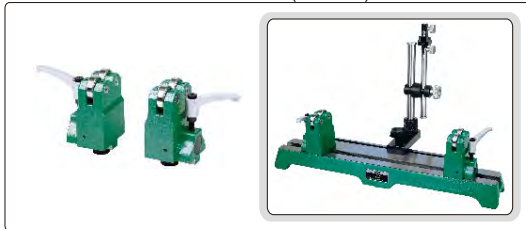
*Parallelism of two centers to the guide surface

BENCH CENTER WITH ROLLER TAILSTOCKS



4720-300

roller tailstocks (included)

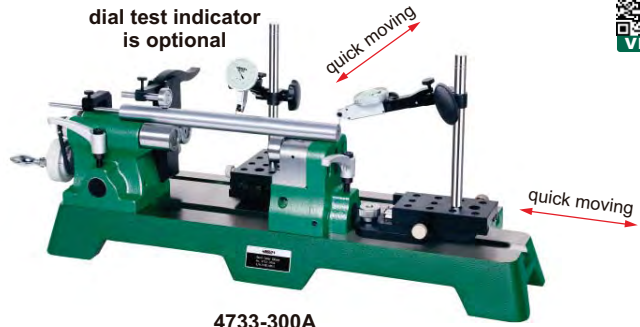
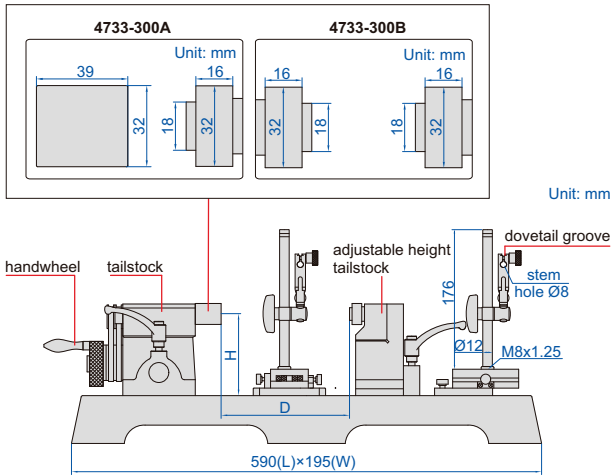


- Hardened cast-iron guide surface
- Supplied with V-slot/center tailstocks and roller tailstocks
- V-slot for cylinder Ø4~22mm
- Roller for cylinder Ø5~100mm

| Code | Parallelism* | Runout accuracy | Center height | Distance between two centers | Diameter of center (Ød) | Taper of center | Load |
|----------|--------------|-----------------|---------------|------------------------------|-------------------------|-----------------|-----------------------------------|
| 4720-300 | 0.01mm | 2µm | 80mm | 300mm | 16mm | MT1 | 25kg (40kg for roller tailstocks) |

*Parallelism of two centers to the guide surface

BENCH CENTERS

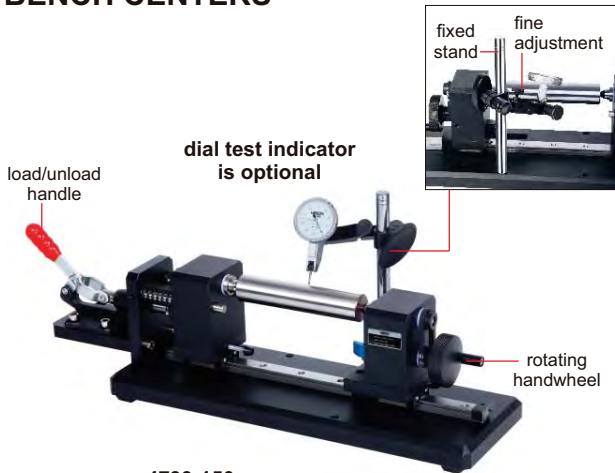


4733-300A

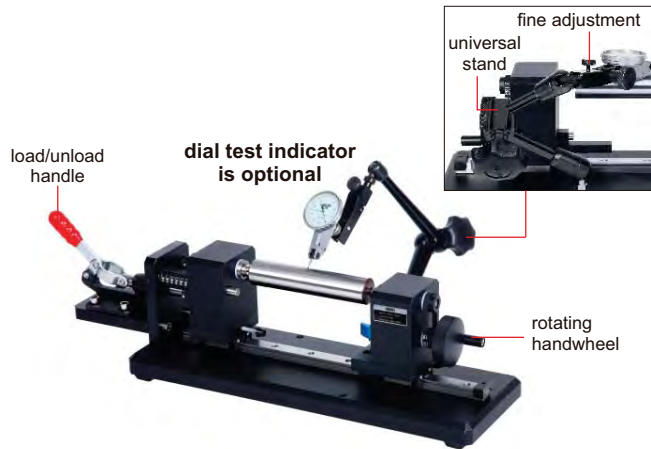
- Hardened cast-iron guide surface
- Quick moving is suitable for mass production inspection
- Adjustable height tailstock: 0-15mm, suitable for inspecting workpieces with different diameters
- Optional accessory: dial test indicator

| Code | Runout accuracy | Center height (H) | Distance between two centers (D) | Applicable diameter | Adjustable height | Remarks |
|-----------|-----------------|-------------------|----------------------------------|---------------------|-------------------|-------------------|
| 4733-300A | 2μm | 90mm | 300mm | Ø8-60mm | 0-15mm | with handwheel |
| 4733-300B | 2μm | 90mm | 300mm | Ø8-60mm | 0-15mm | without handwheel |

BENCH CENTERS



4739-150

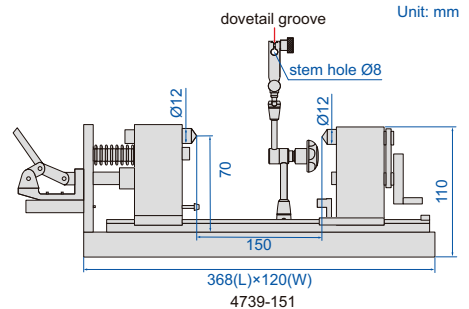


4739-151



POPULAR MODEL

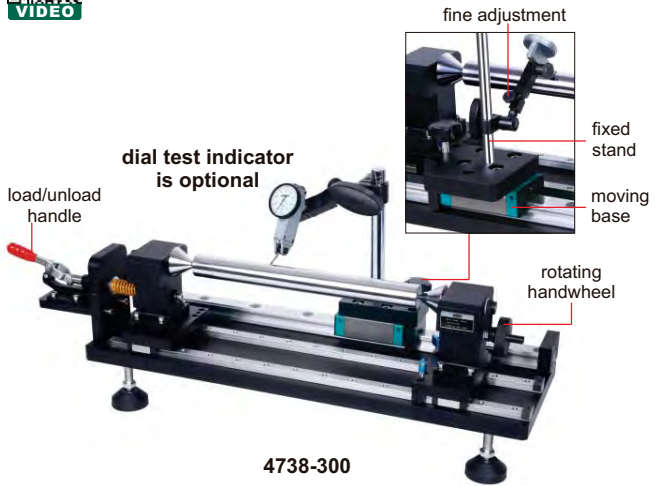
standard rod (included)



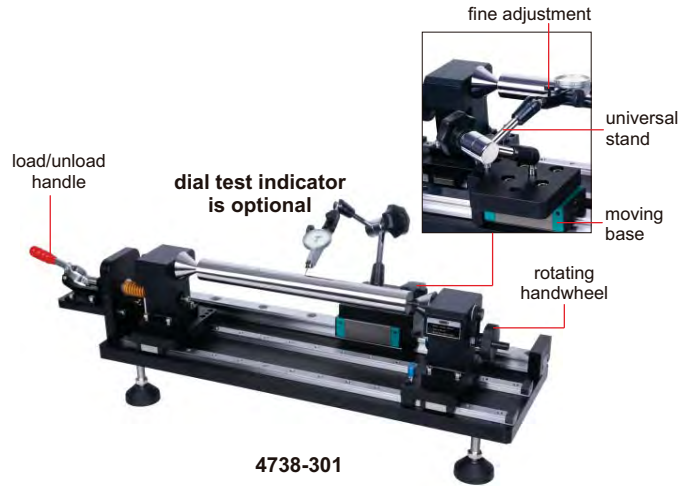
- Quick positioning, suitable for mass measurement
- Suitable for cylinders with outside diameter Ø3-140mm or inside diameter Ø1-12mm
- Supplied with standard rod to verify accuracy
- Optional accessory: dial test indicators

| Code | Center height | Distance between two centers | Runout accuracy | Weight | Load | Remark |
|----------|---------------|------------------------------|-----------------|--------|------|---|
| 4739-150 | 70mm | 150mm | 2μm | 6.5kg | 15kg | fixed stand, high accuracy, inconvenient operation |
| 4739-151 | 70mm | 150mm | 2μm | 6.5kg | 15kg | universal stand, low accuracy, convenient operation |

BENCH CENTERS



4738-300



4738-301

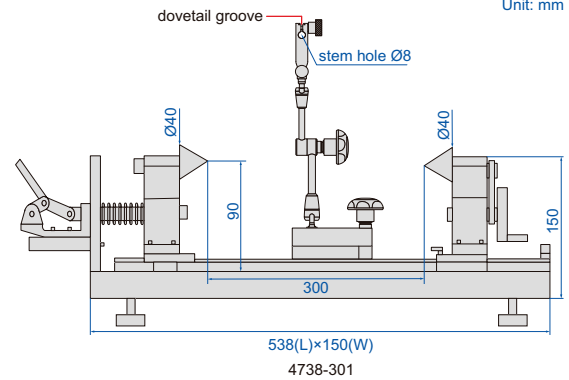
dual base (optional)



standard rod (included)



Unit: mm



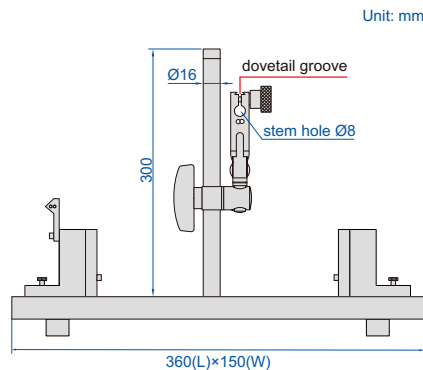
- Quick positioning, suitable for mass measurement
- Suitable for cylinders with outside diameter $\varnothing 3$ -180mm or inside diameter $\varnothing 1$ -40mm
- Supplied with standard rod to verify accuracy
- Optional accessory: dial test indicators

| Code | Center height | Distance between two centers | Runout accuracy | Weight | Load | Remark |
|----------|---------------|------------------------------|-----------------|--------|------|---|
| 4738-300 | 90mm | 300mm | 2 μ m | 15kg | 20kg | fixed stand, high accuracy, inconvenient operation |
| 4738-301 | 90mm | 300mm | 2 μ m | 15kg | 20kg | universal stand, low accuracy, convenient operation |

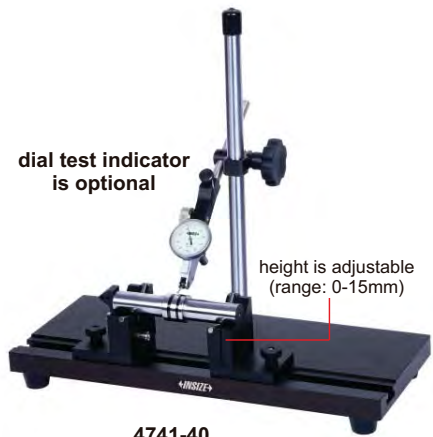


BENCH CENTER

- Quick positioning, suitable for mass measurement
- Optional accessory: dial test indicators



Unit: mm

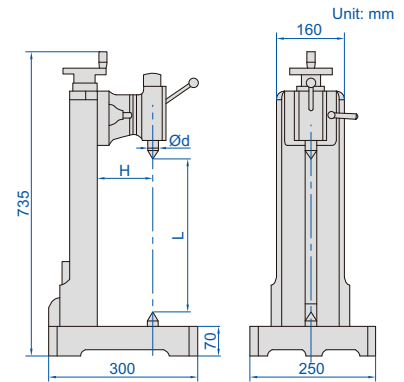
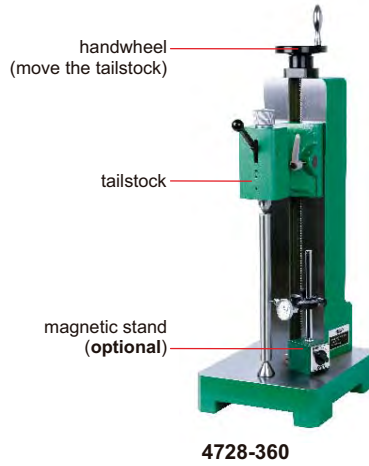


4741-40

| Code | Diameter range | Workpiece length | Accuracy | Weight |
|---------|-----------------------|------------------|-----------|--------|
| 4741-40 | $\varnothing 3$ -40mm | 15-300mm | 2 μ m | 3.8kg |

VERTICAL BENCH CENTER

- Distance between two centers (L): 360mm
- Hardened cast-iron guide surface
- Use handwheel to move the tailstock
- Optional accessory: magnetic stands, dial test indicator

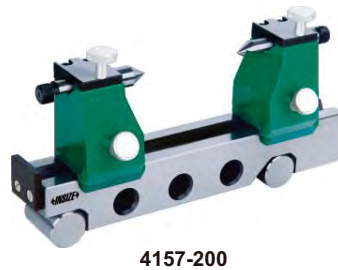
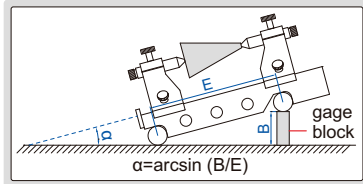


4728-360

| Code | Parallelism * | Runout accuracy | Center height (H) | Diameter of center (Ød) | Taper of center | Weight | Load |
|----------|---------------|-----------------|-------------------|-------------------------|-----------------|--------|------|
| 4728-360 | 0.01mm | 2µm | 130mm | 24.1mm | MT3 | 85kg | 80kg |

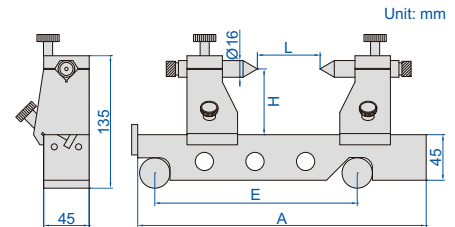
*Parallelism of two centers to the guide surface

TAPER INSPECTION INSTRUMENTS



4157-200

CAN BE CUSTOMIZED



- Check the taper angle of taper bar/taper plug gages /Morse taper/ISO taper etc. The run out can be checked as well

| Code | Center height (H) | Center distance (L) | Sine bar accuracy (when α=30°) | E | A |
|----------|-------------------|---------------------|--------------------------------|-------|-------|
| 4157-200 | 65mm | 200mm | ±5 seconds | 200mm | 285mm |
| 4157-300 | 65mm | 300mm | ±8 seconds | 300mm | 385mm |

MAGNETIC SQUARE WITH V GROOVE

REFER TO PAGE 459 FOR DETAILS



6539-100

REFER TO PAGE
452-458 FOR DETAILS

V-BLOCKS



6896-11



6887-3



6897-1



6890-702



6888-1



6878-1



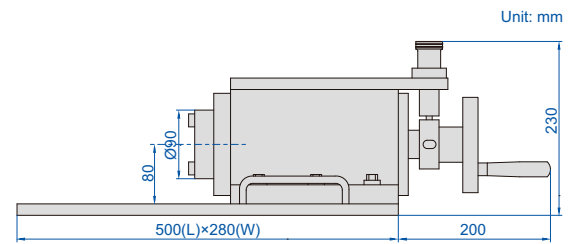
6891-1



SHANK RUNOUT TESTERS

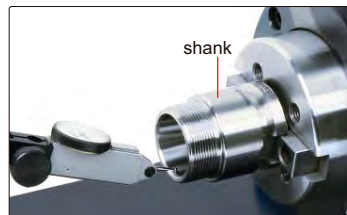


4771-30

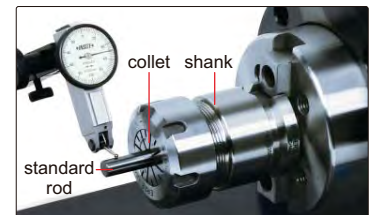


- Measure the radial runout of shanks, collets and cutting tools
- Optional accessory: dial test indicator, magnetic stand

measure radial runout of shank



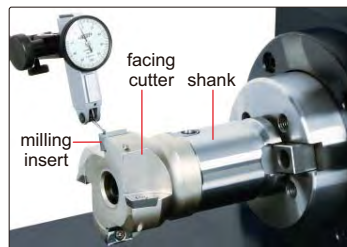
measure radial runout of collet



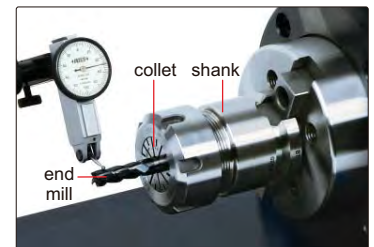
standard shank
(included)



measure radial runout of cutter



measure radial runout of end mill



| Code | Taper | Accuracy |
|---------|-------|----------|
| 4771-30 | BT30 | 1µm |
| 4771-40 | BT40 | 1µm |
| 4771-50 | BT50 | 1µm |



Feeler Gages
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Pitch Gages
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Gear Tooth Pitch Gages
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Center Gages
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Thread Gages
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Angle Gages
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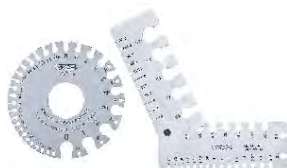
Radius Gages
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Drill Gages
Page 417



Angle Gages
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Wire Gages
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Thickness Gages
Page 418-419



Taper Slot Gages
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Taper Gages
Page 420



Taper Bore Gages
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Welding Gages
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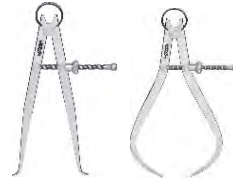
Fillet Welding Gages
Page 422-423/426



Welding Gages
Page 423-426



Pipe Welding Gages
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Inside/Outside Calipers
Page 429



Dividers
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Length Tapes
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Measuring Tapes
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Long Measuring Tapes
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Measuring Wheels
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Digital Measuring Wheels
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Steel Rules
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Combination Squares
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Plastic Angle Squares
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T-bevels
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Marking Gages
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Center Marking Gages
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Locators
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17

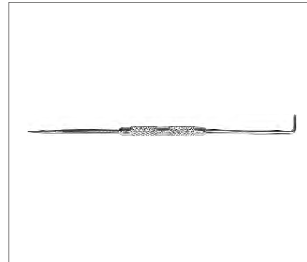
SIMPLE MEASURING TOOLS



Scribing Calipers
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Height Scribers
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Scribers
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Precision Screwdriver Sets
Page 442



LED Flashlights
Page 442



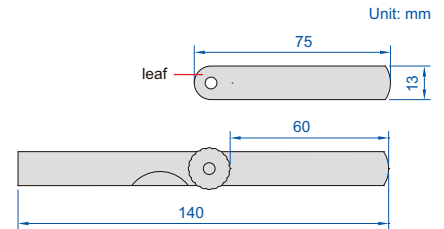
Measuring Tool Sets
Page 443-447

FEELER GAGE



4601-25

- Made of hardened alloy steel
- Meet DIN2275/grade TC1
- Accuracy: $\pm(3+T/80)$ μm ,
'T' is the thickness of leaves in μm



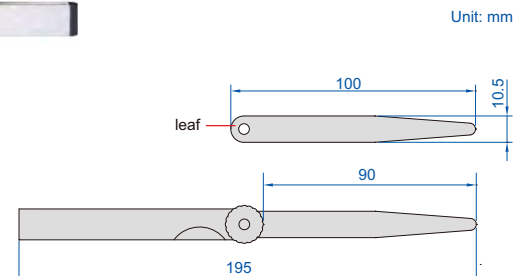
| Code | Range | Thickness of leaves included (mm) | Quantity of leaves |
|---------|-------------|--|--------------------|
| 4601-25 | 0.04-1.00mm | 0.04, 0.05, 0.06, 0.07, 0.08, 0.09, 0.10, 0.15, 0.20, 0.25, 0.30, 0.35, 0.40, 0.45, 0.50, 0.55, 0.60, 0.65, 0.70, 0.75, 0.80, 0.85, 0.90, 0.95, 1.00 | 25 |

FEELER GAGES



4602-20

- Made of hardened alloy steel
- Meet DIN2275/grade TC1
- Accuracy: $\pm(3+T/80)$ μm ,
'T' is the thickness of leaves in μm



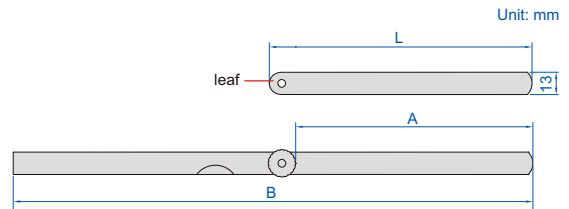
| Code | Range | Thickness of leaves included (mm) | Quantity of leaves |
|----------|-------------|--|--------------------|
| 4602-13A | 0.03-0.50mm | 0.03, 0.04, 0.05, 0.06, 0.07, 0.08, 0.09, 0.10, 0.15, 0.20, 0.30, 0.40, 0.50 | 13 |
| 4602-13 | 0.05-1.00mm | 0.05, 0.10, 0.15, 0.20, 0.25, 0.30, 0.40, 0.50, 0.60, 0.70, 0.80, 0.90, 1.00 | 13 |
| 4602-17 | 0.02-1.00mm | 0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.08, 0.09, 0.10, 0.15, 0.20, 0.25, 0.30, 0.40, 0.50, 0.75, 1.00 | 17 |
| 4602-20 | 0.05-1.00mm | 0.05, 0.10, 0.15, 0.20, 0.25, 0.30, 0.35, 0.40, 0.45, 0.50, 0.55, 0.60, 0.65, 0.70, 0.75, 0.80, 0.85, 0.90, 0.95, 1.00 | 20 |
| 4602-28 | 0.05-1.00mm | 0.05, 0.06, 0.07, 0.08, 0.09, 0.10, 0.11, 0.12, 0.13, 0.14, 0.15, 0.20, 0.25, 0.30, 0.35, 0.40, 0.45, 0.50, 0.55, 0.60, 0.65, 0.70, 0.75, 0.80, 0.85, 0.90, 0.95, 1.00 | 28 |
| 4602-32 | 0.03-1.00mm | 0.03, 0.04, 0.05, 0.06, 0.07, 0.08, 0.09, 0.10, 0.13, 0.15, 0.18, 0.20, 0.23, 0.25, 0.28, 0.30, 0.33, 0.35, 0.38, 0.40, 0.45, 0.50, 0.55, 0.60, 0.63, 0.65, 0.70, 0.75, 0.80, 0.85, 0.90, 1.00 | 32 |

LONG FEELER GAGES



4605-20

- Made of hardened alloy steel
- Meet DIN2275/grade TC1
- Accuracy: $\pm(3+T/80) \mu\text{m}$,
'T' is the thickness of leaves in μm



| Code | Range | Thickness of leaves included (mm) | Quantity of leaves | L | A | B |
|----------|-------------|--|--------------------|-------|-------|-------|
| 4605-13 | 0.05-1.00mm | 0.05, 0.10, 0.15, 0.20, 0.25, 0.30, 0.40, 0.50, 0.60, 0.70, 0.80, 0.90, 1.00 | 13 | 150mm | 135mm | 295mm |
| 4605-131 | 0.05-1.00mm | | 13 | 200mm | 185mm | 395mm |
| 4605-132 | 0.05-1.00mm | | 13 | 300mm | 285mm | 590mm |
| 4605-20 | 0.05-1.00mm | 0.05, 0.10, 0.15, 0.20, 0.25, 0.30, 0.35, 0.40, 0.45, 0.50, 0.55, 0.60, 0.65, 0.70, 0.75, 0.80, 0.85, 0.90, 0.95, 1.00 | 20 | 150mm | 135mm | 295mm |
| 4605-201 | 0.05-1.00mm | | 20 | 200mm | 185mm | 395mm |
| 4605-202 | 0.05-1.00mm | | 20 | 300mm | 285mm | 590mm |

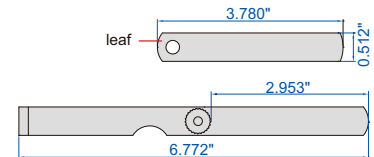
INCH FEELER GAGE

- 0.010" is made of brass, others are made of hardened alloy steel
- Each blade is marked with inch/metric size



4608-31

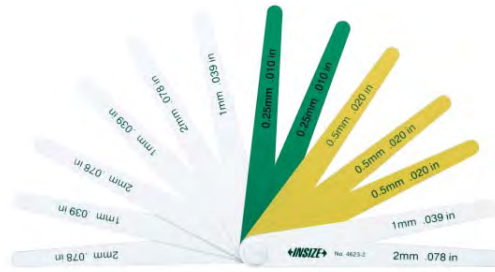
| Code | Range | Quantity of Leaves |
|---------|----------------|--------------------|
| 4608-31 | 0.0015"~0.035" | 32 |



| Thickness of leaves included | Accuracy |
|---|----------------|
| 0.010" (brass) | $\pm 0.00039"$ |
| 0.0015", 0.002" | $\pm 0.0002"$ |
| 0.0025", 0.003", 0.004", 0.005", 0.006", 0.007" | $\pm 0.00028"$ |
| 0.008", 0.009" | $\pm 0.00035"$ |
| 0.010", 0.011" | $\pm 0.00039"$ |
| 0.012", 0.013" | $\pm 0.00047"$ |
| 0.014", 0.015" | $\pm 0.00051"$ |

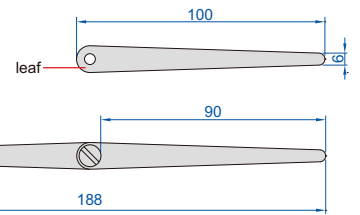
| Thickness of leaves included | Accuracy |
|------------------------------|----------------|
| 0.016", 0.017" | $\pm 0.00055"$ |
| 0.018", 0.019" | $\pm 0.00059"$ |
| 0.020", 0.021" | $\pm 0.00067"$ |
| 0.022", 0.023" | $\pm 0.00071"$ |
| 0.024", 0.025", 0.026" | $\pm 0.00075"$ |
| 0.028" | $\pm 0.00091"$ |
| 0.030" | $\pm 0.00094"$ |
| 0.032", 0.035" | $\pm 0.00102"$ |

PLASTIC FEELER GAGES



4623-2

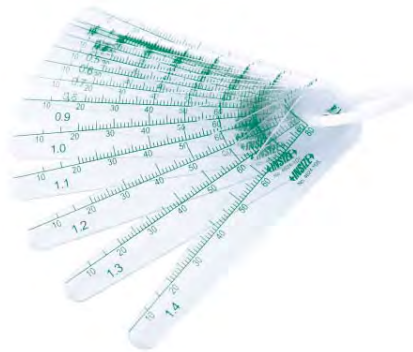
Unit: mm



- Accuracy: $\pm 0.04\text{mm}$ (thickness of leaves: 0.25mm)
 $\pm 0.05\text{mm}$ (thickness of leaves: 0.5mm)
 $\pm 0.08\text{mm}$ (thickness of leaves: $\geq 1\text{mm}$)

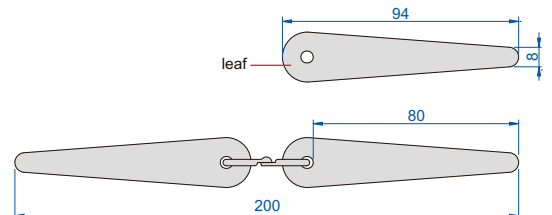
| Code | Range | Thickness of leaves included | Quantity of leaves |
|---------------|-------------|---|--------------------|
| 4623-2 | 0.25-2.00mm | 2.00mm (0.078"), 1.00mm (0.039"), 0.50mm (0.020"), 0.50mm (0.020"), 0.50mm (0.020"), 0.25mm (0.010"), 0.25mm (0.010"), 1.00mm (0.039"), 2.00mm (0.078"), 1.00mm (0.039"), 2.00mm (0.078"), 1.00mm (0.039"), 2.00mm (0.078") | 13 |
| 4623-5 | 0.25-5.00mm | 1.00mm (0.039"), 0.25mm (0.010"), 0.50mm (0.020"), 1.50mm (0.059"), 2.00mm (0.078"), 2.50mm (0.098"), 3.00mm (0.118"), 3.50mm (0.138"), 4.00mm (0.157"), 4.50mm (0.177"), 5.00mm (0.196") | 11 |

PLASTIC FEELER GAGE



4624-1D5

Unit: mm



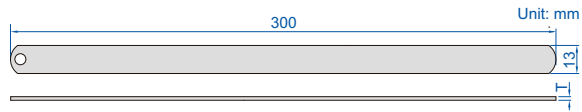
- Accuracy: $\pm 0.02\text{mm}$ (thickness of leaves: 0.05-0.1mm)
 $\pm 0.03\text{mm}$ (thickness of leaves: 0.15-0.6mm)
 $\pm 0.04\text{mm}$ (thickness of leaves: $\geq 0.7\text{mm}$)

| Code | Range | Thickness of leaves included (mm) | Quantity of leaves |
|-----------------|------------|---|--------------------|
| 4624-1D5 | 0.05-1.5mm | 0.05, 0.1, 0.15, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0, 1.1, 1.2, 1.3, 1.4, 1.5 | 17 |

FEELER GAGE STOCKS



4622-10



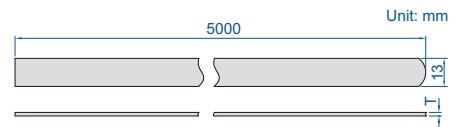
- Used as shims to accurately set spacing
- Made of hardened alloy steel
- Length 300mm
- Width 13mm
- 10 pcs per package

| Code | Thickness (T) | Accuracy | Code | Thickness (T) | Accuracy | Code | Thickness (T) | Accuracy |
|---------|---------------|----------|---------|---------------|----------|----------|---------------|----------|
| 4622-02 | 0.02mm | ±3μm | 4622-15 | 0.15mm | ±5μm | 4622-60 | 0.60mm | ±9μm |
| 4622-03 | 0.03mm | ±3μm | 4622-18 | 0.18mm | ±6μm | 4622-65 | 0.65mm | ±9μm |
| 4622-04 | 0.04mm | ±3μm | 4622-20 | 0.20mm | ±6μm | 4622-70 | 0.70mm | ±12μm |
| 4622-05 | 0.05mm | ±3μm | 4622-25 | 0.25mm | ±6μm | 4622-75 | 0.75mm | ±12μm |
| 4622-06 | 0.06mm | ±3μm | 4622-30 | 0.30mm | ±7μm | 4622-80 | 0.80mm | ±13μm |
| 4622-07 | 0.07mm | ±4μm | 4622-35 | 0.35mm | ±7μm | 4622-85 | 0.85mm | ±13μm |
| 4622-08 | 0.08mm | ±4μm | 4622-40 | 0.40mm | ±8μm | 4622-90 | 0.90mm | ±14μm |
| 4622-09 | 0.09mm | ±4μm | 4622-45 | 0.45mm | ±8μm | 4622-95 | 0.95mm | ±14μm |
| 4622-10 | 0.10mm | ±4μm | 4622-50 | 0.50mm | ±9μm | 4622-100 | 1.00mm | ±16μm |
| 4622-12 | 0.12mm | ±5μm | 4622-55 | 0.55mm | ±9μm | | | |

FEELER GAGE TAPES



4621-30



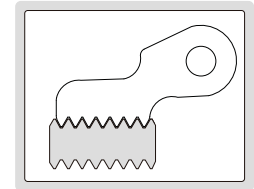
| Code | Thickness (T) | Accuracy | Code | Thickness (T) | Accuracy |
|---------|---------------|----------|----------|---------------|----------|
| 4621-02 | 0.02mm | ±4μm | 4621-30 | 0.30mm | ±9μm |
| 4621-03 | 0.03mm | ±4μm | 4621-35 | 0.35mm | ±11μm |
| 4621-04 | 0.04mm | ±4μm | 4621-40 | 0.40mm | ±12μm |
| 4621-05 | 0.05mm | ±4μm | 4621-45 | 0.45mm | ±12μm |
| 4621-06 | 0.06mm | ±4μm | 4621-50 | 0.50mm | ±14μm |
| 4621-07 | 0.07mm | ±5μm | 4621-55 | 0.55mm | ±14μm |
| 4621-08 | 0.08mm | ±5μm | 4621-60 | 0.60mm | ±14μm |
| 4621-09 | 0.09mm | ±5μm | 4621-65 | 0.65mm | ±14μm |
| 4621-10 | 0.10mm | ±5μm | 4621-70 | 0.70mm | ±17μm |
| 4621-12 | 0.12mm | ±5μm | 4621-75 | 0.75mm | ±17μm |
| 4621-15 | 0.15mm | ±6μm | 4621-80 | 0.80mm | ±19μm |
| 4621-18 | 0.18mm | ±7μm | 4621-85 | 0.85mm | ±19μm |
| 4621-20 | 0.20mm | ±8μm | 4621-90 | 0.90mm | ±22μm |
| 4621-25 | 0.25mm | ±9μm | 4621-95 | 0.95mm | ±22μm |
| | | | 4621-100 | 1.00mm | ±24μm |

- Used as shims to accurately set spacing
- Made of hardened alloy steel
- Length 5m
- Width 13mm

PITCH GAGES



4820-122



- Identify the pitch of screw thread
- Made of medium carbon steel

Metric 60° screw

| Code | Range | Pitch of leaves included (mm) | Quantity of leaves |
|-----------|------------|--|--------------------|
| 4820-122 | 0.4-7.0mm | 0.4, 0.5, 0.6, 0.7, 0.75, 0.8, 0.9, 1, 1.25, 1.5, 1.75, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7 | 22 |
| 4820-124 | 0.25-7.0mm | 0.25, 0.3, 0.35, 0.4, 0.5, 0.7, 0.75, 0.8, 0.9, 1, 1.25, 1.5, 1.75, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7 | 24 |
| 4820-1241 | 0.25-6.0mm | 0.25, 0.3, 0.35, 0.4, 0.45, 0.5, 0.6, 0.7, 0.75, 0.8, 0.9, 1, 1.25, 1.5, 1.75, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6 | 24 |

Unified 60° screw

| Code | Range | Pitch of leaves included | Quantity of leaves |
|----------|---------|---|--------------------|
| 4820-230 | 4-42TPI | 4, 4-1/2, 5, 5-1/2, 6, 7, 8, 9, 10, 11, 11-1/2, 12, 13, 14, 15, 16, 18, 20, 22, 24, 26, 27, 28, 30, 32, 34, 36, 38, 40, 42TPI | 30 |

Whitworth 55° screw

| Code | Range | Pitch of leaves included | Quantity of leaves |
|----------|---------|---|--------------------|
| 4820-330 | 4-42TPI | 4, 4-1/2, 5, 5-1/2, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 22, 24, 26, 27, 28, 30, 32, 34, 36, 38, 40, 42TPI | 30 |
| 4820-328 | 4-62TPI | 4, 4-1/2, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16, 18, 19, 20, 22, 24, 25, 26, 28, 30, 32, 36, 40, 48, 60, 62TPI | 28 |

Metric 60° and Whitworth 55° screw

| Code | Range | Pitch of leaves included | Quantity of leaves |
|----------|------------|--|--------------------|
| 4820-452 | 0.25-6.0mm | 0.25, 0.3, 0.35, 0.4, 0.45, 0.5, 0.6, 0.7, 0.75, 0.8, 0.9, 1, 1.25, 1.5, 1.75, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6mm | 52 |
| | 4-62TPI | 4, 4-1/2, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16, 18, 19, 20, 22, 24, 25, 26, 28, 30, 32, 36, 40, 48, 60, 62TPI | |
| 4820-450 | 0.4-7.0mm | 0.4, 0.5, 0.6, 0.7, 0.75, 0.8, 0.9, 1, 1.25, 1.5, 1.75, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7mm | 50 |
| | 4-62TPI | 4, 4-1/2, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16, 18, 19, 20, 22, 24, 25, 26, 28, 30, 32, 36, 40, 48, 60, 62TPI | |

Metric 60° and Unified 60° screw

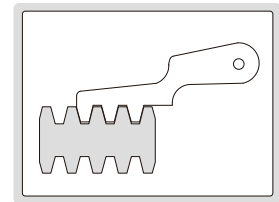
| Code | Range | Pitch of leaves included | Quantity of leaves |
|----------|-----------|---|--------------------|
| 4820-552 | 0.4-7.0mm | 0.4, 0.5, 0.6, 0.7, 0.75, 0.8, 0.9, 1, 1.25, 1.5, 1.75, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7mm | 52 |
| | 4-42TPI | 4, 4-1/2, 5, 5-1/2, 6, 7, 8, 9, 10, 11, 11-1/2, 12, 13, 14, 15, 16, 18, 20, 22, 24, 26, 27, 28, 30, 32, 34, 36, 38, 40, 42TPI | |

PITCH GAGES

- Check the pitch of screw thread
- Accuracy: $\pm 0.07\text{mm}$
- Made of medium carbon steel



4824-12



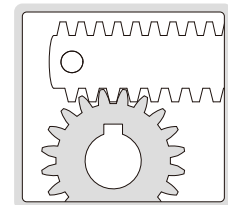
| Code | Range | Thread type | Pitch of leaves included | Quantity of leaves |
|---------|---------|-------------|---|--------------------|
| 4824-12 | 2-20mm | Tr30° | 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 16, 20mm | 12 |
| 4824-16 | 1-12TPI | ACME 29° | 1, 1-1/3, 1-1/2, 1-3/4, 2, 2-1/2, 3, 3-1/2, 4, 5, 6, 7, 8, 9, 10, 12TPI | 16 |

GEAR TOOTH PITCH GAGES

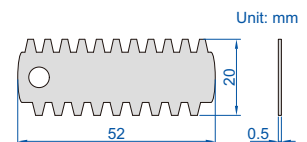
- Check the module pitch of gear tooth
- Accuracy: $\pm 0.05\text{mm}$
- Made of hardened stainless steel



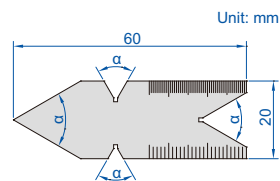
4860-245



| Code | Range | Pressure angle | Quantity of leaves |
|----------|------------|----------------|--------------------|
| 4860-145 | 0.35-4.5mm | 14.5° | 15 |
| 4860-245 | 0.35-4.5mm | 20° | 15 |
| 4860-112 | 5-12mm | 14.5° | 8 |
| 4860-212 | 5-12mm | 20° | 8 |

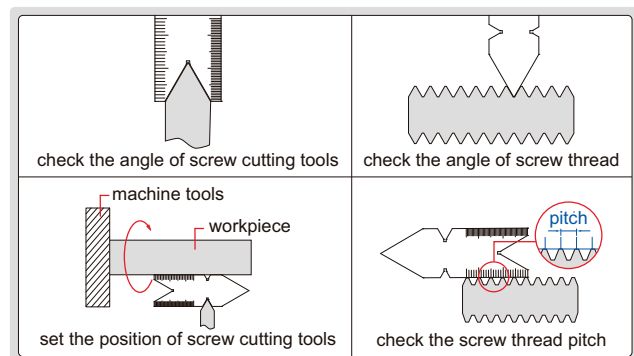


CENTER GAGES



4810-602

- To check and set screw cutting tools, and check the angle and pitch of screw thread
- Angle accuracy: $\pm 30\text{min}$.
- Made of stainless steel



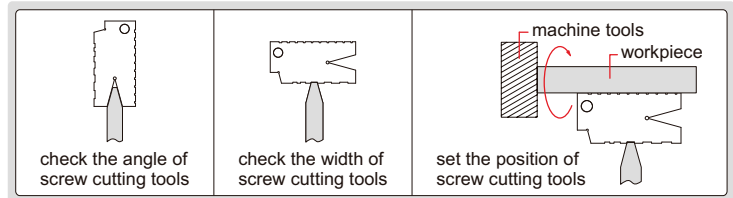
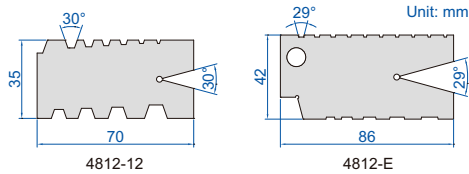
| Code | Thread type | Angle (α) | Graduation |
|----------|---------------|--------------------|---|
| 4810-601 | METRIC 60° | 60° | 0.5mm and 1mm |
| 4810-602 | UNIFIED 60° | 60° | 14ths and 20ths on front side, 24ths and 32ths on back side |
| 4810-55 | WHITWORTH 55° | 55° | 14ths and 20ths on front side, 24ths and 32ths on back side |

THREAD GAGES

- To check and set screw cutting tools
- Made of medium carbon steel



4812-E



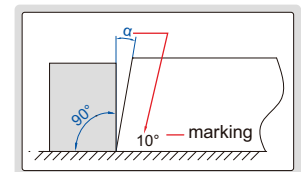
| Code | Range | Thread type | Pitch |
|---------|---------|-------------|--|
| 4812-12 | 2-12mm | Tr 30° | 2, 3, 4, 5, 6, 7, 8, 9, 10, 12mm |
| 4812-E | 1-10TPI | ACME 29° | 1, 1-1/3, 1-1/2, 1-3/4, 2, 2-1/2, 3, 4, 5, 6, 7, 8, 9, 10TPI |

ANGLE GAGE

- To check complementary angles
- Made of stainless steel

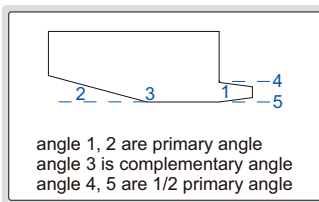


4806-20

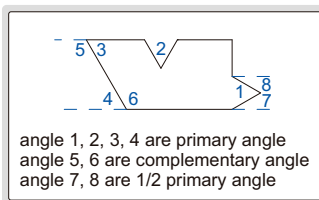


| Code | Range (α) | Angle of leaves included | Quantity of leaves | Accuracy |
|---------|--------------------|---|--------------------|----------|
| 4806-20 | 1°-45° | 1°, 2°, 3°, 4°, 5°, 6°, 7°, 8°, 9°, 10°, 12°, 14°, 16°, 18°, 20°, 25°, 30°, 35°, 40°, 45° | 20 | ±30' |

ANGLE GAGE SET



type A



type B



4807

| Primary angle | 1/2 primary angle | Complementary angle | Type |
|---------------|-------------------|---------------------|------|
| 5° | 2°30' | 175° | A |
| 10° | 5° | 170° | A |
| 15° | 7°30' | 165° | A |
| 20° | 10° | 160° | B |
| 25° | 12°30' | 155° | B |
| 30° | 15° | 150° | B |
| 35° | 17°30' | 145° | B |
| 40° | 20° | 140° | B |
| 45° | 22°30' | 135° | B |
| 50° | 25° | 130° | B |
| 55° | 27°30' | 125° | B |
| 60° | 30° | 120° | B |
| 65° | 32°30' | 115° | B |
| 70° | 35° | 110° | B |
| 75° | 37°30' | 105° | B |
| 80° | 40° | 100° | B |
| 85° | 42°30' | 95° | B |
| 90° | 45° | 90° | B |

- Each blade checks primary, 1/2 primary and complementary angles
- Made of medium carbon steel

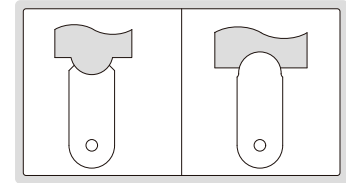
| Code | Quantity of leaves | Accuracy |
|------|--------------------|----------|
| 4807 | 18 | ±10' |

RADIUS GAGES

- Made of medium carbon steel



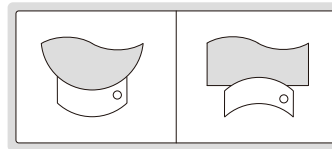
4801-17



| Code | Range | Radius of leaves included (mm) | Quantity of leaves (internal + external) |
|---------|-----------|---|--|
| 4801-17 | 1-7mm | 1, 1.25, 1.5, 1.75, 2, 2.25, 2.5, 2.75, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7 | 17+17 |
| 4801-16 | 7.5-15mm | 7.5, 8, 8.5, 9, 9.5, 10, 10.5, 11, 11.5, 12, 12.5, 13, 13.5, 14, 14.5, 15 | 16+16 |
| 4801-15 | 15.5-25mm | 15.5, 16, 16.5, 17, 17.5, 18, 18.5, 19, 19.5, 20, 21, 22, 23, 24, 25 | 15+15 |

RADIUS GAGE

- Made of stainless steel



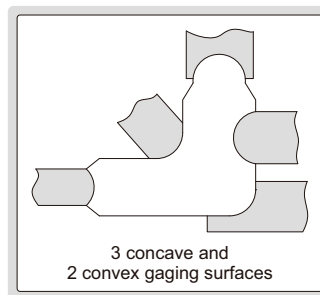
| Code | Range | Radius of leaves included (mm) | Quantity of leaves |
|---------|---------|--|--------------------|
| 4802-31 | 25-40mm | 25, 25.5, 26, 26.5, 27, 27.5, 28, 28.5, 29, 29.5, 30, 30.5, 31, 31.5, 32, 32.5, 33, 33.5, 34, 34.5, 35, 35.5, 36, 36.5, 37, 37.5, 38, 38.5, 39, 39.5, 40 | 31 |



4802-31

RADIUS GAGE SET

- Each piece has 3 concave and 2 convex gauging surfaces
- Supplied with handle
- Made of medium carbon steel

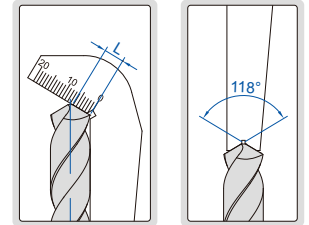


4804-26

| Code | Range | Radius of leaves included (mm) | Quantity of leaves |
|---------|----------|---|--------------------|
| 4804-26 | 0.5-13mm | 0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10, 10.5, 11, 11.5, 12, 12.5, 13 | 26 |

DRILL POINT GAGE

- For twist drills with 118° angle, to check if the center of tip is concentric with the drill body
- Made of stainless steel

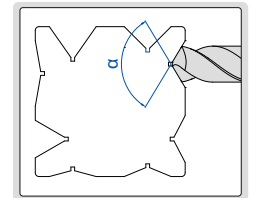
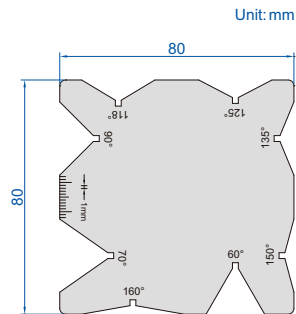


4843-1

| Code | Accuracy | |
|--------|----------|--------|
| | Angle | Length |
| 4843-1 | ±0.5° | ±0.5mm |

DRILL ANGLE GAGE

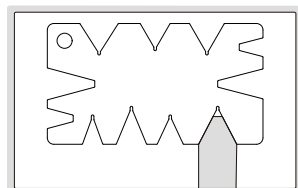
- Check drills with angle 60°, 70°, 90°, 118°, 125°, 135°, 150° or 160°
- Made of stainless steel



4842-1

| Code | Accuracy |
|--------|----------|
| 4842-1 | ±0.5° |

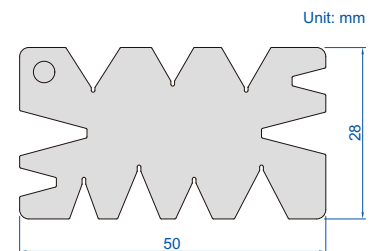
ANGLE GAGE



check the angle of screw cutting tools



4854-1



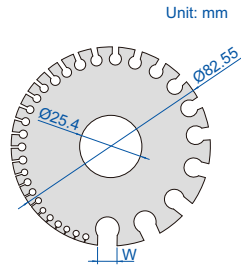
- Made of stainless steel

| Code | Range | Accuracy |
|--------|-----------------------------------|----------|
| 4854-1 | 29°, 30°, 40°, 45°, 50°, 55°, 60° | ±10' |

AMERICAN STANDARD WIRE GAGE



4808



| Code | Range |
|------|-------------------------------------|
| 4808 | 0-36 (8.250-0.127mm/0.3249-0.0050") |

- For gaging non-ferrous wire and metals such as copper, brass and aluminum
- Hardened to HRC50-57

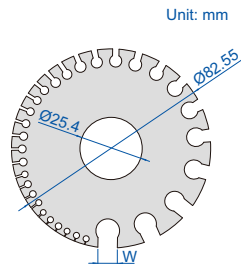
| No. | W |
|-----|-----------------|
| 0 | 8.250mm/0.3249" |
| 1 | 7.350mm/0.2893" |
| 2 | 6.540mm/0.2576" |
| 3 | 5.830mm/0.2294" |
| 4 | 5.190mm/0.2043" |
| 5 | 4.620mm/0.1819" |
| 6 | 4.110mm/0.1620" |
| 7 | 3.670mm/0.1443" |
| 8 | 3.260mm/0.1285" |
| 9 | 2.910mm/0.1144" |
| 10 | 2.590mm/0.1019" |
| 11 | 2.300mm/0.0907" |
| 12 | 2.050mm/0.0808" |
| 13 | 1.820mm/0.0720" |
| 14 | 1.630mm/0.0641" |
| 15 | 1.450mm/0.0571" |
| 16 | 1.290mm/0.0508" |
| 17 | 1.150mm/0.0453" |

| No. | W |
|-----|-----------------|
| 18 | 1.020mm/0.0403" |
| 19 | 0.912mm/0.0359" |
| 20 | 0.813mm/0.0320" |
| 21 | 0.724mm/0.0285" |
| 22 | 0.643mm/0.0253" |
| 23 | 0.574mm/0.0226" |
| 24 | 0.511mm/0.0201" |
| 25 | 0.440mm/0.0179" |
| 26 | 0.404mm/0.0159" |
| 27 | 0.361mm/0.0142" |
| 28 | 0.320mm/0.0126" |
| 29 | 0.287mm/0.0113" |
| 30 | 0.254mm/0.0100" |
| 31 | 0.226mm/0.0089" |
| 32 | 0.203mm/0.0080" |
| 33 | 0.180mm/0.0071" |
| 34 | 0.160mm/0.0063" |
| 35 | 0.142mm/0.0056" |
| 36 | 0.127mm/0.0050" |

U.S. STANDARD SHEET METAL GAGE



4809



| Code | Range |
|------|-------------------------------------|
| 4809 | 0-36 (7.938-0.179mm/0.3125-0.0070") |

- For gaging sheet metal, plate iron and steel
- Hardened to HRC50-57

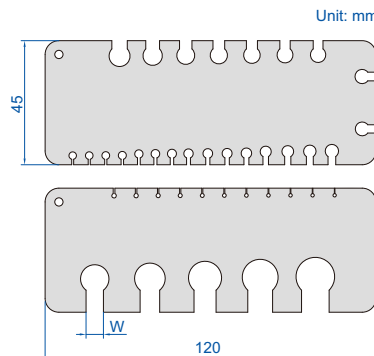
| No. | W |
|-----|-----------------|
| 0 | 7.938mm/0.3125" |
| 1 | 7.144mm/0.2813" |
| 2 | 6.747mm/0.2656" |
| 3 | 6.350mm/0.2500" |
| 4 | 5.953mm/0.2344" |
| 5 | 5.556mm/0.2188" |
| 6 | 5.159mm/0.2031" |
| 7 | 4.763mm/0.1875" |
| 8 | 4.366mm/0.1719" |
| 9 | 3.969mm/0.1563" |
| 10 | 3.572mm/0.1406" |
| 11 | 3.175mm/0.1250" |
| 12 | 2.778mm/0.1094" |
| 13 | 2.381mm/0.0938" |
| 14 | 1.984mm/0.0781" |
| 15 | 1.786mm/0.0703" |
| 16 | 1.588mm/0.0625" |
| 17 | 1.429mm/0.0563" |

| No. | W |
|-----|-----------------|
| 18 | 1.270mm/0.0500" |
| 19 | 1.111mm/0.0438" |
| 20 | 0.953mm/0.0375" |
| 21 | 0.873mm/0.0344" |
| 22 | 0.794mm/0.0313" |
| 23 | 0.714mm/0.0281" |
| 24 | 0.635mm/0.0250" |
| 25 | 0.556mm/0.0219" |
| 26 | 0.476mm/0.0188" |
| 27 | 0.437mm/0.0172" |
| 28 | 0.397mm/0.0156" |
| 29 | 0.357mm/0.0141" |
| 30 | 0.318mm/0.0125" |
| 31 | 0.278mm/0.0109" |
| 32 | 0.258mm/0.0102" |
| 33 | 0.238mm/0.0094" |
| 34 | 0.218mm/0.0086" |
| 35 | 0.198mm/0.0078" |
| 36 | 0.179mm/0.0070" |

WIRE GAGE



4803-1



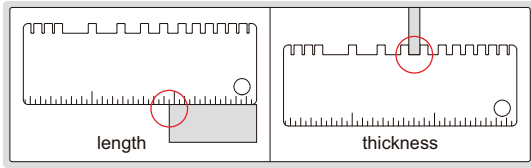
| Code | Range |
|--------|----------|
| 4803-1 | 0.2-10mm |

- For gaging non-ferrous wire and metals such as copper, brass and aluminum
- Hardened to HRC51-53
- Including 2 pcs wire gages

| Wire diameter (W) |
|-------------------|
| 0.200mm |
| 0.224mm |
| 0.250mm |
| 0.280mm |
| 0.315mm |
| 0.355mm |
| 0.400mm |
| 0.450mm |
| 0.500mm |
| 0.560mm |
| 0.630mm |
| 0.710mm |
| 0.750mm |
| 0.800mm |
| 0.900mm |
| 1.000mm |
| 1.120mm |
| 1.250mm |
| 1.400mm |
| 1.500mm |

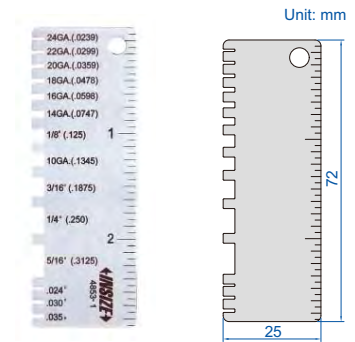
| Wire diameter (W) |
|-------------------|
| 1.60mm |
| 1.80mm |
| 2.00mm |
| 2.24mm |
| 2.50mm |
| 2.80mm |
| 3.00mm |
| 3.15mm |
| 3.55mm |
| 3.75mm |
| 4.00mm |
| 4.25mm |
| 4.50mm |
| 5.00mm |
| 5.60mm |
| 6.30mm |
| 7.10mm |
| 8.00mm |
| 9.00mm |
| 10.00mm |

THICKNESS GAGE



- Made of stainless steel

| Code | Measurement | Range | Graduation | Accuracy |
|--------|-------------|--|------------|----------|
| 4853-1 | length | 0-2 3/4" | 1/16" | 1/32" |
| | thickness | 24GA. (0.0239"), 22GA. (0.0299"), 20GA. (0.0359") | — | ±0.002" |
| | | 18GA. (0.0478"), 16GA. (0.0598"), 14GA. (0.0747"), 1/8" (0.125"), 10GA. (0.1345"), 3/16" (0.1875"), 1/4" (0.250"), 5/16" (0.3125") | | ±0.004" |
| | | 0.024", 0.030", 0.035" | | ±0.002" |



4853-1

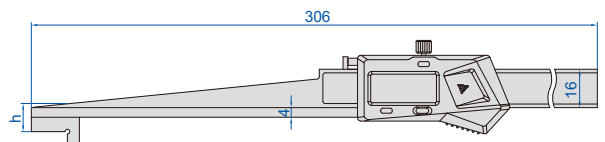
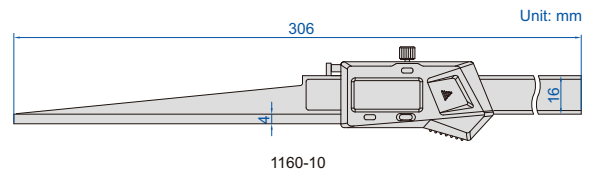
DATA OUTPUT **DIRECT READING, CALCULATION IS NOT REQUIRED**

DIGITAL TAPER SLOT GAGES

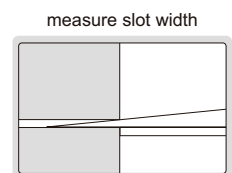


1160-10

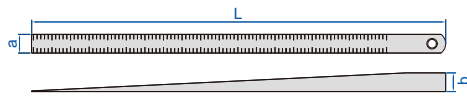
- Non waterproof
- Measuring opening, slot width
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code 7315-1529 need receiver, 7302-1529)



| Code | Range | Accuracy | h |
|---------|---------------------|----------|------|
| 1160-10 | 0.2-10mm/0.01-0.39" | ±0.03mm | — |
| 1160-20 | 10-20mm/0.39-0.79" | ±0.05mm | 10mm |
| 1160-30 | 20-30mm/0.79-1.18" | ±0.05mm | 20mm |
| 1160-40 | 30-40mm/1.18-1.58" | ±0.05mm | 30mm |



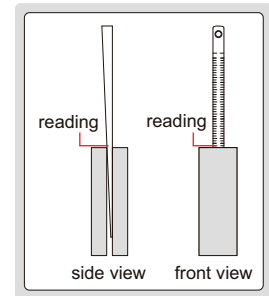
TAPER SLOT GAGES



4630-1

- For quick measurement of slot width
- Satin chrome plated reading surface
- Made of stainless steel

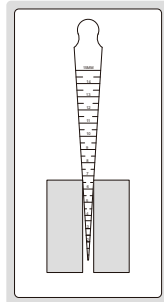
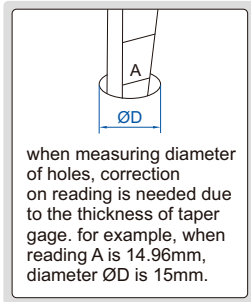
| Code | Range | Graduation | Accuracy | L | a | b |
|--------|----------|------------|----------|-------|--------|--------|
| 4630-3 | 0.4-6mm | 0.05mm | ±0.04mm | 164mm | 12.5mm | 6.5mm |
| 4630-1 | 0.5-10mm | 0.05mm | ±0.07mm | 220mm | 10mm | 10.5mm |
| 4630-2 | 0.5-15mm | 0.1mm | ±0.08mm | 184mm | 12.5mm | 16.5mm |



TAPER GAGES

measure diameter of hole

measure slot width



- Measure opening, slot width, hole diameter, etc.
- Diameter correction table on the back (only for 4833-1, 4833-2)
- Made of stainless steel

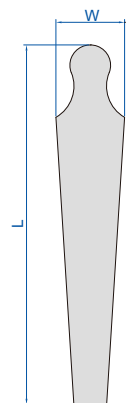
| Code | Range | Graduation | Accuracy | L | W |
|--------|----------|------------|----------|-------|--------|
| 4833-1 | 0.8-15mm | 0.1mm | ±0.05mm | 146mm | 17mm |
| 4833-2 | 15-30mm | 0.1mm | ±0.05mm | 159mm | 30.4mm |
| 4833-3 | 30-45mm | 0.1mm | ±0.05mm | 166mm | 45.4mm |
| 4833-4 | 45-60mm | 0.1mm | ±0.05mm | 170mm | 60.5mm |



front



back



4833-2

TAPER GAGE SET



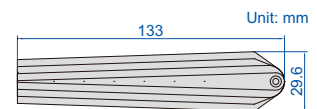
front

back

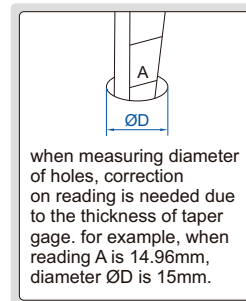
4837-1

- Include 4 pcs (1~8mm, 8~15mm, 15~22mm, 22~29mm)
- Measure opening, slot width, hole diameter, etc.
- Diameter correction table on the back
- Made of stainless steel

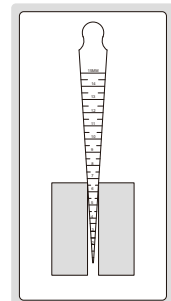
| Code | Range | Graduation | Accuracy |
|--------|--------|------------|----------|
| 4837-1 | 1-29mm | 0.05mm | ±0.05mm |



measure diameter of hole



measure slot width



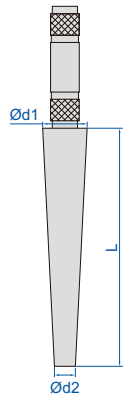
TAPER BORE GAGES

- Quick measurement of bore diameter
- Hardened steel, HRC50-58
- Satin chrome plated surface
- Aluminium oxidized handle

| Code | Range | Graduation | Accuracy | L | Ød1 | Ød2 |
|---------|---------|------------|----------|------|-----|------|
| 4852-1 | 1-6.5mm | 0.1mm | ±0.05mm | 62.5 | 7 | 0.8 |
| 4852-3 | 3-16mm | 0.1mm | ±0.05mm | 143 | 17 | 2.8 |
| 4852-15 | 15-30mm | 0.1mm | ±0.05mm | 165 | 31 | 14.7 |
| 4852-30 | 30-45mm | 0.1mm | ±0.05mm | 165 | 46 | 29.6 |
| 4852-45 | 45-60mm | 0.1mm | ±0.05mm | 167 | 61 | 44.3 |



4852-15



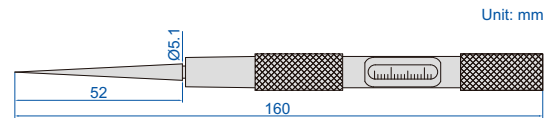
SMALL TAPER BORE GAGE



4855-5

- Quick measurement of small bore diameter
- Hardened working face
- Supplied with protection cap

| Code | Range | Graduation | Accuracy |
|--------|---------|------------|----------|
| 4855-5 | 0.1-5mm | 0.01mm | ±0.03mm |



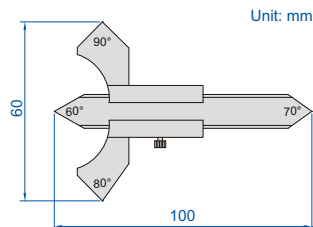
supplied with protection cap



WELDING GAGE

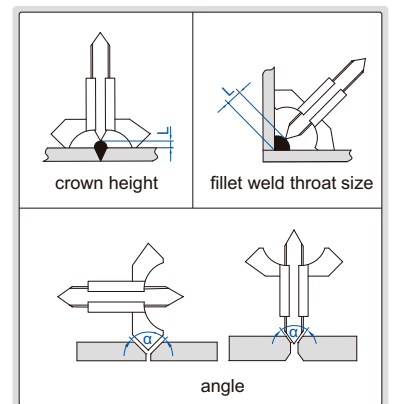


4830



- Made of stainless steel
- Satin chrome plated reading surface

| Code | Measurement | Range | Graduation | Accuracy |
|------|-------------------------|--------------------|------------|----------|
| 4830 | crown height | 0-8mm | 0.1mm | ±0.1mm |
| | fillet weld throat size | 0-20mm | 0.1mm | ±0.3mm |
| | angle | 60°, 70°, 80°, 90° | — | ±1° |

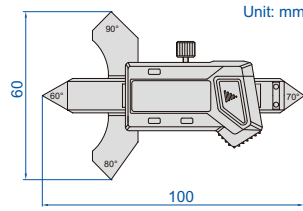


DIGITAL WELDING GAGE

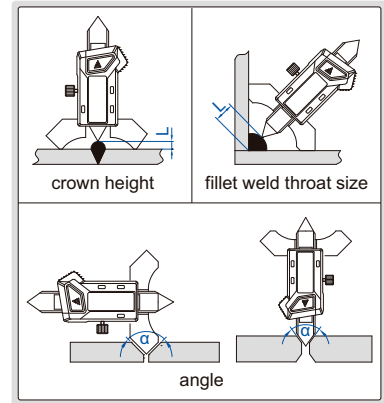
ATTENTION:
NO DATA OUTPUT



4831-20A

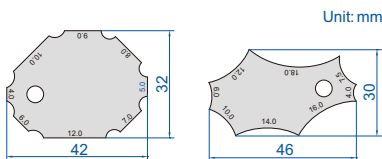


- Non waterproof
- Buttons: zero, mm/inch, on/off
- Battery LR44
- Made of stainless steel



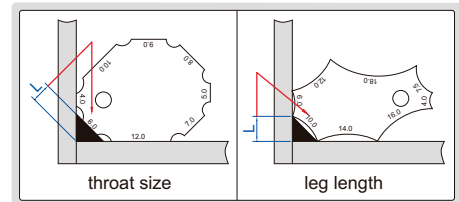
| Code | Measurement | Range | Resolution | Accuracy |
|----------|-------------------------|--------------------|----------------|----------|
| 4831-20A | crown height | 0-7mm | 0.01mm/0.0005" | ±0.03mm |
| | fillet weld throat size | 0-20mm | 0.01mm/0.0005" | ±0.1mm |
| | angle | 60°, 70°, 80°, 90° | — | ±1° |

FILLET WELDING GAGE



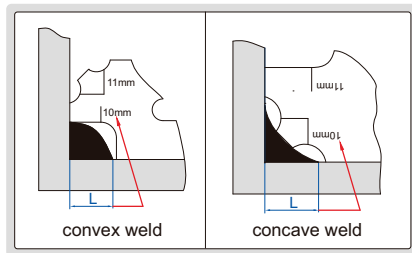
4832-1

- Made of stainless steel
- Sizes marked on both faces



| Code | Throat size | Leg length | Accuracy |
|--------|----------------------------|---------------------------------|----------|
| 4832-1 | 4, 5, 6, 7, 8, 9, 10, 12mm | 4, 6, 7.5, 10, 12, 14, 16, 18mm | ±0.5mm |

FILLET WELDING GAGES



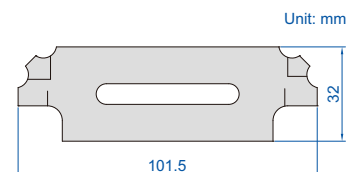
4836-1



4836-2

- Measure concave and convex weld sizes
- 7 blades are included
- Made of stainless steel

| Code | Size | Accuracy |
|--------|---|----------------|
| 4836-1 | 3mm, 4mm, 5mm, 6mm, 8mm, 9mm, 10mm, 11mm, 12mm, 14mm, 16mm, 19mm, 22mm, 25mm | ±0.5mm |
| 4836-2 | 1/8" (3.2mm), 3/16" (4.8mm), 1/4" (6.4mm), 5/16" (7.9mm), 3/8" (9.5mm), 7/16" (11.1mm), 1/2" (12.7mm), 5/8" (15.9mm), 3/4" (19.1mm), 7/8" (22.2mm), 1" (25.4mm) | ±0.02" (0.5mm) |



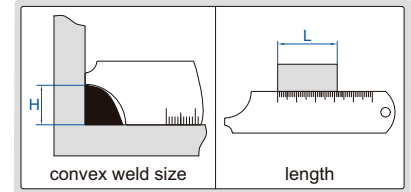
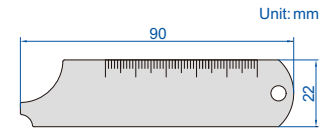
FILLET WELDING GAGE

- Measure convex weld sizes
- 3 blades are included
- Made of stainless steel

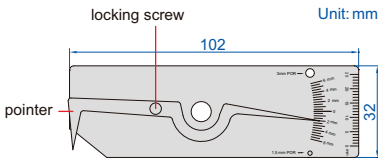


4847-1

| Code | Measurement | Range | Graduation | Accuracy |
|--------|------------------|-----------------------|------------|----------|
| 4847-1 | convex weld size | 4, 6, 8, 10, 12, 14mm | — | ±0.5mm |
| | length | 0-50mm | 1mm | ±0.5mm |



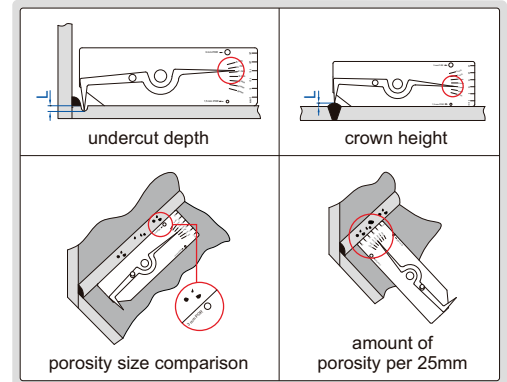
WELDING GAGE



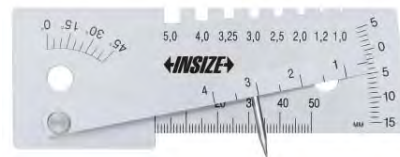
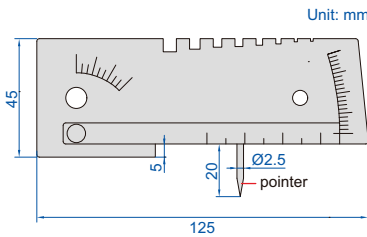
4834-1

- Pointer can be locked for later reference
- Made of stainless steel

| Code | Measurement | Range | Graduation | Accuracy |
|--------|-----------------------------|------------|------------|----------|
| 4834-1 | undercut depth | 0-6mm | 0.5mm | ±0.5mm |
| | crown height | 0-6mm | 0.5mm | ±0.5mm |
| | porosity size comparison | 1.5mm, 3mm | — | ±0.2mm |
| | amount of porosity per 25mm | 25mm | 1mm | — |



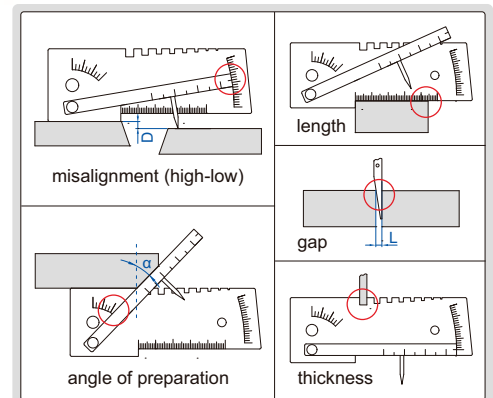
WELDING GAGE



4848-1

- Made of stainless steel

| Code | Measurement | Range | Graduation | Accuracy |
|--------|-------------------------|---|------------|----------|
| 4848-1 | misalignment (high-low) | -5mm~+15mm | 1mm | ±0.5mm |
| | angle of preparation | 0°-45° | 5° | ±2.5° |
| | length | 0-50mm | 1mm | ±0.5mm |
| | gap | 1-4mm | 0.5mm | ±0.25mm |
| | thickness | 1, 1.2, 2.0, 2.5, 3.0, 3.25, 4.0, 5.0mm | — | — |



WELDING GAGE

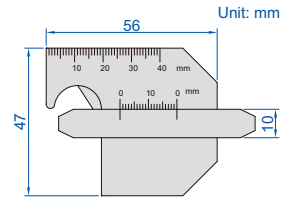


front



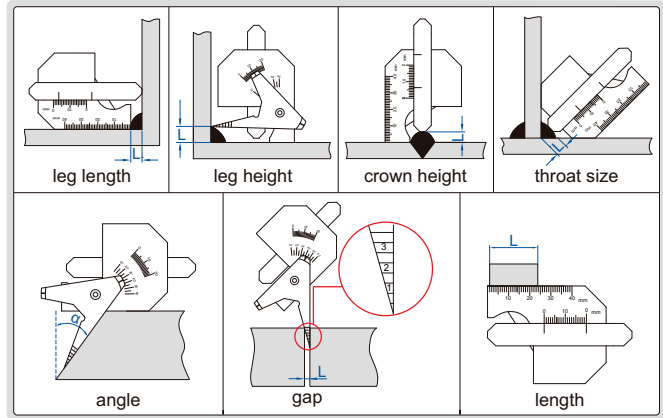
back

6832-1

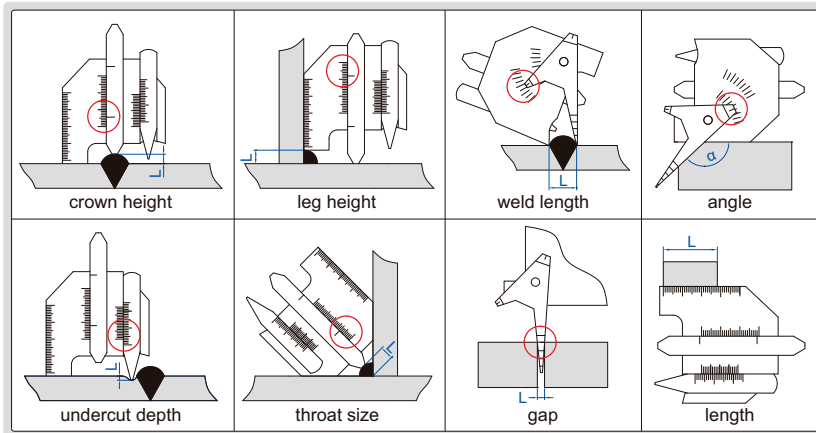


- Made of stainless steel
- Satin chrome plated surface

| Code | Measurement | Range | Graduation | Accuracy |
|--------|--------------|---------|------------|----------|
| 6832-1 | leg length | 0-20mm | 1mm | ±0.3mm |
| | leg height | 0-20mm | 1mm | ±0.3mm |
| | crown height | 0-20mm | 1mm | ±0.3mm |
| | throat size | 0-10mm | 1mm | ±0.3mm |
| | angle | 0°-60° | 5° | ±1° |
| | gap | 1-3.5mm | 0.5mm | ±0.2mm |
| | length | 0-40mm | 1mm | ±0.3mm |



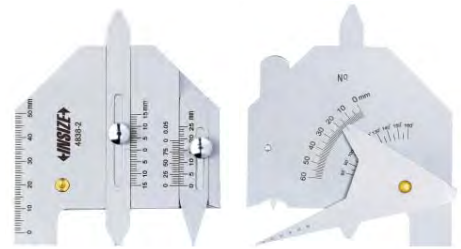
WELDING GAGES



front

4838-1

back



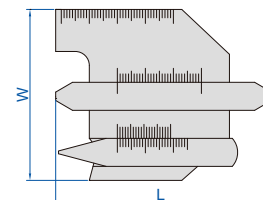
front

4838-2

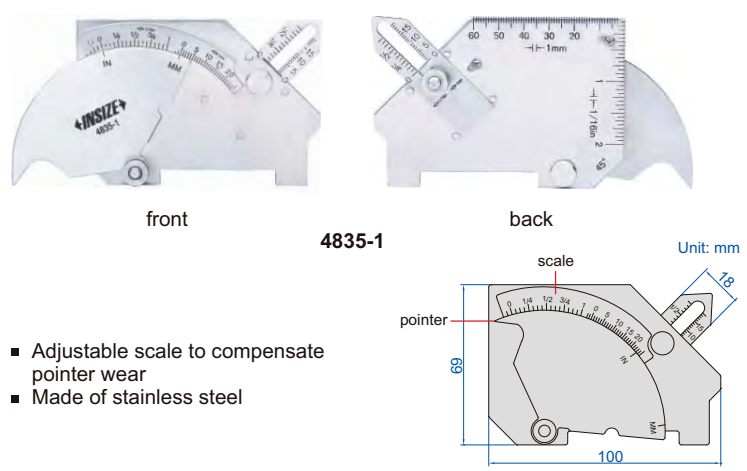
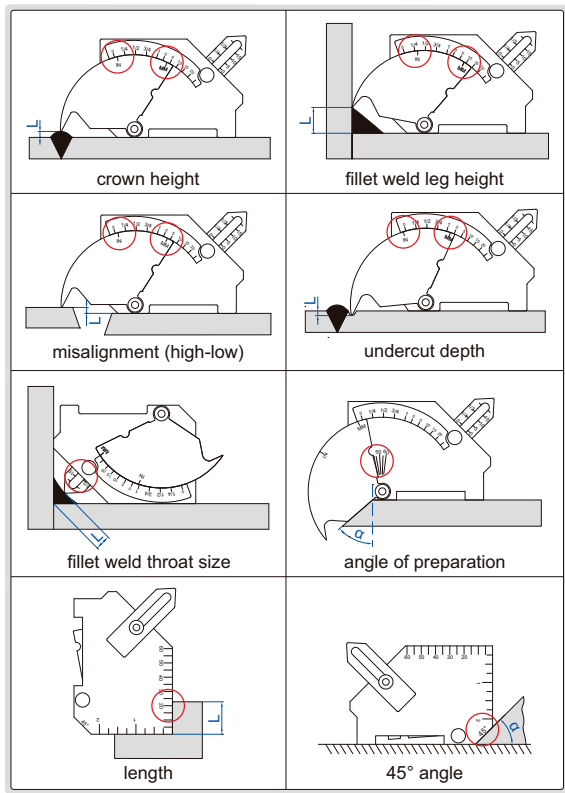
back

- Made of stainless steel

| Measurement | Code 4838-1 | | | Code 4838-2 | | |
|----------------|-------------|------------|----------|-------------|------------|----------|
| | Range | Graduation | Accuracy | Range | Graduation | Accuracy |
| crown height | 0-10mm | 1mm | ±0.5mm | 0-15mm | 1mm | ±0.5mm |
| leg height | 0-14mm | 1mm | ±0.5mm | 0-15mm | 1mm | ±0.5mm |
| undercut depth | 0-5mm | 0.05mm | ±0.05mm | 0-5mm | 0.05mm | ±0.05mm |
| throat size | 0-13mm | 1mm | ±0.5mm | 0-13mm | 1mm | ±0.5mm |
| weld length | 0-40mm | 1mm | ±1mm | 0-60mm | 1mm | ±1mm |
| angle | 90°-150° | 5° | ±1° | 80°-160° | 5° | ±1° |
| gap | 0.5-5mm | 1mm | ±0.5mm | 1-6mm | 1mm | ±0.5mm |
| length | 0-40mm | 1mm | ±0.5mm | 0-50mm | 1mm | ±0.5mm |
| LxW | 62x77mm | | | 99x84mm | | |



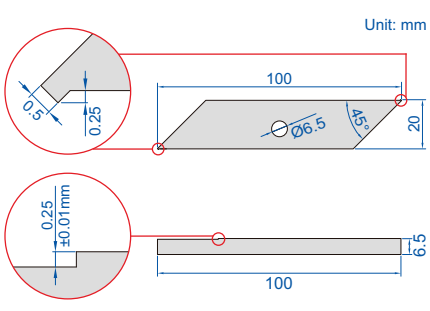
WELDING GAGE



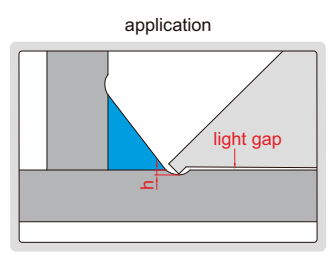
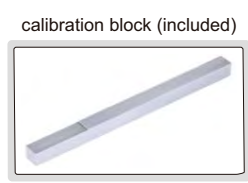
- Adjustable scale to compensate pointer wear
- Made of stainless steel

| Code | Measurement | Range | Graduation | Accuracy |
|--------|-------------------------|-----------------|-------------|----------|
| 4835-1 | crown height | 0-25mm (0-1") | 1mm (1/16") | ±0.5mm |
| | fillet weld leg height | 0-25mm (0-1") | 1mm (1/16") | ±0.5mm |
| | misalignment (high-low) | 0-25mm (0-1") | 1mm (1/16") | ±0.5mm |
| | undercut depth | 0-2mm (0-1/8") | 1mm (1/16") | ±0.5mm |
| | fillet weld throat size | 0-20mm (0-3/4") | 1mm (1/16") | ±0.5mm |
| | angle of preparation | 0-60° | 5° | ±1° |
| | length | 0-60mm (0-2") | 1mm (1/16") | ±0.5mm |
| | 45° angle | — | — | ±1° |

WELDING UNDERCUT GAGE



4849-1



when there is a light gap, $h < 0.25\text{mm}$;
when there is no light gap, $h \geq 0.25\text{mm}$

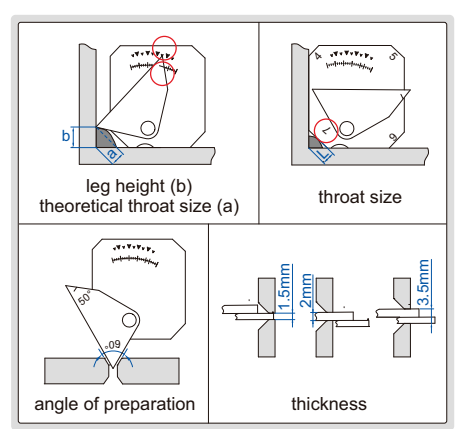
- Measure undercut
- Calibration block is included
- Made of stainless steel

WELDING GAGE



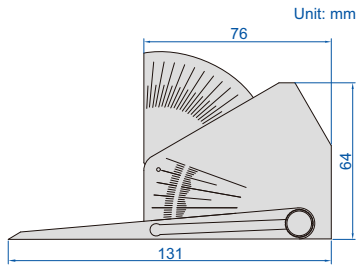
- Made of stainless steel

4850-1

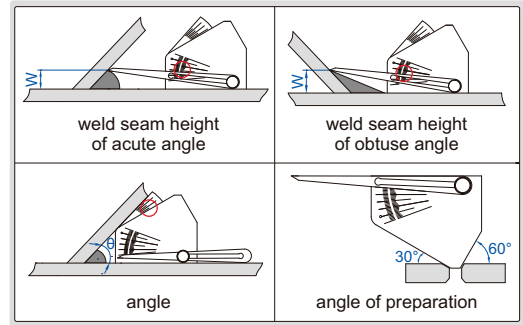


| Code | Measurement | Range | Graduation | Accuracy |
|--------|-----------------------------|---------------|------------|----------|
| 4850-1 | leg height (b) | 0-18mm | 1mm | ±0.5mm |
| | theoretical throat size (a) | 2-12mm | 1mm | ±0.5mm |
| | throat size | 4, 5, 6, 7mm | — | ±0.5mm |
| | angle of preparation | 50°, 60° | — | ±1° |
| | thickness | 1.5, 2, 3.5mm | — | ±0.2mm |

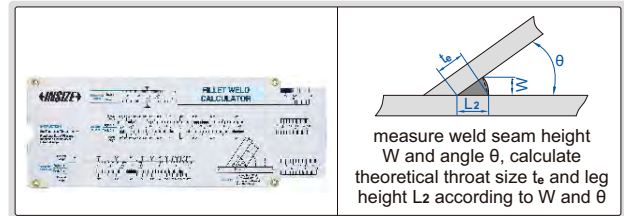
FILLET WELDING GAGE



4846-1



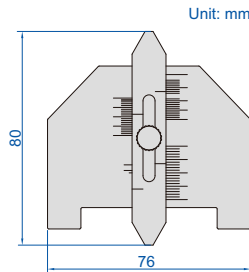
calculating card (included)



- Calculating card is included
- Made of stainless steel

| Code | Measurement | Range | Graduation | Accuracy |
|--------|--------------------|-------------|------------|----------|
| 4846-1 | weld seam height W | 0-50mm/0-2" | 2mm/0.05" | ±1mm |
| | angle θ | 30°-90° | 2.5° | ±1° |
| | 60° angle | — | — | ±0.5° |

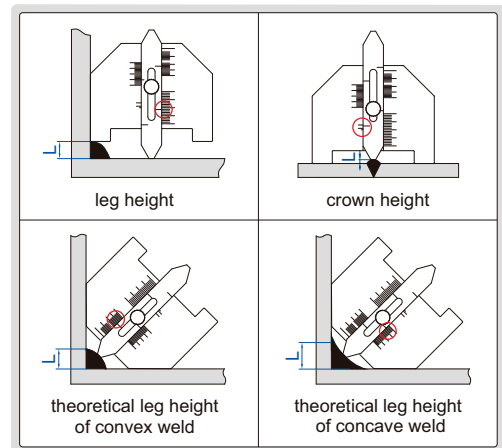
WELDING GAGE



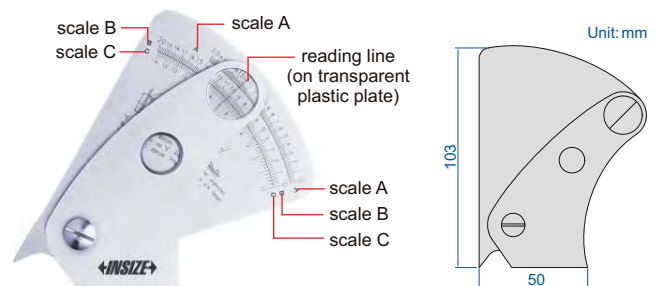
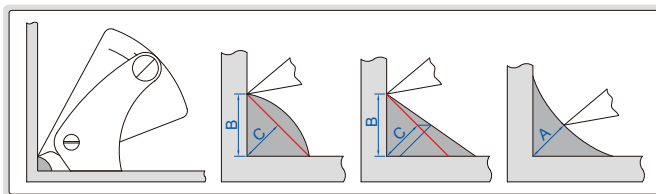
4851-1

- Made of stainless steel

| Code | Measurement | Range | Graduation | Accuracy |
|--------|--|--------|------------|----------|
| 4851-1 | leg height | 0-20mm | 1mm | ±0.5mm |
| | crown height | 0-3mm | — | ±0.5mm |
| | theoretical leg height of convex weld | 0-20mm | 1mm | ±0.5mm |
| | theoretical leg height of concave weld | 0-20mm | 1mm | ±0.5mm |



WELDING GAGE



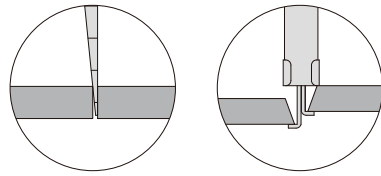
4840-1

| Code | Graduation | Accuracy |
|--------|------------|----------|
| 4840-1 | 0.2mm | ±0.3mm |

- Made of stainless steel

PIPE WELDING GAGE

- Made of stainless steel



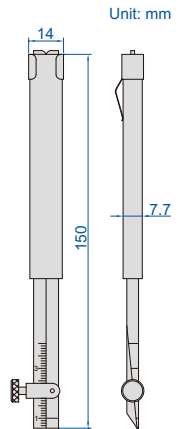
fit-up gap

internal misalignment

| Code | Measurement | Range | Graduation | Accuracy |
|--------|-----------------------|---------|------------|----------|
| 4841-1 | internal misalignment | 0-30mm | 1mm | ±0.5mm |
| | fit-up gap | 0.7-4mm | 0.1mm | ±0.1mm |

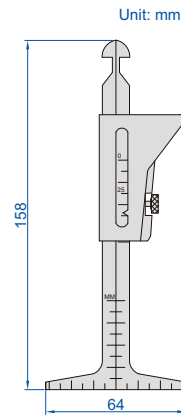
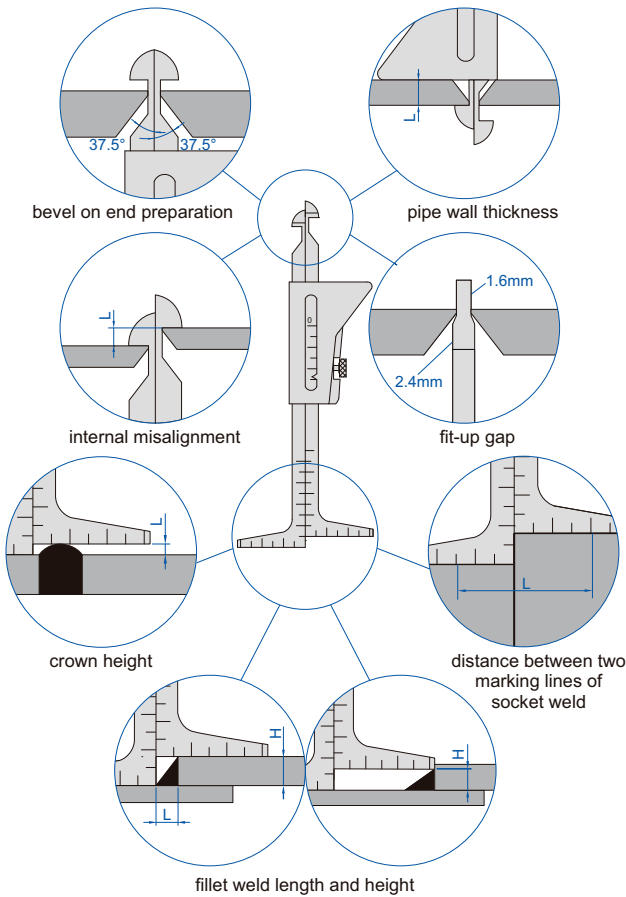


4841-1



Unit: mm

PIPE WELDING GAGE



Unit: mm



front

back

4839-1

| Code | Measurement | Range | Graduation | Accuracy |
|--------|---|-------------------|-------------|----------|
| 4839-1 | bevel on end preparation | 37.5° | — | ±1° |
| | pipe wall thickness | 0-45mm (0~1-3/4") | 1mm (1/16") | ±0.5mm |
| | internal misalignment | 0-35mm (0~1-3/8") | 1mm (1/32") | ±0.5mm |
| | fit-up gap | 1.6mm, 2.4mm | — | ±0.1mm |
| | crown height | 0-35mm (0~1-3/8") | 1mm (1/32") | ±0.5mm |
| | distance between two marking lines of socket weld | 0-60mm (0~2-3/8") | 1mm (1/16") | ±0.5mm |
| | fillet weld length | 0-30mm (0~1-1/4") | 1mm (1/16") | ±0.5mm |
| | fillet weld height | 0-35mm (0~1-3/8") | 1mm (1/32") | ±0.5mm |

- Made of stainless steel

6-PIECE WELDING GAGE SET

- Includes:
 - 1) Welding gage (code **4834-1**)
 - 2) Fillet welding gage, size 3~25mm, 7 blades (code **4836-1**)
 - 3) Pipe welding gage (code **4841-1**)
 - 4) Telescoping inspection mirror, size of mirror Ø32mm, length 178~505mm (code **7160-1**)
 - 5) Pocket rule with sliding clip, range 150mm/6", graduation 1mm, 1/64" (code **7119-150**)
 - 6) LED flashlight (code **ISGF-0501**)

Code

5064



5064

7-PIECE WELDING GAGE SET

- Includes:
 - 1) Welding gage (code **4834-1**)
 - 2) Welding gage (code **4851-1**)
 - 3) Pipe welding gage (code **4839-1**)
 - 4) Outside micrometer, range 0-25mm, graduation 0.01mm (code **3203-25A**)
 - 5) Telescoping inspection mirror, size of mirror Ø32mm, length 178~505mm (code **7160-1**)
 - 6) Magnifier with illumination, magnification 4X (code **7513-4**)
 - 7) Steel rule, range 150mm/6", graduation 0.5mm, 1mm, 1/64", 1/32", 1/16" (code **7110-150**)

Code

5071



5071

7-PIECE WELDING GAGE SET

- Includes:
 - 1) Welding gage (code **4834-1**)
 - 2) Welding gage (code **4851-1**)
 - 3) Fillet welding gage, size 3~25mm, 7 blades (code **4836-1**)
 - 4) Outside micrometer, range 0-25mm, graduation 0.01mm (code **3203-25A**)
 - 5) Digital caliper, range 0-150mm/0-6", resolution 0.01mm/0.005" (code **1108-150**)
 - 6) Pocket rule with sliding clip, range 150mm/6", graduation 1mm, 1/64" (code **7119-150**)
 - 7) Magnifier with illumination, magnification 4X (code **7513-4**)

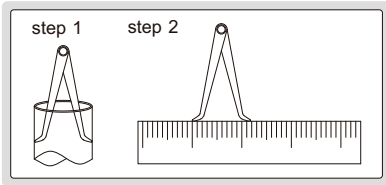
Code

5072



5072

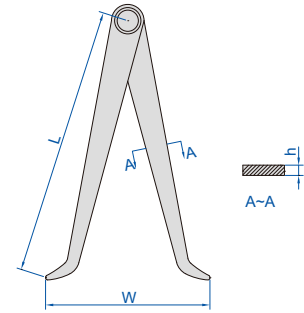
INSIDE CALIPERS



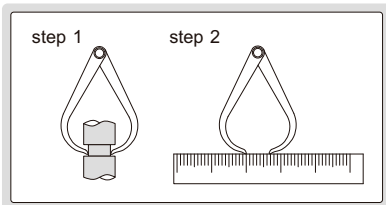
- Made of carbon steel

| Code | Size (L) | Range (W) | h |
|----------|----------|-----------|-----|
| 7240-150 | 150mm | 17-150mm | 2mm |
| 7240-200 | 200mm | 17-200mm | 3mm |
| 7240-300 | 300mm | 18-300mm | 3mm |

7240-150



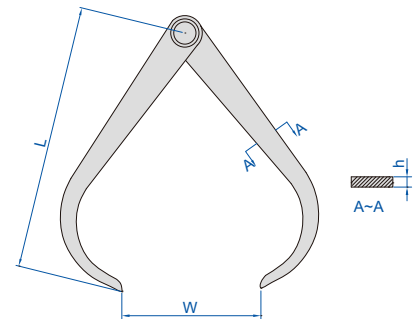
OUTSIDE CALIPERS



- Made of carbon steel

| Code | Size (L) | Range (W) | h |
|----------|----------|-----------|-----|
| 7241-150 | 150mm | 0-150mm | 2mm |
| 7241-200 | 200mm | 0-200mm | 3mm |
| 7241-300 | 300mm | 0-300mm | 3mm |

7241-150

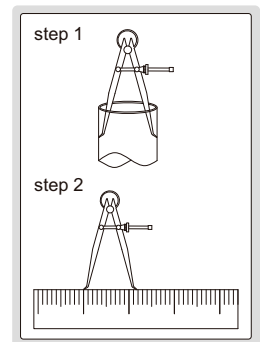
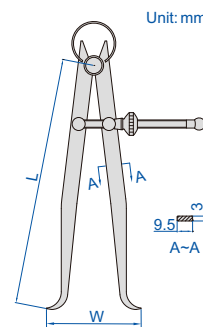


INSIDE SPRING CALIPERS

- Made of carbon steel



7261-150



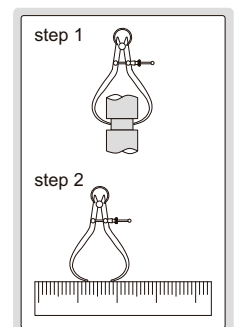
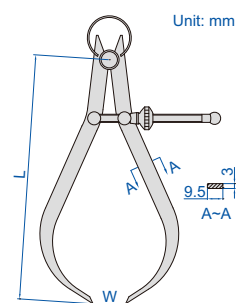
| Code | Size (L) | Range (W) |
|----------|----------|-----------|
| 7261-150 | 150mm | 20-170mm |
| 7261-200 | 200mm | 22-220mm |
| 7261-250 | 245mm | 30-270mm |
| 7261-300 | 300mm | 30-320mm |

OUTSIDE SPRING CALIPERS

- Made of carbon steel



7262-150



| Code | Size (L) | Range (W) |
|----------|----------|-----------|
| 7262-150 | 155mm | 0-140mm |
| 7262-200 | 210mm | 0-210mm |
| 7262-250 | 265mm | 0-270mm |
| 7262-300 | 310mm | 0-320mm |

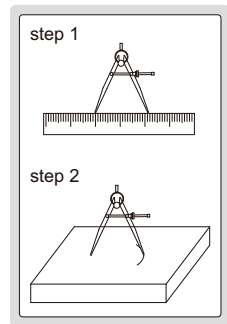
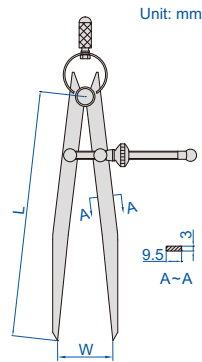
SPRING DIVIDERS

- Made of carbon steel
- Hardened points

| Code | Size (L) | Range (W) |
|----------|----------|-----------|
| 7260-150 | 150mm | 0-150mm |
| 7260-200 | 200mm | 0-210mm |
| 7260-250 | 245mm | 0-260mm |
| 7260-300 | 300mm | 0-320mm |



7260-150



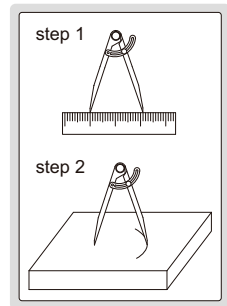
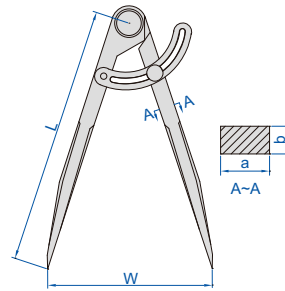
DIVIDERS

- Made of carbon steel
- Hardened points

| Code | Size (L) | Range (W) | (mm) | |
|----------|----------|-----------|------|---|
| | | | a | b |
| 7247-150 | 150mm | 0-140mm | 8.5 | 7 |
| 7247-200 | 200mm | 0-190mm | 10 | 7 |
| 7247-300 | 300mm | 0-290mm | 12 | 7 |

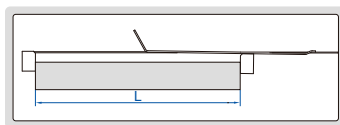


7247-150



LENGTH TAPES

INSIZE PLUS
MADE IN EUROPE

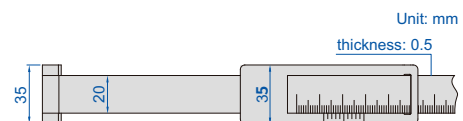


- Measure the distance between two parallel surfaces
- Laser engraved scale
- Made of stainless steel



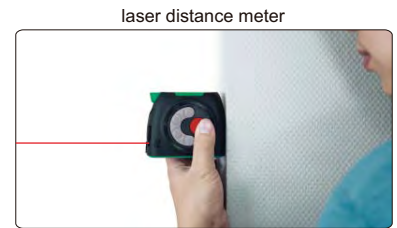
7141-2200

| Code | Range (L) | Graduation | Accuracy |
|-----------|-------------|------------|----------|
| 7141-950 | 60-950mm | 0.1mm | ±0.15mm |
| 7141-2200 | 900-2200mm | 0.1mm | ±0.20mm |
| 7141-3460 | 2190-3460mm | 0.1mm | ±0.20mm |
| 7141-4780 | 3400-4780mm | 0.1mm | ±0.25mm |
| 7141-6000 | 4700-6000mm | 0.1mm | ±0.30mm |

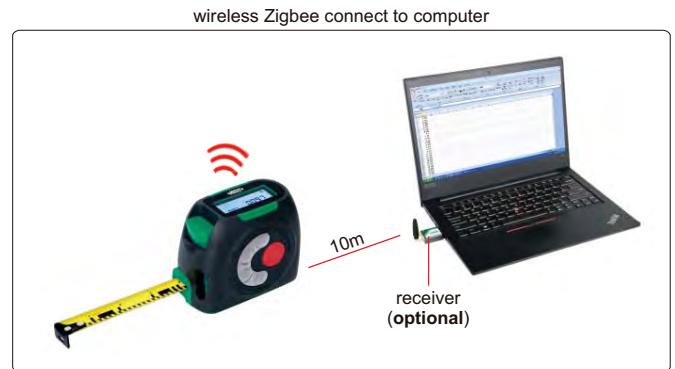




WIRELESS DIGITAL MEASURING TAPES + LASER DISTANCE METERS



- Built-in bluetooth or wireless Zigbee transmission
- Display with backlight
- Automatic power off: laser 30s, main unit 180s
- Can work continuously for 5 hours
- Can store 50 groups of measurement data



SPECIFICATION

| Code | 9563-C40 | 9563-C60 | 9563-WL40 | 9563-WL60 | |
|------------------------|--|--|--|-----------|-----|
| Output | bluetooth (data can be transmitted to APP) | | wireless Zigbee (optional receiver required: code 7315-2/3/6/7/8/9) (data can be transmitted to excel, word, txt etc.) | | |
| Digital measuring tape | range | 5m | | | |
| | resolution | 0.001m | | | |
| | accuracy | ±1.5mm | | | |
| | blade width | 19mm | | | |
| | horizontal stand-out | ≥1.8m | | | |
| Laser distance meter | range | 40m | 60m | 40m | 60m |
| | resolution | 0.001m | | | |
| | accuracy | ±(3+D/20)mm, D: measured distance, unit: m | | | |
| | units | m, ft, in, ft+in | | | |
| | laser type | 630~670nm, <1mW, class 2 | | | |
| measurement function | single, continuous, area, volume, pythagoras measurement | | | | |
| Operation temperature | 0~40°C | | | | |
| Storage temperature | -10~60°C | | | | |
| Power supply | built-in rechargeable lithium battery | | | | |
| Dimension (L×W×H) | 95×74×56mm | | | | |
| Weight | 313g | | | | |

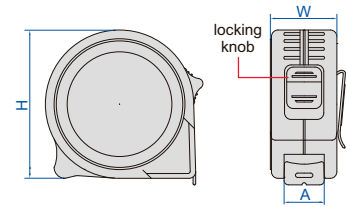
MEASURING TAPES

EG II

graduation



7140-5



- Non-glare nylon surface for wear resistance
- Accuracy: $\pm(0.3+0.2L)$ mm (L is the measured length rounded up to the next whole meter), meet MI-008 of DIRECTIVE 2014/32/EU

Individual (1 pc per package)

| Code | Range | Graduation | Width of tape A | W | H |
|--------|-------|------------|-----------------|------|------|
| 7140-3 | 0-3m | 1mm | 16mm | 28mm | 62mm |
| 7140-5 | 0-5m | 1mm | 19mm | 30mm | 68mm |
| 7140-8 | 0-8m | 1mm | 25mm | 38mm | 78mm |

Set (12 pcs per package)

| Code | Range | Graduation | Width of tape A | W | H |
|---------|-------|------------|-----------------|------|------|
| 7140-3A | 0-3m | 1mm | 16mm | 28mm | 62mm |
| 7140-5A | 0-5m | 1mm | 19mm | 30mm | 68mm |
| 7140-8A | 0-8m | 1mm | 25mm | 38mm | 78mm |

MEASURING TAPES (BASIC TYPE)

EG II

- Non-glare nylon coating tape, wear resistance
- Accuracy: $\pm(0.3+0.2L)$ mm (L is the measured length rounded up to the next whole meter), meet MI-008 of DIRECTIVE 2014/32/EU



7142-5

graduation

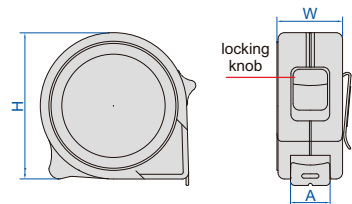


Individual (1 pc per package)

| Code | Range | Graduation | Width of tape A | W | H |
|--------|-------------|------------|-----------------|------|------|
| 7142-5 | 0-5m/0-16ft | 1mm, 1/16" | 19mm | 31mm | 64mm |

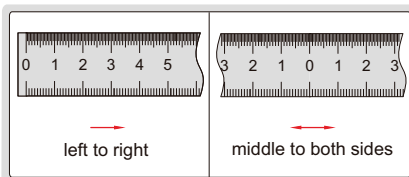
Set (12 pcs per package)

| Code | Range | Graduation | Width of tape A | W | H |
|---------|-------------|------------|-----------------|------|------|
| 7142-5A | 0-5m/0-16ft | 1mm, 1/16" | 19mm | 31mm | 64mm |



SELF ADHESIVE MEASURING TAPES

type of reading



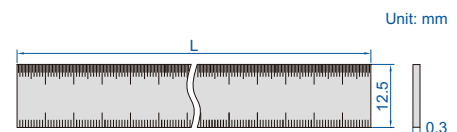
7139-50

self adhesive back



- Self adhesive back
- Steel tape, non-glare coating, wear resistance

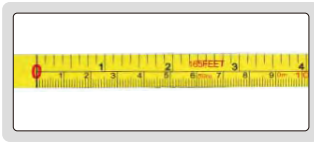
| Code | Range (L) | Graduation | Accuracy | Type of reading |
|----------|-----------|------------|--------------|----------------------|
| 7139-50 | 50-0-50cm | 1mm | ± 0.2 mm | middle to both sides |
| 7139-100 | 0-100cm | 1mm | ± 0.4 mm | left to right |



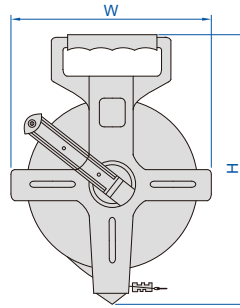
Unit: mm

LONG MEASURING TAPE

graduation



- High tensile strength fibreglass tape
- Nylon coating tape, wear resistance
- Accuracy: $\pm(0.3+0.2L)$ mm (L is the measured length rounded up to the next whole meter), meet MI-008 of DIRECTIVE 2014/32/EU



EG II

7143-50

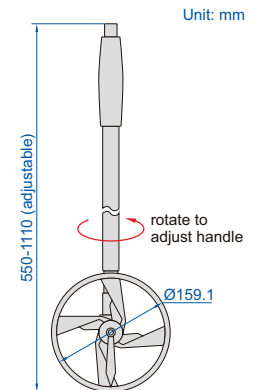
| Code | Range | Graduation | Width of tape | W | H |
|---------|---------------|------------|---------------|-------|-------|
| 7143-50 | 0-50m/0-165ft | 1mm, 1/8" | 13mm | 220mm | 320mm |

MEASURING WHEEL (BASIC TYPE)

- ABS plastic frame, wear-resistant PU tire
- Three-section adjustable handle



7144-1



Unit: mm

| Code | Range | Resolution |
|--------|-------------|------------|
| 7144-1 | 0.1-9999.9m | 0.1m |

MEASURING WHEEL

- ABS plastic frame, wear-resistant PU tire
- Two-section foldable handle



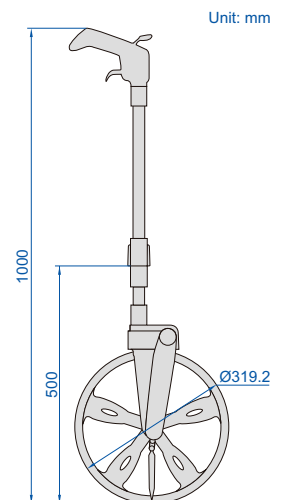
after folding



backpack (included)



7145-1

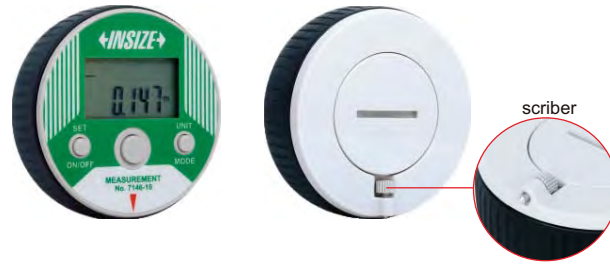


Unit: mm

| Code | Range | Resolution |
|--------|-------------|------------|
| 7145-1 | 0.1-9999.9m | 0.1m |

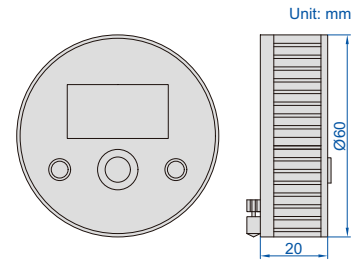
DIGITAL MEASURING WHEEL

IP40
WATERPROOF



7146-10

- IP40 dust/waterproof
- Measuring length of curve
- Four measurement modes: length, rectangle area, diameter of circle, cube
- Resolution: 0.001m/0.01ft
- Button function: on/off, mm/inch, one or two sides set, measurement mode conversion, measurement
- Battery CR2032, automatic power off

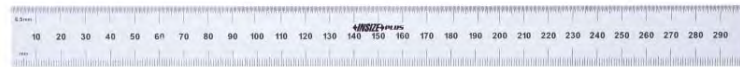


| Code | Range | Accuracy |
|---------|----------------|-----------------------------------|
| 7146-10 | 0-10m/0-32.8ft | ±0.3%L (L is the measured length) |

RIGID RULES

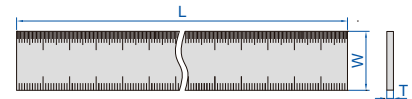
INSIZE PLUS
MADE IN USA

- Rigid rules
- Graduation on front and back sides
- Made of special steel
- Satin chrome plated



7122-300

| Code | Range (L) | Graduation | Accuracy | W | T |
|----------|-----------|------------|---------------|---------|-----|
| 7122-150 | 150mm | 0.5mm/1mm | +0.10/-0.09mm | 18.50mm | 1mm |
| 7122-300 | 300mm | 0.5mm/1mm | +0.13/-0.09mm | 24.50mm | 1mm |
| 7122-600 | 600mm | 0.5mm/1mm | +0.18/-0.09mm | 29.50mm | 1mm |



RIGID RULE



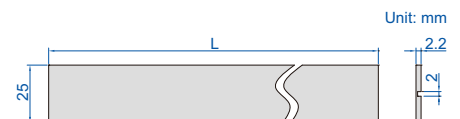
7113-300A



groove on the back

- Rigid rules
- With groove on the back, suitable for combination square set (2278 series)
- Satin chrome plated

| Code | Range | Graduation | | Accuracy | L |
|-----------|-----------|-----------------|---------------|----------|-------|
| | | front | back | | |
| 7113-300A | 300mm/12" | 0.5mm and 1/32" | 1mm and 1/64" | ±0.15mm | 300mm |



FLEXIBLE RULES

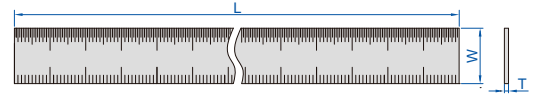
INSIZE PLUS
MADE IN USA



7121-150

- Can be used in the way of bending
- Graduation on front and back sides
- Made of special steel
- Satin chrome plated

| Code | Range (L) | Graduation | Accuracy | W | T |
|----------|-----------|------------|---------------|---------|--------|
| 7121-150 | 150mm | 0.5mm/1mm | +0.10/-0.09mm | 12.50mm | 0.40mm |
| 7121-300 | 300mm | 0.5mm/1mm | +0.13/-0.09mm | 12.50mm | 0.40mm |
| 7121-600 | 600mm | 0.5mm/1mm | +0.18/-0.09mm | 19.50mm | 0.50mm |



can be used in the way of bending



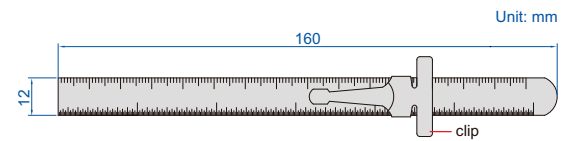
POCKET RULE WITH SLIDING CLIP

- With sliding clip, clip can be inserted in the pocket, also can be used as depth gage base
- Inch/metric conversion table on the back
- Made of stainless steel

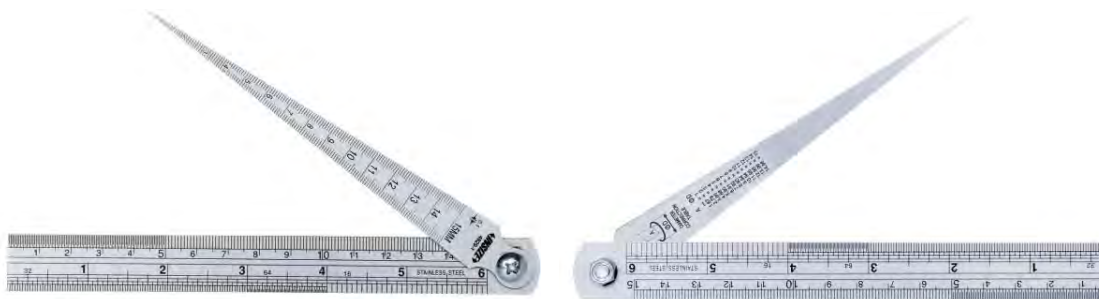


7119-150

| Code | Range | Graduation | Accuracy |
|----------|----------|------------|----------|
| 7119-150 | 150mm/6" | 1mm, 1/64" | ±0.3mm |



TAPER GAGE AND STEEL RULER SET

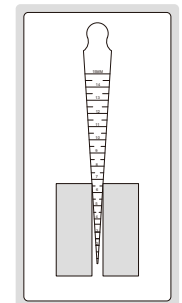


front

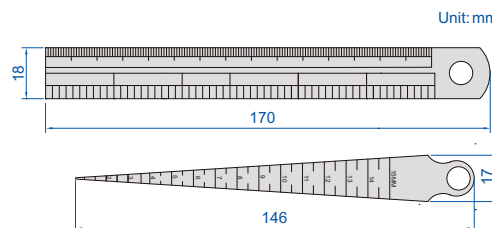
4829-1

back

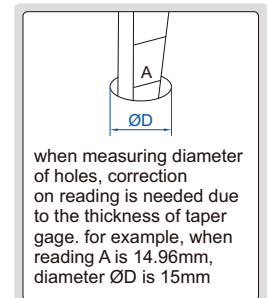
use the taper gage to measure slot width



- Diameter correction table on the taper gage back
- Made of stainless steel



use the taper gage to measure diameter of hole



when measuring diameter of holes, correction on reading is needed due to the thickness of taper gage. for example, when reading A is 14.96mm, diameter ØD is 15mm

| Code | Tool | Range | Graduation | Accuracy |
|--------|-------------|----------|------------|----------|
| 4829-1 | taper gage | 0.8-15mm | 0.1mm | ±0.05mm |
| | steel ruler | 150mm/6" | 1.0mm | ±0.18mm |

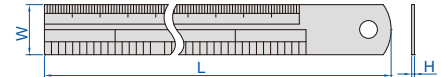
STEEL RULES

POPULAR MODEL



7110-300

- Graduation: 0.5mm, 1mm, 1/64", 1/32", 1/16"
- Rigid rules
- Made of stainless steel
- Non-glare surface



Individual (1 pc per package)

(mm)

| Code | Range | Accuracy | L | W | H | Remark |
|-----------|------------|----------|------|----|-----|------------------------------|
| 7110-150 | 150mm/6" | ±0.18mm | 170 | 18 | 1.0 | graduation on front and back |
| 7110-200 | 200mm/8" | ±0.18mm | 220 | 18 | 1.0 | graduation on front and back |
| 7110-300 | 300mm/12" | ±0.27mm | 330 | 25 | 1.0 | graduation on front and back |
| 7110-3001 | 300mm/12" | ±0.27mm | 325 | 30 | 1.0 | graduation on front and back |
| 7110-500 | 500mm/20" | ±0.40mm | 530 | 30 | 1.2 | graduation on front and back |
| 7110-600 | 600mm/24" | ±0.50mm | 630 | 30 | 1.2 | graduation on front and back |
| 7110-1000 | 1000mm/40" | ±0.50mm | 1040 | 32 | 1.5 | graduation on front and back |
| 7110-1200 | 1200mm/48" | ±0.80mm | 1240 | 35 | 1.8 | graduation on front |
| 7110-1500 | 1500mm/60" | ±1.00mm | 1550 | 38 | 1.8 | graduation on front |
| 7110-2000 | 2000mm/80" | ±1.00mm | 2065 | 40 | 2.0 | graduation on front |

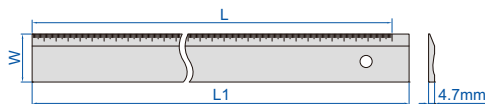
Set

(mm)

| Code | Range | Accuracy | L | W | H | Remark | Quantity per package |
|------------|------------|----------|------|----|-----|------------------------------|----------------------|
| 7110-150A | 150mm/6" | ±0.18mm | 170 | 18 | 1.0 | graduation on front and back | 10 pcs |
| 7110-200A | 200mm/8" | ±0.18mm | 220 | 18 | 1.0 | graduation on front and back | 10 pcs |
| 7110-300A | 300mm/12" | ±0.27mm | 330 | 25 | 1.0 | graduation on front and back | 5 pcs |
| 7110-3001A | 300mm/12" | ±0.27mm | 325 | 30 | 1.0 | graduation on front and back | 5 pcs |
| 7110-500A | 500mm/20" | ±0.40mm | 530 | 30 | 1.2 | graduation on front and back | 5 pcs |
| 7110-600A | 600mm/24" | ±0.50mm | 630 | 30 | 1.2 | graduation on front and back | 5 pcs |
| 7110-1000A | 1000mm/40" | ±0.50mm | 1040 | 32 | 1.5 | graduation on front and back | 5 pcs |
| 7110-1200A | 1200mm/48" | ±0.80mm | 1240 | 35 | 1.8 | graduation on front | 5 pcs |
| 7110-1500A | 1500mm/60" | ±1.00mm | 1550 | 38 | 1.8 | graduation on front | 5 pcs |
| 7110-2000A | 2000mm/80" | ±1.00mm | 2065 | 40 | 2.0 | graduation on front | 5 pcs |

ALUMINUM RULES

- Made of aluminum, oxidized surface



7123-300

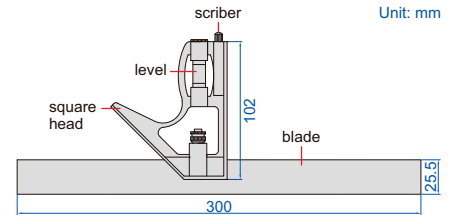
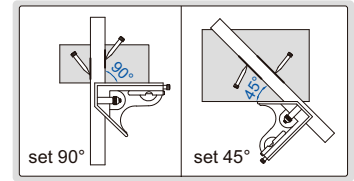
| Code | Range (L) | Graduation | Accuracy | L1 | W |
|-----------|-----------|------------|----------|--------|------|
| 7123-300 | 300mm | 1mm | ±0.5mm | 321mm | 50mm |
| 7123-600 | 600mm | 1mm | ±0.9mm | 624mm | 50mm |
| 7123-1000 | 1000mm | 1mm | ±0.9mm | 1024mm | 50mm |

COMBINATION SQUARE (ECONOMIC TYPE)

- Square head (made of zinc):
set the blade at 90° or 45° to an edge of a workpiece
accuracy: $\pm 0.5^\circ$
- Blade (made of stainless steel):
range: 300mm/12",
graduation: 1mm and 1/32" on front face,
1mm and 1/16" on back face

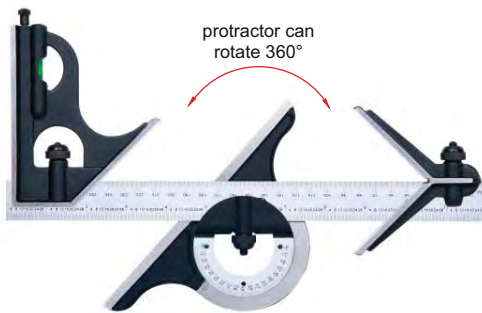


2276-300



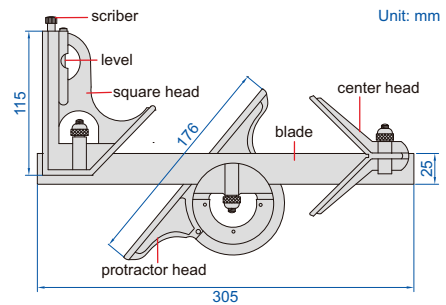
Code
2276-300

COMBINATION SQUARE SET (OPEN TYPE PROTRACTOR)

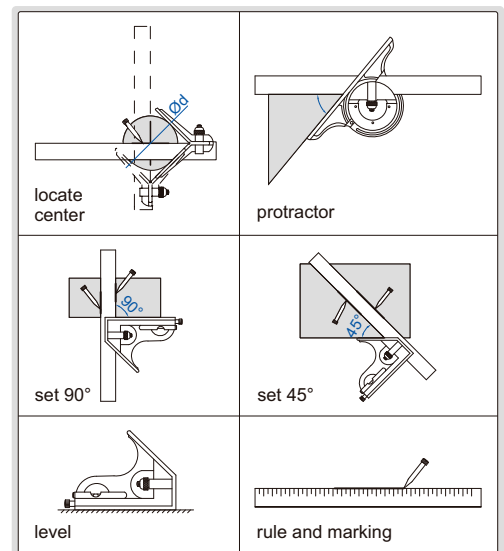


2274-4

protractor can rotate 360°



- Center head (made of cast iron):
to locate center of cylinders with diameter ($\varnothing d$): 30-100mm
accuracy: $\pm 0.15\text{mm}$
- Protractor head (made of cast iron):
set the blade at desired angle to an edge of a workpiece, and can be used to measure angles
range: 0-180°
accuracy: $\pm 20\text{min}$
- Square head (made of cast iron):
set the blade at 90° or 45° to an edge of a workpiece
accuracy: $\pm 8\text{min}$ for 90° square,
 $\pm 10\text{min}$ for 45° square
- Blade (made of stainless steel):
range: 300mm/12",
graduation: 0.5mm and 1/32" on front face,
1mm and 1/64" on back face
- Optional accessory: rigid rule (code 7113)



Code **Remark**
2274-4 4-piece set

COMBINATION SQUARE SETS (CLOSE TYPE PROTRACTOR)



2278-2

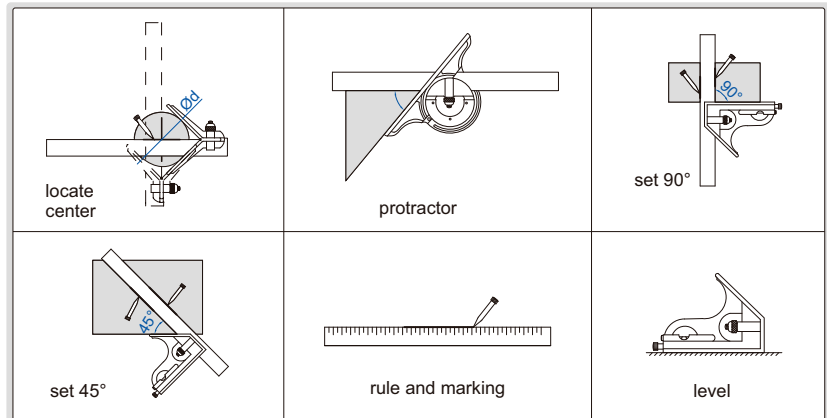
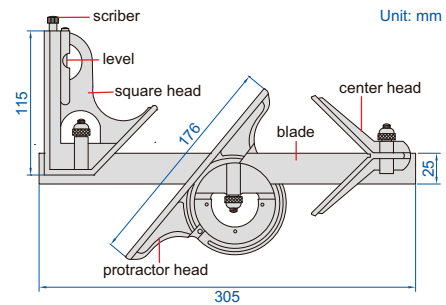


2278-3



2278-180

- Center head (made of cast iron):
to locate center of cylinders with diameter (Ød): 30-100mm
accuracy: ±0.15mm
- Protractor head (made of cast iron):
set the blade at desired angle to an edge of a workpiece,
and can be used to measure angles
range: 0-180°
accuracy: ±20min.
- Square head (made of cast iron):
set the blade at 90° or 45° to an edge of a workpiece
accuracy: ±8min for 90° square,
±10min for 45° square
- Blade (made of stainless steel):
range: 300mm/12",
graduation: 0.5mm and 1/32" on front face,
1mm and 1/64" on back face
- Optional accessory: rigid rule (code 7113)



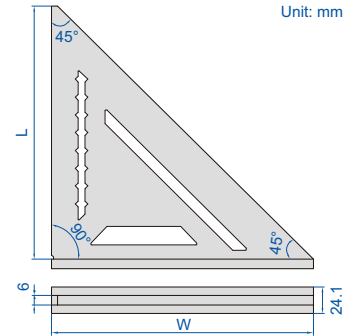
| Code | Remark |
|----------|-------------|
| 2278-2 | 2-piece set |
| 2278-3 | 3-piece set |
| 2278-180 | 4-piece set |

PLASTIC ANGLE SQUARE

- Length range: 0-7", graduation: 1/8"
- Angel range: 0-90°, graduation: 1°



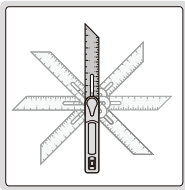
2282-180



| Code | Size (L×W) | Accuracy of angle |
|----------|------------|-------------------|
| 2282-180 | 180×185mm | ±0.3° |

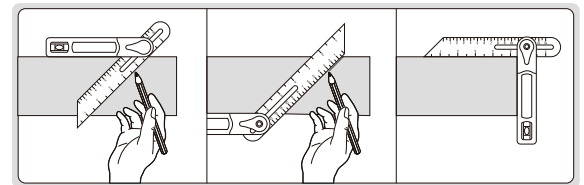
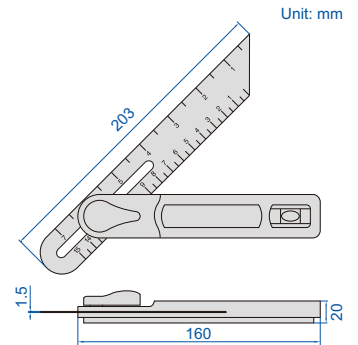
T-BEVEL

blade can rotate 360°



2281-360

- Easy-to-read vial
- The blade can move and can be locked by the clamping screw
- Stainless steel blade
- Tough rubber handle
- Centimeter/inch graduations



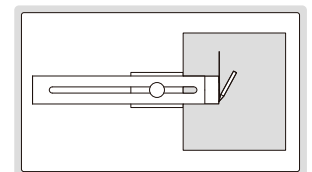
| Code | Angle mark | Accuracy of angle |
|----------|-------------------------|-------------------|
| 2281-360 | 15°, 30°, 45°, 60°, 90° | ±1° |

MARKING GAGES

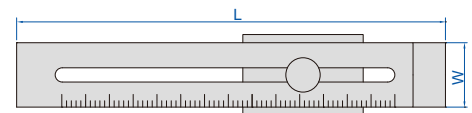


7120-200A

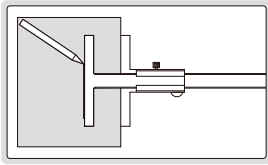
- Made of carbon steel
- Satin chrome plated



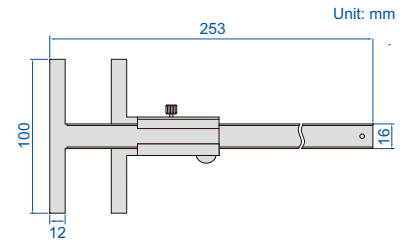
| Code | Range | Graduation | Accuracy | L | W |
|-----------|---------|------------|----------|-------|------|
| 7120-200A | 0-200mm | 0.1mm | ±0.1mm | 250mm | 40mm |
| 7120-250A | 0-250mm | 0.1mm | ±0.1mm | 300mm | 40mm |
| 7120-300A | 0-300mm | 0.1mm | ±0.1mm | 350mm | 40mm |



T-SHAPE MARKING GAGE



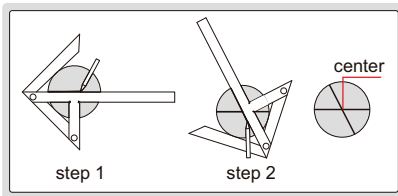
1275-150B



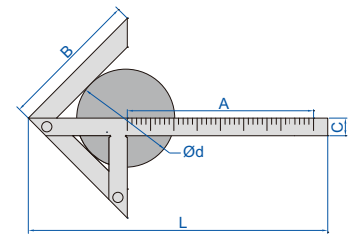
- Made of stainless steel
- Satin chrome plated reading surface

| Code | Range | Graduation | Accuracy |
|-----------|---------|------------|----------|
| 1275-150B | 0-150mm | 0.02mm | ±0.04mm |

CENTER MARKING GAGES



7205-100

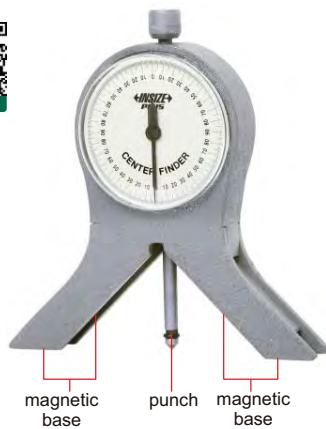


| Code | Size (AxB) | Diameter of shafts (Ød) | Accuracy | C | L |
|----------|------------|-------------------------|----------|------|-------|
| 7205-100 | 100x70mm | 4-90mm | ±0.15mm | 12mm | 153mm |
| 7205-150 | 150x130mm | 4-190mm | ±0.15mm | 15mm | 245mm |
| 7205-200 | 200x150mm | 6-220mm | ±0.15mm | 15mm | 310mm |
| 7205-300 | 300x180mm | 6-270mm | ±0.15mm | 20mm | 435mm |

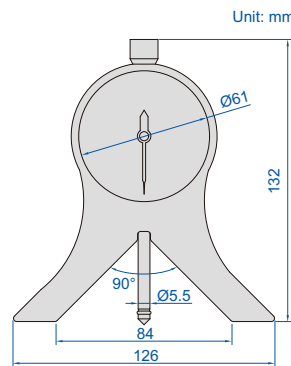
- Marking the center of round plates and shafts
- Made of stainless steel
- Satin chrome plated

LOCATOR

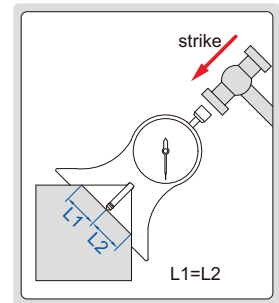
INSIZE PLUS
MADE IN USA



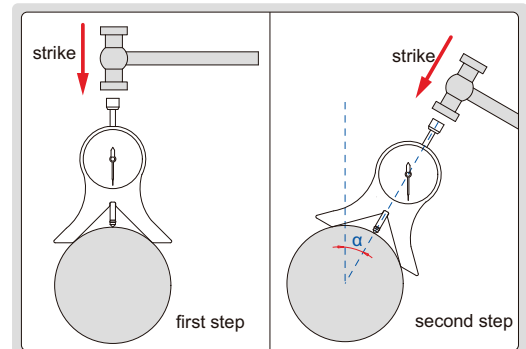
2849-90



mark the center position



mark the angle on cylindrical workpieces



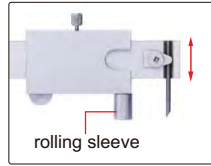
- Mark the position when drilling, milling or welding, suitable for cylindrical and rectangular workpieces
- The punch hardness is HRC59-63
- Optional accessory: punch (code 2849-P1)

| Code | Range | Graduation | Accuracy | Dial reading |
|---------|-------|------------|----------|--------------|
| 2849-90 | 4x90° | 1° | ±1° | 0-90-0-90-0 |

SCRIBING CALIPER

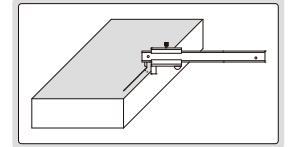
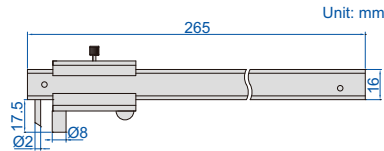
- Made of stainless steel
- Satin chrome plated reading surface
- Carbide scriber tip
- Optional accessory: carbide scriber tip (code **SP-SCRIBER-7202**)

the position of scriber tip can be adjusted



7202-200A

| Code | Range | Graduation | Accuracy |
|-----------|--------------|---------------|----------|
| 7202-200A | 0-200mm/0-8" | 0.1mm, 1/128" | ±0.1mm |



DIGITAL SCRIBING CALIPERS

- Non waterproof
- The carbide-tipped jaws facilitate scribing on workpieces
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel

DATA OUTPUT



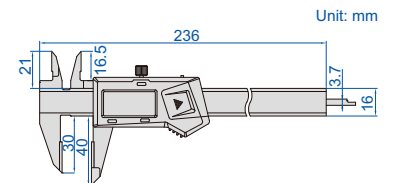
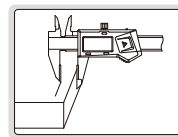
1166-150A

With data interface (data output cable code 7315-21 need receiver page 4, 7302-21 page 12, optional)

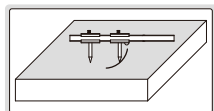
| Code | Range | Accuracy |
|-----------|--------------|----------|
| 1166-150A | 0-150mm/0-6" | ±0.03mm |

Built-in wireless (receiver code 7315-2/3/6/7/8/9 is required)

| Code | Range | Accuracy |
|-------------|--------------|----------|
| 1166-150AWL | 0-150mm/0-6" | ±0.03mm |



SCRIBING CALIPER

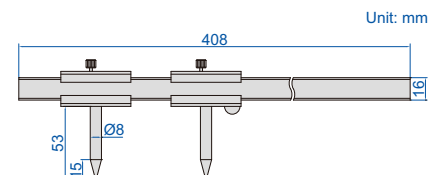


- Made of stainless steel
- Satin chrome plated reading surface
- Hardened scriber tips



7203-300A

| Code | Range | Graduation | Accuracy |
|-----------|----------|------------|----------|
| 7203-300A | 51-300mm | 0.1mm | ±0.1mm |

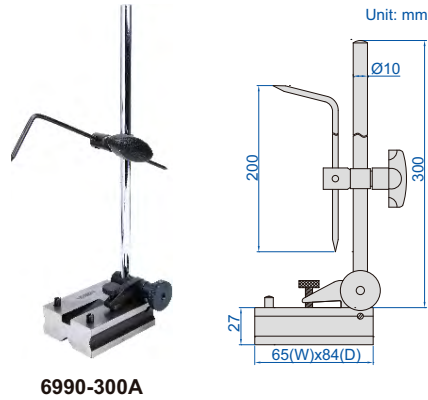


HEIGHT SCRIBER

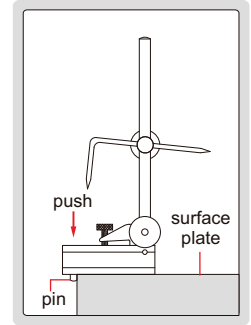
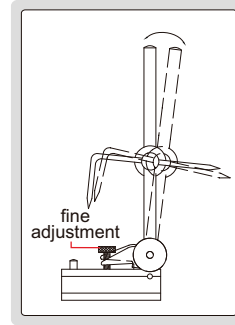
- Grooved bottom for cylinders
- Two pins to be set against the edge of surface plate

Code

6990-300A



6990-300A



SCRIBERS

- 7230 and 7231 are nickel plated, 7232 is zinc-plated

Code

Tip

7230

hardened tips

7231

hardened tip

7232

carbide tip

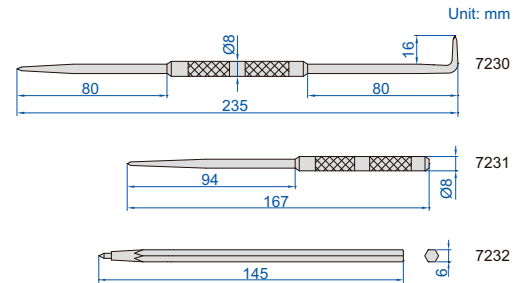


7230

7231

7232

clip



PRECISION SCREWDRIVER SET CODE ISGF-0901

- Includes:
 - 4 pcs "-": 1.4mm, 2.0mm, 2.4mm, 3.0mm
 - 2 pcs "+": 0#, 1#
- Rotating cap
- Material: CRV, hardness: HRC52~56



ISGF-0901

packaging



LED FLASHLIGHT CODE ISGF-0501

- Toshiba high performance LED
- Powered by 3x AAA batteries (batteries are not included)
- Max output: 120 lumens
- Battery life: 4 hours
- Beam distance: 70 meters
- IP54 dust/waterproof



ISGF-0501

packaging



MEASURING TOOLS REPAIR TOOL SET

- For repairing of calipers, micrometers and indicators
- Including:
 - 1) Slotted screwdriver, 1.4×20mm
 - 2) Slotted screwdriver, 2.0×20mm
 - 3) Slotted screwdriver, 2.4×25mm
 - 4) Slotted screwdriver, 3.0×25mm
 - 5) Cross screwdriver, 0#×25mm
 - 6) Cross screwdriver, 1#×25mm
 - 7) Magnetizer and demagnetizer
 - 8) Pointed tweezers, 125mm
 - 9) Mini needle-nose pliers, 5"
 - 10) Extended flat head allen wrench, 1.5×80mm
 - 11) Extended flat head allen wrench, 2.5×94mm
 - 12) Extended flat head allen wrench, 3×92mm
 - 13) Needle puller, 3 pcs
 - 14) Copper hammer, 126g
 - 15) Copper rod, Ø10×60mm
 - 16) Dial face suction cup, Ø30mm
 - 17) Oil stone, 100×20×10mm
 - 18) Cleaning brush
 - 19) Micrometer wrench
 - 20) Three point inside micrometer rod wrench, 2 pcs
 - 21) Anti rust oil, 30ml
 - 22) Special anti rust oil for micrometers, 30ml
 - 23) Dust free cloth, 5 pcs



7338-1

Code

7338-1

2-PIECE MEASURING TOOL SETS

- Includes:
 - 1) Vernier caliper, range 0-150mm/0-6", graduation 0.05mm/1/128" (code **1205-150S**) for **5021**, graduation 0.02mm/0.001" (code **1205-1502S**) for **5021-2**
 - 2) Outside micrometer, range 0-25mm, graduation 0.01mm (code **3202-25A**)

| Code | Remark |
|--------|---|
| 5021 | vernier caliper, graduation 0.05mm/1/128" (code 1205-150S) |
| 5021-2 | vernier caliper, graduation 0.02mm/0.001" (code 1205-1502S) |



5021

2-PIECE MEASURING TOOL SET

- Includes:
 - 1) Digital caliper, range 0-150mm/0-6", resolution 0.01mm/0.0005" (code **1108-150**)
 - 2) Digital outside micrometer, range 0-25mm/0-1", resolution 0.001mm/0.00005" (code **3109-25A**)



5022

Code

5022

2-PIECE MEASURING TOOL SET

- Includes:
 - 1) Dial test indicator, range 0.8mm, graduation 0.01mm (code **2380-08**)
 - 2) Magnetic stand

Code

5023



5023

2-PIECE MEASURING TOOL SET

- Includes:
 - 1) Dial indicator, range 10mm, graduation 0.01mm (code **2308-10A**)
 - 2) Magnetic stand (code **6201-60**)

Code

5024



5024

3-PIECE MEASURING TOOL SET

- Includes:
 - 1) Digital indicator, range 12.7mm/0.5", resolution 0.01mm/0.0005" (code **2112-10**)
 - 2) Flex arm
 - 3) Locking pliers, adjustable jaw opening from 0 to 25mm



Code

5031



5031

3-PIECE MEASURING TOOL SET

- Includes:
 - 1) Vernier caliper, range 0-150mm graduation 0.02mm (code **1205-1501S**)
 - 2) Outside micrometer, range 0-25mm, graduation 0.01mm (code **3203-25A**)
 - 3) Steel rule, range 150mm/6", graduation 0.5mm, 1mm, 1/64", 1/32", 1/16" (code **7110-150**)
 - 4) Dust free gloves and dust free cloth

dust free gloves and
dust free cloth



Code

5032



5032

4-PIECE MEASURING TOOL SETS



5041

- Includes:
 - 1) Vernier caliper, range 0-150mm/0-6", graduation 0.05mm/1/128" (code **1205-150S**) for **5041**, graduation 0.02mm/0.001" (code **1205-1502S**) for **5041-2**
 - 2) Outside micrometer, range 0-25mm, graduation 0.01mm (code **3202-25A**)
 - 3) 90° beveled edge square, 100x70mm, grade 0 (code **4790-1000**)
 - 4) Steel rule, 150mm/6" (code **7110-150**)

| Code | Remark |
|---------------|---|
| 5041 | vernier caliper, graduation 0.05mm/1/128" (code 1205-150S) |
| 5041-2 | vernier caliper, graduation 0.02mm/0.001" (code 1205-1502S) |

4-PIECE MEASURING TOOL SET



5042

- Includes:
 - 1) Digital caliper, range 0-150mm/0-6", resolution 0.01mm/0.0005" (code **1108-150**)
 - 2) Outside micrometer, range 0-25mm, graduation 0.01mm, (code **3202-25A**)
 - 3) 90° beveled edge square, 100x70mm, grade 0 (code **4790-1000**)
 - 4) Steel rule, 150mm/6" (code **7110-150**)

| Code |
|-------------|
| 5042 |

5-PIECE MEASURING TOOL SET



5051

- Includes:
 - 1) Digital caliper, range 0-150mm/0-6", resolution 0.01mm/0.0005", (code **1108-150**)
 - 2) Outside micrometer, range 0-25mm, graduation 0.01mm (code **3203-25A**)
 - 3) Dial indicator, range 10mm, graduation 0.01mm (code **2308-10A**)
 - 4) Magnetic stand (code **6201-60**)
 - 5) Micrometer stand (code **6300**)

| Code |
|-------------|
| 5051 |

5-PIECE MEASURING TOOL SET



5052

- Includes:
 - 1) Digital caliper, range 0-150mm/0-6", resolution 0.01mm/0.0005" (code **1108-150**)
 - 2) Digital outside micrometer, range 0-25mm/0-1", resolution 0.001mm/0.00005" (code **3109-25A**)
 - 3) Digital indicator, range 12.7mm/0.5", resolution 0.01mm/0.0005" (code **2112-10**)
 - 4) Magnetic stand (code **6201-60**)
 - 5) Micrometer stand (code **6300**)

| Code |
|-------------|
| 5052 |

6-PIECE MEASURING TOOL SET

■ Includes:

- 1) Digital caliper, range 0-150mm/0-6", resolution 0.01mm/0.0005" (code **1108-150**)
- 2) Outside micrometer, range 0-25mm, graduation 0.01mm (code **3202-25A**)
- 3) Dial indicator, range 10mm, graduation 0.01mm (code **2308-10FA**)
- 4) 90° beveled edge square, 100x70mm, grade 0 (code **4790-1000**)
- 5) Scriber (code **7230**)
- 6) Steel rule, 150mm/6" (code **7110-150**)

Code

5061



5061

6-PIECE MEASURING TOOL SET

■ Includes:

- 1) Digital caliper, range 0-150mm/0-6" resolution 0.01mm/0.0005" (code **1108-150**)
- 2) Outside micrometer, range 0-25mm graduation 0.01mm (code **3202-25A**)
- 3) 90° beveled edge square, 100x70mm grade 00 (code **4790-0100**)
- 4) Straight edge, 100mm (code **4700-100**)
- 5) Spring divider, 150mm (code **7260-150**)
- 6) Steel rule, 200mm/8" (code **7110-200**)

Code

5062



5062

6-PIECE MEASURING TOOL SETS

■ Includes:

- 1) Vernier caliper, range 0-150mm/0-6", graduation 0.05mm/1/128" (code **1205-150S**) for **5063**, graduation 0.02mm/0.001" (code **1205-1502S**) for **5063-2**
- 2) Outside micrometer, range 0-25mm graduation 0.01mm (code **3202-25A**)
- 3) 90° beveled edge square, 100x70mm grade 00 (code **4790-0100**)
- 4) Straight edge, 100mm (code **4700-100**)
- 5) Spring divider, 150mm (code **7260-150**)
- 6) Steel rule, 200mm/8" (code **7110-200**)

| Code | Remark |
|--------|---|
| 5063 | vernier caliper, graduation 0.05mm/1/128" (code 1205-150S) |
| 5063-2 | vernier caliper, graduation 0.02mm/0.001" (code 1205-1502S) |



5063

8-PIECE MEASURING TOOL SET

- Includes:
 - 1) Digital caliper, range 0-150mm/0-6", resolution 0.01mm/0.0005" (code **1108-150**)
 - 2) Digital outside micrometer, range 0-25mm/0-1", graduation 0.001mm/0.00005" (code **3109-25A**)
 - 3) Dial test indicator, range 0.8mm, graduation 0.01mm (code **2380-08**)
 - 4) Magnetic stand (code **6201-60**)
 - 5) Parallel/square set, 75x50x25mm (code **6531-25**)
 - 6) Steel rule, 150mm/6" (code **7110-150**)
 - 7) Depth base attachment (code **6140**)
 - 8) Zero setting bar for depth base attachment

Code

5081



5081

9-PIECE MEASURING TOOL SET

- Includes:
 - 1) Digital caliper, range 0-150mm/0-6", resolution 0.01mm/0.0005" (code **1108-150**)
 - 2) Outside micrometer, range 0-25mm, graduation 0.01mm (code **3202-25A**)
 - 3) Protractor, range 0-180°, graduation 1° (code **4799-180**)
 - 4) Pitch gauge, range 0.25-7mm, 24 pcs, metric 60° thread (code **4820-124**)
 - 5) Radius gauge, range 1-7mm (code **4801-17**)
 - 6) Feeler gauge, range 0.05-1.00mm, 20 pcs (code **4602-20**)
 - 7) 90° beveled edge square, 100x70mm, grade 0 (code **4790-1000**)
 - 8) Scriber (code **7230**)
 - 9) Steel rule, 150mm/6" (code **7110-150**)

Code

5091



5091

13-PIECE MEASURING TOOL SET

- Includes:
 - 1) Digital caliper, range 0-150mm/0-6", resolution 0.01mm/0.0005" (code **1108-150**)
 - 2) Outside micrometer, range 0-25mm, graduation 0.01mm (code **3202-25A**)
 - 3) Dial indicator, range 10mm, graduation 0.01mm (code **2308-10A**)
 - 4) Magnetic stand (code **6201-60**)
 - 5) Protractor, range 0-180°, graduation 1° (code **4799-180**)
 - 6) Pitch gauge, range 0.25-7mm, 24 pcs, metric 60° thread (code **4820-124**)
 - 7) Radius gauge, range 1-7mm (code **4801-17**)
 - 8) Feeler gauge, range 0.05-1.00mm, 20 pcs (code **4602-20**)
 - 9) 90° beveled edge square, 100x70mm, grade 0 (code **4790-1000**)
 - 10) Scriber (code **7230**)
 - 11) Steel rule, 150mm/6" (code **7110-150**)
 - 12) Depth base attachment (code **6140**)
 - 13) Zero setting bar for depth base attachment

Code

5013



5013



Granite Surface Plates
Page 450



Jack Sets For Granite Surface Plates
Page 451



Stands For Granite Surface Plates
Page 451



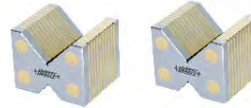
Magnetic Rectangular Blocks
Page 452



V-blocks
Page 452-456



Magnetic V-blocks
Page 456-458



Magnetic Induction V-blocks
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Squares With V Groove
Page 459



Permanent Magnetic Chucks
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Parallels
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Parallel/Square Sets
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Magnetic Induction Parallel Sets
Page 463



Angle Plate Sets
Page 463



Adjustable Angle Blocks
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Right Angle Plates
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Sine Bars
Page 465



Sine Tables
Page 466



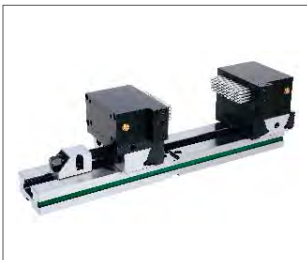
Precision Sine Vises
Page 467-468



Precision Universal Vises
Page 468



Precision Vises
Page 469



Anvil Vises
Page 469



Stages
Page 470-473

GRANITE SURFACE PLATES



CUSTOM-MADE
SUPPLY SPECIAL SIZES ACCORDING
TO CUSTOMER'S REQUEST

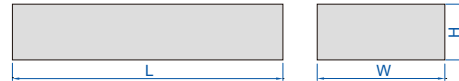
- Made of Indian granite, high hardness, free from deterioration or dimensional change over time, minimal changes in dimension due to temperature changes
- Meet DIN876, grade 00 is for inspection room or lab, grade 0 is for workshop
- Optional accessory:
stand for granite surface plate (code **6902**),
jack for granite surface plate (code **6903**)



6900-132

Grade 00

| Code | Size (L×W×H) | Flatness | Weight | Max. load |
|------------|-----------------|----------|--------|-----------|
| 6900-132* | 300×200×60mm | 2.7µm | 11kg | 30kg |
| 6900-142* | 400×250×60mm | 2.9µm | 18kg | 50kg |
| 6900-144* | 400×400×60mm | 3.1µm | 29kg | 60kg |
| 6900-153* | 500×315×70mm | 3.2µm | 33kg | 60kg |
| 6900-164* | 630×400×80mm | 3.5µm | 60kg | 65kg |
| 6900-166* | 630×630×100mm | 3.8µm | 119kg | 75kg |
| 6900-185* | 800×500×100mm | 3.9µm | 120kg | 100kg |
| 6900-1106* | 1000×630×140mm | 4.4µm | 265kg | 200kg |
| 6900-1107* | 1000×750×150mm | 4.5µm | 337kg | 300kg |
| 6900-1101* | 1000×1000×150mm | 4.8µm | 450kg | 400kg |
| 6900-1128* | 1200×800×160mm | 4.9µm | 461kg | 500kg |
| 6900-1161* | 1600×1000×180mm | 5.8µm | 864kg | 600kg |
| 6900-1201* | 2000×1000×220mm | 6.5µm | 1320kg | 650kg |
| 6900-1202* | 2000×1500×250mm | 7.0µm | 2250kg | 750kg |



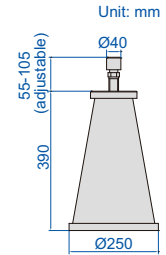
Grade 0

| Code | Size (L×W×H) | Flatness | Weight | Max. load |
|------------|-----------------|----------|--------|-----------|
| 6900-032* | 300×200×60mm | 5.4µm | 11kg | 60kg |
| 6900-042* | 400×250×60mm | 5.9µm | 18kg | 100kg |
| 6900-044* | 400×400×60mm | 6.3µm | 29kg | 120kg |
| 6900-053* | 500×315×70mm | 6.4µm | 33kg | 120kg |
| 6900-064* | 630×400×80mm | 7.0µm | 60kg | 130kg |
| 6900-066* | 630×630×100mm | 7.6µm | 119kg | 150kg |
| 6900-085* | 800×500×100mm | 7.8µm | 120kg | 200kg |
| 6900-0106* | 1000×630×140mm | 8.7µm | 265kg | 400kg |
| 6900-0107* | 1000×750×150mm | 9.0µm | 337kg | 600kg |
| 6900-0101* | 1000×1000×150mm | 9.7µm | 450kg | 800kg |
| 6900-0128* | 1200×800×160mm | 9.8µm | 461kg | 1000kg |
| 6900-0161* | 1600×1000×180mm | 11.5µm | 864kg | 1200kg |
| 6900-0201* | 2000×1000×220mm | 12.9µm | 1320kg | 1300kg |
| 6900-0202* | 2000×1500×250mm | 14.0µm | 2250kg | 1500kg |

*Supplied with manufacturer inspection certificate

JACK SET FOR GRANITE SURFACE PLATES

- 5 jacks per set
- Adjustable height
- For large granite surface plates:
2000×1000×220mm
(code **6900-0201** and **6900-1201**)
2000×1500×250mm
(code **6900-0202** and **6900-1202**)

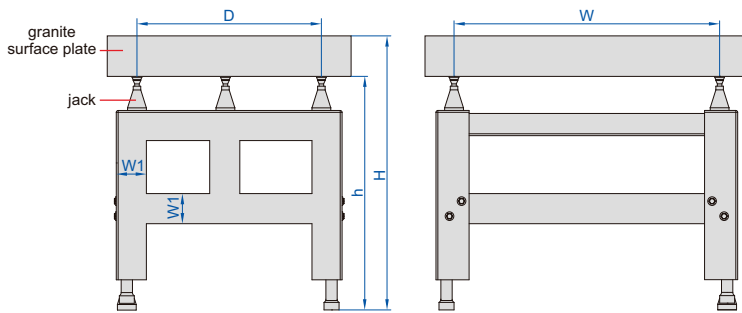


6903-B

Code

6903-B

STANDS FOR GRANITE SURFACE PLATES



6902-64A

- For medium size granite surface plates
- 5 jacks are included
- Adjusting range of jacks: 25mm
- One foot on the bottom is adjustable

Low stands

(mm)

| Code | For granite surface plate | W | D | H (with granite surface plate) | h (without granite surface plate) | W1 |
|-----------|---|------|-----|--------------------------------|-----------------------------------|-----|
| 6902-64A | 630×400×80mm (code 6900-064 and 6900-164) | 352 | 224 | 775-800 | 695-720 | 80 |
| 6902-66A | 630×630×100mm (code 6900-066 and 6900-166) | 352 | 352 | 775-800 | 675-700 | 80 |
| 6902-85A | 800×500×100mm (code 6900-085 and 6900-185) | 448 | 280 | 775-800 | 675-700 | 80 |
| 6902-106A | 1000×630×140mm (code 6900-0106 and 6900-1106) | 560 | 352 | 755-780 | 615-640 | 80 |
| 6902-107A | 1000×750×150mm (code 6900-0107 and 6900-1107) | 560 | 420 | 755-780 | 605-630 | 80 |
| 6902-101A | 1000×1000×150mm (code 6900-0101 and 6900-1101) | 560 | 560 | 755-780 | 605-630 | 80 |
| 6902-128A | 1200×800×160mm (code 6900-0128 and 6900-1128) | 672 | 448 | 755-780 | 595-620 | 80 |
| 6902-161A | 1600×1000×180mm (code 6900-0161 and 6900-1161) | 896 | 560 | 755-780 | 575-600 | 100 |
| 6902-201A | 2000×1000×220mm (code 6900-0201 and 6900-1201) | 1120 | 560 | 755-780 | 535-560 | 100 |
| 6902-202A | 2000×1500×250mm (code 6900-0202 and 6900-1202) | 1120 | 840 | 755-780 | 505-530 | 100 |

High stands

(mm)

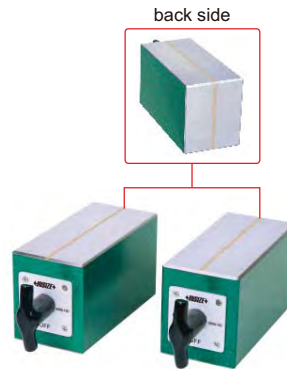
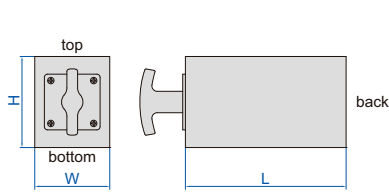
| Code | For granite surface plate | W | D | H (with granite surface plate) | h (without granite surface plate) | W1 |
|-----------|---|------|-----|--------------------------------|-----------------------------------|-----|
| 6902-64H | 630×400×80mm (code 6900-064 and 6900-164) | 352 | 224 | 1000-1025 | 920-945 | 80 |
| 6902-66H | 630×630×100mm (code 6900-066 and 6900-166) | 352 | 352 | 1000-1025 | 900-925 | 80 |
| 6902-85H | 800×500×100mm (code 6900-085 and 6900-185) | 448 | 280 | 1000-1025 | 900-925 | 80 |
| 6902-106H | 1000×630×140mm (code 6900-0106 and 6900-1106) | 560 | 352 | 1000-1025 | 860-885 | 80 |
| 6902-107H | 1000×750×150mm (code 6900-0107 and 6900-1107) | 560 | 420 | 1000-1025 | 850-875 | 80 |
| 6902-101H | 1000×1000×150mm (code 6900-0101 and 6900-1101) | 560 | 560 | 1000-1025 | 850-875 | 80 |
| 6902-128H | 1200×800×160mm (code 6900-0128 and 6900-1128) | 672 | 448 | 1000-1025 | 840-865 | 80 |
| 6902-161H | 1600×1000×180mm (code 6900-0161 and 6900-1161) | 896 | 560 | 1000-1025 | 820-845 | 100 |
| 6902-201H | 2000×1000×220mm (code 6900-0201 and 6900-1201) | 1120 | 560 | 1000-1025 | 780-805 | 100 |
| 6902-202H | 2000×1500×250mm (code 6900-0202 and 6900-1202) | 1120 | 840 | 1000-1025 | 750-775 | 100 |

MAGNETIC RECTANGULAR BLOCKS

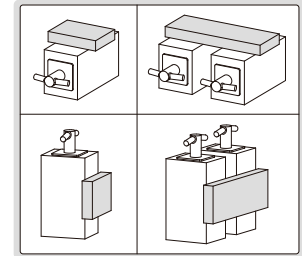
HARDENED SURFACES

HIGH PRECISION

STRONG MAGNETIC FORCE



6898-150



- For grinding, light milling, drilling and inspection of round and square jobs
- Hardened, high accuracy, strong magnetic force
- Working surfaces are hardened to HRC58-62
- Magnetic force on top, bottom and back sides
- Supplied in matched pair

| Code | Size (L×W×H) | Magnetic force | Parallelism of top to bottom side | Squareness of top and bottom to back side | Height difference of a matched pair |
|----------|--------------|----------------|-----------------------------------|---|-------------------------------------|
| 6898-100 | 100×70×70mm | 100kgf | 5μm | 5μm | 5μm |
| 6898-150 | 150×70×85mm | 125kgf | 5μm | 5μm | 5μm |

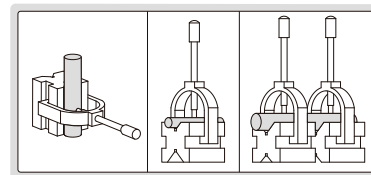
V-BLOCK SETS



6896-10

6896-11

- Hold cylindrical workpieces for inspection and machining
- Two V-blocks per set
- Made of alloy steel
- Hardened to HRC60±2
- V groove on the top for large shafts
- V groove on the bottom for small shafts (except 6896-10)



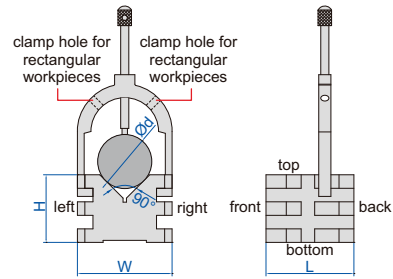
| Code | Size (L×W×H) | Range of shafts (Ød) | Parallelism of both V grooves to top and bottom sides | Squareness of both V grooves to front and back sides | Height difference of a matched pair |
|---------|--------------|----------------------|---|--|-------------------------------------|
| 6896-10 | 25×20×20mm | 3-20mm | 3μm | 3μm | 3μm |
| 6896-11 | 50×40×40mm | 5-30mm | 5μm | 5μm | 5μm |
| 6896-12 | 80×63×63mm | 7-63mm | 5μm | 5μm | 5μm |
| 6896-13 | 100×80×80mm | 7-80mm | 5μm | 5μm | 5μm |
| 6896-14 | 70×140×140mm | 9-140mm | 5μm | 5μm | 5μm |

SIDE LIE-DOWN
USE IS POSSIBLE

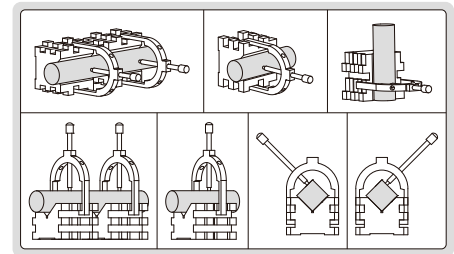
V-BLOCK SET



6802-1



- Hold cylindrical or rectangular workpieces for inspection and machining
- Two V-blocks per set
- Made of alloy steel
- Hardened to HRC60±2
- Applicable for cylinder with diameter (Ød): 5-50mm
- Applicable for rectangular workpieces with thickness: ≤35mm



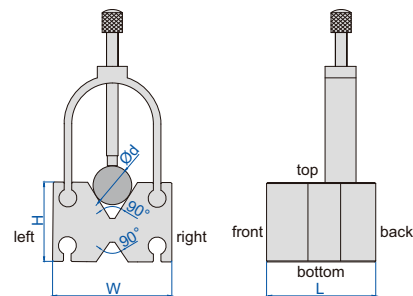
| Code | Size (L×W×H) | Parallelism of V groove to top, bottom, left, right sides | Squareness of V groove to front and back sides | Height difference of a matched pair |
|--------|--------------|---|--|-------------------------------------|
| 6802-1 | 65×70×50mm | 5µm | 5µm | 5µm |

SIDE LIE-DOWN
USE IS POSSIBLE

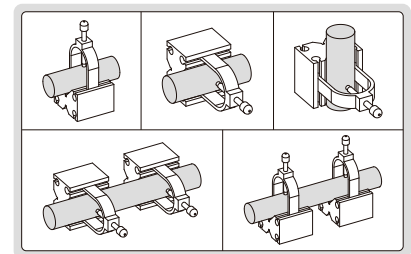
V-BLOCK SETS



6803-1



- Hold cylindrical workpieces for inspection and machining
- Two V-blocks per set
- Made of alloy steel
- Hardened to HRC60±2
- V groove on the top for large shafts
- V groove on the bottom for small shafts



| Code | Size (L×W×H) | Range of shafts (Ød) | Parallelism of both V grooves to top, bottom, left, right sides | Squareness of both V grooves to front and back sides | Height difference of a matched pair |
|--------|--------------|----------------------|---|--|-------------------------------------|
| 6803-1 | 55×60×40mm | 4-35mm | 5µm | 5µm | 5µm |
| 6803-2 | 65×70×45mm | 4-47mm | 5µm | 5µm | 5µm |

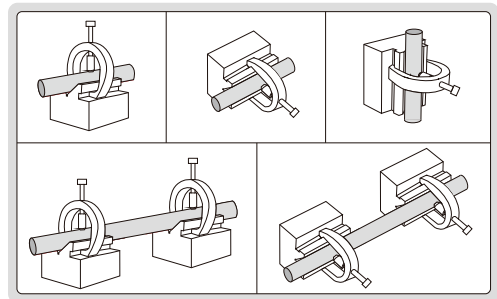
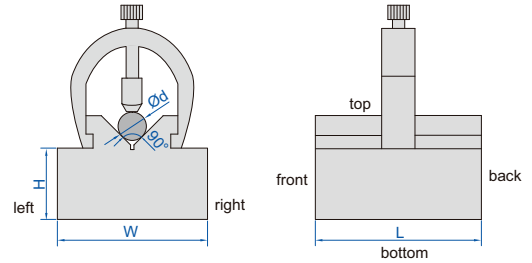
V-BLOCK SET

SIDE LIE-DOWN
USE IS POSSIBLE



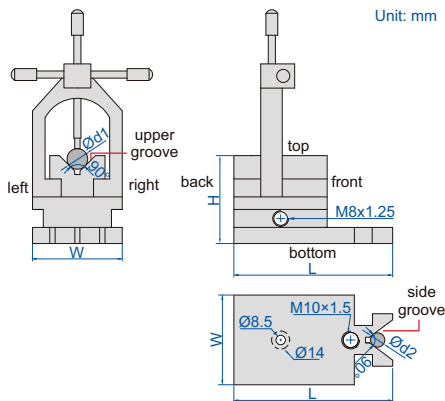
6806-20

- Hold cylindrical workpieces for inspection and machining
- Two V-blocks per set
- Made of alloy steel
- Hardened to HRC60±2
- Applicable for cylinder with diameter (Ød): 2-20mm



| Code | Size (L×W×H) | Parallelism of V groove to bottom, left, right sides | Squareness of V groove to front and back sides | Height difference of a matched pair |
|---------|--------------|--|--|-------------------------------------|
| 6806-20 | 70×63×46mm | 5µm | 5µm | 5µm |

V-BLOCK



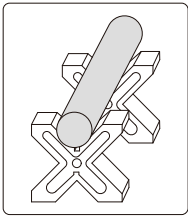
6804-M2

- Hold cylindrical workpieces for inspection and machining
- Made of alloy steel
- Hardened to HRC60±2

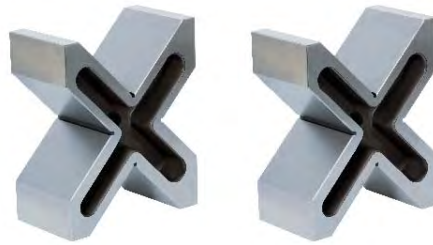


| Code | Size (L×W×H) | Range of shafts (Ød1 and Ød2) | Parallelism of upper groove to bottom, left and right sides | Squareness of upper groove to back side | Parallelism of side groove to back side |
|---------|--------------|-------------------------------|---|---|---|
| 6804-M2 | 90×48×48mm | 5-33mm | 5µm | 5µm | 5µm |

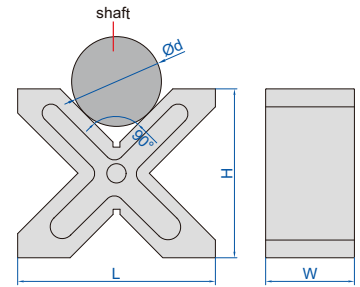
V-BLOCK SETS



- For positioning cylindrical workpieces
- Two V-blocks per set
- Each V-block has four 90° V-grooves
- Cast iron, hardness HB170-240

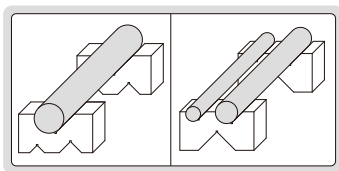


6805-2



| Code | Size (L×H×W) | Range of shafts (Ød) | Parallelism of four V grooves to all sides | Height difference of a matched pair |
|--------|--------------|----------------------|--|-------------------------------------|
| 6805-1 | 150×130×75mm | 8-120mm | 15µm | 20µm |
| 6805-2 | 200×170×90mm | 12-180mm | 15µm | 20µm |

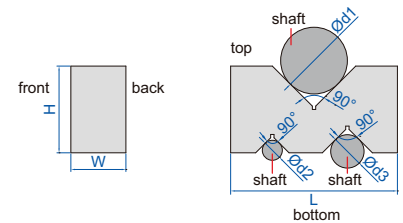
V-BLOCK SETS



- Two V-blocks per set
- Made of hardened tool steel



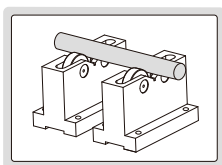
6887-3



| Code | Size (L×W×H) | Range of shafts (Ød1) | Range of shafts (Ød2) | Range of shafts (Ød3) |
|--------|--------------|-----------------------|-----------------------|-----------------------|
| 6887-1 | 50×19×24mm | 3-32mm | 3-16mm | 3-22mm |
| 6887-2 | 75×24×35mm | 3-50mm | 3-20mm | 3-32mm |
| 6887-3 | 100×33×52mm | 3-68mm | 3-26mm | 3-40mm |
| 6887-4 | 125×44×69mm | 3-87mm | 3-34mm | 3-50mm |

| Code | Parallelism of three V grooves to top and bottom sides | Height difference of a matched pair |
|--------|--|-------------------------------------|
| 6887-1 | 5µm | 5µm |
| 6887-2 | 5µm | 5µm |
| 6887-3 | 5µm | 5µm |
| 6887-4 | 5µm | 5µm |

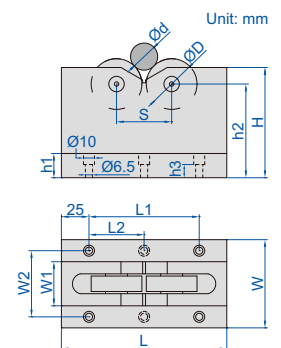
ROLLER BEARING V-BLOCK SETS



- Runout accuracy: 5µm
- Parallelism of bearings to bottom: 12µm
- Two V-blocks per set
- Workpieces don't get damaged due to bearings
- Suitable for heavy workpieces



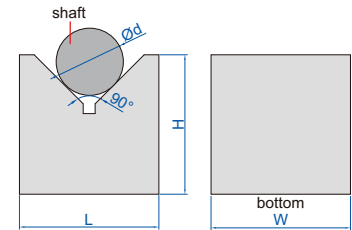
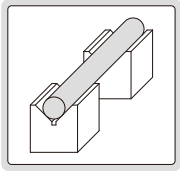
6888-1



| Code | Size (L×W×H) | Code of bearings | Diameter of bearings (ØD) | Range of shafts (Ød) | Load capacity |
|--------|---------------|------------------|---------------------------|----------------------|---------------|
| 6888-1 | 150×60×100mm | 16004 ZZ | 42mm | 25-70mm | 500kg |
| 6888-2 | 150×80×100mm | 6303 ZZ | 47mm | 5-55mm | 1000kg |
| 6888-3 | 230×100×150mm | 6306 ZZ | 72mm | 70-200mm | 1000kg |

| Code | W1 | W2 | h1 | h2 | h3 | L1 | L2 | S |
|--------|----|----|----|-----|----|-----|----|-----|
| 6888-1 | 22 | 44 | 20 | 85 | 12 | 100 | - | 60 |
| 6888-2 | 40 | 60 | 22 | 85 | 12 | 100 | - | 50 |
| 6888-3 | 60 | 80 | 30 | 124 | 20 | 180 | 90 | 120 |

GRANITE V-BLOCK SETS



■ Two V-blocks per set

6897-1

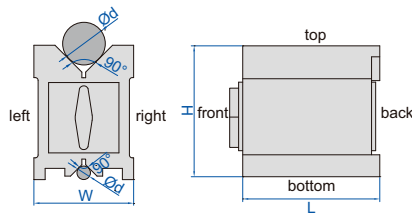
| Code | Size (L×W×H) | Range of shafts (Ød) | Parallelism of V groove to bottom | Height difference of a matchet pair |
|--------|--------------|----------------------|-----------------------------------|-------------------------------------|
| 6897-1 | 70×50×70mm | 6-70mm | 4µm | 5µm |
| 6897-2 | 100×50×70mm | 6-84mm | 4µm | 5µm |

MAGNETIC V-BLOCKS (PROFESSIONAL TYPE)

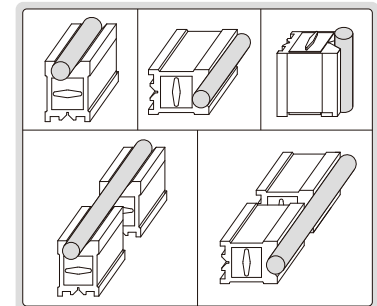
HARDENED SURFACES

HIGH PRECISION

STRONG MAGNETIC FORCE



6889-11



- Hardened, high accuracy, strong magnetic force, for grinding, light milling, drilling and inspection of round and square workpieces
- All working surfaces are hardened to HRC60±2
- Magnetic force on top, bottom and two V grooves
- V groove on the top for large shafts
- V groove on the bottom for small shafts
- Suitable for cast iron surface plates and granite surface plates



6889-1

Individual

| Code | Size (L×W×H) | Range of shafts (Ød) | Magnetic force | Parallelism of V grooves to top, bottom, left, right sides | Squareness of V grooves to back side |
|---------|---------------|----------------------|----------------|--|--------------------------------------|
| 6889-11 | 75×56×75mm | 5-40mm | 85kgf | 5µm | 5µm |
| 6889-22 | 100×70×95mm | 5-65mm | 150kgf | 5µm | 5µm |
| 6889-33 | 150×75×100mm | 5-70mm | 190kgf | 6µm | 6µm |
| 6889-55 | 160×125×130mm | 5-140mm | 220kgf | 12µm | 12µm |
| 6889-44 | 200×125×150mm | 10-140mm | 400kgf | 12µm | 12µm |

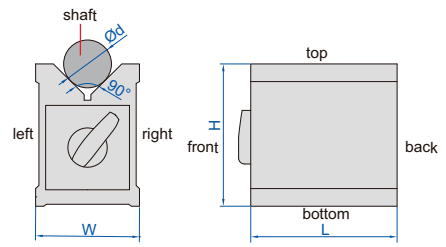
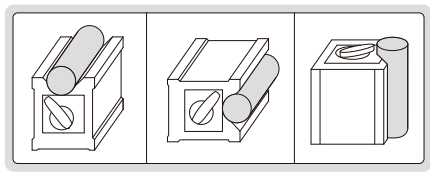
Matched pair

| Code | Size (L×W×H) | Range of shafts (Ød) | Magnetic force | Parallelism of V grooves to top, bottom, left, right sides | Squareness of V grooves to back side | Height difference of a matched pair |
|--------|---------------|----------------------|----------------|--|--------------------------------------|-------------------------------------|
| 6889-1 | 75×56×75mm | 5-40mm | 85kgf | 5µm | 5µm | 5µm |
| 6889-2 | 100×70×95mm | 5-65mm | 150kgf | 5µm | 5µm | 5µm |
| 6889-3 | 150×75×100mm | 5-70mm | 190kgf | 6µm | 6µm | 6µm |
| 6889-5 | 160×125×130mm | 5-140mm | 220kgf | 12µm | 12µm | 12µm |
| 6889-4 | 200×125×150mm | 10-140mm | 400kgf | 12µm | 12µm | 12µm |

ATTENTION: NOT SUITABLE FOR STEEL OR IRON SURFACES, OTHERWISE THE MAGNETIC FORCE WILL BE REDUCED

ATTENTION: NOT HARDENED

MAGNETIC V-BLOCK (ECONOMIC TYPE)



6890-702

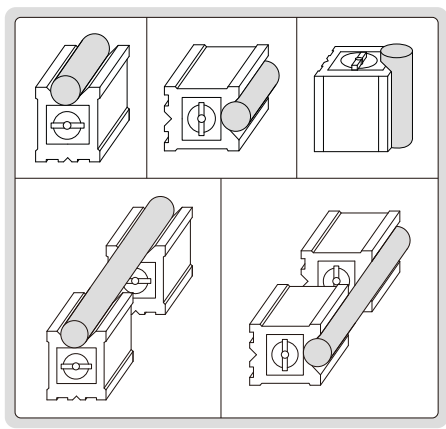
- Hold cylindrical workpieces for inspection and machining
- Supplied in single piece
- Not hardened
- Not suitable for steel or iron surfaces, otherwise the magnetic force will be reduced

| Code | Size (L×W×H) | Range of shafts (Ød) | Magnetic force | Parallelism of V groove to top, bottom, left and right sides | Squareness of V groove to back side |
|----------|--------------|----------------------|----------------|--|-------------------------------------|
| 6890-702 | 70×60×73mm | 6-44mm | 56kgf | 10µm | 10µm |

ATTENTION: NOT SUITABLE FOR STEEL OR IRON SURFACES, OTHERWISE THE MAGNETIC FORCE WILL BE REDUCED

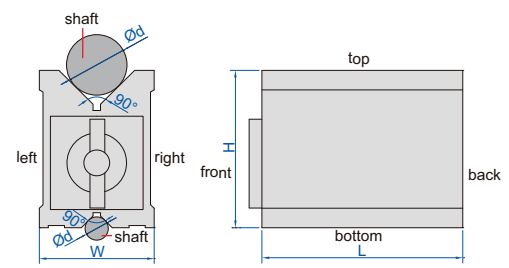
ATTENTION: NOT HARDENED

MAGNETIC V-BLOCKS (ECONOMIC TYPE)



6801-1201

6801-1



- Hold cylindrical workpieces for inspection and machining
- Not hardened
- V groove on the top for large shafts
- V groove on the bottom for small shafts
- Not suitable for steel or iron surfaces, otherwise the magnetic force will be reduced

Individual

| Code | Size (L×W×H) | Range of shafts (Ød) | Magnetic force | Parallelism of V grooves to top, bottom, left, right side | Squareness of V grooves to back side |
|-----------|--------------|----------------------|----------------|---|--------------------------------------|
| 6801-1201 | 80×70×95mm | 6-67mm | 64kgf | 10µm | 10µm |
| 6801-1202 | 100×70×95mm | 6-67mm | 80kgf | 10µm | 10µm |
| 6801-1203 | 120×70×95mm | 6-67mm | 96kgf | 10µm | 10µm |

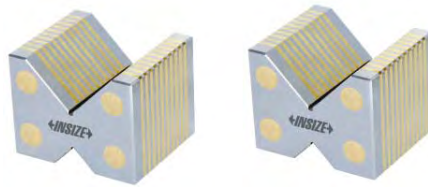
Matched pair

| Code | Size (L×W×H) | Range of shafts (Ød) | Magnetic force | Parallelism of V grooves to top, bottom, left, right side | Squareness of V grooves to back side | Height difference of a matched pair |
|--------|--------------|----------------------|----------------|---|--------------------------------------|-------------------------------------|
| 6801-1 | 80×70×95mm | 6-67mm | 64kgf | 10µm | 10µm | 10µm |
| 6801-2 | 100×70×95mm | 6-67mm | 80kgf | 10µm | 10µm | 10µm |
| 6801-3 | 120×70×95mm | 6-67mm | 96kgf | 10µm | 10µm | 10µm |

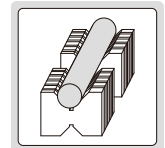
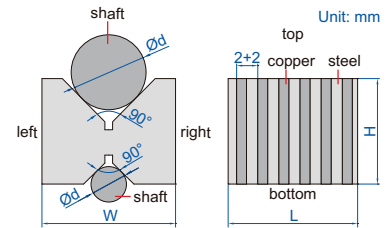
MAGNETIC INDUCTION V-BLOCK SET

ATTENTION: NOT HARDENED, DO NOT ROTATE WORKPIECES ON V-BLOCKS

- Hold cylindrical workpieces for inspection and machining
- To be used on magnetic chucks
- Two V-blocks per set
- V groove on the top for large shafts
- V groove on the bottom for small shafts
- Hardness HRB70
- Copper magnetic strips



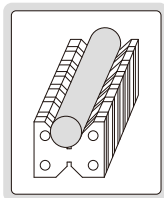
6878-1



| Code | Size (L×W×H) | Range of shafts (Ød) | Pole pitch | Parallelism of both V grooves to top and bottom sides | Height difference of a matched pair |
|--------|--------------|----------------------|------------|---|-------------------------------------|
| 6878-1 | 49×58×46mm | 5-56mm | 2+2mm | 10µm | 10µm |

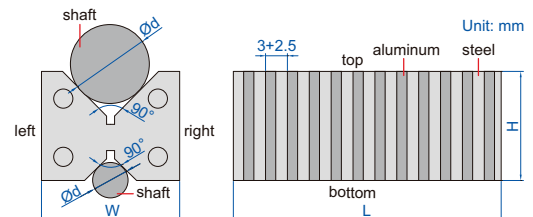
MAGNETIC INDUCTION V-BLOCK

ATTENTION: NOT HARDENED, DO NOT ROTATE WORKPIECES ON V-BLOCKS



6892-1

- Hold cylindrical workpieces for inspection and machining
- To be used on magnetic chucks
- Supplied in single piece
- V groove on the top for large shafts
- V groove on the bottom for small shafts
- Hardness HRB70



| Code | Size (L×W×H) | Range of shafts (Ød) | Pole pitch | Parallelism of both V grooves to top and bottom sides |
|--------|--------------|----------------------|------------|---|
| 6892-1 | 110×60×48mm | 6-50mm | 3+2.5mm | 10µm |

MAGNETIC V-BLOCK SETS

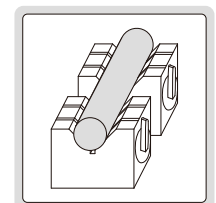
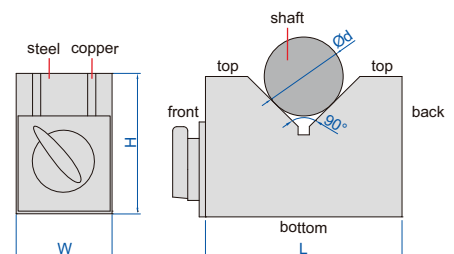
ATTENTION: NOT HARDENED, DO NOT ROTATE WORKPIECES ON V-BLOCKS

ATTENTION: LOW MAGNETIC FORCE

- Hold cylindrical workpieces for inspection, not suitable for machining due to low magnetic force
- Two V-blocks per set
- Hardness HRB70



6891-1



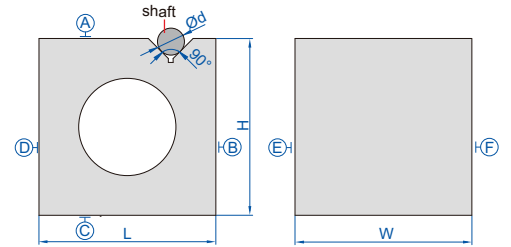
| Code | Size (L×W×H) | Range of shafts (Ød) | Magnetic force | Parallelism of V groove to bottom and back sides | Height difference of a matched pair |
|--------|--------------|----------------------|----------------|--|-------------------------------------|
| 6891-1 | 70×40×50mm | 6-46mm | 15kgf | 10µm | 10µm |
| 6891-3 | 150×50×100mm | 6-125mm | 21kgf | 10µm | 10µm |

GRANITE SQUARE WITH V GROOVE



4142-200

- Parallelism and squareness of A, B, C, D, E and F: 6μm
- Parallelism and squareness of V groove to A, B, C, D, E and F: 6μm



| Code | Size (L×W×H) | Range of shaft (Ød) |
|----------|---------------|---------------------|
| 4142-200 | 200×200×200mm | 9~70mm |

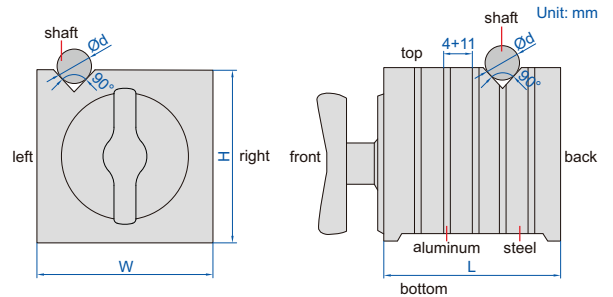
ATTENTION: NOT HARDENED, DO NOT ROTATE WORKPIECES ON V-BLOCKS

MAGNETIC SQUARE WITH V GROOVE



6539-100

- Hold flat and cylindrical workpieces for inspection and machining
- Magnetic force on top, left, right and V grooves
- Parallelism and squareness of top, bottom, left, right and back: 20μm
- Parallelism and squareness of V grooves to top, bottom, left, right and back: 20μm



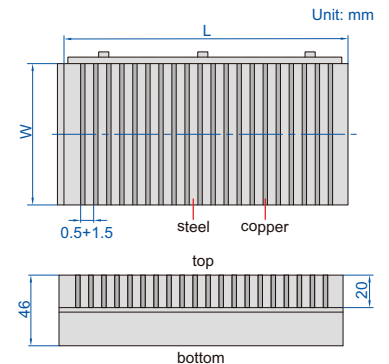
| Code | Size (L×W×H) | Magnetic force of V grooves | | Magnetic force of top, left and right sides | | Range of shafts (Ød) |
|----------|---------------|-----------------------------|--------------------|---|--------------------|----------------------|
| | | on granite surface plate | on cast iron plate | on granite surface plate | on cast iron plate | |
| 6539-100 | 100×100×100mm | 30kgf | 25kgf | 50kgf | 30kgf | 5-30mm |

ATTENTION: NOT HARDENED

PERMANENT MAGNETIC CHUCK



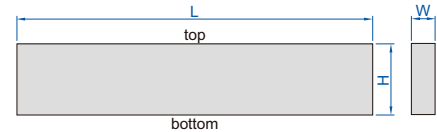
6537-400



| Code | Table size (L×W) | Magnetic force | Pole pitch | Parallelism of top to bottom |
|----------|------------------|----------------------|------------|------------------------------|
| 6537-400 | 400×200mm | 8kgf/cm ² | 0.5+1.5mm | 0.02mm/300mm |

PARALLELS

- Made of alloy tool steel
- Hardened to HRC55-60
- Supplied in pair



6512-2210A

| L=125mm | L=150mm | L=200mm | | | |
|-----------|------------|------------|---------|------------------------------------|-------------------------------------|
| Code | Code | Code | H×W | Parallelism between top and bottom | Height difference of a matched pair |
| 6512-118 | 6512-1181 | 6512-1182 | 11×8mm | 5μm | 5μm |
| 6512-168 | 6512-1681 | 6512-1682 | 16×8mm | 5μm | 5μm |
| 6512-218 | 6512-2181 | 6512-2182 | 21×8mm | 5μm | 5μm |
| 6512-268 | 6512-2681 | 6512-2682 | 26×8mm | 5μm | 5μm |
| 6512-318 | 6512-3181 | 6512-3182 | 31×8mm | 5μm | 5μm |
| 6512-368 | 6512-3681 | 6512-3682 | 36×8mm | 5μm | 5μm |
| 6512-1310 | 6512-13101 | 6512-13102 | 13×10mm | 5μm | 5μm |
| 6512-1810 | 6512-18101 | 6512-18102 | 18×10mm | 5μm | 5μm |
| 6512-2310 | 6512-23101 | 6512-23102 | 23×10mm | 5μm | 5μm |
| 6512-2810 | 6512-28101 | 6512-28102 | 28×10mm | 5μm | 5μm |
| 6512-3310 | 6512-33101 | 6512-33102 | 33×10mm | 5μm | 5μm |
| 6512-3810 | 6512-38101 | 6512-38102 | 38×10mm | 5μm | 5μm |
| 6512-1512 | 6512-15121 | 6512-15122 | 15×12mm | 5μm | 5μm |
| 6512-2012 | 6512-20121 | 6512-20122 | 20×12mm | 5μm | 5μm |
| 6512-2512 | 6512-25121 | 6512-25122 | 25×12mm | 5μm | 5μm |
| 6512-3012 | 6512-30121 | 6512-30122 | 30×12mm | 5μm | 5μm |
| 6512-3512 | 6512-35121 | 6512-35122 | 35×12mm | 5μm | 5μm |
| 6512-4012 | 6512-40121 | 6512-40122 | 40×12mm | 5μm | 5μm |
| 6512-1714 | 6512-17141 | 6512-17142 | 17×14mm | 5μm | 5μm |
| 6512-2214 | 6512-22141 | 6512-22142 | 22×14mm | 5μm | 5μm |
| 6512-2714 | 6512-27141 | 6512-27142 | 27×14mm | 5μm | 5μm |
| 6512-3214 | 6512-32141 | 6512-32142 | 32×14mm | 5μm | 5μm |
| 6512-3714 | 6512-37141 | 6512-37142 | 37×14mm | 5μm | 5μm |
| 6512-4214 | 6512-42141 | 6512-42142 | 42×14mm | 5μm | 5μm |

L=100mm

| Code | H×W | Parallelism between top and bottom | Height difference of a matched pair |
|----------|--------|------------------------------------|-------------------------------------|
| 6512-52 | 5×2mm | 7μm | 7μm |
| 6512-102 | 10×2mm | 5μm | 5μm |
| 6512-152 | 15×2mm | 5μm | 5μm |
| 6512-202 | 20×2mm | 5μm | 5μm |
| 6512-63 | 6×3mm | 7μm | 7μm |
| 6512-113 | 11×3mm | 5μm | 5μm |
| 6512-163 | 16×3mm | 5μm | 5μm |
| 6512-213 | 21×3mm | 5μm | 5μm |
| 6512-74 | 7×4mm | 7μm | 7μm |
| 6512-124 | 12×4mm | 5μm | 5μm |
| 6512-174 | 17×4mm | 5μm | 5μm |
| 6512-224 | 22×4mm | 5μm | 5μm |
| 6512-85 | 8×5mm | 7μm | 7μm |
| 6512-135 | 13×5mm | 5μm | 5μm |
| 6512-185 | 18×5mm | 5μm | 5μm |
| 6512-235 | 23×5mm | 5μm | 5μm |
| 6512-96 | 9×6mm | 7μm | 7μm |
| 6512-146 | 14×6mm | 5μm | 5μm |
| 6512-196 | 19×6mm | 5μm | 5μm |
| 6512-246 | 24×6mm | 5μm | 5μm |

L=150mm

| Code | H×W | Parallelism between top and bottom | Height difference of a matched pair |
|------------|---------|------------------------------------|-------------------------------------|
| 6512-1410A | 14×10mm | 5μm | 5μm |
| 6512-1610A | 16×10mm | 5μm | 5μm |
| 6512-1810A | 18×10mm | 5μm | 5μm |
| 6512-2010A | 20×10mm | 5μm | 5μm |
| 6512-2210A | 22×10mm | 5μm | 5μm |
| 6512-2410A | 24×10mm | 5μm | 5μm |
| 6512-2610A | 26×10mm | 5μm | 5μm |
| 6512-2810A | 28×10mm | 5μm | 5μm |
| 6512-3010A | 30×10mm | 5μm | 5μm |
| 6512-3210A | 32×10mm | 5μm | 5μm |
| 6512-3510A | 35×10mm | 5μm | 5μm |
| 6512-4010A | 40×10mm | 5μm | 5μm |
| 6512-4510A | 45×10mm | 5μm | 5μm |
| 6512-5010A | 50×10mm | 5μm | 5μm |

To be continued



Continued from previous page

L=160mm

| Code | H×W | Parallelism between top and bottom | Height difference of a matched pair |
|-----------|--------|------------------------------------|-------------------------------------|
| 6512-104A | 10×4mm | 5μm | 5μm |
| 6512-144A | 14×4mm | 5μm | 5μm |
| 6512-184A | 18×4mm | 5μm | 5μm |
| 6512-224A | 22×4mm | 5μm | 5μm |
| 6512-264A | 26×4mm | 5μm | 5μm |
| 6512-304A | 30×4mm | 5μm | 5μm |
| 6512-344A | 34×4mm | 5μm | 5μm |
| 6512-384A | 38×4mm | 5μm | 5μm |
| 6512-424A | 42×4mm | 5μm | 5μm |
| 6512-128A | 12×8mm | 5μm | 5μm |
| 6512-178A | 17×8mm | 5μm | 5μm |
| 6512-228A | 22×8mm | 5μm | 5μm |
| 6512-258A | 25×8mm | 5μm | 5μm |
| 6512-288A | 28×8mm | 5μm | 5μm |
| 6512-328A | 32×8mm | 5μm | 5μm |
| 6512-368A | 36×8mm | 5μm | 5μm |
| 6512-388A | 38×8mm | 5μm | 5μm |

L=200mm

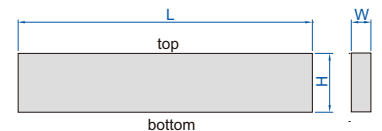
| Code | H×W | Parallelism between top and bottom | Height difference of a matched pair |
|-----------|--------|------------------------------------|-------------------------------------|
| 6512-178B | 17×8mm | 5μm | 5μm |
| 6512-228B | 22×8mm | 5μm | 5μm |
| 6512-268B | 26×8mm | 5μm | 5μm |
| 6512-288B | 28×8mm | 5μm | 5μm |
| 6512-328B | 32×8mm | 5μm | 5μm |
| 6512-368B | 36×8mm | 5μm | 5μm |
| 6512-388B | 38×8mm | 5μm | 5μm |
| 6512-428B | 42×8mm | 5μm | 5μm |

PARALLEL SETS

- Parallelism between top and bottom: 5μm
- Height difference of a matched pair: 5μm
- Made of alloy tool steel
- Hardened to HRC55-60



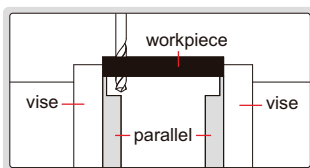
6533-144



| Code | Parallels per set | Length (L) | Thickness (W) | Height (H) |
|----------|-------------------|------------|---------------|--|
| 6533-6 | 6 pairs | 200mm | 9.5mm | 35, 40, 45, 50, 55, 58mm |
| 6533-8 | 8 pairs | 160mm | 8mm | 12*, 17, 22, 25, 28, 32, 36, 38mm |
| 6533-81 | 8 pairs | 200mm | 8mm | 17, 22, 26, 28, 32, 36, 38, 42mm |
| 6533-9 | 9 pairs | 160mm | 4mm | 10*, 14*, 18, 22, 26, 30, 34, 38, 42mm |
| 6533-10 | 10 pairs | 150mm | 3mm | 13, 16, 19, 22, 25, 28, 31, 35, 38, 41mm |
| 6533-144 | 14 pairs | 150mm | 10mm | 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 35, 40, 45, 50mm |

*Parallelism between top and bottom and height difference of a matched pair of 12mm in 6533-8, 10mm, 14mm in 6533-9 is 7μm

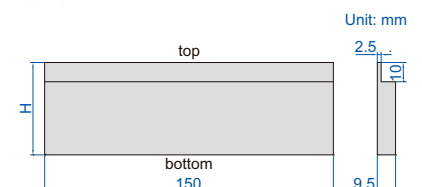
PARALLEL SET



- Parallelism between top and bottom: 5μm
- Height difference of a matched pair: 5μm
- Made of alloy tool steel
- Hardened to HRC55-60



6534-6



| Code | Parallels per set | Height (H) |
|--------|-------------------|--------------------------|
| 6534-6 | 6 pairs | 25, 30, 35, 40, 45, 48mm |

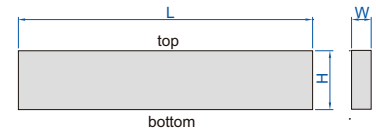
Unit: mm

PARALLEL SETS

- Parallelism between top and bottom: 5µm
- Height difference of a matched pair: 5µm
- Made of alloy tool steel
- Hardened to HRC55-60



6511-20



| Code | Parallels per set | Length (L) | Height (H)×Thickness (W) |
|----------|-------------------|------------|--|
| 6511-20 | 20 pairs | 100mm | 5×2*, 10×2, 15×2, 20×2, 6×3*, 11×3, 16×3, 21×3, 7×4*, 12×4, 17×4, 22×4, 8×5*, 13×5, 18×5, 23×5, 9×6*, 14×6, 19×6, 24×6mm |
| 6511-24 | 24 pairs | 125mm | 11×8, 16×8, 21×8, 26×8, 31×8, 36×8, 13×10, 18×10, 23×10, 28×10, 33×10, 38×10, 15×12, 20×12, 25×12, 30×12, 35×12, 40×12, 17×14, 22×14, 27×14, 32×14, 37×14, 42×14mm |
| 6511-241 | 24 pairs | 150mm | 11×8, 16×8, 21×8, 26×8, 31×8, 36×8, 13×10, 18×10, 23×10, 28×10, 33×10, 38×10, 15×12, 20×12, 25×12, 30×12, 35×12, 40×12, 17×14, 22×14, 27×14, 32×14, 37×14, 42×14mm |

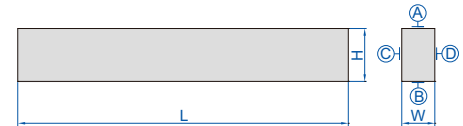
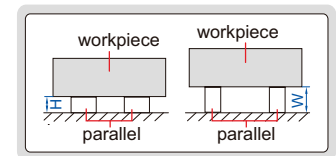
* Parallelism between top and bottom and height difference of a matched pair of 5×2mm, 6×3mm, 7×4mm, 8×5mm and 9×6mm in 6511-20 is 7µm

GRANITE PARALLEL SET

- Made of granite, hard and no rusty, no dimensional change over time or temperature change
- Two parallels per set



4143-250



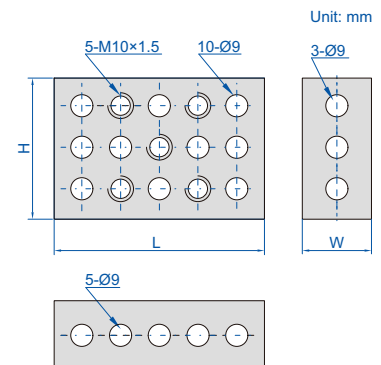
| Code | Size (L×W×H) | Parallelism between A and B | Parallelism between C and D | Height difference of a matched pair |
|----------|--------------|-----------------------------|-----------------------------|-------------------------------------|
| 4143-250 | 250×25×40mm | 3µm | 3µm | 3µm |

PARALLEL/SQUARE SET

screws and wrench are included



6531-25

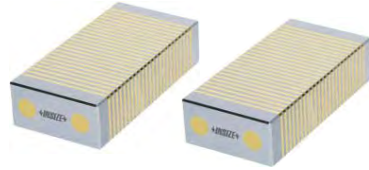


- Pairs of matched blocks for positioning and set-up
- Screws and wrench are included
- Hardness HRC 55-62

| Code | Size (L×H×W) | Size accuracy | Squareness | Parallelism | Height difference of a matched pair |
|---------|--------------|---------------|------------|-------------|-------------------------------------|
| 6531-25 | 75×50×25mm | 10µm | 7µm/25mm | 10µm | 10µm |

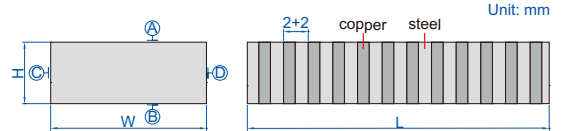
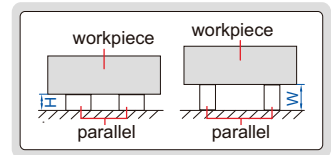
**ATTENTION:
NOT HARDENED**

MAGNETIC INDUCTION PARALLEL SET



6879-1

- To be used on magnetic chucks
- Two parallels per set
- Hardness HRB70
- Copper magnetic strips



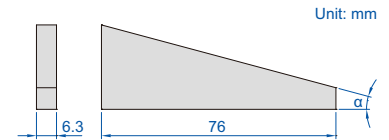
| Code | Size (L×W×H) | Pole pitch | Parallelism between A and B | Parallelism between C and D | Height difference of a matched pair |
|--------|--------------|------------|-----------------------------|-----------------------------|-------------------------------------|
| 6879-1 | 100×50×25mm | 2+2mm | 10μm | 10μm | 10μm |

ANGLE PLATE SETS

- For angle set-up in tooling, production and inspection
- Hardness HRC52



4006-12



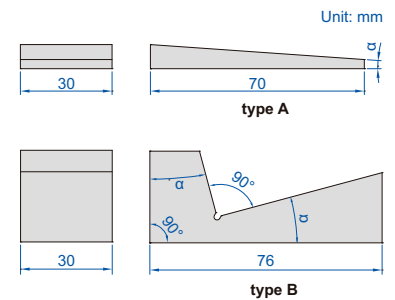
| Code | Angle plates included | Angle α | Accuracy |
|---------|-----------------------|---|-------------|
| 4006-10 | 10 pcs | 1°, 2°, 3°, 4°, 5°, 10°, 15°, 20°, 25°, 30° | ±20 seconds |
| 4006-12 | 12 pcs | 1/4°, 1/2°, 1°, 2°, 3°, 4°, 5°, 10°, 15°, 20°, 25°, 30° | ±20 seconds |

ANGLE PLATE SET

- For angle set-up in tooling, production and inspection
- Made of tool steel
- Hardness HRC55



4004-9



| Code | Angle plates included | Angle α | Type | Accuracy |
|--------|-----------------------|--------------------------|--------|-------------|
| 4004-9 | 9 pcs | 1/2°, 1°, 2°, 3°, 4°, 5° | type A | ±30 seconds |
| | | 10°, 15°, 30° | type B | ±50 seconds |

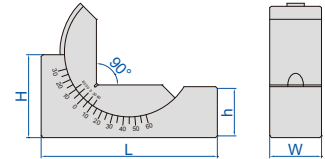
ADJUSTABLE ANGLE BLOCKS



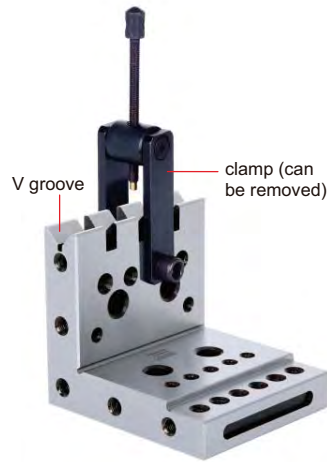
6535-30

- Made of hardened tool steel
- With locking screw
- Accuracy of angle: 10 minutes

| Code | Size (L×W×H) | h | Adjustable angle | Graduation of angle |
|---------|--------------|------|------------------|---------------------|
| 6535-25 | 75×25×36mm | 25mm | 30°~0°~60° | 10 minutes |
| 6535-30 | 102×30×49mm | 30mm | 30°~0°~60° | 10 minutes |



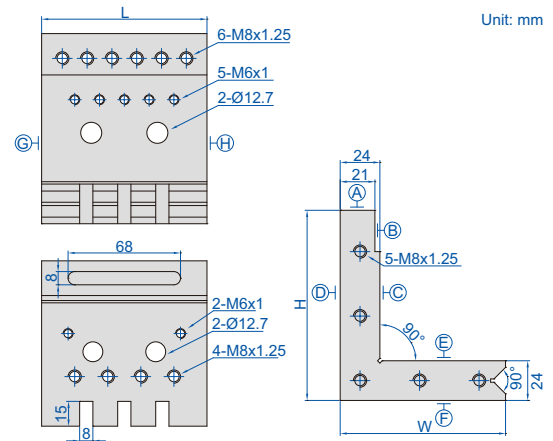
RIGHT ANGLE PLATE



6547-1

- Made of alloy steel
- Hardened to HRC60±2
- V groove for cylinders
- Parallelism and squareness between A, B, C, D, E, F, G and H: 10µm
- Parallelism and squareness of V groove to A, B, C, D, E, F, G and H: 10µm

| Code | Size (L×W×H) |
|--------|---------------|
| 6547-1 | 100×100×115mm |



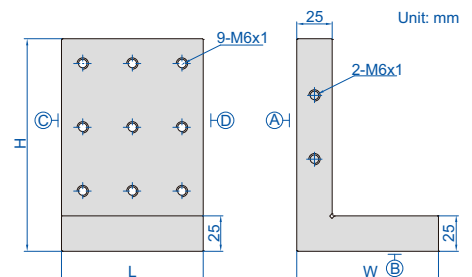
Unit: mm

RIGHT ANGLE PLATE

- Made of tool steel
- Hardened to HRC60±2
- Squareness or parallelism between A, B, C and D: 5µm



6548-1



Unit: mm

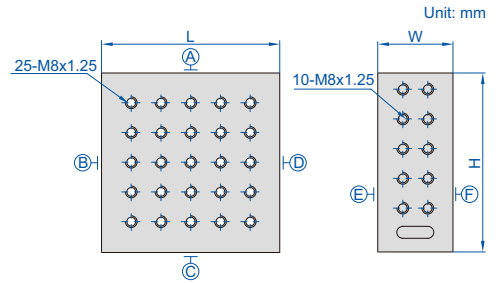
| Code | Size (L×W×H) |
|--------|---------------|
| 6548-1 | 100×100×150mm |

RIGHT ANGLE PLATE

- Made of tool steel
- Hardened to HRC56-58
- Parallelism between A, B, C, D, E and F: 3µm
- Squareness between A, B, C, D, E and F: 5µm



6549-1



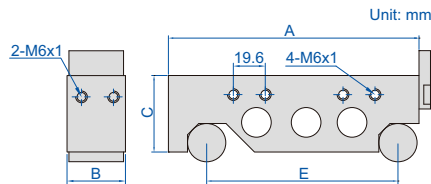
| Code | Size (L×W×H) |
|--------|--------------|
| 6549-1 | 150×63×150mm |

CAN BE CUSTOMIZED

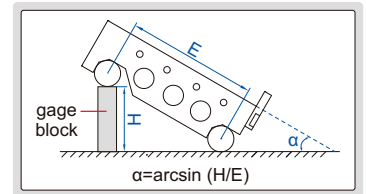
SINE BARS



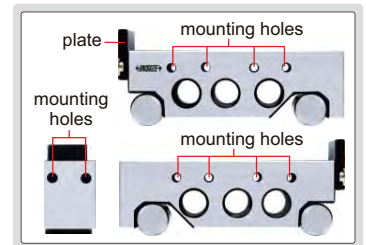
4155-100



- Made of alloy tool steel

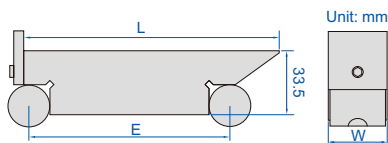


the front and back ends and two sides have mounting holes to install plate



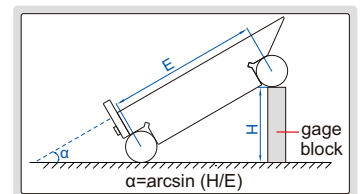
| Code | Roller distance (E) | Table size (A×B) | C | Accuracy of α at 30° |
|----------|---------------------|------------------|------|----------------------|
| 4155-100 | 100mm | 130×30mm | 40mm | ±5 seconds |
| 4155-200 | 200mm | 230×30mm | 40mm | ±5 seconds |
| 4155-300 | 300mm | 345×40mm | 50mm | ±8 seconds |

SINE BAR



4158-100

- Made of alloy tool steel



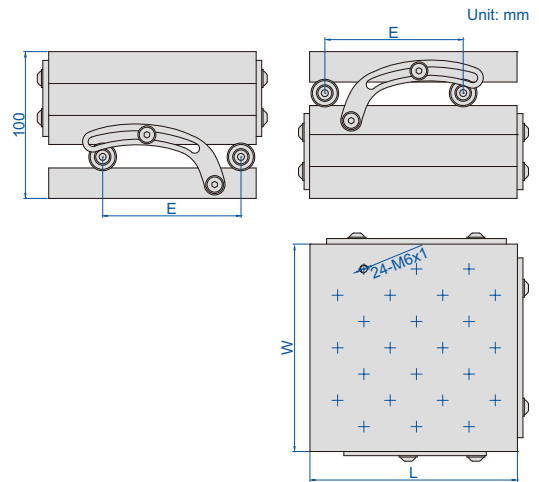
| Code | Roller distance (E) | Table size (L×W) | Accuracy of α at 30° |
|----------|---------------------|------------------|----------------------|
| 4158-100 | 100mm | 130×30mm | ±5 seconds |

COMPOUND SINE TABLE



6536-100

- Accuracy of angle: ± 15 seconds
- Made of alloy tool steel
- Hardness HRC58-60



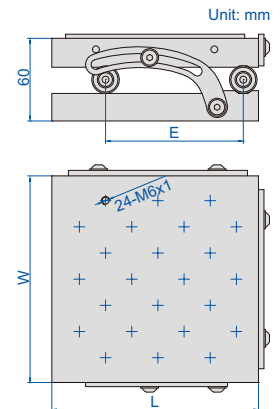
| Code | Roller distance (E) | Table size (L×W) | Adjustable angle |
|----------|---------------------|------------------|------------------|
| 6536-100 | 100mm | 150×150mm | 0-60° |

SINE TABLE



6527-100

- Accuracy of angle: ± 15 seconds
- Made of alloy tool steel
- Hardness HRC58-60



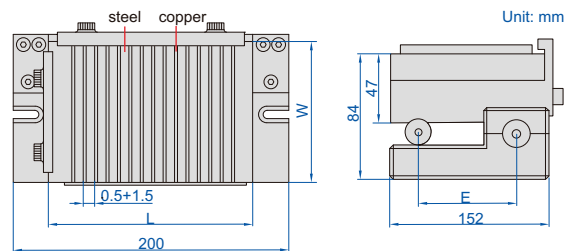
| Code | Roller distance (E) | Table size (L×W) | Adjustable angle |
|----------|---------------------|------------------|------------------|
| 6527-100 | 100mm | 150×150mm | 0-60° |

MAGNETIC SINE TABLE



6538-100

ATTENTION:
NOT HARDENED



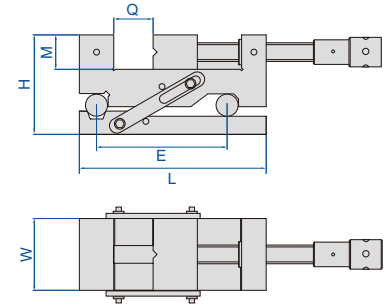
| Code | Table size (L×W) | Roller distance (E) | Adjustable angle | Accuracy of angle |
|----------|------------------|---------------------|------------------|-------------------|
| 6538-100 | 150×150mm | 100mm | 0-60° | ± 15 seconds |

PRECISION SINE VISES



6513-85

- Parallelism: 5µm/100mm
- Squareness: 5µm/100mm
- Accuracy of angle: ±20 seconds
- Made of alloy steel
- Hardness HRC58-60

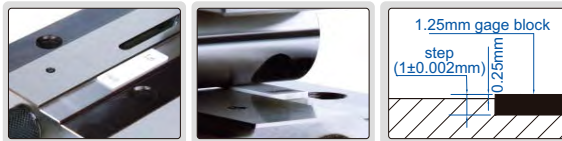


| Code | Jaw opening (Q) | Jaw width (W) | Roller distance (E) | L | H | M |
|-----------|-----------------|---------------|---------------------|-----|------|----|
| 6513-65 | 0-65 | 50 | 100 | 150 | 85 | 25 |
| 6513-85 | 0-85 | 63 | 100 | 185 | 91.5 | 32 |
| 6513-100 | 0-100 | 73 | 150 | 205 | 105 | 35 |
| 6513-1001 | 0-100 | 80 | 150 | 215 | 108 | 40 |
| 6513-125 | 0-125 | 88 | 150 | 245 | 108 | 40 |
| 6513-1251 | 0-125 | 100 | 200 | 255 | 116 | 45 |
| 6513-160 | 0-160 | 125 | 200 | 295 | 125 | 50 |
| 6513-175 | 0-175 | 150 | 200 | 315 | 125 | 50 |

(mm)

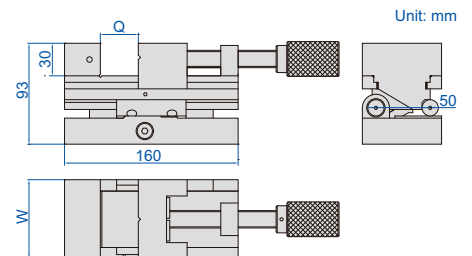
PRECISION SINE VISE

there is a 1mm step (accuracy +/-0.002mm), gage blocks smaller than 0.5mm are not available, if small gage blocks are needed (for example, 0.25mm), a gage block 1.25mm can be used in order to make 1.25mm-1mm=0.25mm



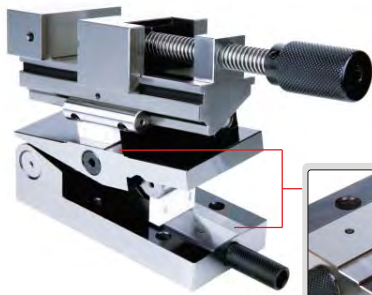
6523-80

- Parallelism: 3µm/100mm
- Squareness: 5µm/100mm
- Accuracy of angle: ±15 seconds
- Made of SKS tool steel, subzero treatment
- Hardness HRC58-60

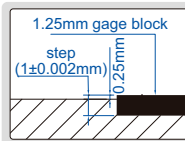


| Code | Jaw opening (Q) | Jaw width (W) | Adjustable angle |
|---------|-----------------|---------------|------------------|
| 6523-80 | 0-80mm | 73mm | 0-46° |

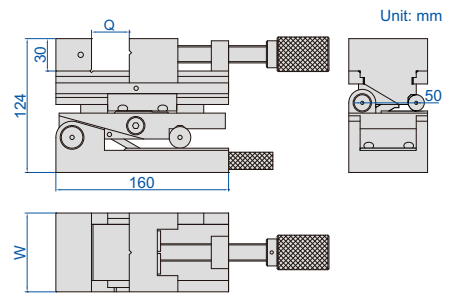
PRECISION COMPOUND SINE VISE



there is a 1mm step (accuracy $\pm 0.002\text{mm}$). gage blocks smaller than 0.5mm are not available. if small gage blocks are needed (for example, 0.25mm), a gage block 1.25mm can be used in order to make $1.25\text{mm} - 1\text{mm} = 0.25\text{mm}$



6524-80

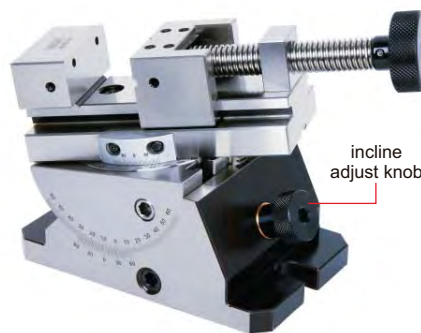


- Parallelism: $3\mu\text{m}/100\text{mm}$
- Squareness: $5\mu\text{m}/100\text{mm}$
- Accuracy of angle: ± 15 seconds
- Made of SKS tool steel, subzero treatment
- Hardness HRC58-60

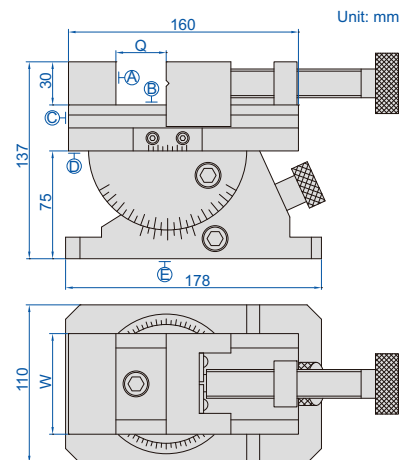
| Code | Jaw opening (Q) | Jaw width (W) | Adjustable angle |
|---------|-----------------|---------------|------------------|
| 6524-80 | 0-80mm | 73mm | 0-46° |

PRECISION UNIVERSAL VISE

- Horizontal rotary: range 360° , graduation 0.05°
- Vertical incline: range 45° , graduation 0.05°
- With incline adjust knob
- Parallelism and squareness between A, B, C and D: $5\mu\text{m}/100\text{mm}$, parallelism between D and E at 0° : $10\mu\text{m}/100\text{mm}$
- Made of tool steel
- Hardness HRC56-58



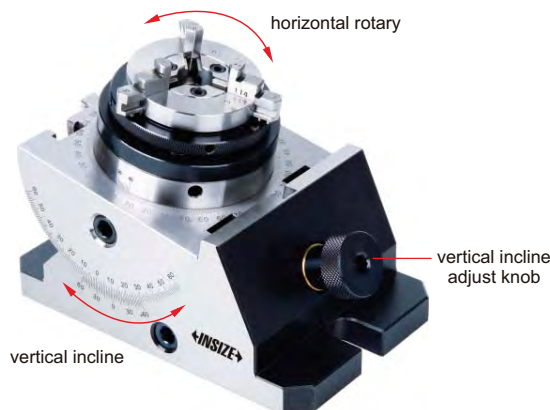
6521-80



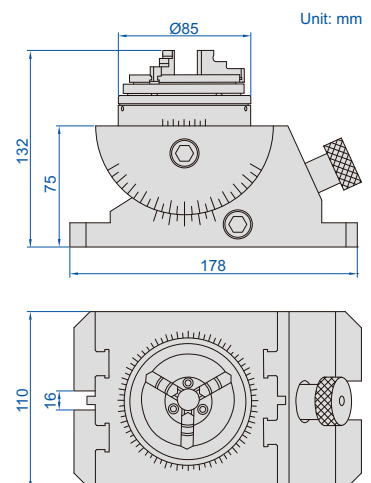
| Code | Jaw opening (Q) | Jaw width (W) |
|---------|-----------------|---------------|
| 6521-80 | 0-80mm | 70mm |

PRECISION UNIVERSAL VISE WITH CHUCK

- Horizontal rotary: range 360° , graduation 0.05°
- Vertical incline: range 45° , graduation 0.05°
- With vertical incline adjust knob
- Runout of chuck is less than 0.05mm (test position is at less than 50mm from clamping jaws)
- The clamping jaws of chuck are reversible
- Made of tool steel
- Hardness HRC56-58



6528-85



| Code | Range of external clamping | Range of internal clamping |
|---------|--|---|
| 6528-85 | $\varnothing 0.8 \sim \varnothing 63\text{mm}$ | $\varnothing 23 \sim \varnothing 58\text{mm}$ |

PRECISION VISES

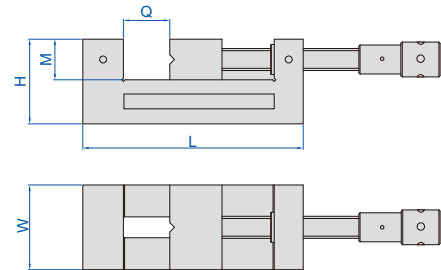
- Parallelism: 5µm/100mm
- Squareness: 5µm/100mm
- Made of alloy steel
- Hardness HRC58-60



(mm)

| Code | Jaw opening (Q) | Jaw width (W) | L | H | M |
|-----------|-----------------|---------------|-----|-----|----|
| 6520-36 | 0-36 | 38 | 115 | 48 | 25 |
| 6520-67 | 0-67 | 50 | 150 | 50 | 25 |
| 6520-87 | 0-87 | 63 | 185 | 63 | 32 |
| 6520-102 | 0-102 | 73 | 205 | 70 | 35 |
| 6520-1021 | 0-102 | 80 | 215 | 80 | 40 |
| 6520-127 | 0-127 | 88 | 245 | 80 | 40 |
| 6520-1271 | 0-127 | 100 | 255 | 90 | 45 |
| 6520-162 | 0-162 | 125 | 295 | 100 | 50 |
| 6520-175 | 0-175 | 150 | 315 | 100 | 50 |
| 6520-200 | 0-200 | 200 | 350 | 110 | 55 |

6520-87



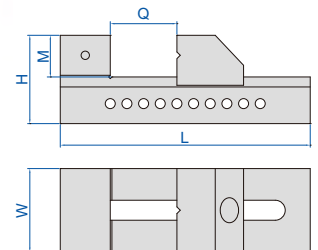
QUICK MOVING PRECISION VISES

(mm)

| Code | Jaw opening (Q) | Jaw width (W) | L | H | M |
|-----------|-----------------|---------------|-----|-----|-----|
| 6526-20 | 0-20 | 25 | 65 | 29 | 9.3 |
| 6526-40 | 0-40 | 38 | 100 | 48 | 23 |
| 6526-65 | 0-65 | 50 | 135 | 50 | 25 |
| 6526-85 | 0-85 | 63 | 170 | 63 | 32 |
| 6526-100 | 0-100 | 73 | 185 | 70 | 35 |
| 6526-1001 | 0-100 | 80 | 195 | 80 | 40 |
| 6526-125 | 0-125 | 88 | 230 | 80 | 40 |
| 6526-1251 | 0-125 | 100 | 240 | 90 | 45 |
| 6526-160 | 0-160 | 125 | 280 | 100 | 50 |
| 6526-175 | 0-175 | 150 | 300 | 100 | 50 |
| 6526-208 | 0-208 | 200 | 350 | 110 | 55 |

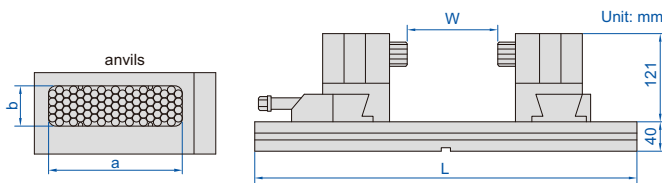


6526-85

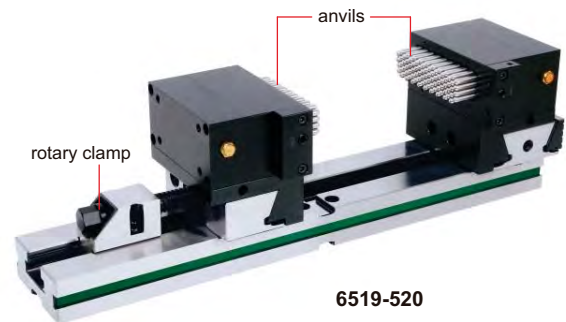


- Parallelism: 5µm/100mm
- Squareness: 5µm/100mm
- Made of alloy steel
- Hardness HRC58-60

ANVIL VISES



- The vise is used to fix workpieces during machining. The anvils are formed according to the shape of workpieces to be fixed, so the vise can fix workpieces quickly.
- The anvils are made of stainless steel (HRC20), can be customized to carbon steel (HRC40-45)
- Diameter of anvil: 6mm, stroke of anvil: 24mm
- Movement range of rotary clamp: 0-50mm



6519-520

application



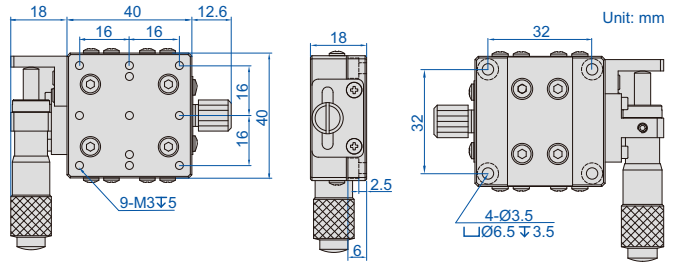
| Code | Guide length (L) | Clamp range (W) | Clamp force* | Weight | a | b |
|----------|------------------|-----------------|--------------|--------|-------|------|
| 6519-520 | 520mm | 0-190mm | 6500N | 22.5kg | 100mm | 30mm |
| 6519-680 | 680mm | 0-320mm | 8000N | 39.5kg | 120mm | 36mm |

* When all anvils contact the workpieces

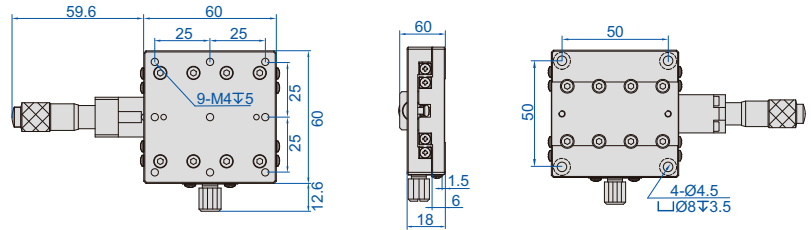
X-AXIS STAGES



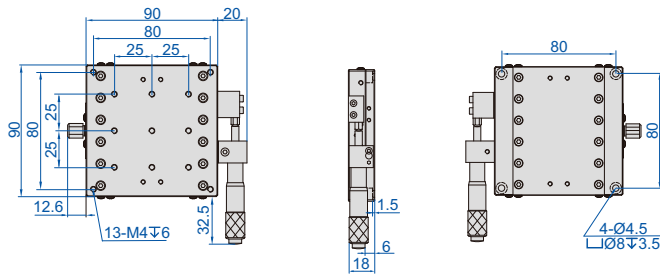
6582-401



6582-602



6582-903



- Cross roller guides, achieve high precision and smooth movement
- Stages made of aluminum alloy

SPECIFICATION (micrometer on the left)

| Code | X-axis displacement | Parallelism of top to bottom surface | Micrometer graduation | Micrometer accuracy | Maximum load | Micrometer location | Stage size | Weight |
|-----------|---------------------|--------------------------------------|-----------------------|---------------------|----------------|---------------------|------------|--------|
| 6582-401 | ±6.5mm | 0.02mm | 0.01mm | 0.01mm | 29.4N (3kgf) | left | 40x40mm | 0.14kg |
| 6582-601 | ±6.5mm | 0.03mm | 0.01mm | 0.01mm | 49N (5kgf) | left | 60x60mm | 0.24kg |
| 6582-901 | ±12.5mm | 0.03mm | 0.01mm | 0.02mm | 93.1N (9.5kgf) | left | 90x90mm | 0.47kg |
| 6582-1251 | ±12.5mm | 0.04mm | 0.01mm | 0.02mm | 180N (18.4kgf) | left | 125x125mm | 1.40kg |

SPECIFICATION (micrometer in the middle)

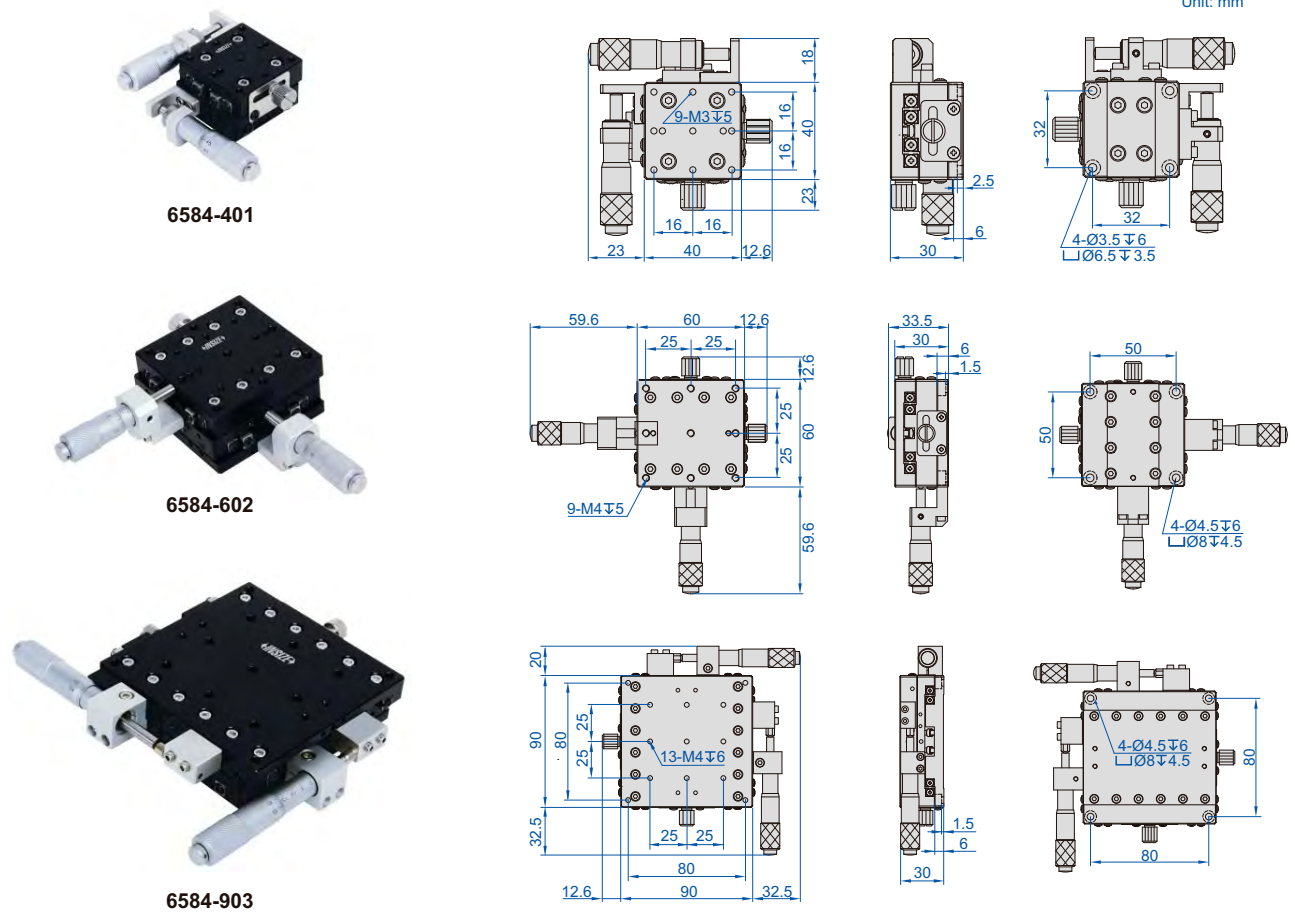
| Code | X-axis displacement | Parallelism of top to bottom surface | Micrometer graduation | Micrometer accuracy | Maximum load | Micrometer location | Stage size | Weight |
|-----------|---------------------|--------------------------------------|-----------------------|---------------------|----------------|---------------------|------------|--------|
| 6582-402 | ±6.5mm | 0.02mm | 0.01mm | 0.01mm | 29.4N (3kgf) | middle | 40x40mm | 0.14kg |
| 6582-602 | ±6.5mm | 0.03mm | 0.01mm | 0.01mm | 49N (5kgf) | middle | 60x60mm | 0.24kg |
| 6582-902 | ±12.5mm | 0.03mm | 0.01mm | 0.02mm | 93.1N (9.5kgf) | middle | 90x90mm | 0.47kg |
| 6582-1252 | ±12.5mm | 0.04mm | 0.01mm | 0.02mm | 180N (18.4kgf) | middle | 125x125mm | 1.40kg |

SPECIFICATION (micrometer on the right)

| Code | X-axis displacement | Parallelism of top to bottom surface | Micrometer graduation | Micrometer accuracy | Maximum load | Micrometer location | Stage size | Weight |
|-----------|---------------------|--------------------------------------|-----------------------|---------------------|----------------|---------------------|------------|--------|
| 6582-403 | ±6.5mm | 0.02mm | 0.01mm | 0.01mm | 29.4N (3kgf) | right | 40x40mm | 0.14kg |
| 6582-603 | ±6.5mm | 0.03mm | 0.01mm | 0.01mm | 49N (5kgf) | right | 60x60mm | 0.24kg |
| 6582-903 | ±12.5mm | 0.03mm | 0.01mm | 0.02mm | 93.1N (9.5kgf) | right | 90x90mm | 0.47kg |
| 6582-1253 | ±12.5mm | 0.04mm | 0.01mm | 0.02mm | 180N (18.4kgf) | right | 125x125mm | 1.40kg |

XY-AXIS STAGES

Unit: mm



- Cross roller guides, achieve high precision and smooth movement
- Stages made of aluminum alloy

SPECIFICATION (micrometer on the left)

| Code | XY-axis displacement | Parallelism of top to bottom surface | Micrometer graduation | Micrometer accuracy | Maximum load | Micrometer location | Stage size | Weight |
|-----------|----------------------|--------------------------------------|-----------------------|---------------------|----------------|---------------------|------------|--------|
| 6584-401 | ±6.5mm | 0.04mm | 0.01mm | 0.01mm | 29.4N (3kgf) | left | 40x40mm | 0.27kg |
| 6584-601 | ±6.5mm | 0.06mm | 0.01mm | 0.01mm | 49N (5kgf) | left | 60x60mm | 0.48kg |
| 6584-901 | ±12.5mm | 0.06mm | 0.01mm | 0.02mm | 93.1N (9.5kgf) | left | 90x90mm | 1kg |
| 6584-1251 | ±12.5mm | 0.08mm | 0.01mm | 0.02mm | 180N (18.4kgf) | left | 125x125mm | 2.8kg |

SPECIFICATION (micrometer in the middle)

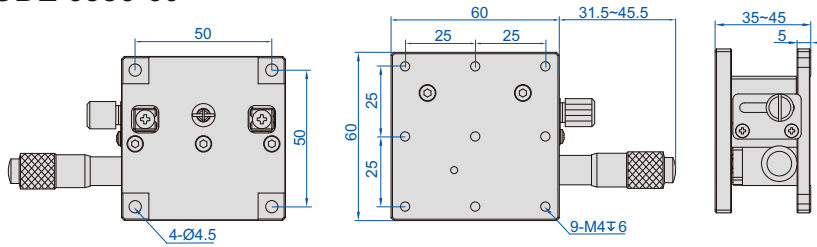
| Code | XY-axis displacement | Parallelism of top to bottom surface | Micrometer graduation | Micrometer accuracy | Maximum load | Micrometer location | Stage size | Weight |
|-----------|----------------------|--------------------------------------|-----------------------|---------------------|----------------|---------------------|------------|--------|
| 6584-402 | ±6.5mm | 0.04mm | 0.01mm | 0.01mm | 29.4N (3kgf) | middle | 40x40mm | 0.27kg |
| 6584-602 | ±6.5mm | 0.06mm | 0.01mm | 0.01mm | 49N (5kgf) | middle | 60x60mm | 0.48kg |
| 6584-902 | ±12.5mm | 0.06mm | 0.01mm | 0.02mm | 93.1N (9.5kgf) | middle | 90x90mm | 1kg |
| 6584-1252 | ±12.5mm | 0.08mm | 0.01mm | 0.02mm | 180N (18.4kgf) | middle | 125x125mm | 2.8kg |

SPECIFICATION (micrometer on the right)

| Code | XY-axis displacement | Parallelism of top to bottom surface | Micrometer graduation | Micrometer accuracy | Maximum load | Micrometer location | Stage size | Weight |
|-----------|----------------------|--------------------------------------|-----------------------|---------------------|----------------|---------------------|------------|--------|
| 6584-403 | ±6.5mm | 0.04mm | 0.01mm | 0.01mm | 29.4N (3kgf) | right | 40x40mm | 0.27kg |
| 6584-603 | ±6.5mm | 0.06mm | 0.01mm | 0.01mm | 49N (5kgf) | right | 60x60mm | 0.48kg |
| 6584-903 | ±12.5mm | 0.06mm | 0.01mm | 0.02mm | 93.1N (9.5kgf) | right | 90x90mm | 1kg |
| 6584-1253 | ±12.5mm | 0.08mm | 0.01mm | 0.02mm | 180N (18.4kgf) | right | 125x125mm | 2.8kg |

Z-AXIS STAGE CODE 6586-60

Unit: mm



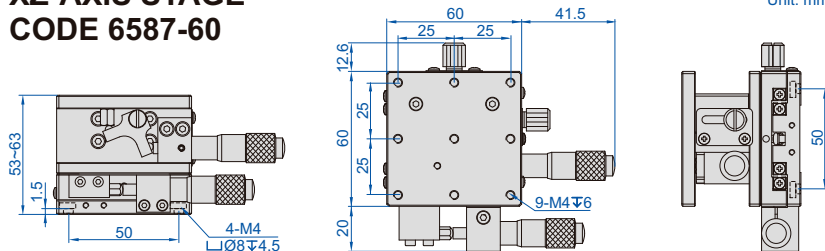
- Cross roller guides, achieve high precision and smooth movement
- Stage made of aluminum alloy

SPECIFICATION

| Code | Z-axis displacement | Parallelism of top to bottom surface | Micrometer graduation | Micrometer accuracy | Maximum load | Stage size | Weight |
|---------|---------------------|--------------------------------------|-----------------------|---------------------|--------------|------------|--------|
| 6586-60 | 10mm | 0.05mm | 0.01mm | 0.02mm | 20.4N (3kgf) | 60x60mm | 0.27kg |

XZ-AXIS STAGE CODE 6587-60

Unit: mm



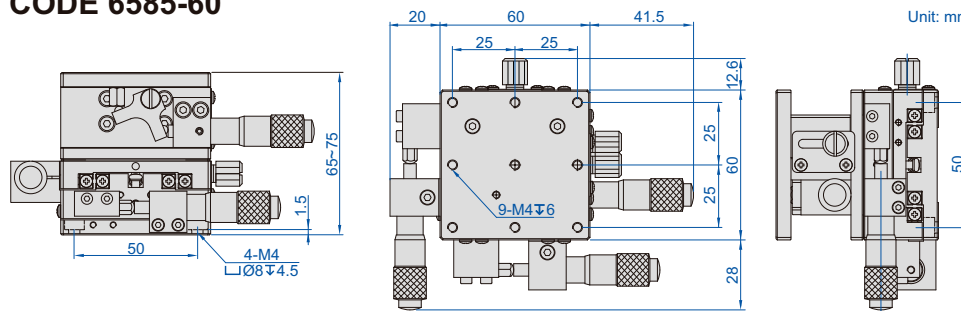
- Cross roller guides, achieve high precision and smooth movement
- Stage made of aluminum alloy

SPECIFICATION

| Code | X-axis displacement | Z-axis displacement | Micrometer graduation | Maximum load | Stage size | Weight |
|---------|---------------------|---------------------|-----------------------|--------------|------------|--------|
| 6587-60 | ±6.5mm | 10mm | 0.01mm | 29.4N (3kgf) | 60x60mm | 0.51kg |

XYZ-AXIS STAGE CODE 6585-60

Unit: mm



- Cross roller guides, achieve high precision and smooth movement
- Stage made of aluminum alloy

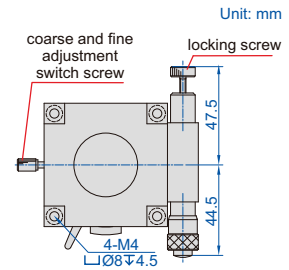
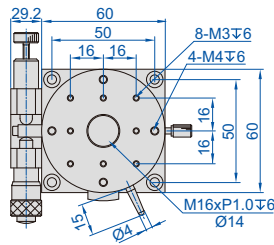
SPECIFICATION

| Code | XY-axis displacement | Z-axis displacement | Micrometer graduation | Maximum load | Stage size | Weight |
|---------|----------------------|---------------------|-----------------------|--------------|------------|--------|
| 6585-60 | ±6.5mm | 10mm | 0.01mm | 29.4N (3kgf) | 60x60mm | 0.75kg |

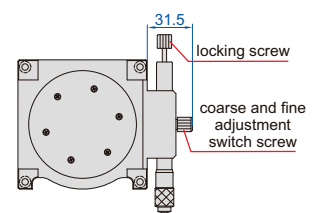
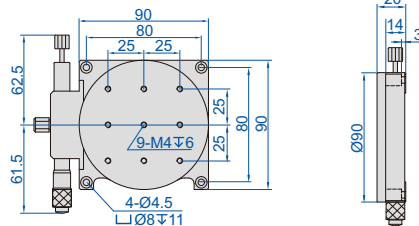
ROTARY STAGES



6583-60H



6583-90

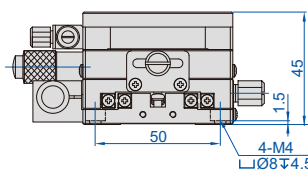
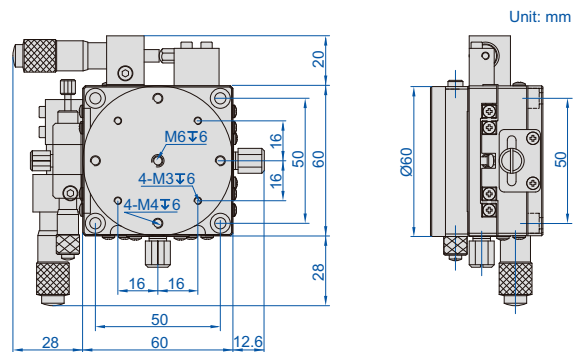


- Precise angle adjustment
- Coarse and fine adjustments
- Stages made of aluminum alloy

SPECIFICATION

| Code | Range | Parallelism of top to bottom surface | Concentricity | Rotation accuracy | Maximum load | Stage size | Weight |
|----------|-----------------------|--------------------------------------|---------------|-------------------|--------------|------------|--------|
| 6583-60H | 360° coarse, ±5° fine | 0.03mm | 0.03mm | 12 seconds | 29.4N (3kgf) | Ø60mm | 0.30kg |
| 6583-90 | 360° coarse, ±5° fine | 0.04mm | 0.03mm | 5 seconds | 29.4N (3kgf) | Ø90mm | 0.50kg |

XY-AXIS ROTARY STAGE CODE 6588-60



- Cross roller guides, achieve high precision and smooth movement
- Coarse and fine adjustments
- Precise angle adjustment
- Stage made of aluminum alloy

SPECIFICATION

| Code | XY-axis displacement | Rotation range | Micrometer graduation | Rotation accuracy | Maximum load | Stage size | Weight |
|---------|----------------------|-----------------------|-----------------------|-------------------|--------------|------------|--------|
| 6588-60 | ±6.5mm | 360° coarse, ±5° fine | 0.01mm | 10 seconds | 29.4N (3kgf) | 60x60mm | 0.64kg |



Video Measuring Instrument For Machine Tools
Page 475-476



Centering Indicators
Page 477-478



Edge Finders
Page 478-480



Edge Finders For EDM
Page 481



3D Testers
Page 482-483



Trigger-Type 3D Probes
Page 484



Infrared Transmission Probes For CNC Machine Tools
Page 485-488



Zero Setters With Cable
Page 489-491



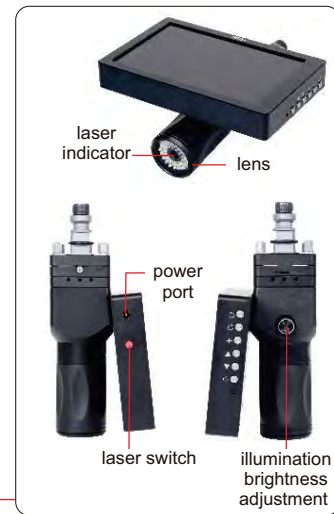
Zero Setters
Page 492



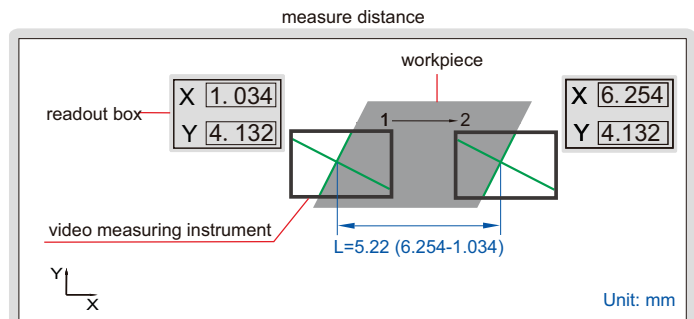
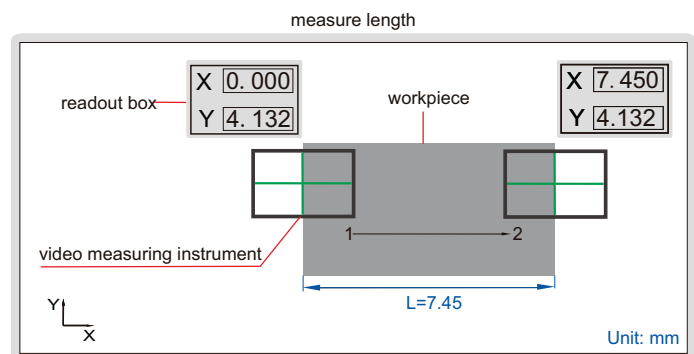
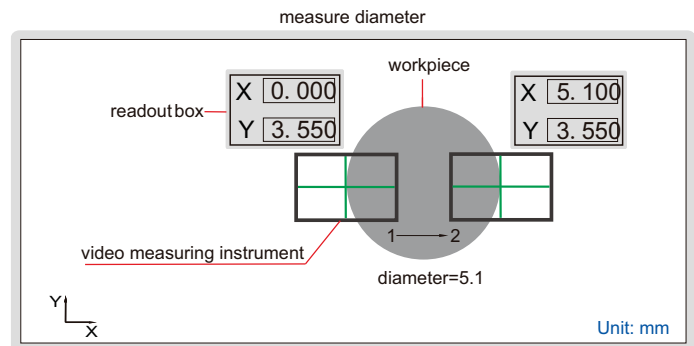
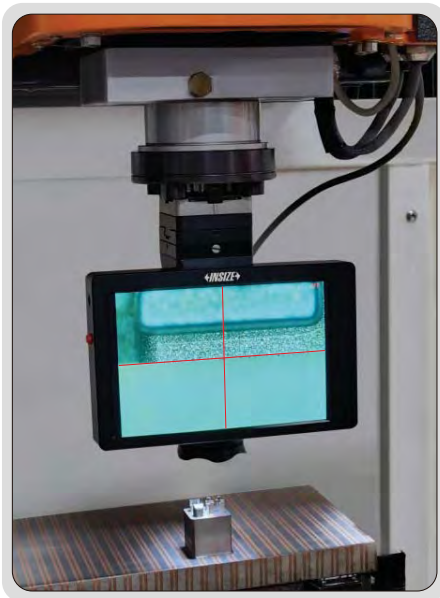
Zero Setters
Page 493-494



VIDEO MEASURING INSTRUMENT FOR MACHINE TOOLS



application



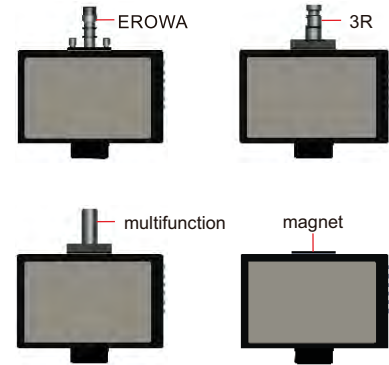
- Used in machine tools such as EDM and CNC
- Working together with linear scale and readout box of machine tools to make 2D measurement, especially suitable for small or thin parts
- Can rotate crosshair and change its color
- With laser indicator to locate position

To be continued

Continued from previous page

SPECIFICATION

| Code | 5314-R31 | 5314-R32 | 5314-R33 | 5314-R34 |
|-----------------------|--|----------|---------------|----------|
| Adapter | EROWA | 3R | multifunction | magnet |
| Screen size/pixel | 7"/1080P | | | |
| Visual accuracy | ±0.003mm | | | |
| Magnification | 50X | | | |
| Angle resolution | 15' | | | |
| Automatic edge-find | after finding the edge, the crosshair changes to green color and prompts | | | |
| Color of crosshair | red, blue | | | |
| Rotation of crosshair | manual | | | |
| Focus distance | 50mm | | | |
| Light source | LED (adjustable brightness) | | | |
| Lithium battery | 4800mA (for 4 hours working) | | | |
| Power supply | power adapter | | | |
| Dimension (LxWxH) | 178x90x215mm | | | |
| Weight | 2kg | | | |



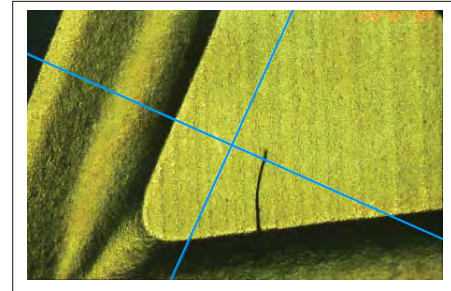
STANDARD DELIVERY

| | |
|---------------|------|
| Main unit | 1 pc |
| Power adapter | 1 pc |

select crosshair color



rotate crosshair



laser indicator locates the central point



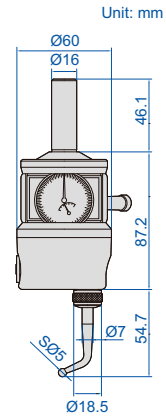
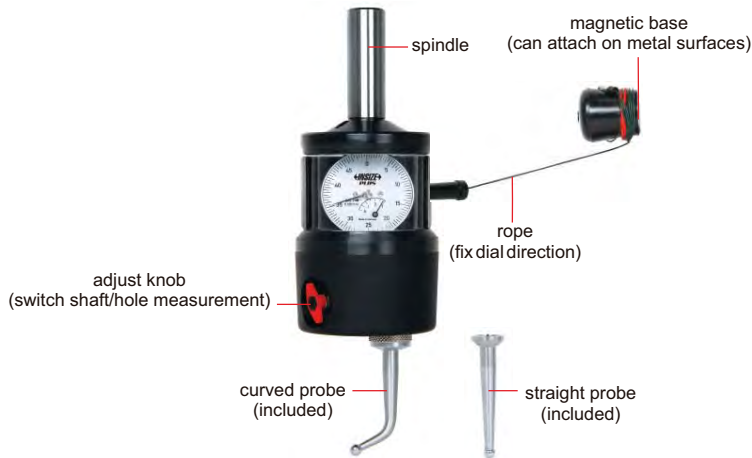
after finding the edge, the crosshair changes to green color and prompts



READING SHOWS MOVEMENT VALUE OF PROBE

CENTERING INDICATOR

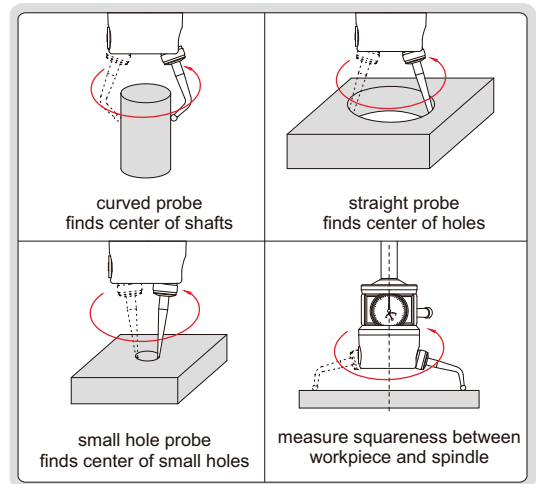
INSIZE PLUS
MADE IN EUROPE



2847-3

- Provides quick and accurate shaft/hole centering in boring and milling set-up, can also measure squareness between workpiece and spindle
- Dial indicator can rotate 360°
- Reading show movement value of probe, for example, if probe moves 0.01mm, reading changes 0.01mm (2 graduations)
- Optional accessory: probes

application



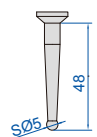
| Code | Graduation | Travel |
|--------|------------|--------|
| 2847-3 | 0.005mm | 2.5mm |

SPECIFICATION OF PROBE

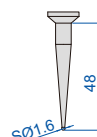
| Description | Measurement type | Diameter measurement | Depth measurement | Accuracy |
|-----------------------------|-------------------|----------------------|-------------------|----------|
| straight probe (included) | hole center | Ø6-125mm | 55mm | 0.005mm |
| | squareness | Ø120-160mm | 40mm | |
| small hole probe (optional) | small hole center | Ø2-125mm | 55mm | |
| | squareness | Ø120-160mm | 40mm | |
| curved probe (included) | shaft center | Ø0-125mm | 55mm | 0.005mm |
| | squareness | Ø120-160mm | 40mm | |

PROBE (optional)

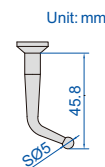
| Code | Description |
|---------|------------------|
| 2847-P1 | straight probe |
| 2847-P2 | small hole probe |
| 2847-P3 | curved probe |



2847-P1
straight probe



2847-P2
small hole probe



2847-P3
curved probe

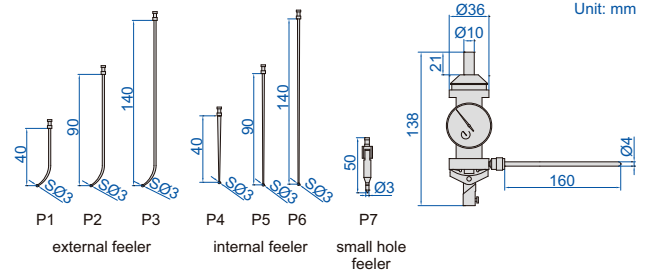
CENTERING INDICATOR



POPULAR MODEL



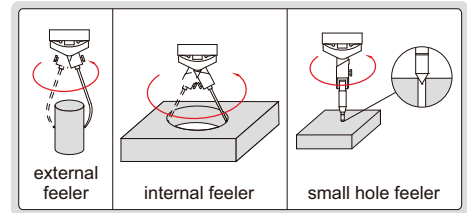
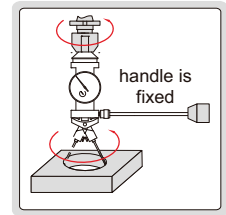
2385-3



- Provides quick and accurate centering in boring and milling set-up
- Maximum speed is recommended not to exceed 800rpm

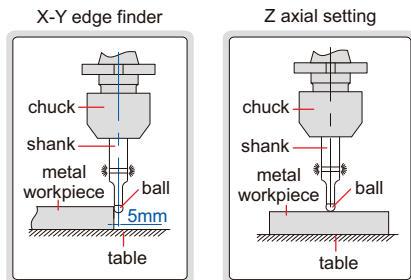
Code
2385-3

| Feeler | Measuring diameter | Accuracy |
|--------|--------------------|----------|
| P1 | Ø0-60mm | 0.015mm |
| P2 | Ø0-160mm | 0.02mm |
| P3 | Ø0-250mm | 0.03mm |
| P4 | Ø3.2-80mm | 0.015mm |
| P5 | Ø3.2-180mm | 0.02mm |
| P6 | Ø3.2-280mm | 0.03mm |
| P7 | Ø0-2.8mm | 0.015mm |



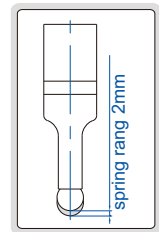
3D ELECTRONIC EDGE FINDERS

INSIZE PLUS
MADE IN EUROPE



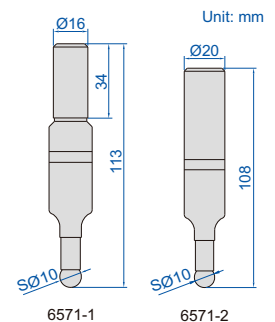
6571-1

6571-2



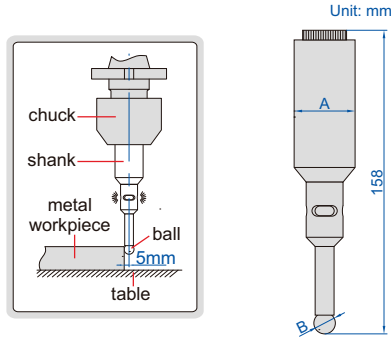
- The shank is electrically conducted to the metal workpiece through the chuck and table. The LED lights up, when the ball touches the workpiece
- Not suitable for rotary use
- Hardened contact ball

| Code | Shank | Contact ball | Accuracy | Battery |
|--------|-------|--------------|----------|---------------|
| 6571-1 | Ø16mm | SØ10mm | 10µm | 23A, 12Vx1 pc |
| 6571-2 | Ø20mm | SØ10mm | 10µm | 23A, 12Vx1 pc |



LARGE SHANK ELECTRONIC EDGE FINDERS

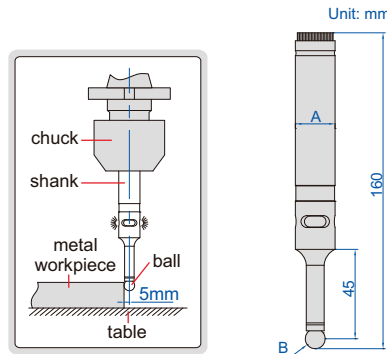
- The shank is electrically conducted to the metal workpiece through the chuck and table. The LED lights up and the beeper sounds (only for **6572-2**), when the ball touches the workpiece
- Not suitable for rotary use
- Hardened shank and contact ball



| Code | Shank (A) | Contact ball (B) | Accuracy | Beeper | Battery |
|--------|-----------|------------------|----------|---------|---------------|
| 6572-1 | Ø32mm | SØ10mm | 5µm | without | 23A, 12V×1 pc |
| 6572-2 | Ø32mm | SØ10mm | 5µm | with | 23A, 12V×1 pc |

ELECTRONIC EDGE FINDERS

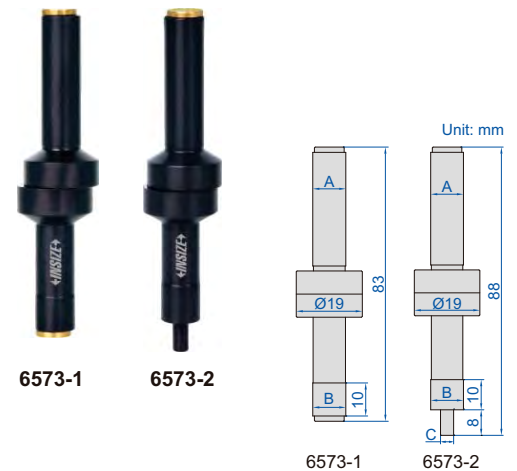
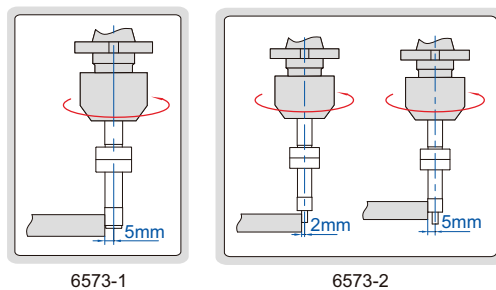
- The shank is electrically conducted to the metal workpiece through the chuck and table. The LED lights up and the beeper sounds (only for **6566-3**), when the ball touches the workpiece
- Not suitable for rotary use
- Hardened shank and contact ball



| Code | Shank (A) | Contact ball (B) | Accuracy | Beeper | Battery |
|--------|-----------|------------------|----------|---------|---------------|
| 6566-2 | Ø20mm | SØ10mm | 5µm | without | 23A, 12Vx1 pc |
| 6566-3 | Ø20mm | SØ10mm | 5µm | with | 23A, 12Vx1 pc |

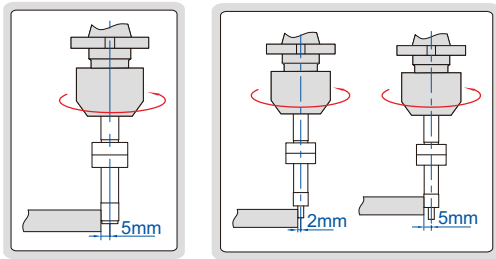
NON-MAGNETIC EDGE FINDERS

- TiAlN coating, non-magnetic, hardness HV2500, extremely wear resistance
- Suitable for machine speed 400~600rpm



| Code | Shank (A) | Contact point (B) | Contact point (C) | Accuracy |
|--------|-----------|-------------------|-------------------|----------|
| 6573-1 | Ø10mm | Ø10mm | — | 5µm |
| 6573-2 | Ø10mm | Ø10mm | Ø4mm | 5µm |

EDGE FINDERS



6562-3

6562-4

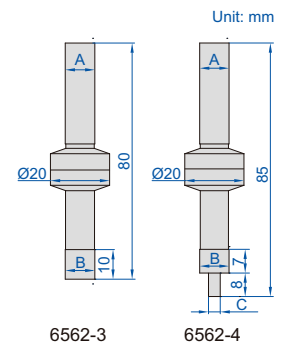
- Hardened shank and contact point
- Suitable for machine speed 400~600rpm

| Code | Shank (A) | Contact point (B) | Contact point (C) | Accuracy |
|--------|-----------|-------------------|-------------------|----------|
| 6562-3 | Ø10mm | Ø10mm | — | 5µm |
| 6562-4 | Ø10mm | Ø10mm | Ø4mm | 5µm |



6562-3

6562-4



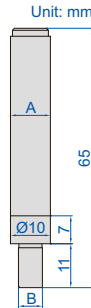
6562-3

6562-4

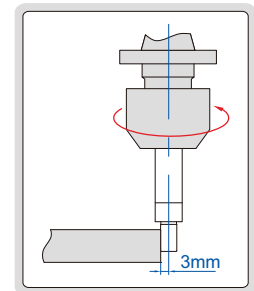
EDGE FINDER

- Hardened shank and contact point
- Suitable for machine speed 400~600rpm

| Code | Shank (A) | Contact point (B) | Accuracy |
|--------|-----------|-------------------|----------|
| 6567-1 | Ø10mm | Ø6mm | 8µm |



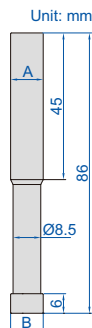
6567-1



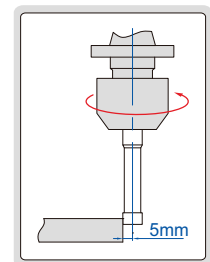
CERAMIC EDGE FINDER

- Ceramic contact point, non magnetic
- Suitable for machine speed 400~600rpm

| Code | Shank (A) | Contact point (B) | Accuracy |
|--------|-----------|-------------------|----------|
| 6568-1 | Ø10mm | Ø10mm | 8µm |



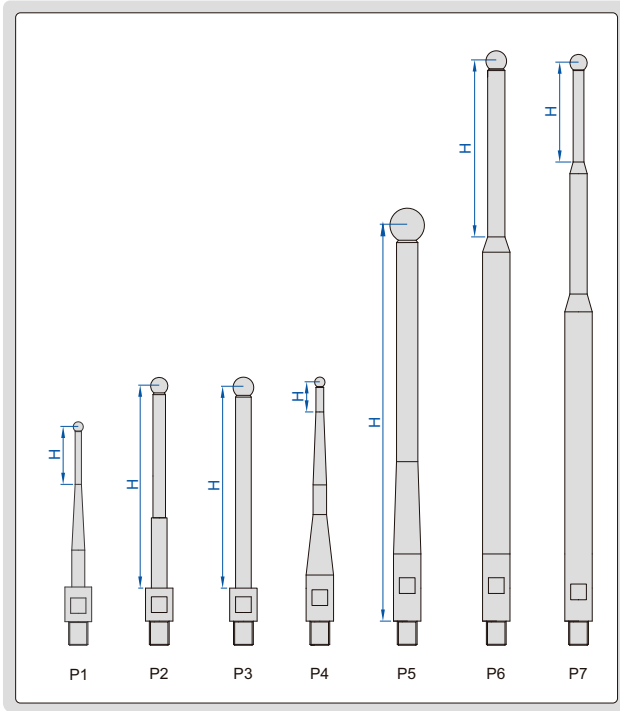
6568-1



EDGE FINDERS FOR EDM

CAN BE
CUSTOM-MADE

spindle type

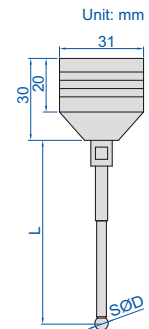


6558-52

- To locate workpieces
- Buzzer in EDM sounds when the ball touches the workpiece
- Tungsten steel ball, diameter accuracy: $\pm 0.003\text{mm}$
- Non magnetic stainless steel spindle
- Magnetic base

(mm)

| Code | Ball dia. (SØD) | Spindle length (L) | Measuring depth (H) | Spindle type |
|----------|-----------------|--------------------|---------------------|--------------|
| 6558-11 | SØ1 | 69 | 5 | P4 |
| 6558-21 | SØ2 | 49 | 6 | P1 |
| 6558-22 | SØ2 | 69 | 6 | P4 |
| 6558-23 | SØ2 | 119 | 8 | P4 |
| 6558-31 | SØ3 | 48 | 6 | P1 |
| 6558-32 | SØ3 | 68 | 7 | P4 |
| 6558-33 | SØ3 | 118 | 10 | P4 |
| 6558-41 | SØ4 | 48 | 37 | P3 |
| 6558-42 | SØ4 | 68 | 57 | P2 |
| 6558-43 | SØ4 | 118 | 16 | P4 |
| 6558-44 | SØ4 | 168 | 28 | P7 |
| 6558-51 | SØ5 | 47 | 36 | P3 |
| 6558-52 | SØ5 | 67 | 56 | P2 |
| 6558-53 | SØ5 | 117 | 106 | P2 |
| 6558-54 | SØ5 | 167 | 46 | P6 |
| 6558-61 | SØ6 | 47 | 35 | P3 |
| 6558-62 | SØ6 | 67 | 56 | P3 |
| 6558-63 | SØ6 | 87 | 76 | P3 |
| 6558-64 | SØ6 | 117 | 107 | P2 |
| 6558-65 | SØ6 | 167 | 51 | P6 |
| 6558-81 | SØ8 | 46 | 46 | P5 |
| 6558-82 | SØ8 | 66 | 54 | P3 |
| 6558-83 | SØ8 | 116 | 105 | P3 |
| 6558-84 | SØ8 | 166 | 51 | P6 |
| 6558-101 | SØ10 | 45 | 34 | P3 |
| 6558-102 | SØ10 | 65 | 53 | P3 |
| 6558-103 | SØ10 | 115 | 114 | P5 |
| 6558-104 | SØ10 | 165 | 53 | P6 |



DIGITAL 3D TESTER

INSIZE PLUS
MADE IN EUROPE

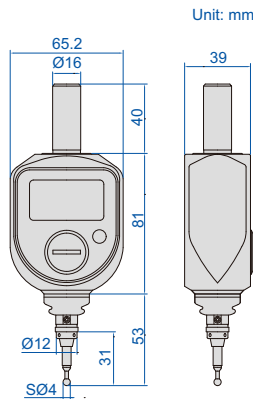
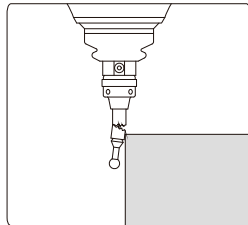
IP65
WATERPROOF

SHOCK
PROOF

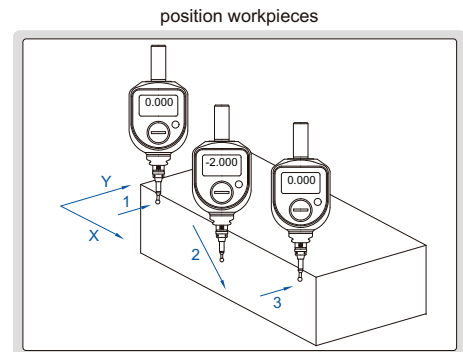
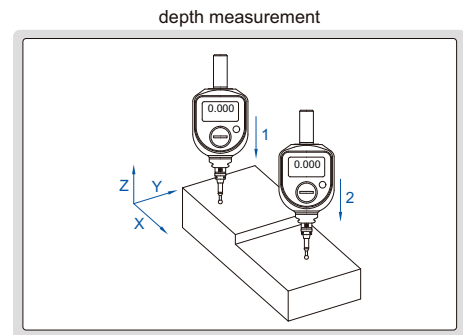
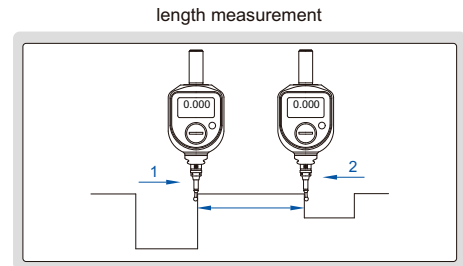
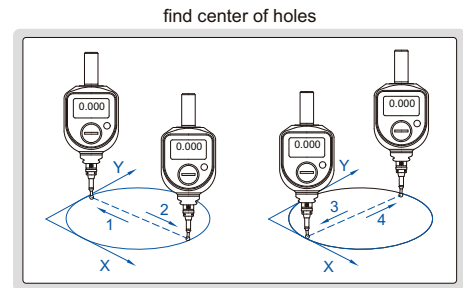


2846-3D

if the probe is pressed too much, the probe breaks at the breaking point, in order to prevent damage of the main body



Unit: mm



- Shockproof, IP65 dust/waterproof
- Mainly used for milling machines and CNC machine tools
 1. determine coordinate point on workpieces
 2. find center of holes
 3. adjust and position workpieces
- Can be used to measure length and depth
- Reading shows movement value of probe.
for example, if probe moves 0.01mm, reading changes 0.01mm
- Large working range on three axes (X, Y, Z), which avoids damage of probes due to collision by mistake
- Optional accessory: probe (code **2840-N1**)

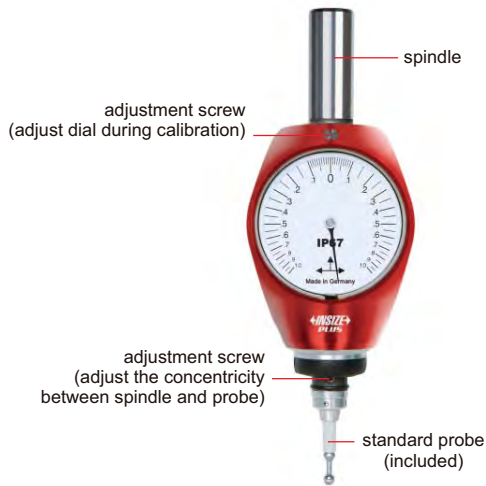
| Code | Range | Resolution | Repeatability at zero (one direction) | X, Y, Z range |
|---------|-------|------------|---------------------------------------|---------------|
| 2846-3D | ±2mm | 0.005mm | ±0.005mm | 6mm |

ATTENTION: WHEN USING STANDARD PROBE, READING SHOWS MOVEMENT VALUE OF PROBE. WHEN USING EXTENDED PROBE, READING DOES NOT SHOW MOVEMENT VALUE OF PROBE

IP67
WATERPROOF

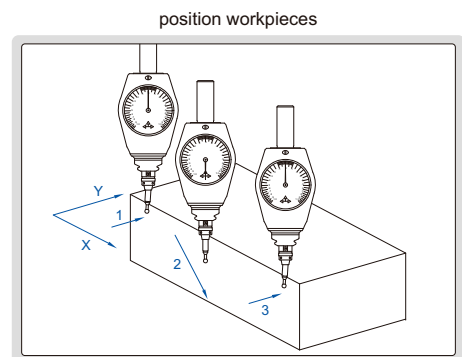
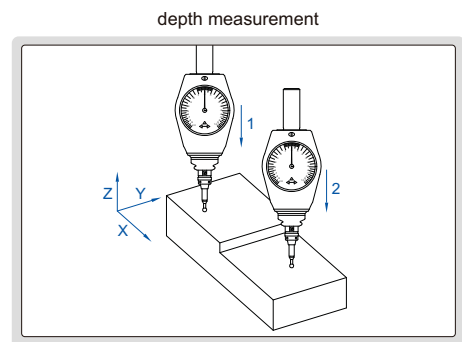
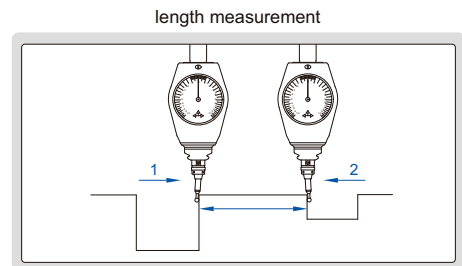
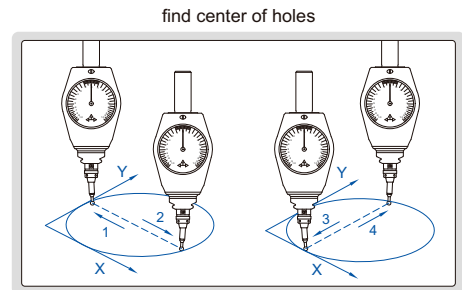
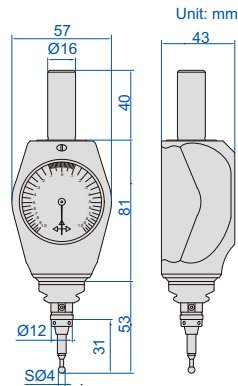
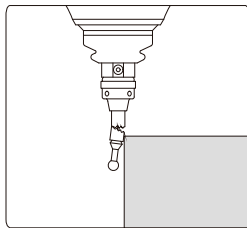
SHOCK
PROOF

3D TESTER
INSIZE PLUS
MADE IN EUROPE



2840-3D

if the probe is pressed too much, the probe breaks at the breaking point, in order to prevent damage of the main body

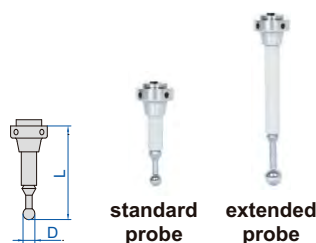


- Shockproof, IP67 dust/waterproof
- Mainly used for milling machines and CNC machine tools
 - determine coordinate point on workpieces
 - find center of holes
 - adjust and position workpieces
- Can be used to measure length and depth
- When using standard probe, reading shows movement value of probe, for example, if probe moves 0.05mm, reading changes 0.05mm (5 graduations). When using extended probe, reading does not show movement value of probe
- Large working range on three axes (X, Y, Z), which avoids damage of probes due to collision by mistake

| Code | Range | Graduation | Repeatability at zero (one direction) | X, Y, Z range |
|---------|--------|------------|---------------------------------------|---------------|
| 2840-3D | ±1.0mm | 0.01mm | ±0.01mm | 6mm |

PROBE (optional)

| Code | Description | L | D |
|---------|----------------|--------|-------|
| 2840-N1 | standard probe | 31mm | SØ4mm |
| 2840-N2 | extended probe | 56.6mm | SØ6mm |



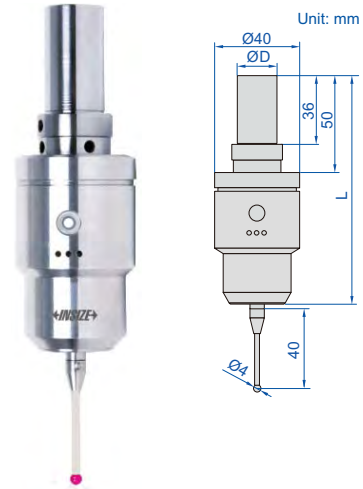
TRIGGER-TYPE 3D PROBE (AUDIBLE AND VISUAL ALARM) CODE 9410

IP67
WATERPROOF

type-C charging cable (included)

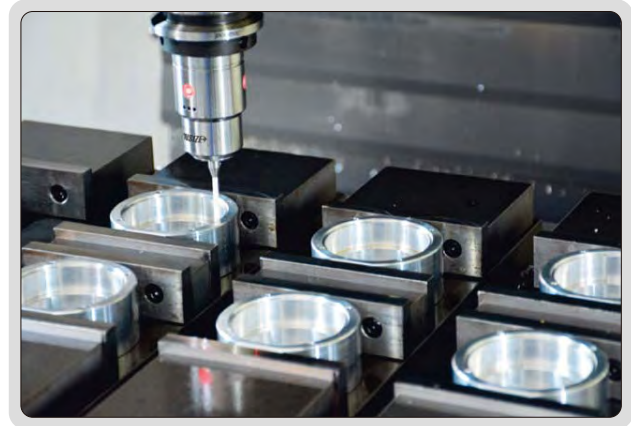


signal extension cord (included)



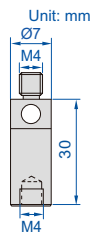
- Suitable for all kinds of machining centers, CNC boring machines, milling machines, drilling and tapping centers
- Suitable for workpiece detection of various solid materials
- Manually set the workpiece coordinates and machining reference points before CNC machining process
- In the process of CNC machining, manually detect and control key dimensions and position coordinates and their accuracy
- Detect the accuracy of the key size, shape and position of the workpiece after completion of CNC machining
- Standard Ø20mm shank diameter, held by CNC
- LED indicator and buzzer indicate the trigger state of the probe
- Using lithium battery charging technology, no need to replace the battery
- The battery (5% utilization rate per shift) can be used continuously for 90 days
- Type-C interface
- Optional accessory: styli and extension bar

application



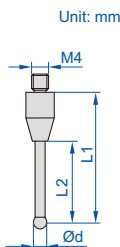
SPECIFICATION

| | |
|--|--------------------|
| Probe length (L) | 115.5mm |
| Shank diameter (ØD) | 20mm |
| Trigger direction | ±X, ±Y, +Z |
| Directional trigger protection stroke | X-Y: ±12°, Z: +5mm |
| Arbitrary one-way repeated trigger accuracy | ≤1µm |
| Trigger force in X-Y direction (with standard styli) | 0.3-0.6N |
| Trigger force in Z direction | 4N |
| Dust/waterproof | IP67 |
| Type-C charging cable | 1.5m |
| Signal extension cord (provide signals to CNC) | 1m |



EXTENSION ROD (OPTIONAL)

| Code | Material |
|---------|----------|
| 9410-R1 | ceramic |



STYLI (OPTIONAL)

(mm)

| Code | L1 | L2 | Ød | Material of rod * | Material of ball |
|----------|------|------|----|-------------------|------------------|
| 9410-P1 | 18 | 13 | 4 | stainless steel | ruby |
| 9410-P2 | 18 | 13.5 | 5 | stainless steel | ruby |
| 9410-P3 | 18.5 | 13 | 3 | stainless steel | ruby |
| 9410-P4 | 19 | 8 | 2 | carbide | ruby |
| 9410-P5 | 19.5 | 4 | 1 | carbide | ruby |
| 9410-P6 | 50 | 40 | 2 | carbide | ruby |
| 9410-P7 | 50 | 34 | 5 | ceramic | ruby |
| 9410-P8 | 100 | 86 | 6 | ceramic | ruby |
| 9410-P9 | 40 | 30 | 4 | ceramic | ruby |
| 9410-P10 | 50 | 36 | 6 | ceramic | ruby |

* For stainless steel or carbide rods, it is recommended to use extension rods to protect spindles in case of break

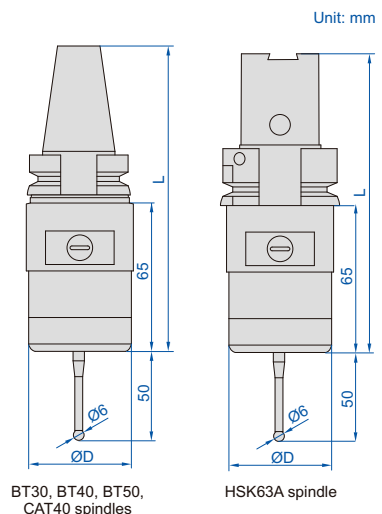


INFRARED TRANSMISSION PROBES FOR CNC MACHINE TOOLS

IP68
WATERPROOF



9413-1

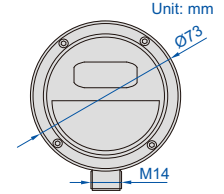


BT30, BT40, BT50, CAT40 spindles

HSK63A spindle



9413-A



- On-machine measurement of all kinds of small and medium-sized machining centers, CNC boring, milling machines and five-axis CNC machine tools
- Automatically set the workpiece coordinate and machining reference point before CNC machining process
- Automatically measure dimension and position coordinate during CNC machining
- Measure dimension, shape and position after CNC machining is completed
- Four kinds of SSR signals such as probe status, error, low voltage and pulse are transmitted to CNC machine tools
- M code is used to control on or off of probes
- Infrared transmission, strong anti-interference
- Infrared transmission/reception range: 5m
- Supplied with automatic measurement software
- Optional accessory: styli

PROBE SPECIFICATION

| Code | 9413-1 | 9413-2 | 9413-3 | 9413-4 | 9413-5 |
|--|---|--------|--------|--------|--------|
| Probe length (L) | 140mm | 166mm | 216mm | 168mm | 136mm |
| Probe diameter (ØD) | 48mm | 48mm | 48mm | 48mm | 48mm |
| Applicable spindle * | BT30 | BT40 | BT50 | CAT40 | HSK63A |
| Trigger accuracy of styli in any direction | 1µm | | | | |
| Protection stroke triggered by styli in all directions | X and Y axis stroke: ±12.5°, Z axis stroke: 5mm | | | | |
| Trigger force of styli in all directions | X and Y axis: 1-1.6N, Z axis: 5-10N | | | | |
| Dust/waterproof | IP68 | | | | |
| Power supply | 2×LS14250 lithium battery | | | | |

* SK and ISO spindle probes also can be customized

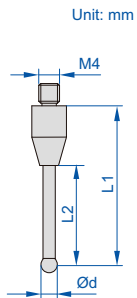
RECEIVER SPECIFICATION

| | |
|---------------------|---|
| Code | 9413-A |
| Protection function | low battery voltage or probe transmitting signal all the time** |
| Applicable probe | code 9413-1, 9413-2, 9413-3, 9413-4, 9413-5 |
| Cable length | 8m |
| Dust/waterproof | IP68 |
| Power supply | input voltage: 24V±10% (DC), load current: 50mA |

** When battery voltage is low or probe is in wrong state, receiver sends a signal to CNC machine to stop working

To be continued

Continued from previous page

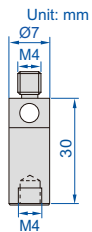


STYLI (OPTIONAL)

(mm)

| Code | L1 | L2 | Ød | Material of rod *** | Material of ball |
|----------|------|------|----|---------------------|------------------|
| 9410-P1 | 18 | 13 | 4 | stainless steel | ruby |
| 9410-P2 | 18 | 13.5 | 5 | stainless steel | ruby |
| 9410-P3 | 18.5 | 13 | 3 | stainless steel | ruby |
| 9410-P4 | 19 | 8 | 2 | carbide | ruby |
| 9410-P5 | 19.5 | 4 | 1 | carbide | ruby |
| 9410-P6 | 50 | 40 | 2 | carbide | ruby |
| 9410-P7 | 50 | 34 | 5 | ceramic | ruby |
| 9410-P8 | 100 | 86 | 6 | ceramic | ruby |
| 9410-P9 | 40 | 30 | 4 | ceramic | ruby |
| 9410-P10 | 50 | 36 | 6 | ceramic | ruby |

*** For stainless steel or carbide rods, it is recommended to use extension rods to protect spindles in case of break



EXTENSION ROD (OPTIONAL)

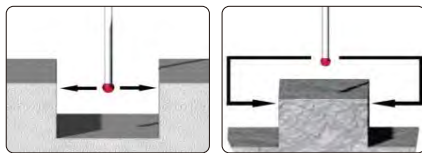
| Code | Material |
|---------|----------|
| 9410-R1 | ceramic |

application



AUTOMATIC MEASUREMENT SOFTWARE (INCLUDED)

1. Stylus automatic calibration
2. Protection of stylus during probe movement (avoid collision)
3. Groove and boss measurement

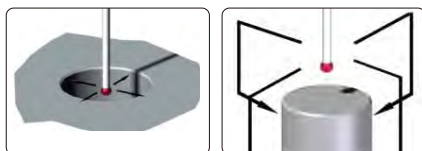


5. X or Y single-surface measurement

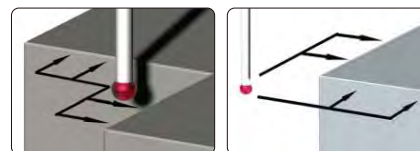


7. 4th axis measurement
8. Angle on X and Y plane measurement
9. Three points measurement of arc

4. Bore and axis measurement



6. Internal and external corner measurement



10. Measure the distance between two holes

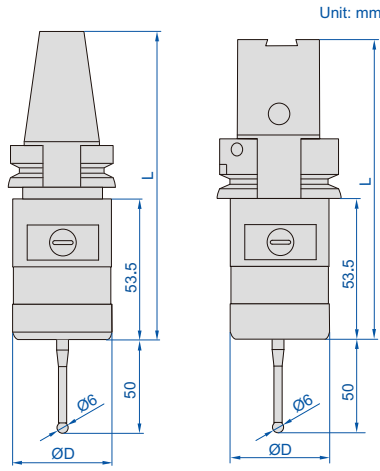


INFRARED TRANSMISSION PROBES FOR CNC MACHINE TOOLS (CAN BE USED IN COMBINATION WITH ZERO SETTER WITH INFRARED TRANSMISSION)

IP68
WATERPROOF



9414-1

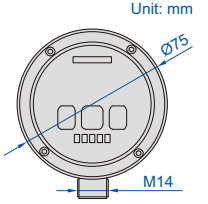


BT30, BT40, BT50,
CAT40 spindles

HSK63A spindle



9414-A



BT30, BT40,
BT50, CAT40

HSK63A

- On-machine measurement of all kinds of small and medium-sized machining centers, CNC boring, milling machines and five-axis CNC machine tools
- Automatically set the workpiece coordinate and machining reference point before CNC machining process
- Automatically measure dimension and position coordinate during CNC machining
- Measure dimension, shape and position after CNC machining is completed
- Four kinds of SSR signals such as probe status, error, low voltage and pulse are transmitted to CNC machine tools
- Working status can be displayed on receiver LED indicator
- Signal transmitting range of probe can be set
- Infrared transmission, fast response, high reliability
- The battery (5% utilization rate per shift) can be used continuously for 90 days
- Supplied with measurement software package
- Can be used in combination with zero setter with infrared transmission (code **9415-1**, **9415-2**)
- Optional accessory: styli

PROBE SPECIFICATION

| Code | 9414-1 | 9414-2 | 9414-3 | 9414-4 | 9414-5 |
|--|---|---------|---------|--------|---------|
| Probe length (L) | 130mm | 151.5mm | 208.3mm | 156mm | 126.5mm |
| Probe diameter (ØD) | 40mm | 40mm | 40mm | 40mm | 40mm |
| Applicable spindle * | BT30 | BT40 | BT50 | CAT40 | HSK63A |
| Trigger accuracy of styli in any direction | 1µm | | | | |
| Protection stroke triggered by styli in all directions | X and Y axis stroke: ±12°, Z axis stroke: 5mm | | | | |
| Trigger force of styli in all directions | X and Y axis: 0.5-1N, Z axis: 7.5N | | | | |
| Dust/waterproof | IP68 | | | | |
| Power supply | 2xLS14250 lithium battery | | | | |

* SK and ISO spindle probes also can be customized

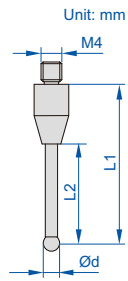
RECEIVER SPECIFICATION

| | |
|---------------------------------------|---|
| Code | 9414-A |
| Protection function | low battery voltage, overstroke and signal interrupt protection** |
| Applicable | probe code 9414-1 , 9414-2 , 9414-3 , 9414-4 , 9414-5 ; zero setter code 9415-1 , 9415-2 |
| Infrared transmission/reception range | 3m |
| Cable length | 8m |
| Dust/waterproof | IP68 |
| Power supply | input voltage: 24V±10% (DC), load current (max): 50mA |

** When battery voltage is low or zero setter is in wrong state, receiver sends a signal to CNC machine to stop working

To be continued

Continued from previous page

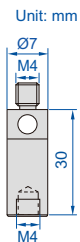


STYLI (OPTIONAL)

(mm)

| Code | L1 | L2 | Ød | Material of rod *** | Material of ball |
|----------|------|------|----|---------------------|------------------|
| 9410-P1 | 18 | 13 | 4 | stainless steel | ruby |
| 9410-P2 | 18 | 13.5 | 5 | stainless steel | ruby |
| 9410-P3 | 18.5 | 13 | 3 | stainless steel | ruby |
| 9410-P4 | 19 | 8 | 2 | carbide | ruby |
| 9410-P5 | 19.5 | 4 | 1 | carbide | ruby |
| 9410-P6 | 50 | 40 | 2 | carbide | ruby |
| 9410-P7 | 50 | 34 | 5 | ceramic | ruby |
| 9410-P8 | 100 | 86 | 6 | ceramic | ruby |
| 9410-P9 | 40 | 30 | 4 | ceramic | ruby |
| 9410-P10 | 50 | 36 | 6 | ceramic | ruby |

*** For stainless steel or carbide rods, it is recommended to use extension rods to protect spindles in case of break



EXTENSION ROD (OPTIONAL)

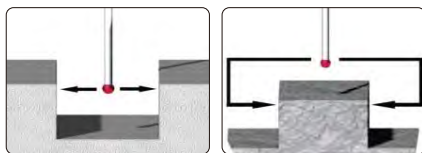
| Code | Material |
|---------|----------|
| 9410-R1 | ceramic |

application

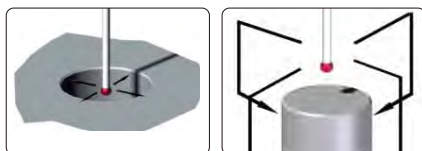


AUTOMATIC MEASUREMENT SOFTWARE (INCLUDED)

1. Stylus automatic calibration
2. Protection of stylus during probe movement (avoid collision)
3. Groove and boss measurement



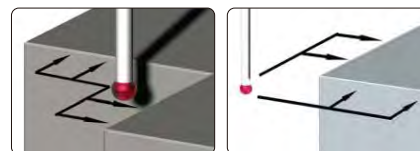
4. Bore and axis measurement



5. X or Y single-surface measurement



6. Internal and external corner measurement



7. 4th axis measurement
8. Angle on X and Y plane measurement
9. Three points measurement of arc

10. Measure the distance between two holes



IP68
WATERPROOF

ZERO SETTER WITH INFRARED TRANSMISSION (FIVE-SIDE)

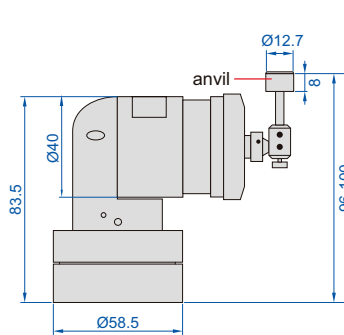


9415-1

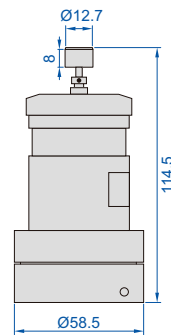


9414-A

Unit: mm

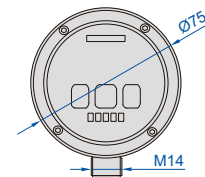


9415-1



9415-2

Unit: mm



- Suitable for all kinds of small and medium-sized machining centers, CNC boring, milling machines and five-axis CNC machine tools, etc.
- Automatically set the tool length parameters before CNC machining process
- Automatic detection of tool wear or damage during CNC machining
- Automatic detection of tool wear or damage after CNC machining is completed
- The working surface of anvil is ceramic and has chamfer, which can greatly improve the service life
- Infrared transmission, fast response, high reliability
- The battery (5% utilization rate per shift) can be used continuously for 90 days
- Supplied with automatic zero setter software package
- Can be used in combination with infrared transmission probes for CNC machine tools (code **9414-1**, **9414-2**, **9414-3**, **9414-4**, **9414-5**)
- Optional accessory: square anvil (code **9412-B1**)

ZERO SETTER SPECIFICATION

| Code | 9415-1 | 9415-2 |
|---|------------------------------------|----------------------------------|
| Height (factory setting) | 96-100mm | 114.5mm |
| Diameter of zero setter | Ø12.7mm | |
| Trigger direction | ±X, ±Y, +Z | |
| Trigger protection stroke | X-Y: ±5mm, Z: 8mm | |
| Trigger force of zero setter all directions | X and Y axis: 0.5-1N, Z axis: 1.5N | X and Y axis: 0.5-1N, Z axis: 5N |
| Repeated trigger accuracy | ≤1μm | |
| Start/stop mode | M code control * | |
| Hardness of the zero setter | HM8.5 | |
| Dust/waterproof | IP68 | |
| Power supply | 2xLS14250 lithium battery | |

* Before purchasing, please confirm whether CNC still has enough M code to be used

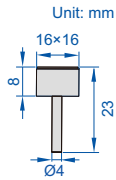
To be continued

Continued from previous page

RECEIVER SPECIFICATION

| | |
|--|---|
| Code | 9414-A |
| Protection function | low battery voltage, overstroke and signal interrupt protection** |
| Applicable | probe code 9414-1, 9414-2, 9414-3, 9414-4, 9414-5 ; zero setter code 9415-1, 9415-2 |
| Infrared transmission/reception range | 3m |
| Cable length | 8m |
| Dust/waterproof | IP68 |
| Power supply | input voltage: 24V±10% (DC), load current (max): 50mA |

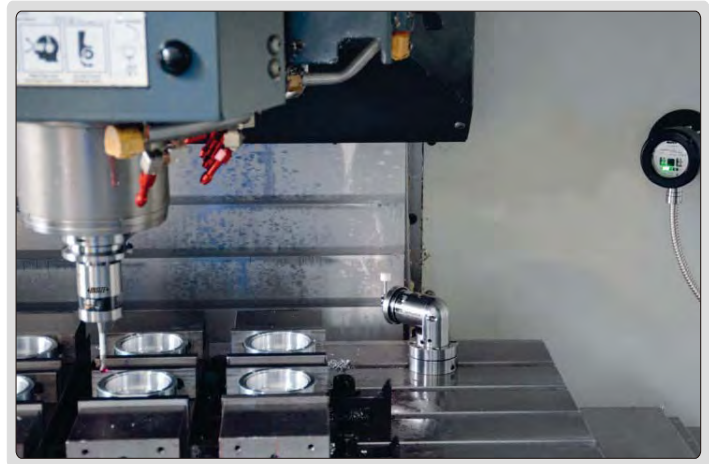
**When battery voltage is low or zero setter is in wrong state, receiver sends a signal to CNC machine to stop working



SQUARE ANVIL (OPTIONAL)

| Code | Shape | Dimension | Material |
|----------------|--------|-----------|----------|
| 9412-B1 | square | 16×16mm | ceramic |

application



Automatic zero setter software (included)

1. Automatic calibration of the center position of the anvil
2. Standard knife length setting
3. Semi-automatic and fully automatic tool setting for tool length



4. Semi-automatic and fully automatic tool diameter settings



5. Automatic detection of tool wear and breakage



IP68
WATERPROOF

ZERO SETTER WITH CABLE (FIVE-SIDE) CODE 9412

- Suitable for various machining centers, CNC boring and milling machines, etc.
- Automatically set the tool length parameters before CNC machining process
- Automatic detection of tool wear or damage during CNC machining
- Automatic detection of tool wear or damage after CNC machining is completed
- The working surface adopts ceramic material and chamfering process, which can greatly improve the service life
- The plug, cable part and output signal of the host are protected, so that the zero setter can work in the splash environment for a long time
- Signal transmission through the cable, the reverse connection of the power line can change the state of the signal output
- The working status is displayed by the indicator light
- Supplied with automatic zero setter software package
- Optional accessory: square feeler block (code 9412-B1)

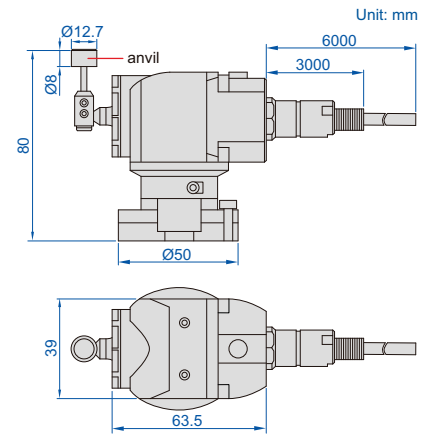


SPECIFICATION

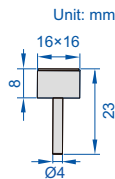
| | |
|-----------------------------|--------------------------------|
| Height (factory setting) | 80±0.5mm |
| Diameter of zero setter | Ø12.7mm |
| Trigger direction | ±X, ±Y, +Z |
| Trigger protection stroke | X-Y: ±5mm, Z: 8mm |
| Axial reset force | 3.4N-3.6N |
| Repeated trigger accuracy | ≤1µm |
| Hardness of the zero setter | HM8.5 |
| Class of protection | IP68 |
| Cable length * | 6m (stainless steel sheath 3m) |
| Input voltage | 24V±10% (DC) |
| Load current | max: 50mA |
| Signal type and logic ** | SSR (NC/NO) |

*The length of the cable can be customized

**Before purchasing, it is necessary to confirm whether the working logic of the tool setter output signal matches CNC control system



application



SQUARE ANVIL (OPTIONAL)

| Code | Shape | Dimension | Material |
|---------|--------|-----------|----------|
| 9412-B1 | square | 16×16mm | ceramic |

Automatic zero setter software (included)

1. Automatic calibration of the center position of the anvil
2. Standard knife length setting
3. Semi-automatic and fully automatic tool setting for tool length



4. Semi-automatic and fully automatic tool diameter settings



5. Automatic detection of tool wear and breakage settings



ZERO SETTER (WITH CABLE) CODE 9411

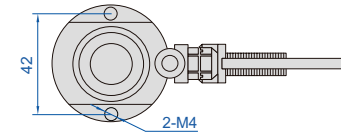
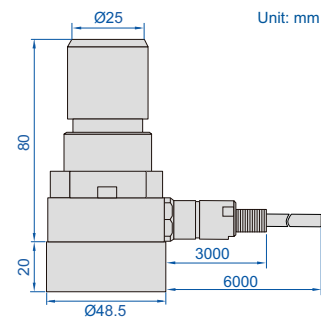
IP68
WATERPROOF

- Suitable for various machining centers, CNC boring and milling machines, etc.
- Automatically set the tool length parameters before CNC machining process
- Automatic detection of tool wear or damage during CNC machining
- Automatic detection of tool wear or damage after CNC machining is completed
- The working surface is made of hard alloy material, which can greatly improve the scratch resistance
- Signal transmission through the cable, the reverse connection of the power line can change the state of the signal output
- The working status is displayed by the indicator light
- Supplied with 20mm mounting base
- Supplied with automatic zero setter software package
- Optional accessory: blow-cleaning device (code **9411-C1**)



SPECIFICATION

| | |
|-----------------------------|---|
| Height | 80mm (the height is 100mm after adding the mounting base) |
| Diameter of zero setter | Ø25mm |
| Downward travel | 5mm |
| Axial reset force | 6N±0.3N |
| Repeated trigger accuracy | ≤1µm |
| Hardness of the zero setter | HRA90-93 |
| Class of protection | IP68 |
| Cable length * | 6m (stainless steel sheath 3m) |
| Input voltage | 24V±10% (DC) |
| Load current | max: 50mA |
| Signal type and logic ** | SSR (NC/NO) |



* The length of the cable can be customized

** Before purchasing, it is necessary to confirm whether the working logic of the tool setter output signal matches CNC control system

BLOW-CLEANING DEVICE (OPTIONAL)

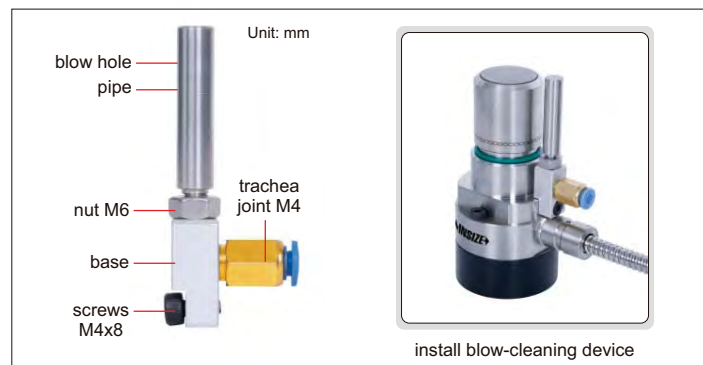
| Code | Material |
|----------------|-----------------|
| 9411-C1 | stainless steel |

Before purchasing a blow-cleaning device, it is necessary to confirm whether CNC machine has the M-code to control the cleaning

application



blow-cleaning device (optional)



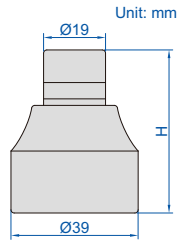
Automatic zero setter software package (included)

1. Automatic calibration of the center position of the cutter block
2. Standard knife length setting
3. Semi-automatic and fully automatic tool setting for tool length
4. Automatic detection of tool wear and breakage

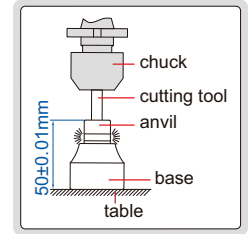
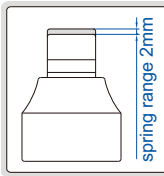


LOW TEST FORCE

- The base is electrically conducted to the cutting tools through the table and chuck. The LED lights up when the cutting tool touches the anvil
- Magnetic base
- Two batteries LR44



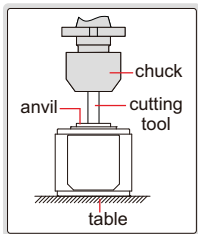
6553-50



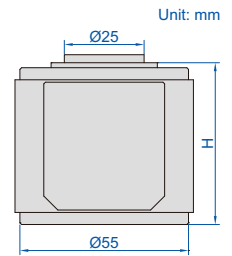
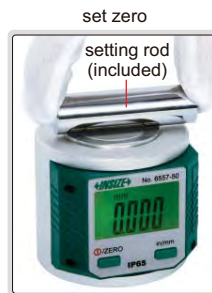
ELECTRONIC ZERO SETTER

INSIZE PLUS
MADE IN EUROPE

IP65 WATERPROOF



6557-50

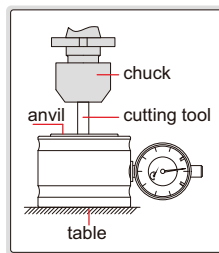
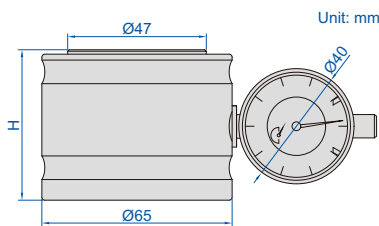


DIGITAL ZERO SETTER

- Resolution: 0.001 mm/0.00005"
- IP65 dust/waterproof
- Buttons: on/off, mm/inch, zero
- CR2032 battery
- Automatic power off
- Magnetic base
- Automatic backlight at zero

| Code | Height (H) | Anvil stroke | Accuracy* | Test force | Repeatability |
|---------|------------|--------------|---------------|---------------|---------------|
| 6557-50 | 50mm | 2.5mm | ±10µm/0.0004" | 10N (at 50mm) | 2µm |

* The accuracy is ensured within Ø10mm of the center

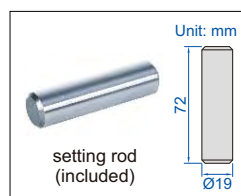
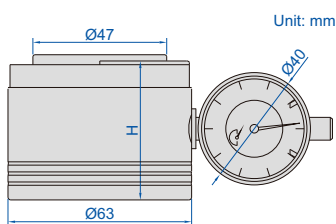


6554-50

ZERO SETTER

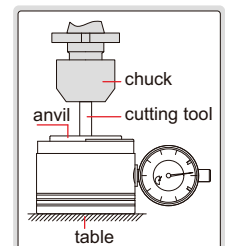
INSIZE PLUS
MADE IN EUROPE

| Code | Height (H) | Graduation | Accuracy | Test force |
|---------|------------|------------|----------|--------------|
| 6554-50 | 50mm | 0.01mm | ±0.02mm | 9N (at 50mm) |



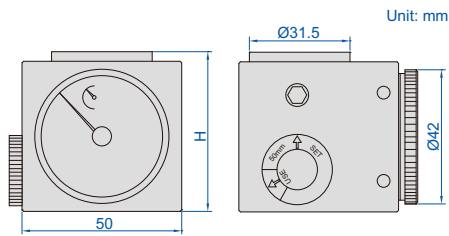
6556-50

ZERO SETTER



| Code | Height (H) | Graduation | Accuracy | Test force |
|---------|------------|------------|----------|---------------|
| 6556-50 | 50mm | 0.01mm | ±0.01mm | 10N (at 50mm) |

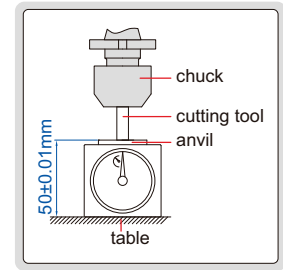
ZERO SETTER



- Magnetic base

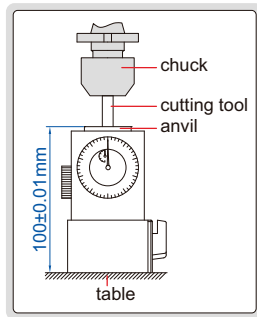


2397-502A



| Code | Height (H) | Graduation | Accuracy | Test force |
|-----------|------------|------------|----------|--------------|
| 2397-502A | 50mm | 0.01mm | ±0.01mm | 9N (at 50mm) |

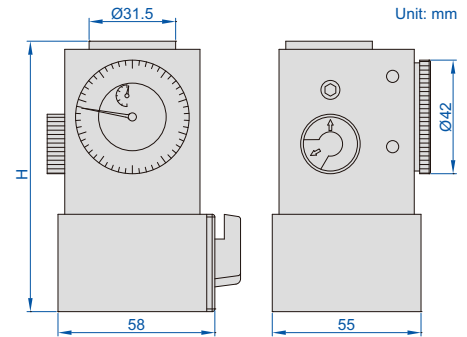
ZERO SETTER



- Magnetic base with on-off switch



2394-100A

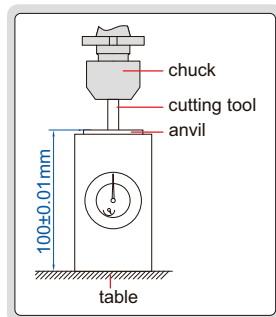


| Code | Height (H) | Graduation | Accuracy | Test force |
|-----------|------------|------------|----------|---------------|
| 2394-100A | 100mm | 0.01mm | ±0.01mm | 9N (at 100mm) |

LOW TEST FORCE ZERO SETTER

INSIZE PLUS
MADE IN EUROPE

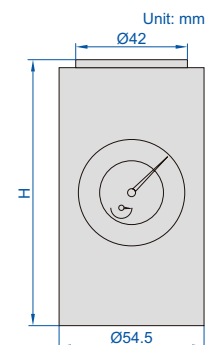
LOW TEST FORCE



- Magnetic base
- Low test force, suitable for micro tools with minimum diameter Ø0.1mm



6555-100B



| Code | Height (H) | Graduation | Accuracy | Test force |
|-----------|------------|------------|----------|---------------|
| 6555-100B | 100mm | 0.01mm | ±0.01mm | 1N (at 100mm) |



Electronic Levels
Page 496



Digital Levels And Slope Meters
Page 497-500



Frame Levels
Page 501



Block Levels
Page 502



Levels
Page 503-506



Cross-Line Laser Levels
Page 507



Self-Leveling Rotary Lasers
Page 508

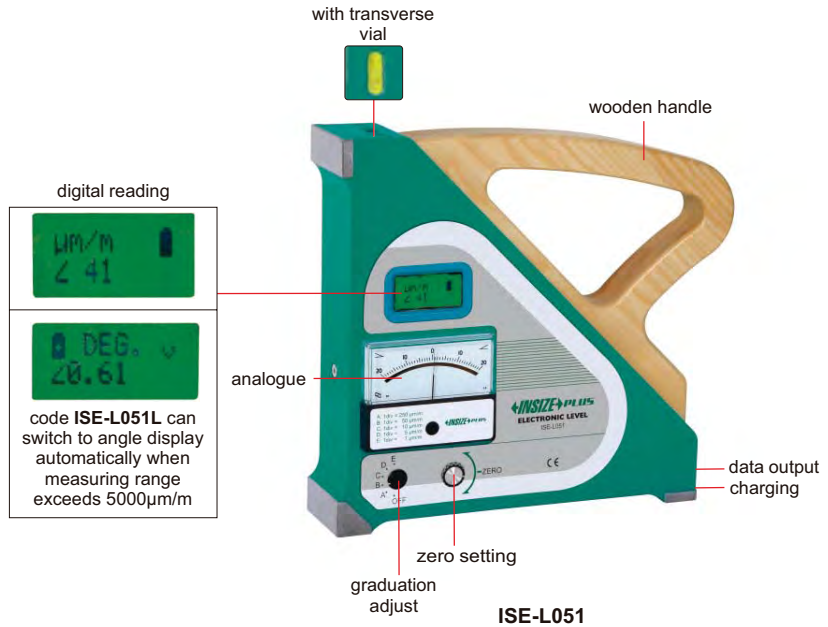
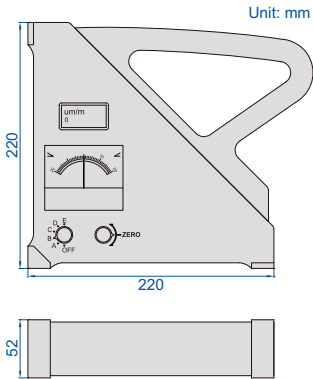
ELECTRONIC LEVELS

INSIZE PLUS
MADE IN EUROPE

INSPECTION
CERTIFICATE

DATA
OUTPUT

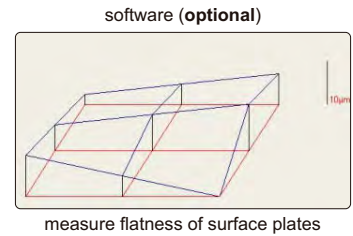
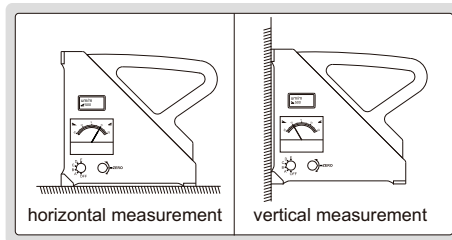
SHOCK
PROOF



digital reading

code **ISE-L051L** can switch to angle display automatically when measuring range exceeds 5000 $\mu\text{m}/\text{m}$

- Shockproof
- Analogue and digital reading modes



SPECIFICATION

| Code | ISE-L051 | | | ISE-L051L | |
|----------------------------|--|--------------------------------------|----------------------------------|--|--------------------------------|
| | Analogue graduation (adjustable) | 250 $\mu\text{m}/\text{m}$ (=0.014°) | 50 $\mu\text{m}/\text{m}$ (=10") | 10 $\mu\text{m}/\text{m}$ (=2") | 5 $\mu\text{m}/\text{m}$ (=1") |
| Analogue range | $\pm 5000\mu\text{m}/\text{m}$ | $\pm 1000\mu\text{m}/\text{m}$ | $\pm 200\mu\text{m}/\text{m}$ | $\pm 100\mu\text{m}/\text{m}$ | $\pm 20\mu\text{m}/\text{m}$ |
| Digital reading resolution | horizontal: 1 $\mu\text{m}/\text{m}$ (=0.2") | | | horizontal: 1 $\mu\text{m}/\text{m}$ (=0.2"), angle: 0.01° | |
| Digital reading range | horizontal: 5000 $\mu\text{m}/\text{m}$ | | | horizontal: 5000 $\mu\text{m}/\text{m}$, angle: 0.3~85° | |
| Accuracy | horizontal: $\pm 1\%$ | | | horizontal: $\pm 1\%$, angle: $\pm 0.7\%$ | |
| Zero setting range | $\pm 1500\mu\text{m}/\text{m}$ | | | | |
| Response time | <3s | | | | |
| Data output | RS232 | | | | |
| Power supply | rechargeable Li-ion battery, provides power for 10h continuous working | | | | |
| Dimension | 220×220×52mm | | | | |
| Weight | 4.4kg | | | | |

20

STANDARD DELIVERY

| | |
|---------------|------|
| Main unit | 1 pc |
| AC/DC adapter | 1 pc |

OPTIONAL ACCESSORY

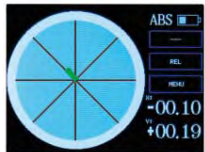
| | |
|--------------------------------|-------------------|
| Software and data output cable | ISE-L050-SOFTWARE |
|--------------------------------|-------------------|

DATA OUTPUT

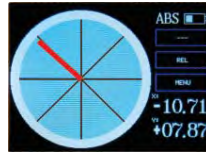
DIGITAL LEVEL CODE ISE-2DT



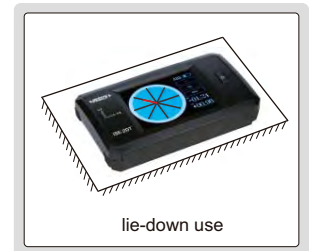
- Color LCD, touch panel
- X-Y axis measurement
- Set the tolerance and the display is shown in different colors



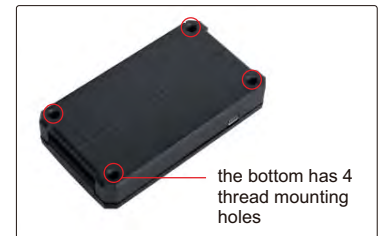
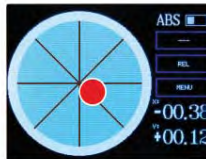
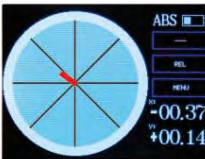
within the tolerance (green)



out of the tolerance (red)



- To show the incline with line or bubble



SPECIFICATION

| | |
|-----------------|---|
| Measuring range | ±30° |
| Resolution | 0.1°, 0.01°, 0.1mm/m |
| Accuracy | ±0.03° (range 0~3°) ±0.05° (range >3°) |
| Power supply | rechargeable battery |
| Dimension | 115×66×25mm |
| Weight | 224g |

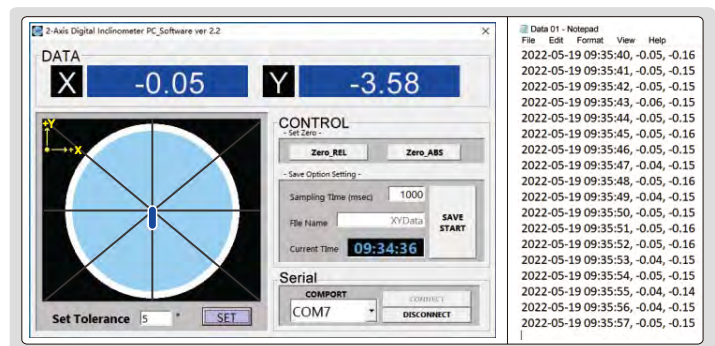
STANDARD DELIVERY

| | |
|-----------|------|
| Main unit | 1 pc |
| USB cable | 1 pc |

OPTIONAL ACCESSORY

| | |
|----------|------------------|
| Software | ISE-2DT-SOFTWARE |
|----------|------------------|

PC software (optional), send data to txt



DUAL AXIS DIGITAL LEVEL AND GYRO ANGLE METER



DATA OUTPUT

DISPLAY FLIPS OVER WHEN THE BOTTOM FACES UP

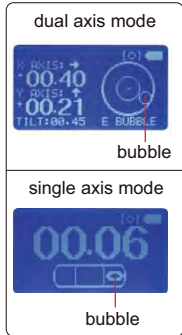
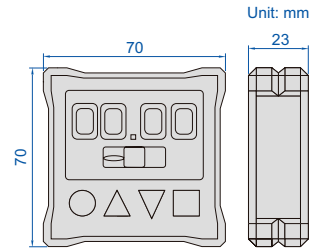
AUDIBLE ALARM WHEN OUT OF LIMIT

BACKLIGHT

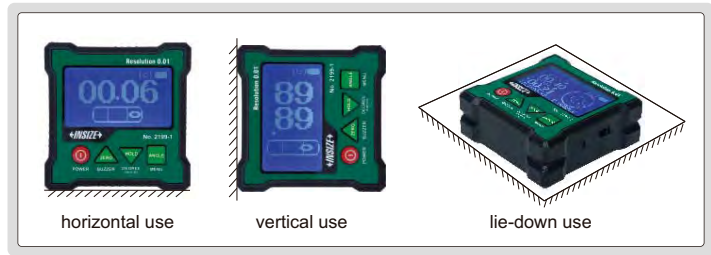
ATTENTION: HARD PLASTIC CASE



2199-1

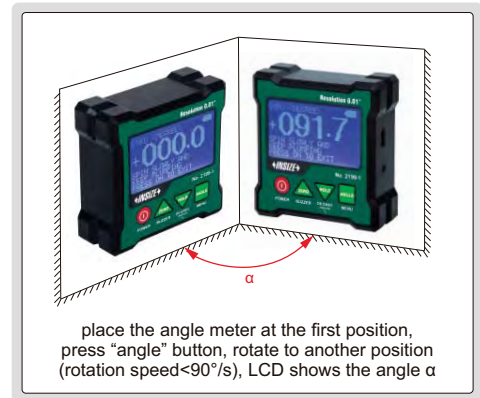


M4 threaded holes on the back for fixing



- Single axis/double axis level and slope meter, gyro technique can measure the angle between two planes in any direction
- Hard plastic case, with V-shaped grooves, four magnetic sides
- Display flips over when the bottom faces up
- Audible alarm when out of limit
- Buttons: POWER, ZERO, HOLD, display unit (°, mm/m, %), MENU
- Rechargeable Li-ion battery 3.7V, operation time is 40 hours
- Automatic power off in 30 minutes
- Data output
- Optional accessory: wired data transmission (code **2199-A01**), bluetooth (code **2199-A02**), transmission distance is 10 meters (under the condition of no obstruction and no electromagnetic interference)

measurement of angle between two planes in any direction (gyro technique)



| Code | Range | Resolution | Accuracy |
|--------|---|------------|---|
| 2199-1 | single axis level: 4x90° dual axis level: ±40° | 0.01° | at 0° and 20°: ±0.08° at 20° and 70°: ±0.15° at 70° and 90°: ±0.08° |
| | gyro angle meter: 360° | 0.1° | ±0.5° |



connect to computer via wired data transmission



connect to mobile phone via bluetooth



bluetooth (optional)



wired data transmission (optional)

ABSOLUTE LEVEL

BACKLIGHT

BUZZER ALARM AT 0° AND 90°

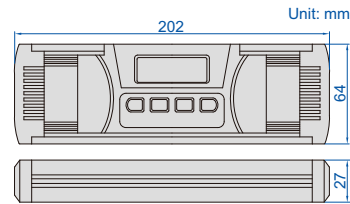
WORKING TEMPERATURE -5°C~50°C

IP67 WATERPROOF

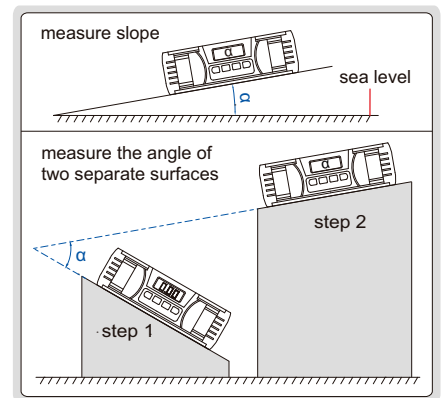


2175-360

DIGITAL LEVEL AND SLOPE METER



- IP67 dust/waterproof
- Used as level and slope meter
- Aluminum frame, shock absorbing rubber end caps
- Magnetic bottom with V-groove for shafts
- The sea level is permanently set inside the chip, zero setting is not needed when batteries are replaced
- Buttons: ON/OFF, backlight/buzzer alarm, absolute and incremental measurement, unit (mm/m, %, °), HOLD (keep the reading)
- Three AAA batteries, automatic power off



| Code | Range | Resolution | Accuracy |
|----------|----------------|--------------------|---------------------------------|
| 2175-360 | 0-360° (90°x4) | 0.05° (=0.873mm/m) | at 0°: ±0.05°; at others: ±0.1° |

ABSOLUTE LEVEL

BACKLIGHT

BUZZER ALARM AT 0° AND 90°

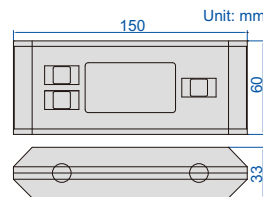
WORKING TEMPERATURE -5°C~50°C

IP54 WATERPROOF

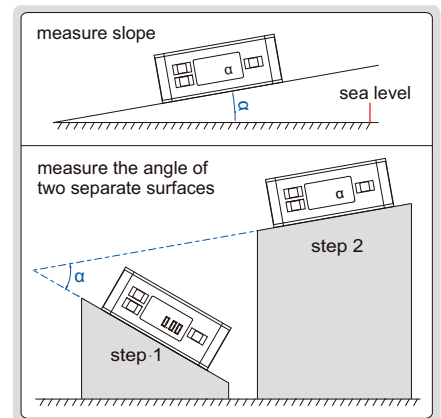


2179-360

DIGITAL LEVEL AND SLOPE METER



- IP54 dust/waterproof
- Used as level and slope meter
- Aluminum frame
- Magnetic bottom with V-groove for shafts
- The sea level is permanently set inside the chip, zero setting is not needed when battery is replaced
- Buttons: ON/OFF, absolute and incremental measurement, keep the reading, buzzer alarm, unit (mm/m, %, in/ft), conversion, backlight
- Two AAA batteries, automatic power off



| Code | Range | Resolution | Accuracy |
|----------|----------------|--------------------|--|
| 2179-360 | 0-360° (90°x4) | 0.05° (=0.873mm/m) | at 0° and 90°: ±0.1°; at others: ±0.2° |

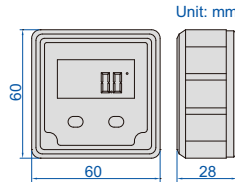
DIGITAL LEVEL AND SLOPE METER

POPULAR MODEL

- Used as level and slope meter
- Aluminum frame
- Magnetic bottom
- The display flips over when the bottom faces up
- The backlight is on automatically when in use, and automatically off in 15 seconds after use
- The sea level is permanently set inside the chip, zero setting is not needed when battery is replaced
- Buttons: ON/OFF, ZERO, absolute and incremental measurement
- One AAA battery, automatic power off in 5 minutes



2170-1



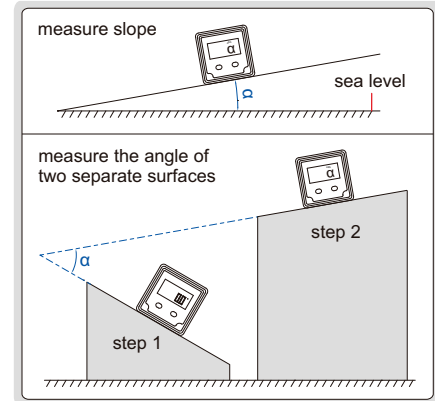
MAGNETIC BOTTOM

WORKING TEMPERATURE
-5°C~50°C

BACKLIGHT

DISPLAY FLIPS OVER WHEN THE BOTTOM FACES UP

ABSOLUTE LEVEL



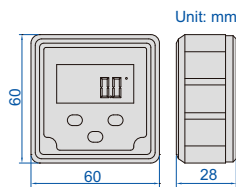
| Code | Range | Resolution | Accuracy |
|--------|-------|-------------------|--|
| 2170-1 | 4x90° | 0.1° (=1.745mm/m) | at 0° and 90°: ±0.1°; at others: ±0.2° |

BLUETOOTH DIGITAL LEVEL AND SLOPE METER

- Used as level and slope meter
- Aluminum frame
- Magnetic bottom
- The display flips over when the bottom faces up
- The backlight is on automatically when in use, and automatically off in 15 seconds after use
- The sea level is permanently set inside the chip, zero setting is not needed when battery is replaced
- Buttons: ON/OFF, ZERO, HOLD, absolute and incremental measurement
- Built-in bluetooth, transmission distance is 15 meters (under the condition of no obstruction and no electromagnetic interference). Android and iPhone APP are included
- One AAA battery, automatic power off in 5 minutes



2198-2



BACKLIGHT

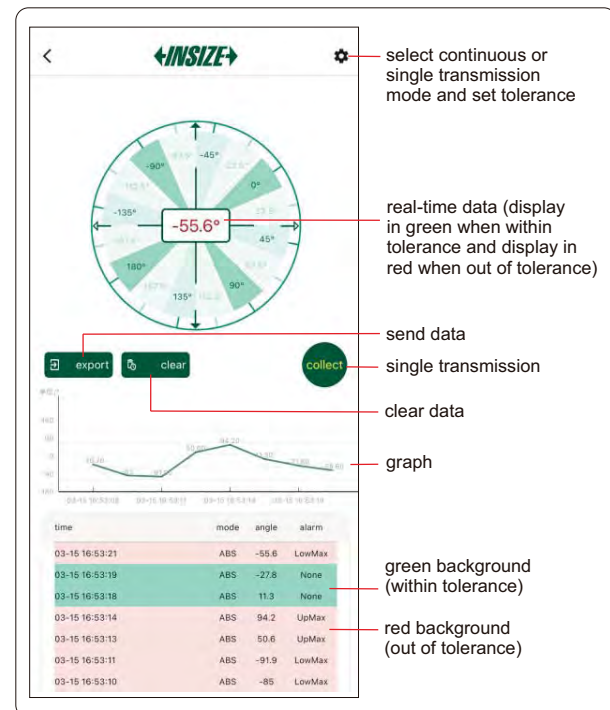
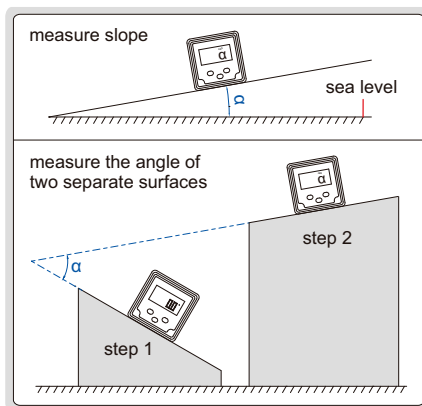
MAGNETIC BOTTOM

DISPLAY FLIPS OVER WHEN THE BOTTOM FACES UP

WORKING TEMPERATURE
-5°C~50°C

ABSOLUTE LEVEL

Android and iPhone APP (included), can choose real-time display (continuous transmission) or single transmission



| Code | Range | Resolution | Accuracy |
|--------|-------|-------------------|--|
| 2198-2 | 4x90° | 0.1° (=1.745mm/m) | at 0° and 90°: ±0.1°; at others: ±0.2° |

NO NEED TO SET ZERO BEFORE USE

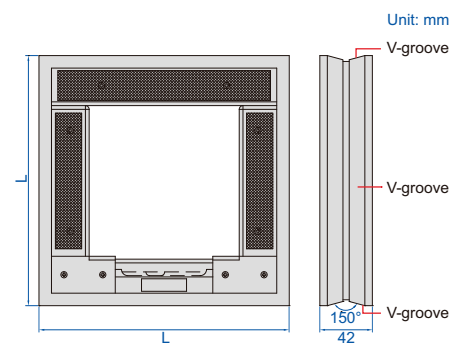
FRAME LEVELS
INSIZE PLUS
 MADE IN EUROPE



4906-150

4906-150M

- No need to set zero before use
- Three V-grooves for shafts (shafts dia. 19.3~115.9mm)
- With longitudinal vial

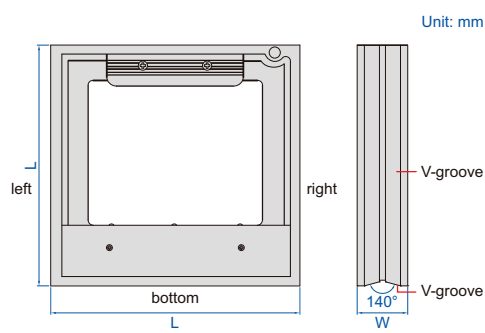


| Code | | Size (LxL) | Remark |
|--------------------------------|--------------------------------|------------|-------------|
| Sensitivity 0.02mm/m (=0.001°) | Sensitivity 0.1mm/m (=0.0057°) | | |
| 4906-150 | 4906-B150 | 150x150mm | — |
| 4906-200 | 4906-B200 | 200x200mm | — |
| 4906-300 | 4906-B300 | 300x300mm | — |
| 4906-150M | 4906-B150M | 150x150mm | with magnet |
| 4906-200M | 4906-B200M | 200x200mm | with magnet |
| 4906-300M | 4906-B300M | 300x300mm | with magnet |



FRAME LEVELS

- V-groove on bottom and left for shafts (shafts dia. 15~68mm)
- With transverse vial



4902-200

| Code | | Size (LxL) | W |
|--------------------------------|---------------------------------|------------|------|
| Sensitivity 0.02mm/m (=0.001°) | Sensitivity 0.05mm/m (=0.0029°) | | |
| 4902-150 | 4902-C150 | 150x150mm | 40mm |
| 4902-200 | 4902-C200 | 200x200mm | 40mm |
| 4902-300 | 4902-C300 | 300x300mm | 45mm |

BLOCK LEVELS

INSIZE PLUS
MADE IN EUROPE

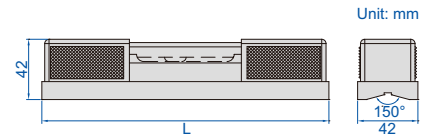
- No need to set zero before use
- V-groove on bottom of shafts (shafts dia. 19.3~115.9mm)
- With longitudinal vial



4905-200

NO NEED TO SET ZERO BEFORE USE

| Code | | Size (L) |
|--------------------------------|--------------------------------|----------|
| Sensitivity 0.02mm/m (=0.001°) | Sensitivity 0.1mm/m (=0.0057°) | |
| 4905-160 | 4905-B160 | 160mm |
| 4905-200 | 4905-B200 | 200mm |
| 4905-300 | 4905-B300 | 300mm |
| 4905-500 | 4905-B500 | 500mm |



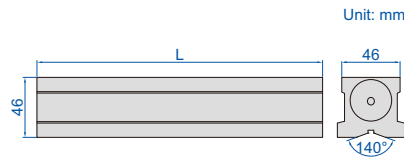
BLOCK LEVELS

POPULAR MODEL



VIDEO

- V-groove on bottom for shafts (shafts dia. 15~68mm)
- With transverse vial



4903-200A

| Code | | Length (L) |
|--------------------------------|---------------------------------|------------|
| Sensitivity 0.02mm/m (=0.001°) | Sensitivity 0.05mm/m (=0.0029°) | |
| 4903-150A | 4903-C150 | 150mm |
| 4903-200A | 4903-C200 | 200mm |
| 4903-300A | 4903-C300 | 300mm |

SHORT LEVEL

INSIZE PLUS
MADE IN EUROPE

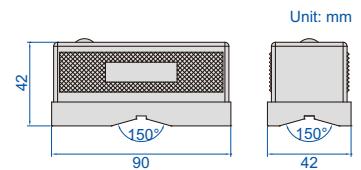
- No need to set zero before use
- Suitable for small spaces like crankshaft
- Longitudinal and transverse V-grooves on bottom for shafts (shafts dia. 19.3~115.9mm)
- With transverse vial



4907-90

NO NEED TO SET ZERO BEFORE USE

| Code | Length | Sensitivity |
|---------|--------|--------------------|
| 4907-90 | 90mm | 0.1mm/m (=0.0057°) |



MINI LEVEL

INSIZE PLUS
MADE IN EUROPE

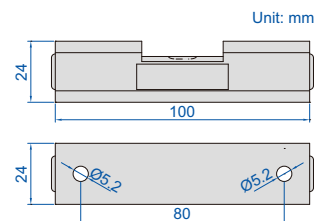
- No need to set zero before use
- With mounting holes (for M5 screws)



4908-100

NO NEED TO SET ZERO BEFORE USE

| Code | Length | Sensitivity |
|----------|--------|--------------------|
| 4908-100 | 100mm | 0.1mm/m (=0.0057°) |

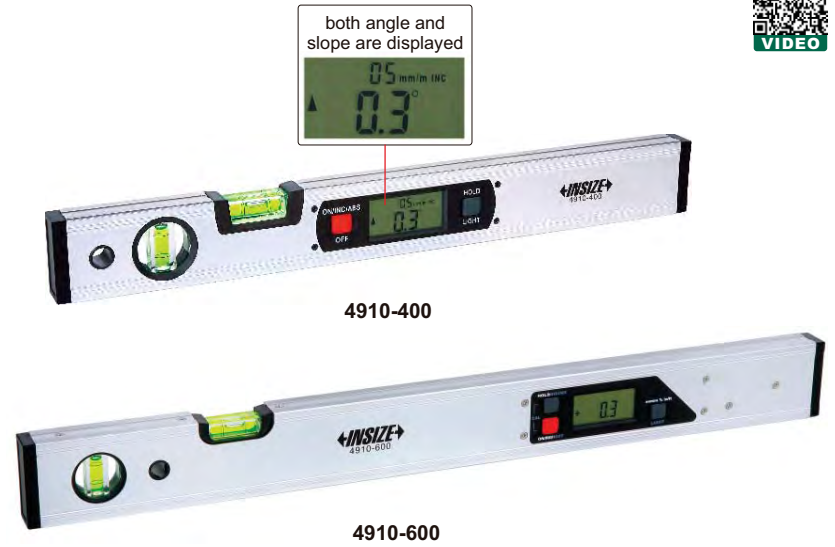
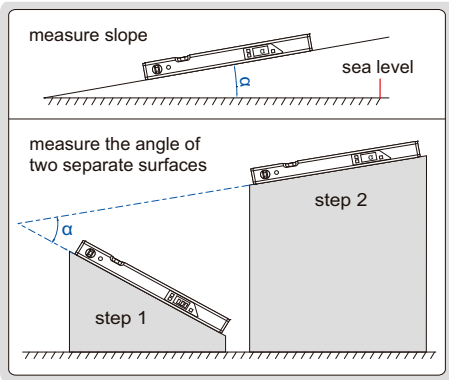


ABSOLUTE LEVEL

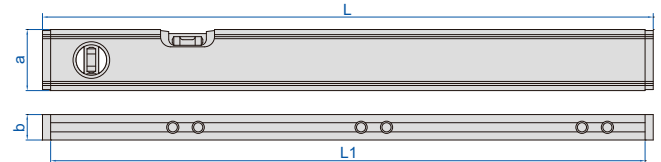
BACKLIGHT

WORKING TEMPERATURE
0°C~50°C

DIGITAL LEVELS AND SLOPE METERS



- With transverse and longitudinal vials
- Used as level and slope meter
- Aluminum frame, magnetic bottom
- The sea level is permanently set inside the chip, zero setting is not needed when batteries are replaced
- Buttons: ON/OFF, absolute and incremental measurement, keep the reading, buzzer alarm (not for **4910-400**), unit (mm/m, %, in/ft), conversion (not for **4910-400**), backlight
- The display flips over when the bottom faces up
- Two AAA batteries
- Automatic power off



(mm)

| Code | Range | Resolution | Accuracy | Remark | L | L1 | a | b |
|-----------------|-------------------|---|---|------------------------------------|-----|-----|----|----|
| 4910-400 | 0~360° (90°×4) | angle: 0.1°; slope: 1mm/m | ±0.2° | both angle and slope are displayed | 416 | 400 | 50 | 21 |
| 4910-600 | 0~360° (90°×4) | at 0° and 90°: 0.05° (=0.8725mm/m); at others: 0.1° (=1.745mm/m) | at 0° and 90°: ±0.1°; at others: ±0.2° | at 0° and 90° buzzer alarms | 600 | 585 | 60 | 25 |

LIFETIME WARRANTY VIALS

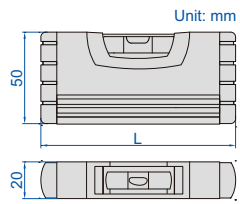
MAGNETIC BASE

HANDY LEVEL



4912-100

- Shockproof vials
- Magnetic base
- Shock absorbing rubber end caps
- Working temperature: -15°C~55°C



magnetic base surface



packaging



| Code | Size (L) | Accuracy |
|-----------------|----------|----------|
| 4912-100 | 100mm | 0.5mm/m |

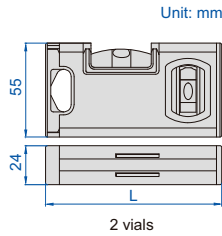
HANDY LEVELS

MAGNETIC BASE

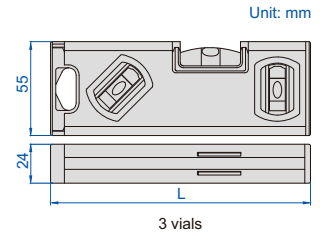
LIFETIME WARRANTY VIALS



4922-100



4922-150



| Code | Size (L) | Accuracy | Number of vials |
|----------|----------|----------|-----------------|
| 4922-100 | 100mm | 0.5mm/m | 2 |
| 4922-150 | 150mm | 0.5mm/m | 3 |
| 4922-200 | 200mm | 0.5mm/m | 3 |

- Shockproof horizontal and vertical vials
- Magnetic base
- Shock absorbing rubber end caps
- Working temperature: -15°C~55°C

CASTING ALUMINUM LEVEL

MAGNETIC BASE

LIFETIME WARRANTY VIALS

magnetic bottom surface (milled)



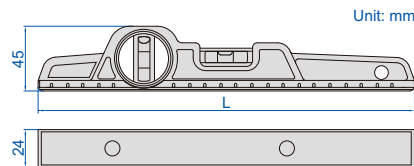
4913-250

packaging



- Shockproof horizontal and vertical vials
- Magnetic base
- Working temperature: -15°C~55°C
- Casting aluminum body

| Code | Size (L) | Accuracy |
|----------|----------|----------|
| 4913-250 | 250mm | 0.5mm/m |



ALUMINUM LEVEL

MAGNETIC BASE

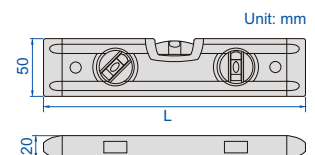
LIFETIME WARRANTY VIALS

- Shockproof horizontal and vertical vials
- Magnetic base
- Shock absorbing rubber end caps
- Working temperature: -15°C~55°C



4921-230

| Code | Size (L) | Accuracy |
|----------|----------|----------|
| 4921-230 | 230mm | 0.5mm/m |



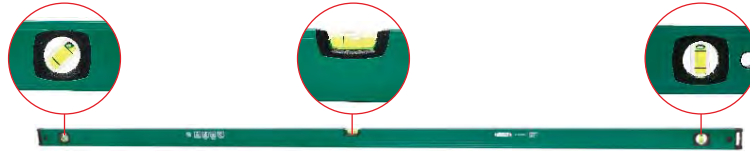
LIFETIME WARRANTY VIALS

MAGNETIC BASE

ALUMINUM LEVELS



4914-600

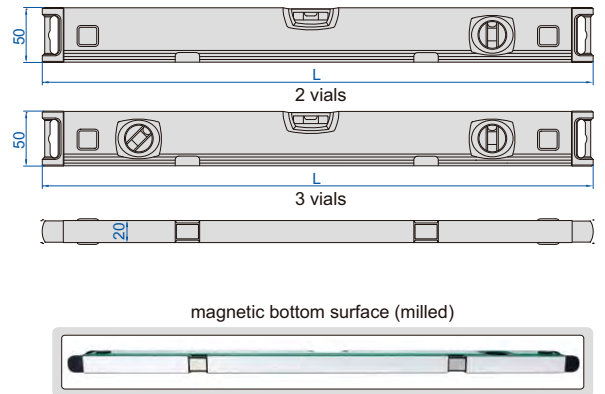


4914-2000

- Shockproof horizontal and vertical vials
- Magnetic base
- Shock absorbing rubber end caps
- Working temperature: -15°C~55°C

| Code | Size (L) | Accuracy | Number of vials |
|-----------|----------|----------|-----------------|
| 4914-300 | 300mm | 0.5mm/m | 2 |
| 4914-600 | 600mm | 0.5mm/m | 2 |
| 4914-800 | 800mm | 0.5mm/m | 2 |
| 4914-1000 | 1000mm | 0.5mm/m | 2 |
| 4914-1200 | 1200mm | 0.5mm/m | 2 |
| 4914-2000 | 2000mm | 0.5mm/m | 3 |

Unit: mm



LIFETIME WARRANTY VIALS

ALUMINUM LEVELS

- Top and bottom working surfaces
- Shock-proof and UV-proof vials
- Die casting aluminum alloy frame
- Zero position of horizontal vial can be set
- One graduation of horizontal vial is 2% slope
- Working temperature: -15°C~55°C



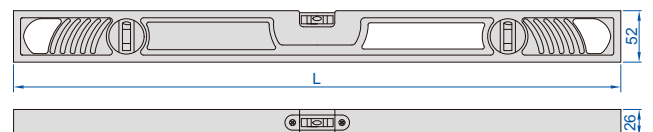
4911-600

bottom surface (non-magnetic, milled)



| Code | Size (L) | Accuracy |
|----------|----------|----------|
| 4911-600 | 600mm | 0.5mm/m |
| 4911-800 | 800mm | 0.5mm/m |

Unit: mm



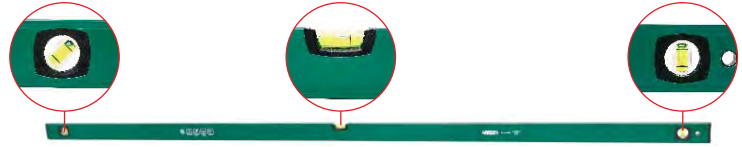
ALUMINUM LEVELS (BASIC TYPE)

MAGNETIC BASE

LIFETIME WARRANTY VIALS



4918-300



4918-2000

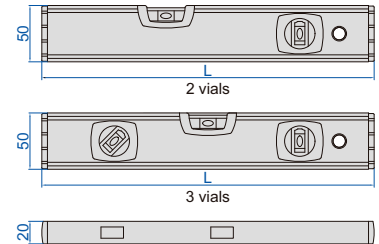
- Shock-proof and UV-proof vials
- Magnetic base
- Shock absorbing rubber end caps
- Working temperature: -15°C~55°C

| Code | Size (L) | Accuracy | Number of vials |
|-----------|----------|----------|-----------------|
| 4918-300 | 300mm | 1mm/m | 2 |
| 4918-600 | 600mm | 1mm/m | 2 |
| 4918-800 | 800mm | 1mm/m | 2 |
| 4918-1000 | 1000mm | 1mm/m | 2 |
| 4918-1200 | 1200mm | 1mm/m | 2 |
| 4918-2000 | 2000mm | 1mm/m | 3 |

magnetic bottom surface



Unit: mm



ALUMINUM LEVEL WITH RULER

LIFETIME WARRANTY VIALS

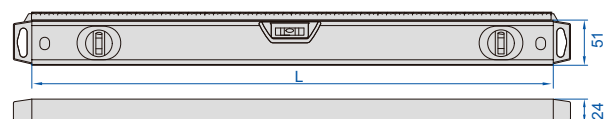


4923-600

- Shockproof horizontal and vertical vials
- Non-magnetic milled base
- Shock absorbing rubber end caps
- Range of ruler: 0-60cm, graduation: 1mm
- Working temperature: -15°C~55°C

| Code | Size (L) | Accuracy |
|----------|----------|----------|
| 4923-600 | 600mm | 0.5mm/m |

Unit: mm





IP54
WATERPROOF

AUDIBLE AND VISUAL
ALARM WHEN OUT OF $\pm 3^\circ$

CROSS-LINE LASER LEVEL CODE 4917-30



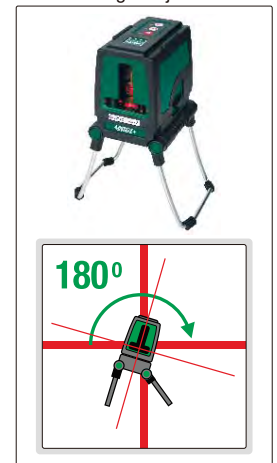
- Red horizontal and vertical cross laser lines
- Self-leveling within $\pm 3^\circ$, self-leveling time within 4s, audible and visual alarm when out of $\pm 3^\circ$
- Folding legs for angle and height adjustment
- Outdoor use with the detector (code: 4917-DETECTOR)



application examples



folding legs for angle and height adjustment



SPECIFICATION

| | |
|-----------------------|--|
| Laser line width | 2 \pm 0.5mm (within 5m) |
| Laser type | 630~660nm, class II, <1mW |
| Beam angle | 120 \pm 0.5° |
| Self-leveling range | $\pm 3^\circ$ |
| Working distance | indoor: 30m, outdoor: 50m with detector (optional) |
| Accuracy | 0.2mm/m |
| Operation temperature | -10~40°C |
| Power supply | 3 \times AA batteries, for 3 hours working |
| Dimension | 100 \times 82 \times 104mm |
| Weight | 620g |



stand
(included with outdoor detector)

OUTDOOR DETECTOR (OPTIONAL)

| | |
|----------------------|---|
| Detecting distance | horizontal 1~50m, vertical 1~30m |
| Detecting accuracy * | high accuracy ± 1.5 mm, low accuracy ± 2.5 mm |
| Power supply | 9V battery |
| Dimension | 168 \times 58 \times 30mm |
| Weight | 140g (battery included) |



outdoor detector (optional)

* Use high accuracy detection mode within 15m,
use low accuracy detection mode over 15m

STANDARD DELIVERY

| | |
|-----------------------------|-------|
| Main unit | 1 pc |
| 1/4" to 5/8" tripod adaptor | 1 pc |
| Battery (AA) | 3 pcs |

OPTIONAL ACCESSORY

| | |
|------------------|---------------|
| Outdoor detector | 4917-DETECTOR |
|------------------|---------------|

SELF-LEVELING ROTARY LASER CODE GRL-L340

INDICATOR FLASHING
WHEN OUT OF $\pm 5^\circ$

IP65
WATERPROOF



detector (included)



remote controller (included)



bracket for C battery (included)



beam finder glasses (included)



tripod (included)

- Applicable fields: construction, decoration, pipeline and equipment installation
- Green laser beam rotates 360° horizontally or vertically
- Self-leveling range $\pm 5^\circ$ on both X and Y planes
- Alarm when inclination is out of $\pm 5^\circ$
- $\pm 5^\circ$ leveling range for manual mode on both X and Y planes
- 5 variable speeds 0-600rpm
- 6 scan modes
- Plumb up and plumb down dots
- Remote control for long distance
- Power supply: AC or DC

application examples



horizontal leveling

vertical leveling

working with detector

SPECIFICATION

| | | |
|-----------------------------------|---|---------------------------------------|
| Working range | indoor 50m, outdoor 300m (with detector) | |
| Self leveling range | $\pm 5^\circ$ | |
| Horizontal/vertical beam accuracy | $\pm 0.1\text{mm/m}$ | |
| Main laser type | 520~540nm, class 2, <1mW | |
| Auxiliary laser type | 645~655nm, class 2, <1mW | |
| Rotating speed | 0/60/120/300/600rpm | |
| Scanning range | 0/10/45/90/180/360° | |
| Setting slope | X axis: $\pm 5^\circ$, Y axis: $\pm 5^\circ$ | |
| Operation temperature | -20~50°C | |
| Maximum remote control distance | 20m | |
| Power supply | remote controller | 2×1.5V AAA batteries |
| | main unit | NI-MH batteries or 4×1.5V C batteries |
| | detector | 1x9V battery |
| Dimension | 210×210×213mm | |
| Weight | 2.5kg | |

STANDARD DELIVERY

| | |
|---------------------------------------|-------|
| Main unit (including NI-MH batteries) | 1 pc |
| C battery and bracket | 1 set |
| Detector | 1 pc |
| Remote controller | 1 pc |
| Beam finder glasses | 1 pc |
| Laser target | 1 pc |
| Power adapter | 1 pc |
| AAA battery | 2 pcs |
| 9V battery | 1 pc |
| Tripod | 1 pc |



Linear Scales
Page 510-512/515



Digital Readouts
Page 513-515



Scales
Page 516-517



Air Gages And Displays
Page 517-518



Air Leakage Testers
Page 519



Laser Scan Micrometers
Page 520-521



Spectrometers
Page 522-526



Tool Presetters
Page 527-529

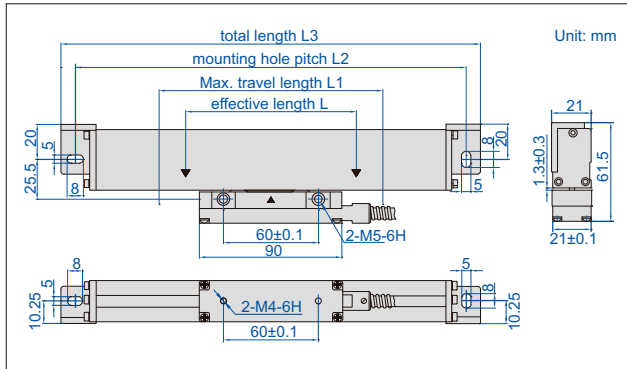
LINEAR SCALES (TTL SIGNAL)



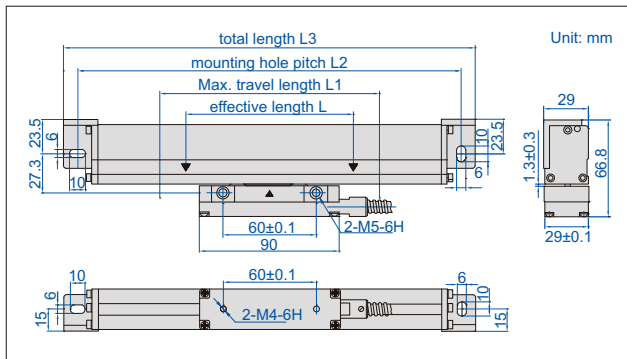
ISL-A1-300

- Optical TTL (Through-The-Lens) detection. These optical TTL linear scales use a transistor logic to transmit and record high-resolution distance measurements. They are the most accurate type of encoder and are paired with ISL-DR2/DR3 and ISL-LCD7 (digital readout)

Series ISL-A1 and ISL-A5



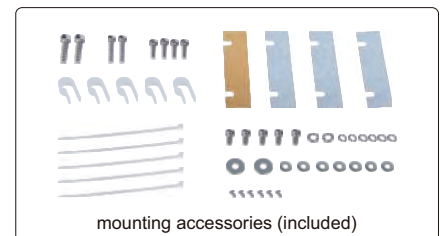
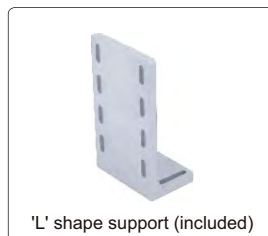
Series ISL-B5



| Effective length (L) | Code | | |
|----------------------|---------------|---------------|---------------|
| | Thin type | | Thick type |
| | Series ISL-A1 | Series ISL-A5 | Series ISL-B5 |
| 50mm | ISL-A1-50 | ISL-A5-50 | ISL-B5-50 |
| 100mm | ISL-A1-100 | ISL-A5-100 | ISL-B5-100 |
| 150mm | ISL-A1-150 | ISL-A5-150 | ISL-B5-150 |
| 200mm | ISL-A1-200 | ISL-A5-200 | ISL-B5-200 |
| 250mm | ISL-A1-250 | ISL-A5-250 | ISL-B5-250 |
| 300mm | ISL-A1-300 | ISL-A5-300 | ISL-B5-300 |
| 350mm | ISL-A1-350 | ISL-A5-350 | ISL-B5-350 |
| 400mm | ISL-A1-400 | ISL-A5-400 | ISL-B5-400 |
| 450mm | ISL-A1-450 | ISL-A5-450 | ISL-B5-450 |
| 500mm | ISL-A1-500 | ISL-A5-500 | ISL-B5-500 |
| 550mm | ISL-A1-550 | ISL-A5-550 | ISL-B5-550 |
| 600mm | ISL-A1-600 | ISL-A5-600 | ISL-B5-600 |
| 650mm | ISL-A1-650 | ISL-A5-650 | ISL-B5-650 |
| 700mm | ISL-A1-700 | ISL-A5-700 | ISL-B5-700 |
| 750mm | ISL-A1-750 | ISL-A5-750 | ISL-B5-750 |
| 800mm | ISL-A1-800 | ISL-A5-800 | ISL-B5-800 |
| 850mm | ISL-A1-850 | ISL-A5-850 | ISL-B5-850 |
| 900mm | ISL-A1-900 | ISL-A5-900 | ISL-B5-900 |
| 950mm | ISL-A1-950 | ISL-A5-950 | ISL-B5-950 |
| 1000mm | ISL-A1-1000 | ISL-A5-1000 | ISL-B5-1000 |
| 1100mm | | | ISL-B5-1100 |
| 1200mm | | | ISL-B5-1200 |
| 1300mm | | | ISL-B5-1300 |
| 1400mm | | | ISL-B5-1400 |
| 1500mm | | | ISL-B5-1500 |
| 1600mm | | | ISL-B5-1600 |
| 1700mm | | | ISL-B5-1700 |
| 1800mm | | | ISL-B5-1800 |
| 1900mm | | | ISL-B5-1900 |
| 2000mm | | | ISL-B5-2000 |
| 2100mm | | | ISL-B5-2100 |
| 2200mm | | | ISL-B5-2200 |
| 2300mm | | | ISL-B5-2300 |
| 2400mm | | | ISL-B5-2400 |
| 2500mm | | | ISL-B5-2500 |
| 2600mm | | | ISL-B5-2600 |
| 2700mm | | | ISL-B5-2700 |
| 2800mm | | | ISL-B5-2800 |
| 2900mm | | | ISL-B5-2900 |
| 3000mm | | | ISL-B5-3000 |
| 3100mm | | | ISL-B5-3100 |
| 3200mm | | | ISL-B5-3200 |

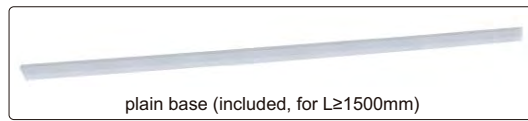
STANDARD DELIVERY

| | |
|----------------------|---------------------|
| Main unit | 1 pc |
| 'L' shape support | 1 pc |
| Anti-dust cover | 1 pc |
| Plain base | 1 pc (for L≥1500mm) |
| Mounting accessories | 1 package |



To be continued

Continued from previous page



SPECIFICATION

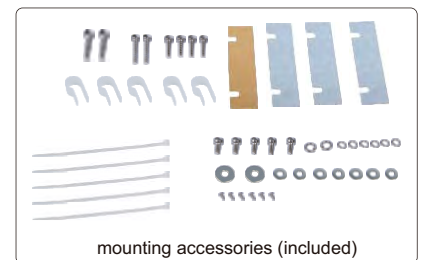
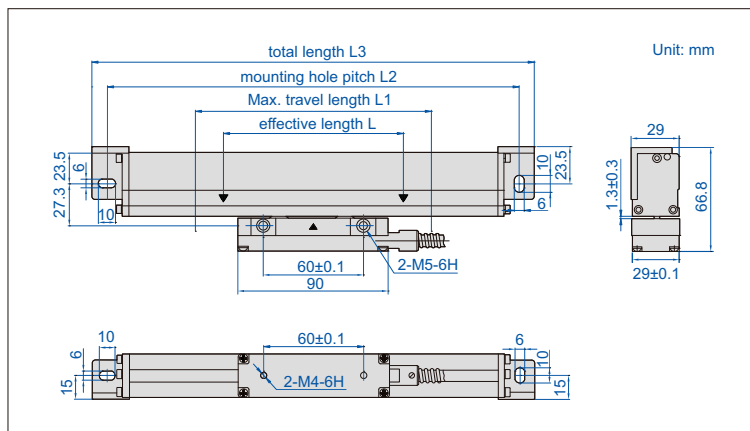
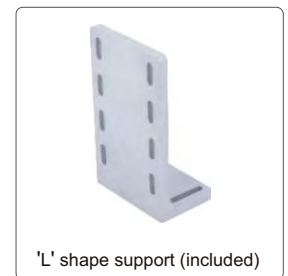
| Code | Series ISL-A1 | | Series ISL-A5 | | Series ISL-B5 | |
|-----------------------------|---|---------------|---------------|---------------|---------------|---------------|
| L1 (mm) | L+30 (L≤900) | L+50 (L>900) | L+30 (L≤900) | L+50 (L>900) | L+30 (L≤900) | L+50 (L>900) |
| L2 (mm) | L+132 (L≤900) | L+152 (L>900) | L+132 (L≤900) | L+152 (L>900) | L+136 (L≤900) | L+156 (L>900) |
| L3 (mm) | L+148 (L≤900) | L+168 (L>900) | L+148 (L≤900) | L+168 (L>900) | L+154 (L≤900) | L+174 (L>900) |
| Resolution | 1μm | | 5μm | | 5μm | |
| Max. response speed | 50m/min | | 90m/min | | 60m/min | |
| Scale grating pitch | 20μm | | | | | |
| Scale reference point pitch | 50mm | | | | | |
| Accuracy | ±(5+5L/1000)μm L is the effective length in mm | | | | | |
| Cable length | 3.5m (L: 50-950mm), 5m (L: 1000-1500mm), 10m (L: 1600-3200mm) | | | | | |
| Output signal | TTL | | | | | |
| Socket | 9PD | | | | | |
| Power supply | 5±0.5V | | | | | |

LINEAR SCALES (RS422 SIGNAL)



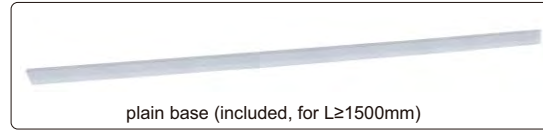
ISL-B5-450A

- Connected to digital display box or PLC



To be continued

Continued from previous page



| Effective length (L) | Code | |
|----------------------|---------------|---------------|
| | Series ISL-B1 | Series ISL-B5 |
| 50mm | ISL-B1-50A | ISL-B5-50A |
| 100mm | ISL-B1-100A | ISL-B5-100A |
| 150mm | ISL-B1-150A | ISL-B5-150A |
| 200mm | ISL-B1-200A | ISL-B5-200A |
| 250mm | ISL-B1-250A | ISL-B5-250A |
| 300mm | ISL-B1-300A | ISL-B5-300A |
| 350mm | ISL-B1-350A | ISL-B5-350A |
| 400mm | ISL-B1-400A | ISL-B5-400A |
| 450mm | ISL-B1-450A | ISL-B5-450A |
| 500mm | ISL-B1-500A | ISL-B5-500A |
| 550mm | ISL-B1-550A | ISL-B5-550A |
| 600mm | ISL-B1-600A | ISL-B5-600A |
| 650mm | ISL-B1-650A | ISL-B5-650A |
| 700mm | ISL-B1-700A | ISL-B5-700A |
| 750mm | ISL-B1-750A | ISL-B5-750A |
| 800mm | ISL-B1-800A | ISL-B5-800A |
| 850mm | ISL-B1-850A | ISL-B5-850A |
| 900mm | ISL-B1-900A | ISL-B5-900A |
| 950mm | ISL-B1-950A | ISL-B5-950A |
| 1000mm | ISL-B1-1000A | ISL-B5-1000A |

| Effective length (L) | Code | |
|----------------------|---------------|---------------|
| | Series ISL-B1 | Series ISL-B5 |
| 1100mm | ISL-B1-1100A | ISL-B5-1100A |
| 1200mm | ISL-B1-1200A | ISL-B5-1200A |
| 1300mm | ISL-B1-1300A | ISL-B5-1300A |
| 1400mm | ISL-B1-1400A | ISL-B5-1400A |
| 1500mm | ISL-B1-1500A | ISL-B5-1500A |
| 1600mm | ISL-B1-1600A | ISL-B5-1600A |
| 1700mm | ISL-B1-1700A | ISL-B5-1700A |
| 1800mm | ISL-B1-1800A | ISL-B5-1800A |
| 1900mm | ISL-B1-1900A | ISL-B5-1900A |
| 2000mm | ISL-B1-2000A | ISL-B5-2000A |
| 2100mm | ISL-B1-2100A | ISL-B5-2100A |
| 2200mm | ISL-B1-2200A | ISL-B5-2200A |
| 2300mm | ISL-B1-2300A | ISL-B5-2300A |
| 2400mm | ISL-B1-2400A | ISL-B5-2400A |
| 2500mm | ISL-B1-2500A | ISL-B5-2500A |
| 2600mm | ISL-B1-2600A | ISL-B5-2600A |
| 2700mm | ISL-B1-2700A | ISL-B5-2700A |
| 2800mm | ISL-B1-2800A | ISL-B5-2800A |
| 2900mm | ISL-B1-2900A | ISL-B5-2900A |
| 3000mm | ISL-B1-3000A | ISL-B5-3000A |

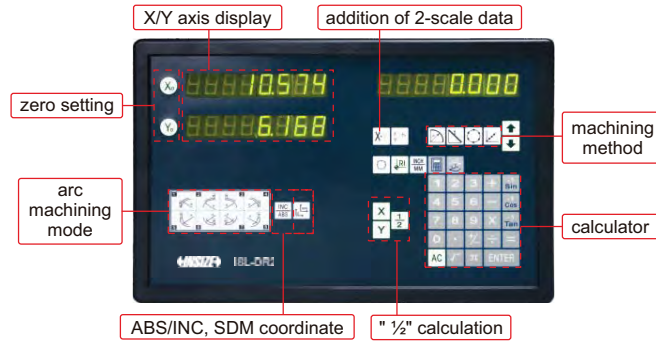
SPECIFICATION

| Code | Series ISL-B1 | Series ISL-B5 |
|-----------------------------|---|------------------------------|
| L1 (mm) | L+30 (L≤900), L+50 (L>900) | L+30 (L≤900), L+50 (L>900) |
| L2 (mm) | L+136 (L≤900), L+156 (L>900) | L+136 (L≤900), L+156 (L>900) |
| L3 (mm) | L+154 (L≤900), L+174 (L>900) | L+154 (L≤900), L+174 (L>900) |
| Resolution | 1μm | 5μm |
| Thickness | 29mm | |
| Max. response speed | 60m/min | |
| Scale grating pitch | 20μm | |
| Scale reference point pitch | 50mm | |
| Accuracy | ±(5+5L/1000)μm, L is the effective length in mm | |
| Cable length | 3.5m (L: 50-950mm), 5m (L: 1000-1900mm), 10m (L: 2000-3000mm) | |
| Output signal | RS422 | |
| Socket | 9 PD | |
| Power supply | 5±0.25V | |

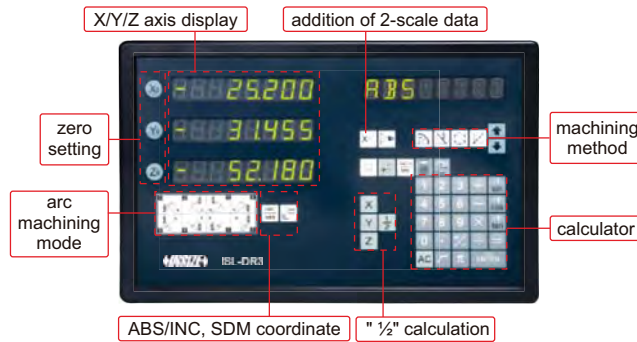
21

STANDARD DELIVERY

| | |
|----------------------|---------------------|
| Main unit | 1 pc |
| 'L' shape support | 1 pc |
| Anti-dust cover | 1 pc |
| Plain base | 1 pc (for L≥1500mm) |
| Mounting accessories | 1 package |



ISL-DR2



ISL-DR3



software flash disk (included)

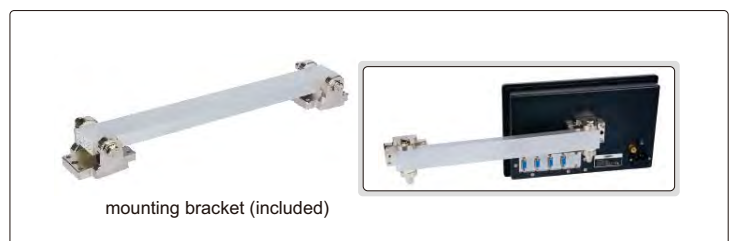
- For ISL-A1, ISL-A5, ISL-B1, ISL-B5 series linear scales

SPECIFICATION

| | | |
|--------------------------|---|----------------|
| Code | ISL-DR2 | ISL-DR3 |
| Application | two-axis | three-axis |
| Scale input ports | 2 | 3 |
| Resolution | 0.05μm, 0.1μm, 0.2μm, 0.5μm, 1μm, 2μm, 5μm, 10μm, 20μm, 50μm | |
| Functions | addition of 2-scale data, linearity error compensation, smoothing, RS232C interface unit, BCD code out, zero setting, preset, resolution setting, counting direction setting, inch/mm conversion, ABS/INC conversion, expansion/contraction coefficient setting, "1/2" calculation, detecting RI, bolt-hole circle machining, ramp circle machining | |
| Power supply | 110/220V, 50/60Hz | |
| Dimension | 295×185×45mm | |
| Weight | 1.45kg | |

STANDARD DELIVERY

| | |
|---------------------------------------|------|
| Main unit | 1 pc |
| Mounting bracket | 1 pc |
| Ground cable | 1 pc |
| RS232C cable | 1 pc |
| Software flash disk for RS232C | 1 pc |



mounting bracket (included)

DIGITAL READOUTS CODE ISL-LCD7



- 7.57 inch LCD display
- Language: English, Simplified Chinese, Traditional Chinese
- Can be connected with **ISL-A1, ISL-A5, ISL-B1, ISL-B5** series linear scales



SPECIFICATION

| | |
|-------------------|---|
| Application | three-axis: X/Y/Z |
| Scale input ports | 3 |
| Resolution | 0.05μm, 0.1μm, 0.2μm, 0.5μm, 1μm, 2μm, 5μm, 10μm, 20μm, 50μm |
| Function | X/Y/Z addition of 3-scale data, linearity error compensation, smoothing, RS232C interface unit, BCD code out, zero setting, preset, resolution setting, counting direction setting, inch/mm conversion, ABS/INC conversion, expansion/contraction coefficient setting, "1/2" calculation, detecting R1, bolt-hole circle machining, ramp circle machining, circular arc machining, oblique surface machining, automatic edge finding, discharge machining |
| Dimension | 200×88×260mm |
| Weight | 1.26kg |

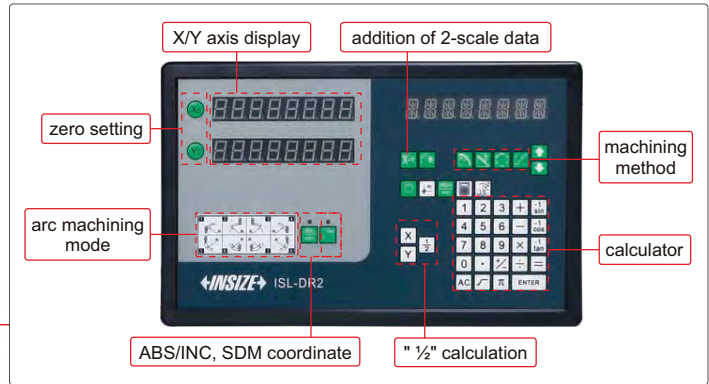
STANDARD DELIVERY

| | |
|--------------------------------|------|
| Main unit | 1 pc |
| Mounting bracket | 1 pc |
| Ground cable | 1 pc |
| RS232C cable | 1 pc |
| Software flash disk for RS232C | 1 pc |

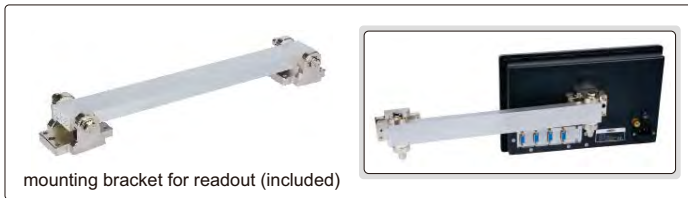
LINEAR SCALE AND READOUT SET FOR LATHE CODE ISL-SET1



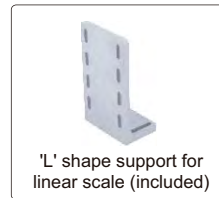
software flash disk
(included)



- Optical TTL (Through-The-Lens) detection. These optical TTL linear scales use an transistor logic to transmit and record high-resolution distance measurements



mounting bracket for readout (included)



'L' shape support for linear scale (included)



anti-dust cover for linear scale (included)

READOUT SPECIFICATION

| | |
|-------------------|---|
| Application | two-axis |
| Scale input ports | 2 |
| Resolution | 1 μ m |
| Functions | addition of 2-scale data, linearity error compensation, smoothing, RS232C interface unit, BCD code out, zero setting, preset, resolution setting, counting direction setting, inch/mm conversion, ABS/INC conversion, expansion/contraction coefficient setting, "1/2" calculation, detecting RI, bolt-hole circle machining, ramp circle machining |
| Power supply | 110/220V, 50/60Hz |
| Dimension | 295×185×45mm |
| Weight | 1.45kg |

LINEAR SCALE SPECIFICATION

| | |
|-----------------------------|--|
| X-axis | 200mm |
| Y-axis | 1000mm |
| Max. response speed | 50m/min |
| Scale grating pitch | 20 μ m |
| Scale reference point pitch | 50mm |
| Accuracy | $\pm(5+5L/1000)\mu$ m L is the effective length in mm |
| Cable length | 200mm scale: 3.5m, 1000mm scale: 5m |

STANDARD DELIVERY

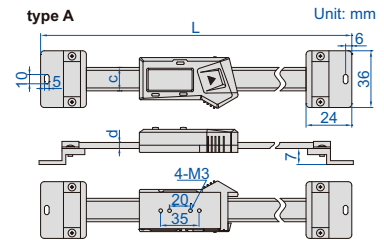
| | |
|---|-----------|
| Readout box | 1 pc |
| 200mm linear scale | 1 pc |
| 1000mm linear scale | 1 pc |
| Mounting bracket for readout | 1 pc |
| Ground cable for readout | 1 pc |
| RS232C cable for readout | 1 pc |
| Software flash disk for RS232C of readout | 1 pc |
| 'L' shape support for linear scale | 1 pc |
| Anti-dust cover for linear scale | 1 pc |
| Mounting accessories for linear scale | 1 package |

DIGITAL HORIZONTAL SCALES

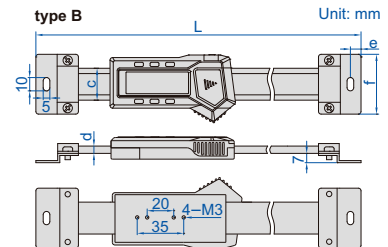
DATA
OUTPUT



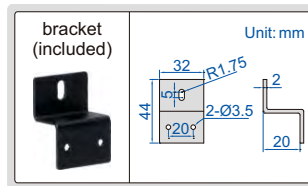
7101-300A



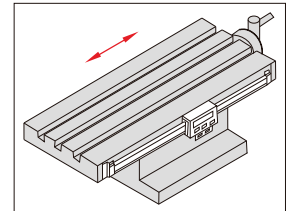
7101-400A



- Non waterproof
- Resolution: 0.01mm/0.0005"
- Buttons type A: on/off, zero, mm/inch,
type B: on/off, zero, mm/inch, ABS, data preset
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Supplied with bracket to be mounted on the back



example of application



With data interface

(data output cable code 7315-21 need receiver page 4,
7302-21 page 12, 7305-21 page 8, optional)

| Code | Range | Type | Accuracy | L | c | d | (mm) |
|-----------|-------|------|----------|-----|----|---|------|
| 7101-100A | 100mm | A | ±0.02mm | 215 | 16 | 4 | |
| 7101-150A | 150mm | A | ±0.03mm | 265 | 16 | 4 | |
| 7101-200A | 200mm | A | ±0.03mm | 315 | 16 | 4 | |
| 7101-300A | 300mm | A | ±0.04mm | 445 | 16 | 4 | |

With data interface

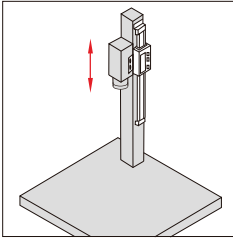
(data output cable code 7315-22 need receiver page 4,
7302-22 page 12, 7305-22 page 8, optional)

| Code | Range | Type | Accuracy | L | c | d | e | f | (mm) |
|------------|--------|------|----------|------|----|------|----|----|------|
| 7101-400A | 400mm | B | ±0.05mm | 590 | 24 | 5.5 | 8 | 45 | |
| 7101-500A | 500mm | B | ±0.05mm | 690 | 24 | 5.5 | 8 | 45 | |
| 7101-600A | 600mm | B | ±0.08mm | 790 | 24 | 5.5 | 8 | 45 | |
| 7101-800A | 800mm | B | ±0.10mm | 990 | 24 | 5.5 | 8 | 45 | |
| 7101-1000A | 1000mm | B | ±0.10mm | 1240 | 31 | 10.5 | 10 | 60 | |

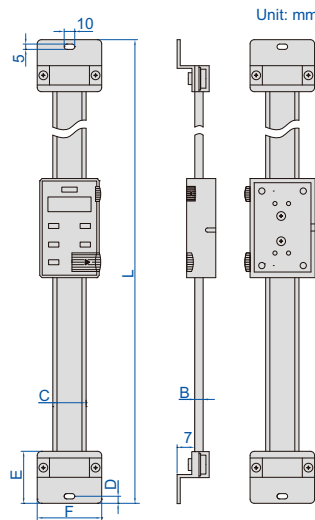
DATA OUTPUT

DIGITAL VERTICAL SCALES

example of application



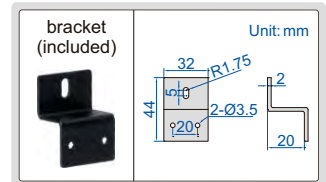
- Non waterproof
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch, ABS/INC, data hold, TOL, set
- Battery LR44, data output
- Made of stainless steel
- Supplied with bracket to be mounted on the back
- Optional accessory: wireless data transmission (transmitter code **7315-1150** need receiver page 6), data output cable (code **7302-SPC7** page 13, keyboard format), data output cable (code **7305-1150** page 9, serial port format)



7102-300

| Code | Range | Accuracy | B | C | D | E | F | L |
|------------------|------------|----------|------|----|-----|----|----|------|
| 7102-100 | 100mm/4" | ±0.02mm | 4 | 20 | 6 | 24 | 40 | 245 |
| 7102-150 | 150mm/6" | ±0.03mm | 4 | 20 | 6 | 24 | 40 | 296 |
| 7102-200 | 200mm/8" | ±0.03mm | 4 | 20 | 6 | 24 | 40 | 345 |
| 7102-300 | 300mm/12" | ±0.04mm | 4 | 20 | 6 | 24 | 40 | 445 |
| 7102-400 | 400mm/16" | ±0.05mm | 4 | 20 | 6 | 24 | 40 | 545 |
| 7102-500 | 500mm/20" | ±0.05mm | 5.5 | 24 | 8 | 32 | 45 | 685 |
| 7102-600 | 600mm/24" | ±0.08mm | 5.5 | 24 | 8 | 32 | 45 | 785 |
| 7102-800 | 800mm/32" | ±0.10mm | 5.5 | 24 | 8 | 32 | 45 | 985 |
| 7102-1000 | 1000mm/40" | ±0.10mm | 10.5 | 31 | 9.5 | 40 | 60 | 1245 |

(mm)



CUSTOM-MADE

**AIR GAGES
CODE 9401-PB**

air plug gage and standard rings



measure diameter of hole, range: Ø4~230mm

air ring gage and standard plain plug gages



measure diameter of shaft, range: Ø4~160mm

air snap gage and standard column gages



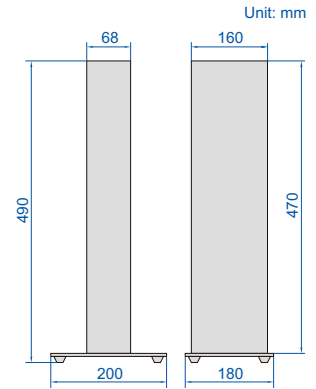
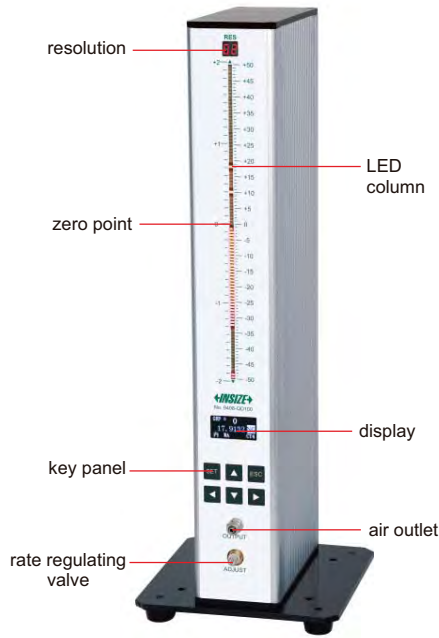
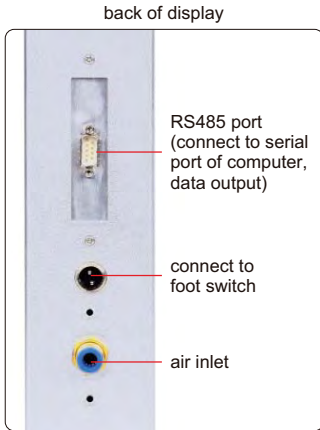
measure diameter of shaft, range: Ø15~160mm

air taper gage and standard gages



AIR GAGE DISPLAY CODE 9408-QD100

DATA
OUTPUT



- Can store 10 measuring programs, and the program can be switched quickly
- Data storage function, support manual and automatic storing, 1500 groups data can be stored



foot switch (optional)



RS485 cable (optional)



pressure regulating valve (optional)



air filter (optional)

SPECIFICATION

| | | | | |
|--------------------------------|---------------------------|-------------|-------------|-------------|
| LED quantity | 101 pcs | | | |
| LED color | red, orange, green | | | |
| LED height | 254mm | | | |
| Range, resolution and accuracy | range | resolution | | accuracy |
| | | LED | display | |
| | 10 μ m | 0.1 μ m | 0.1 μ m | 0.2 μ m |
| | 20 μ m | 0.2 μ m | 0.1 μ m | 0.4 μ m |
| 50 μ m | 0.5 μ m | 0.1 μ m | 1 μ m | |
| 100 μ m | 1 μ m | 0.1 μ m | 2 μ m | |
| Unit | mm, μ m | | | |
| Air supply | dry and clean, 0.4~0.8MPa | | | |
| Data interface | RS485 | | | |
| Operation temperature | -20~45°C | | | |
| Power supply | 110~220V, 50/60Hz | | | |
| Dimension (L×W×H) | 200×180×490mm | | | |
| Weight | 4.5kg | | | |

STANDARD DELIVERY

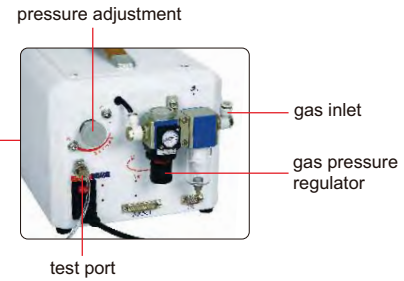
| | |
|-----------|------|
| Main unit | 1 pc |
|-----------|------|

OPTIONAL ACCESSORY

| | |
|-------------------------------------|---------------|
| Air filter | 9401-FILTER-A |
| Pressure regulating valve | 9404-PRV |
| RS485 cable | 9408-CB |
| Foot switch | 9408-FS |
| Data output cable (keyboard format) | 7302-9408 |

DATA
OUTPUT

AIR LEAKAGE TESTER CODE ALT-P150



- Smart operation system with touch screen, operation UI based on testing procedure
- High sensitivity pressure sensor and adjustment unit with software algorithm ensure high accuracy and stability
- Test pressure range: -100~1000kPa, positive and negative pressure mode with 8 basic test mode
- Up to 100 groups of subprogram, each can be edited separately, for individual or combination testing
- Built-in communication interface, MODBUS and TCP/IP communication protocol supported
- Pressure curve screenshot and history data can export to flash disk
- Accessories such as testing tooling and fixture, inflatable bypass, fast connector, standard leak can be customized for different products; optional electronic regulator enables multiple sets of pressure sequence testing
- Language: English, Chinese



standard leak (optional)



quick connector (optional)



scanner (optional)



tooling and fixture (optional)

SPECIFICATION

| | |
|-----------------------|---|
| Device type | direct pressure |
| Channel | single-channel (customizable dual-channel) |
| Pressure mode | positive and negative pressure |
| Range* | -60~150kPa |
| Resolution | 0.1Pa |
| Accuracy | ±0.2%FS |
| Pressure unit | kPa, Pa, kgf/cm ² , psi, mmH ₂ O, bar, mbar, mmHg |
| Flow unit | SCCM |
| Test medium | compressed air or specified gas, 0.4~0.8MPa |
| Tube caliber | gas inlet: 8mm, test port: 4mm |
| Pressure regulation | mechanical pressure regulator |
| Interface | USB, RS232, 25 PIN I/O interface, RJ45 (optional) |
| Operation environment | temperature: 0°C~50°C, humidity: ≤95%RH, no condensation |
| Power supply | AC 220V (±15%), 50Hz |
| Dimension (L×W×H) | 340×225×187mm |
| Weight | 7.3kg |

* Available range-80~0kPa, -80~600kPa, 0~200kPa, 10~700kPa; other ranges customizable

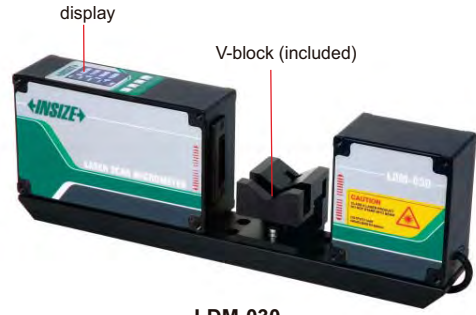
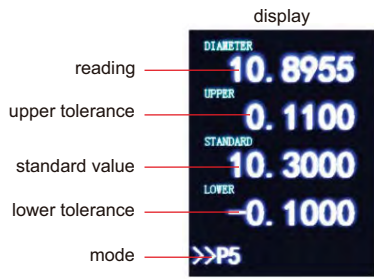
STANDARD DELIVERY

| | |
|------------------------|------|
| Main unit | 1 pc |
| Gas pressure regulator | 1 pc |

OPTIONAL ACCESSORY

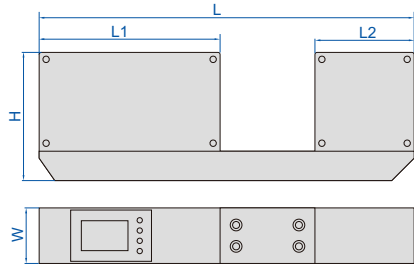
| | |
|------------------------------|---|
| Tooling and fixture | customizable according to specific products |
| Software | ALT-P150-SW |
| Standard leak | ALT-P150-LK |
| Quick connector | ALT-P150-CO |
| Scanner (with scan software) | ALT-P150-SC |

LASER SCAN MICROMETERS



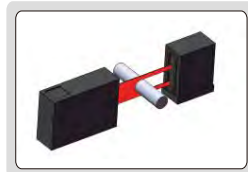
LDM-030

- Measure outer diameter, ellipticity, run-out, maximum diameter of tools, etc.
- Can be used for transparent or non transparent workpieces
- Tolerance measurement
- Online or offline measurement
- Connected with computer, PLC, control box

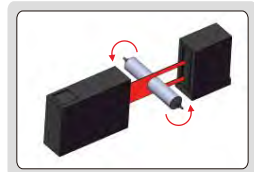


Dimension (mm)

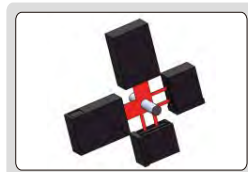
| Code | LDM-030 | LDM-065 |
|------|---------|---------|
| L | 351 | 469 |
| W | 52 | 52 |
| H | 120 | 146 |
| L1 | 170 | 203 |
| L2 | 95 | 131 |



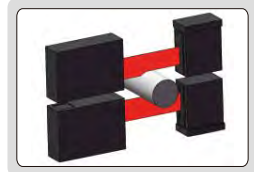
measure external diameter



measure ellipticity and run-out



two-axis measurement



large size measurement



connect to control box (optional)



calibration gage (optional)

SPECIFICATION

| Code | LDM-030 | LDM-065 |
|-----------------------|--|--------------|
| Measuring range | 0.1~30mm | 0.5~65mm |
| Resolution | 0.01/0.1/1/10/100µm selectable | |
| 25°C accuracy | ±(0.5+10%D)µm, D is measuring diameter in mm | |
| Repeatability | ±(0.3+5%D)µm, D is measuring diameter in mm | |
| Laser wave length | 650nm | |
| Measuring speed | 800~3200times/s (adjustable) | |
| Operation temperature | 0~50°C | |
| Operation humidity | 35~85RH without condensation | |
| Output | dual channel RS485 | |
| Alarm output | 24V, 1A | |
| Power supply | DC24V, 2A | |
| Dimension (L×W×H) | 351×52×120mm | 469×52×146mm |
| Weight | 5kg | 8kg |

STANDARD DELIVERY

| | |
|---------------|------|
| Main unit | 1 pc |
| V-block | 1 pc |
| AC/DC adapter | 1 pc |
| RS485 cable | 1 pc |

OPTIONAL ACCESSORY

| | |
|------------------|-------------|
| Calibration gage | custom made |
| Control box | custom made |

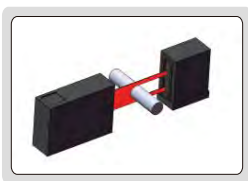


LASER SCAN MICROMETER CODE LDM-D090

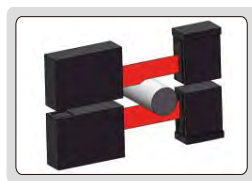


calibration gage (optional)

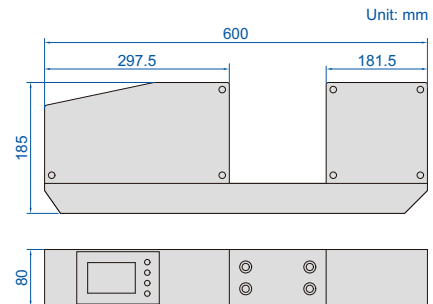
- Can measure the width and thickness of flat cables and tapes
- Can measure the outer diameter of cables, pipes and wires
- Laser scanning technology, large measurement range, high accuracy, high repeatability
- Connected with PLC and PC with RS485 interface
- Use high-precision F (θ) mirror, the swing of the measured object does not affect the measurement



measure external diameter



large size measurement



SPECIFICATION

| | |
|-----------------------|--|
| Measuring range | 0.5~90mm |
| Resolution | 1μm |
| 25°C accuracy | ±(5+20%D)μm, D is measuring diameter in mm |
| Repeatability | ±(3+20%D)μm, D is measuring diameter in mm |
| Laser wave length | 650nm |
| Measuring speed | 600 times/s |
| Operation temperature | 5~45°C |
| Operation humidity | ≤80%RH without condensation |
| Output | RS485/MODBUS protocol |
| Alarm output | 24V, 1A |
| Power supply | AC85V~220V (50~60Hz) |
| Dimension (L×W×H) | 600×80×185mm |
| Weight | 6.5kg |

STANDARD DELIVERY

| | |
|---------------|------|
| Main unit | 1 pc |
| V-block | 1 pc |
| AC/DC adapter | 1 pc |
| RS485 cable | 1 pc |

OPTIONAL ACCESSORY

| | |
|------------------|-------------|
| Calibration gage | custom made |
|------------------|-------------|

SPECTROMETER CODE OES-T350



CUSTOMIZE
CAN CUSTOMIZE OTHER METAL MATRIX DETECTION,
SUCH AS: Fe (004~009), Al, Cu, Zn, Ti, Ni, Pb, etc



printer (included)



filter element (included)



electrode brush (included)



single-phase AC voltage
regulator (included)



pressure valve (included)



calibration sample (included)



gray iron control sample
(optional)



15# carbon steel control
sample (optional)

- The standard machine can do analysis Fe 001~003
- The full-spectrum technology covers the full range of element analysis, which can determine trace amounts of carbon (C), phosphorus (P), sulfur (S) and other elements
- The analysis speed is fast, and the element composition of all channels is measured within 20 seconds
- Paschen-Runge structure with full wavelength coverage, the most concise and stable optical system structure
- Perfect aberration correction, so that the spectrometer has excellent resolution, minimize the cross interference of different elements
- Argon-filled optical chamber, effectively reducing the attenuation of P and S rays in the far ultraviolet region
- The software has automatic spectrum correction technology, can store database, trace historical data, output and print reports
- Report format can be customized, data can be sent out

To be continued



Continued from previous page

SPECIFICATION

| | | |
|----------------|---|---|
| Optical system | optical structure | paschen-runge structure |
| | rowland circle of diameter | 350mm |
| | wavelength range | 160~510nm |
| | detector | multi high resolution CCD detectors |
| | pixel resolution | 20pm |
| | full spectrum | cover the full range of element analysis |
| | light room temperature | 34±0.5°C (be controlled automatically) |
| Spark source | type | digital arc and spark source/new plasma generator |
| | spark frequency | 100~1000Hz |
| | plasma current | 1~80A |
| | Ignition voltage | >7000V |
| Spark stand | spray discharge electrode technology reduces argon consumption and improves argon use efficiency | |
| | good heat dissipation, continuous excitation for 100 times, the temperature of the excitation table does not rise more than 5°C | |
| Others | measurable elements | Fe base, Al base, Cu base, Zn base, etc |
| | operation temperature | 10~30°C, 23±2°C is recommended |
| | operation humidity | 20%~80%RH |
| | power | AC220V/50Hz |
| | power consumption | excitation: 300W, stand by: 40W |
| | argon quality | 99.999% high purity argon, argon pressure≥4MPa |
| | argon consumption | 5L/min during spark mode |
| | dimension (LxWxH) | 700x660x340mm |
| weight | 30kg | |

STANDARD DELIVERY

| | |
|-----------------------------------|-------|
| Main unit | 1 pc |
| Computer | 1 pc |
| Software | 1 pc |
| Printer | 1 pc |
| Calibration sample | 1 pc |
| Electrode brush | 2 pcs |
| Filter element | 2 pcs |
| Single-phase AC voltage regulator | 1 pc |
| Pressure valve | 1 pc |

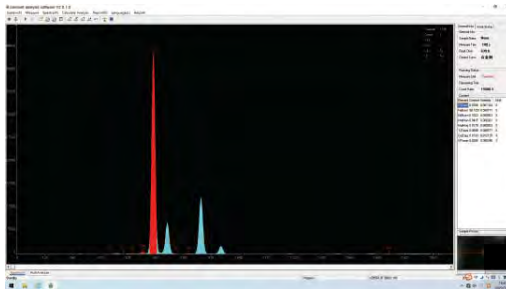
OPTIONAL ACCESSORY

| | |
|--------------------|---|
| Control sample | custom specifications |
| Argon cylinder | OES-T350-ARGON |
| Grinding prototype | code: OES-T350-GRIND for ferrous metal sample preparation |
| Small lathe | code: OES-T350-LATHE for non-ferrous metal sample preparation |
| Argon purifier | OES-T350-PURIFIER |

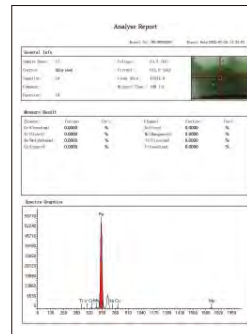
X RAY FLUORESCENCE SPECTROMETER (RoHS DETECTOR/ALLOY COMPOSITION ANALYZER/COATING THICKNESS GAGE) CODE XRF-B210



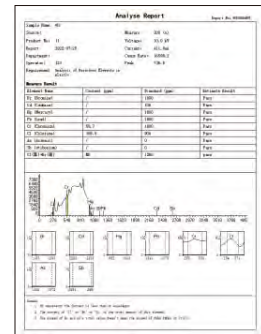
CALIBRATION CURVE CAN BE CUSTOMIZED
ACCORDING TO CUSTOMER REQUIREMENTS



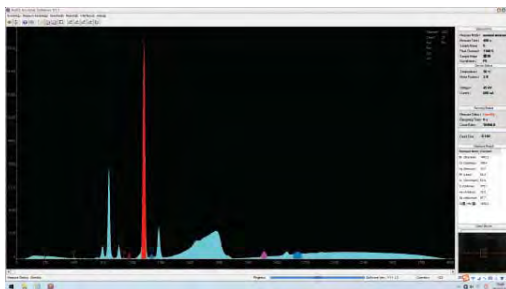
alloy composition analysis software (included)



alloy composition analysis report (included)



RoHS test report (included)



RoHS test software (included)



coating thickness test report (included)



coating thickness detection software (included)

To be continued



Continued from previous page

- Used for RoHS detection, alloy element analysis, coating thickness measurement
- Using SI-PIN detector with electric cooling, small size, accurate data analysis and low maintenance cost
- Seven optical path correction and collimation system, automatically switch according to different samples
- Multiple radiation leakage prevention design
- The temperature monitoring technology ensures the safe and reliable operation of the X-ray source
- Dedicated software, standard window design, friendly interface, easy to operate
- Can display multiple spectrograms at the same time and print multiple report forms
- USB3.0 interface to ensure accurate, high-speed and efficient data transmission

SPECIFICATION

| | | | |
|--|--------------------------|--|-----------|
| Detector | type | Si-PIN electrical refrigeration semiconductor detector | |
| | resolution | 149±5 EV | |
| | amplifier circuit module | detect the sample characteristic X-ray, further enlarge the information collected by detection | |
| X ray excitation device | maximum output current | 1mA | |
| | power | 50W, air cooling | |
| High and low voltage power | maximum output voltage | 50KV, built-in voltage overload protection | |
| | minimum output voltage | 5KV | |
| Multi-channel pulse amplitude analyzer | | maximum channel number: 4096 | |
| Optical path filter module | | reduce interference light path in the process of sending x-rays, guarantee the accuracy of the detector signal | |
| | | Integrate the collimator with the filter | |
| Collimator automatic switching module | | 7 kinds, Ø0.5~Ø8mm | |
| Filter automatic switching module | | 5 kinds (free to choose and switch) | |
| RoHS analysis software | elemental analysis range | S~U | |
| | harmful element analysis | Cd, Pb, Hg, Br, Cr, Cl, As, Sb | |
| | test time | 60~200s | |
| | detection limit | 2PPM | |
| | content analysis range | 2PPM~99.9% | |
| Alloy analysis software | elemental analysis range | Ti~U | |
| | detection limit | 100PPM | |
| | content analysis range | 100PPM~99.9% | |
| | repeatability | 0.1% | |
| | stability | 0.1% | |
| Metal coating analysis software | elemental analysis range | Ti~U | |
| | detection limit | 0.01µm | |
| | analysis thickness | single layer thickness | 0.01~30µm |
| | | 3 layer thickness | ≤10µm |
| | repeatability | 0.1µm (for outside coating less than 1µm) | |
| | stability | 0.1µm (for outside coating less than 1µm) | |
| light spot | within 0.2mm | | |
| Operation temperature | | 10~30°C | |
| Relative humidity | | 10%~90% | |
| Power | | AC 220V±5V | |
| Dimension (L×W×H) | | 700×460×370mm | |
| Weight | | 49kg | |

STANDARD DELIVERY

| | |
|-----------------------|---|
| Main unit | 1 pc |
| Standard sample | 1 pc |
| Silver calibration | 1 pc |
| Sample cup | 2 pcs |
| Test film | 50 pcs |
| Computer | 1 pc |
| Printer | 1 pc |
| Collimator (built-in) | 7 pcs |
| Software | RoHS test software, alloy composition analysis software, coating thickness detection software |

HAND-HELD SPECTROMETER CODE HSM-A310

IP54
WATERPROOF



test



analysis

- Fast and non-destructive test to identify alloy grade and composition
- For all kinds of high and low temperature alloy steel, stainless steel, tool steel, chromium/molybdenum steel, nickel alloy, cobalt alloy, nickel/cobalt heat resistant alloy, titanium alloy
- Multiple tests, it can automatically calculate maximum value, minimum value and standard deviation
- IP54 dust/waterproof



SPECIFICATION

| | |
|---------------------------|--|
| Excitation source | 50KV/200μA; Ag target, integrated end window, micro X-ray tube and high voltage power supply, matching power ≥4W |
| Detector | Si-PIN, window area 25mm ² |
| Elemental analysis range | Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Se, Zr, Nb, Mo, Rh, Pd, Ag, Cd, Sn, Sb, Hf, Ta, W, Re, Pb, Bi |
| Alloy analysis mode | 1. automatically identify alloy grade 2. alloy material qualified test mode |
| Collimator filter | 7 groups |
| Display | 5-inch LCD touch screen |
| CPU | quad-core processor, 1.4GHz, 4G memory |
| Memory | built-in 64G, storage data, >500000 groups |
| Data transmission | built-in WIFI, U disk, bluetooth (support bluetooth printer) |
| Data export format | EXCEL, BMP, PDF, CSV |
| Battery | 6800mAh lithium battery, for 8 hours working time |
| Air pressure compensation | built-in pressure measurement module for system compensation and correction |
| System | Win-IOT operation system |
| Work environment | temperature: 0~40°C, relative humidity: 10%~90% |
| Dimension | 250x320x80mm |
| Weight | 1.9kg |

STANDARD DELIVERY

| | |
|---|--------|
| Main unit | 1 pc |
| Charger | 1 pc |
| Battery | 2 pcs |
| Test film | 50 pcs |
| Sample cup | 1 pc |
| Standard sample | 1 pc |
| Protection support (including calibration silver) | 1 pc |
| USB and cable | 1 pc |



standard sample (included)

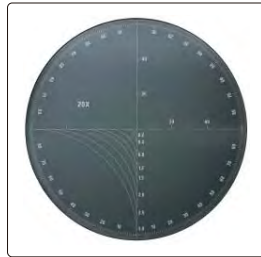


protection support (included)



TOOL PRESETTER (PROJECTOR TYPE) CODE TLP-P340

projection screen Ø120mm with scale
(protractor with 1° graduation, radius with 0.2,
0.4, 0.8, 1.2, 1.5, 2, 2.5, 3mm graduation)



illumination



20X lens

BT50 spindle holder

spindle rotation
hand wheel

X axis moving
handle wheel

printer

Z axis moving button
(motor drive)

foot-switch



■ 99 data can be saved and printed



standard rod (included)



BT50/BT40 converter (optional)



BT50/BT30 converter (optional)

SPECIFICATION

| | | |
|---------------------------------|---------------|---------------|
| Maximum tool diameter (X axis) | | Ø300mm |
| Height measuring range (Z axis) | | 30~400mm |
| Accuracy | X axis | ±6µm |
| | Z axis | ±13µm |
| Resolution | | 0.5µm |
| Diameter of projection screen | | Ø120mm |
| Lens | magnification | 20X |
| | view filed | Ø6mm |
| Illumination | | 24V/20W |
| Spindle holder | | BT50 |
| Power supply | | 220V, 50/60HZ |
| Dimension (L×W×H) | | 940×520×870mm |
| Weight | | 90kg |

STANDARD DELIVERY

| | |
|---------------------|------|
| Main unit | 1 pc |
| BT50 spindle holder | 1 pc |
| Standard rod | 1 pc |
| Foot-switch | 1 pc |
| Anti-dust cover | 1 pc |

OPTIONAL ACCESSORY

| | |
|---------------------|-------------|
| BT50/BT30 converter | TLP-P340-C1 |
| BT30 rod | TLP-P340-R1 |
| BT50/BT40 converter | TLP-P340-C2 |
| BT40 rod | TLP-P340-R2 |

TOOL PRESETTER CODE TLP-400E



rotate the handwheel to rotate tools



standard rod (included)



BT50/BT40 converter (optional)



BT50/BT30 converter (optional)

- Absolute linear scales, zero setting is not needed after power on and off

SPECIFICATION

| | |
|--------------------------------|-------------------|
| Maximum tool diameter (X axis) | Ø300mm |
| Height measuring range | 60~400mm |
| Repeatability | 0.005mm |
| Measuring accuracy | 0.01mm |
| Linear scale resolution | 0.001mm |
| Dial indicator graduation | 0.001mm |
| Spindle holder | BT50 |
| Power supply | 110/220V, 50/60HZ |
| Dimension (L×W×H) | 720x480x930mm |
| Weight | 150kg |

STANDARD DELIVERY

| | |
|---------------------|-------|
| Main unit | 1 pc |
| BT50 spindle holder | 1 pc |
| Standard rod | 1 pc |
| Dial indicator | 2 pcs |
| Wrench | 1 set |
| Anti-dust cover | 1 pc |

OPTIONAL ACCESSORY

| | |
|---------------------|-------------|
| BT50/BT30 converter | TLP-300H-C1 |
| BT50/BT40 converter | TLP-300H-C2 |



TOOL PRESETTER (BASIC TYPE) CODE TLP-300H



standard rod (included)



BT50/BT40 converter (optional)



BT50/BT30 converter (optional)

- Absolute linear scales, zero setting is not needed after power on and off

SPECIFICATION

| | |
|--------------------------------|-------------------|
| Maximum tool diameter (X axis) | Ø300mm |
| Height measuring range | 60~300mm |
| Repeatability | 0.005mm |
| Measuring accuracy | 0.02mm |
| Linear scale resolution | 0.005mm |
| Dial indicator graduation | 0.01mm |
| Spindle holder | BT50 |
| Power supply | 110/220V, 50/60HZ |
| Dimension (L×W×H) | 600x365x690mm |
| Weight | 68kg |

STANDARD DELIVERY

| | |
|---------------------|-------|
| Main unit | 1 pc |
| BT50 spindle holder | 1 pc |
| Standard rod | 1 pc |
| Dial indicator | 2 pcs |
| Wrench | 1 set |
| Anti-dust cover | 1 pc |

OPTIONAL ACCESSORY

| | |
|---------------------|-------------|
| BT50/BT30 converter | TLP-300H-C1 |
| BT50/BT40 converter | TLP-300H-C2 |



Digital Ultrasonic Flaw Detectors
Page 531-532



Portable Magnetic Powder Flaw Detectors
Page 533



UV Flaw Detection Lights
Page 534



Penetration Standard Test Blocks
Page 534-535



Black And White Densitometers
Page 535



DIGITAL ULTRASONIC FLAW DETECTOR CODE UFD-T680

- The all-aluminum metal shell is strong and durable, and the electromagnetic shielding performance is very good
- Tempered glass panel, extremely hard, wear-resistant and scratch-resistant
- Full-digital multi-color high resolution (640×480 pixels) TFT LCD display
- 4 operation interface styles can be selected according to the environment
- Real-time screenshots of all pages and flaw detection reports, and save them as BMP pictures to U disk
- Export the flaw detection report as a PDF file
- Unique Fn multifunction key design
- There is no limit of the number and duration of video recording through U disk
- Memory of 500 channel files to store calibration setups and probe parameter
- Memory of 1000 wave report files to store A-Scan wave and settings
- Two fully independent gates offer a range of measurement options for signal height or distance using peak triggering
- Can choose to set the incoming wave alarm or lost wave alarm, accompanied by LED light display
- Selectable frequency ranges (automatically set by the instrument) to match probe for optimum performance
- The unique automatic gain adjustment and gain scanning function make flaw detection fast and accurate



straight-beam probe
(included)



angle-beam probe
(included)



USB disk
(included)



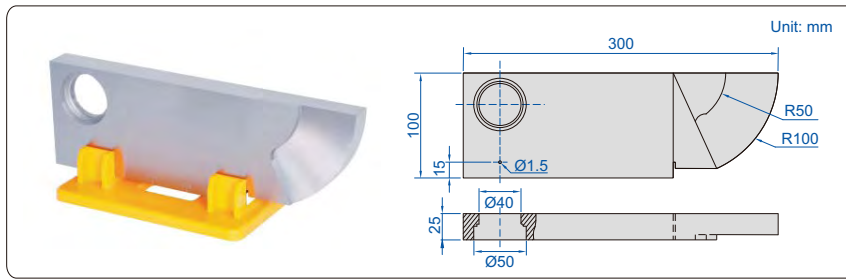
couplant (included)

FUNCTIONS

| | |
|----------------------------------|--|
| Flaw detection standard | built-in common flaw detection standards, direct call, convenient and fast |
| Auto calibration | automatic calibration of probe zero offset, probe angle (K value) and material velocity |
| Peak hold | compare frozen peak waveforms to live A-Scans to easily interpret test result |
| Flaw locating | live display sound-path, projection (surface distance), depth, amplitude |
| Flaw discrimination | automatic flaw sizing using AVG or DAC, speeds reporting of defect acceptance or rejection |
| Flaw sizing | the equivalent dB value of defects or equivalent size of defects are displayed in real time |
| Curved surface correction | used for flaw detection of curved workpiece, it can display the circumferential position of defects in real time |
| DAC/AVG | the curve is automatically generated, and the sampling points can be compensated and corrected. The curve automatically floats with the gain, automatically expands with the detection distance, and automatically moves with the delay time. It can display the AVG curve of any aperture |
| AWS D1.1 | choosing this standard can reduce manual calculations and improve detection efficiency |
| Weld diagram | support V type, T type, L type and other weld types, acoustic path navigation real-time display, weld and defect location real-time display, scaling, easy to locate defects |
| Automatic rating | select different AWS standards, automatically calculate the rating of defects and display |
| Crack height | the crack height is measured and calculated automatically by the diffracted wave at the end |
| Gate magnify | spreading of the gate range over the entire screen width |
| Continuous record | video recording and playback |
| Echo coding | display 1~9 echo display area in different colors, used to analyze the defect position |
| Scan freeze | display freeze holds waveform and test distance data |
| Peak mark | capture and mark the peak in real time |
| B scan | intuitively display the defect shape of the workpiece and the detection result is more intuitive |

To be continued

Continued from previous page



calibration block (optional)

SPECIFICATION

| | |
|-----------------------|---|
| Measuring range | 0~15000mm |
| Working frequency | 0.2~20MHz |
| Material velocity | 100~20000m/s |
| Repetition frequency | 20~2000Hz |
| Dynamic range | ≥36dB |
| Vertical linearity | ≤1.5% |
| Horizontal linearity | ≤0.1% |
| Resolving power | >42dB |
| Sensitivity leavings | >65dB |
| Suppression | 0~80% |
| Noise | ≤10% |
| Probe selection | single crystal probe, dual crystal probe, penetrating probe, climbing probe |
| Pulse energy | 100V, 200V, 250V, 300V, 350V, 400V, 450V, 500V (selectable) |
| Pulse width | 30ns-510ns |
| Probe damping | 50Ω, 150Ω, 250Ω, 500Ω (selectable) |
| Rectification | positive half wave, negative half wave, full wave, RF |
| Gates | two independent gates controllable over entire sweep range |
| Interface | USB 2.0 |
| Operation temperature | -10~50°C |
| Relative humidity | 20~95%RH |
| Power | build-in rechargeable battery |
| Size | 263×170×61mm |
| Weight | 1.92kg |

STANDARD DELIVERY

| | |
|---------------------------------------|----------|
| Main unit | 1 pc |
| Single-element straight probe UFD-T60 | 1 pc |
| Single-element angle probe UFD-T61 | 1 pc |
| USB cable | 1 pc |
| Couplant | 1 bottle |
| Probe connecting cable | 1 pc |
| USB disk | 1 pc |
| Power adapter | 1 pc |

OPTIONAL ACCESSORY

| | |
|-------------------|----------|
| Calibration block | UFD-CSK1 |
|-------------------|----------|

SPECIFICATION OF PROBE

| Code | Frequency | Size | Probe type | Transducer sensor angle |
|--------------------|-----------|-------|-------------------------------|-------------------------|
| UFD-T60 (included) | 2.5MHz | Ø20mm | single-element straight probe | 90° |
| UFD-T61 (included) | 4.0MHz | 8x9mm | single-element angle probe | 60° |
| UFD-T62 (optional) | 5.0MHz | Ø10mm | dual-element straight probe | 90° |
| UFD-T63 (optional) | 5.0MHz | Ø10mm | single-element straight probe | 90° |
| UFD-T64 (optional) | 4.0MHz | 8x9mm | single-element angle probe | 45° |
| UFD-T65 (optional) | 4.0MHz | 8x9mm | single-element angle probe | 70° |

Note: Other types of the probes are available



PORTABLE MAGNETIC POWDER FLAW DETECTORS

- Conformity to standards JB/T7411-2012 ASTM E1444-05 ASTM E709 EN10228-1:1999 ISO 9934 ASTM E3024
- Multiple power supply modes available



MPI-P110



DC battery pack 4400mAh
(optional)



AC battery pack 6600mAh
(optional)



A1 standard sensitivity test piece
(optional)



45N lifting force test block
(optional)



177N lifting force test block
(optional)



magnetic pole slope angle A
(optional)



magnetic pole slope angle B
(optional)



bag (optional)

SPECIFICATION

| Code | MPI-P110 | MPI-P220 | MPI-P330 |
|-------------------------|---|-----------------------------|--|
| Magnetic field strength | >2KA/m | | |
| Sensitivity | 15/50 engraved groove clearly displayed on A1 standard sensitivity test piece | | |
| Illumination | — | white light ≥ 2320 Lux | UV lamp $\geq 5220\mu\text{W}/\text{cm}^2$ |
| Duty cycle | >50% maximum excitation time 90 seconds | | >30% |
| Lifting power | AC | ≥ 4.5 kg (44N) | |
| | DC | ≥ 18.1 kg (177N) | |
| Magnetic pole spacing | 0-230mm | | |
| Magnetic pole size | 22×22mm | | |
| Power supply | AC220V, 50Hz (DC battery pack or AC battery pack are optional) | | |
| Operation temperature | -10~40°C | | |
| Relative humidity | <80% (no condensation) | | |
| Dimension (L×W×H) | 235×50×195mm | | |
| Weight | 2.3kg | | |

STANDARD DELIVERY

| | |
|-----------|------|
| Main unit | 1 pc |
|-----------|------|

OPTIONAL ACCESSORY

| | |
|------------------------------------|------------|
| DC battery pack 4400mAh | MPI-PDC440 |
| AC battery pack 6600mAh | MPI-PAC660 |
| A1 standard sensitivity test piece | MPI-PA1 |
| 45N lifting force test block | MPI-P45N |
| 177N lifting force test block | MPI-P177N |
| Magnetic pole slope angle A | MPI-PMA |
| Magnetic pole slope angle B | MPI-PMB |
| Bag | MPI-PBG |

RECHARGEABLE UV FLAW DETECTION LIGHT CODE MPI-HF360

- UV-B content is 0
- Without preheating, instant start, instant on/off, no need to wait
- Supplied with glass filter
- External surface temperature increase <math><8K (8^{\circ}C)</math> for continuous working

goggles (included)



STANDARD DELIVERY

| | |
|-----------|-------|
| Main unit | 1 pc |
| Battery | 2 pcs |
| Charger | 1 pc |
| Goggles | 1 pc |

SPECIFICATION

| | |
|--------------------------|---|
| UV (light) Lux | about 6000 μ W/cm ² |
| UV light power | UV LED-12VA |
| Covering area | diameter approximately 300mm (calibrated at 381mm distance) |
| FLUX error | $\pm 10\%$ (at 0 $^{\circ}$ C~40 $^{\circ}$ C) |
| White light content | ≤ 20 LUX |
| Lighting characteristics | center lighting |
| Wavelength | room temperature 25 $^{\circ}$ C, 365nm \pm 3nm (UVA) |
| Power supply | 12V rechargeable lithium battery |
| Battery capacity | 3500mAh |
| Charging time | 3~4h |
| Battery life | UV LED 5~6h |
| Dimension | 175 \times 75 \times 170mm |
| Weight | 750g (including battery) |

UV FLAW DETECTION LIGHT CODE MPI-HD130



STANDARD DELIVERY

| | |
|-----------|-------|
| Main unit | 1 pc |
| Battery | 2 pcs |
| Charger | 1 pc |



SPECIFICATION

| | |
|--------------------------|---|
| UV (light) Lux | 6000~11000 μ W/cm ² |
| UV light power | UV LED-3W |
| FLUX error | $\pm 10\%$ (at 0 $^{\circ}$ C~40 $^{\circ}$ C) |
| Lighting characteristics | center lighting |
| Wavelength | room temperature 25 $^{\circ}$ C, 365nm \pm 3nm (UVA) |
| Power supply | 3.7V rechargeable lithium battery |
| Battery capacity | 2600mAh |
| Charging time | 2h~3h |
| Battery life | UV LED 3h~4h |
| Dimension | 180 \times 47mm |
| Weight | 260g (including battery) |

- UV-B content is 0
- No need to wait, instantly reaches 100% power
- Supplied with glass filter
- External surface temperature increase <math><5K (5^{\circ}C)</math> for continuous working

PENETRATION STANDARD TEST BLOCK CODE ISU-PB3



- Comply with ASME standard requirements
- The test block shows the number and clarity of lines of radiating cracks to determine the sensitivity level
- Suitable for verifying the sensitivity and operational accuracy of penetrants, as well as for testing the corrosion of stainless steel materials by penetrants

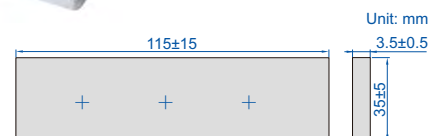


SPECIFICATION

| | |
|-------------------|------------------|
| Type | JB/T6064 B3 type |
| Surface treatment | chrome plating |
| Material | stainless steel |

STANDARD DELIVERY

| | |
|-----------------------------|------|
| B3 test block | 1 pc |
| B3 test block display image | 1 pc |



Unit: mm

3.5 \pm 0.5

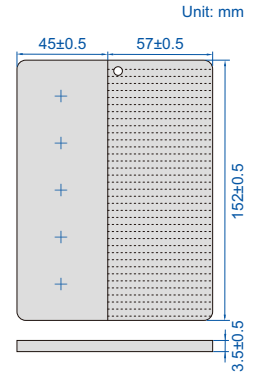
115 \pm 15

3.5 \pm 0.5



PENETRATION STANDARD TEST BLOCK CODE ISU-PB5

- Meets NB/47013.5 and ASME standards
- This test block is a means of verifying the sensitivity and operational accuracy of the penetrant, and has a rough surface in the sandblasting area to verify the cleaning performance of the penetrant and the accuracy of the cleaning method. Its sensitivity is determined by the number of defects displayed and the diameter of each point in the radial domain. It is a functional standard test block



SPECIFICATION

| | |
|-------------------|------------------|
| Type | JB/T6064 B5 type |
| Surface treatment | chrome plating |
| Material | stainless steel |

STANDARD DELIVERY

| | |
|-----------------------------|------|
| B5 test block | 1 pc |
| B5 test block display image | 1 pc |

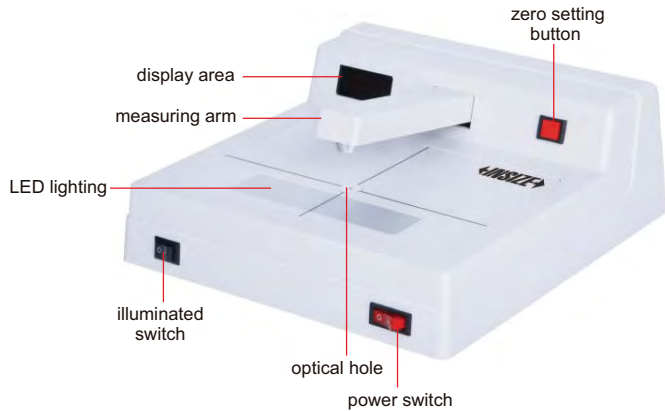
BLACK AND WHITE DENSITOMETER CODE RXT-BM301



black and white density film
(0.0~5.0, included)



- With accurate reading, good stability, easy to operate
- Small size, light weight, 27 LED lighting source, good shock resistance
- Comes with calibration software and standard black and white density film, allowing self calibration of instruments
- Suitable for industries such as non-destructive testing, photosensitive materials, printing, etc



SPECIFICATION

| | |
|-----------------------|---|
| Blackness range | D=0.00~5.00 |
| Reading stability | ±0.02 |
| Accuracy | ±0.02 (0.0<D≤2.0) ±1% (2.0<D≤4.0) ±0.05 (4.0<D≤5.0) |
| Optical aperture | Ø2mm |
| Sampling time | 0.8s |
| Display form | three-digit display |
| Interface | RS232 (optional accessory USB cable) |
| Operation environment | 0°C~40°C, relative humidity≤85% |
| Power supply | 220V, 50/60Hz |
| Dimension | 260×265×110mm |
| Weight | 2.1kg |

STANDARD DELIVERY

| | |
|--|------|
| Main unit | 1 pc |
| Black and white density film (0.0~5.0) | 1 pc |
| USB flash disk | 1 pc |
| RS232 cable | 1 pc |

OPTIONAL ACCESSORY

| | |
|-----------|--------------|
| USB cable | RXT-BM301-CA |
|-----------|--------------|



CMM
Page 537-542



Measuring Arms
Page 543-544



Styli For CMM
Page 545-549



CMM Check Masters
Page 549



Gage Block Stands For CMM
Page 550



Ceramic Ball Gages
Page 550



Jigs For CMM
Page 551-557

Can be used in shop floor, with the following features:

- Temperature compensation system, suitable for wide temperature range
- Water and oil resistance
- Compact design, small size
- Three sides open, easy to load and unload workpieces
- Without compress air
- Easy installation

ATTENTION: ROTATION OF PROBE HEAD IS MANUAL

ATTENTION: MEASUREMENT ON THE LEFT SIDE OF WORKPIECES IS LIMITED

MINI CNC CMM (SHOP FLOOR TYPE) CODE CMM-MN432



CMM-MN432

FEATURES

- Integrated control system, safe, reliable and easy to operate
- High precision linear guide rail and ball screw for three axes
- 4 temperature sensors for X, Y, Z three axes and workpiece, suitable for wide temperature range

CONTROL SYSTEM

- Double computer control systems
- Driven by DC servo motor
- The control system supports communication with machine tools
- The control system has 12 buttons for customize

NET-DMIS SOFTWARE

- Can measure point, straight line, curve, circle, ellipse, plane, groove, cylinder, sphere, cone, ring, edge point, corner point, polygon, straightness, flatness, circularity, cylindricity, profile of a line, profile of a surface, perpendicularity, parallelism, angularity, coaxiality, concentricity, symmetry, position, composite position, circular runout and total runout
- Modular software structure, can support: temperature compensation, turning table, I/O interface
- Can program in offline mode and do virtual measurement based on CAD model, can extract the element features of CAD for programming
- Support dynamic point measurement and import DMO theoretical point coordinates for vector point measurement
- Can import and convert CAD model (SAT, IGES, STEP)
- Can select multi language, metric and inch, polar and straight coordinate system
- Have multiple export ways: export measured data (SAT, IGES, STEP), report windows (PDF, HTML, MHT, RTF, EXCEL, CSV, txt, images, WORD, etc.), custom EXCEL template
- Support uploading the measuring result to server

To be continued

Continued from previous page

SPECIFICATION

| | |
|--|---|
| Code | CMM-MN432 |
| Measuring range (X×Y×Z) | 400×200×300mm |
| Resolution | 0.1μm |
| Repeatability | 1μm |
| Accuracy (L is measuring range in mm) | ±(4.5+L/200)μm (15°C~30°C, variation≤2°C/h) ±(5.5+L/200)μm (10°C~15°C, 30°C~40°C, variation≤2°C/h) |
| Probe error | ±5μm |
| Temperature | 10°C~40°C, variation≤2°C/h |
| Humidity | 40~60% |
| Power | 220V±10%, 50Hz |
| Max. load | 50kg |
| Dimension (L×W×H) | 1270×1110×1630mm |
| Weight | 280kg |

STANDARD DELIVERY

| | | |
|---------------------------------|----------------------|-------|
| Main unit | | 1 pc |
| Probe system | probe head * | 1 pc |
| | probe * | 1 pc |
| | styli ** | 1 set |
| Calibration system | datum sphere (Ø25mm) | 1 pc |
| | pivot pillar | 1 pc |
| Computer system | computer | 1 pc |
| | printer | 1 pc |
| Temperature compensation system | | 1 pc |
| Software | | 1 pc |

* The probe head and probe are Renishaw brand

** The styli system includes styli and extensions

PROBE (included) SPECIFICATION

| | | |
|------------|---------------------------------------|--------------------|
| Probe head | angular movement with horizontal axis | 0°~90° in 15 steps |
| | angular movement with vertical axis | ±180° in 15 steps |
| | control mode | manual |
| | number of positions | 168 |
| | probe mounting | M8 |
| Probe | weight | 210g |
| | detect direction | ±X, ±Y, +Z |
| | styli mounting | M2 |
| | rating life | >1000,000 times |
| | weight | 22g |

EXTENSION (included) SPECIFICATION

| Code | Material | Stem diameter | Length | Quantity |
|------|-----------------|---------------|--------|----------|
| SE4 | stainless steel | Ø3mm | 10mm | 1 pc |
| SE5 | | | 20mm | 1 pc |

STYLUS (included) SPECIFICATION

| Code | Material | Ball diameter | Length | Stem diameter | Effective working length | Quantity |
|-------|-------------------------------------|---------------|--------|---------------|--------------------------|----------|
| PS2R | ruby ball / stainless steel stem | SØ2mm | 20mm | Ø1.4mm | 14mm | 1 pc |
| PS17R | | SØ4mm | | Ø1.5mm | 20mm | 1 pc |



COORDINATE MEASURING MACHINES

FEATURES

- X&Z axis beam are made of aviation aluminum
- RENISHAW steel scale
- High precision, rigid, pre-loaded air bearings on all axis

RENISHAW UCC CONTROL SYSTEM

- High speed measurement & servo control system

RATIONAL-DMIS SOFTWARE

- Unique operation interface, complete drag-and-drop operation
- Instructional programming allows users to replace text
- Intelligent recognition of the construction, calculation and output of relevant geometric elements
- Seamless link with CAD data

RENISHAW PROBE BODY

- The TP20 is a touch trigger probe
- The TP200B is a touch triggered probe of electronic strain sensing technology, with high measurement accuracy and operate life
- The SP25M is high performance scanning and touch trigger probe



CMM-ST564A

SPECIFICATION

| Code | Range (X×Y×Z) | Probe body | MPEE | MPEP | Max. dimension of workpiece | Max. weight of workpiece | Overall dimension | Weight |
|---------------|----------------|------------|------------------|------|-----------------------------|--------------------------|-------------------|--------|
| | mm | | μm | μm | | | | |
| CMM-ST454A | 400×500×400 | TP20 | ±(2.1+3.3L/1000) | ±2.2 | 525×995×600 | 500 | 1000×1240×2240 | 570 |
| CMM-ST454B | | TP200B | ±(1.8+3.3L/1000) | ±1.9 | | | | |
| CMM-ST454C | | SP25M | | | | | | |
| CMM-ST564A | 500×600×400 | TP20 | ±(2.1+3.3L/1000) | ±2.2 | 625×1095×600 | 500 | 1100×1340×2240 | 700 |
| CMM-ST564B | | TP200B | ±(1.8+3.3L/1000) | ±1.9 | | | | |
| CMM-ST564C | | SP25M | | | | | | |
| CMM-ST686A | 600×800×600 | TP20 | ±(2.2+3.3L/1000) | ±2.3 | 730×1400×800 | 700 | 1200×1650×2660 | 960 |
| CMM-ST686B | | TP200B | ±(1.9+3.3L/1000) | ±2.0 | | | | |
| CMM-ST686C | | SP25M | | | | | | |
| CMM-ST8106A | 800×1000×600 | TP20 | ±(2.2+3.3L/1000) | ±2.3 | 930×1600×800 | 1000 | 1400×1850×2660 | 1270 |
| CMM-ST8106B | | TP200B | ±(1.9+3.3L/1000) | ±2.0 | | | | |
| CMM-ST8106C | | SP25M | | | | | | |
| CMM-ST10128A | 1000×1200×800 | TP20 | ±(2.7+3.3L/1000) | ±2.7 | 1190×1814×1040 | 1800 | 1690×2370×3150 | 2460 |
| CMM-ST10128B | | TP200B | ±(2.4+3.3L/1000) | ±2.4 | | | | |
| CMM-ST10128C | | SP25M | | | | | | |
| CMM-ST10158A | 1000×1500×800 | TP20 | ±(2.7+3.3L/1000) | ±2.7 | 1190×2114×1040 | 1800 | 1690×2670×3150 | 2820 |
| CMM-ST10158B | | TP200B | ±(2.4+3.3L/1000) | ±2.4 | | | | |
| CMM-ST10158C | | SP25M | | | | | | |
| CMM-ST10208A | 1000×2000×800 | TP20 | ±(2.7+3.3L/1000) | ±2.7 | 1190×2614×1040 | 1800 | 1690×3270×3150 | 3410 |
| CMM-ST10208B | | TP200B | ±(2.4+3.3L/1000) | ±2.4 | | | | |
| CMM-ST10208C | | SP25M | | | | | | |
| CMM-ST121510A | 1200×1500×1000 | TP20 | ±(3.0+3.3L/1000) | ±3.0 | 1390×2200×1200 | 2000 | 1890×2750×3330 | 3330 |
| CMM-ST121510B | | TP200B | ±(2.7+3.3L/1000) | ±2.7 | | | | |
| CMM-ST121510C | | SP25M | | | | | | |
| CMM-ST122010A | 1200×2000×1000 | TP20 | ±(3.0+3.3L/1000) | ±3.0 | 1390×2700×1200 | 2000 | 1890×3350×3330 | 3910 |
| CMM-ST122010B | | TP200B | ±(2.7+3.3L/1000) | ±2.7 | | | | |
| CMM-ST122010C | | SP25M | | | | | | |

To be continued

Continued from previous page

SPECIFICATION

| Code | Range (X×Y×Z) | Probe body | MPEE | | Max. dimension of workpiece | Max. weight of workpiece | Overall dimension | Weight |
|---------------|----------------|------------|------------------|------|-----------------------------|--------------------------|-------------------|--------|
| | mm | | μm | μm | | | | |
| CMM-ST152010A | 1500×2000×1000 | TP20 | ±(3.3+3.3L/1000) | ±3.3 | 1690×2700×1200 | 3000 | 2190×3350×3370 | 5220 |
| CMM-ST152010B | | TP200B | ±(3.0+3.3L/1000) | ±3.0 | | | | |
| CMM-ST152010C | | SP25M | | | | | | |
| CMM-ST152510A | 1500×2500×1000 | TP20 | ±(3.3+3.3L/1000) | ±3.3 | 1690×3200×1200 | 3000 | 2190×3850×3400 | 6680 |
| CMM-ST152510B | | TP200B | ±(3.0+3.3L/1000) | ±3.0 | | | | |
| CMM-ST152510C | | SP25M | | | | | | |
| CMM-ST153010A | 1500×3000×1000 | TP20 | ±(3.5+4L/1000) | ±3.5 | 1690×3700×1200 | 3000 | 2260×3910×3420 | 8120 |
| CMM-ST153010B | | TP200B | ±(3.2+4L/1000) | ±3.2 | | | | |
| CMM-ST153010C | | SP25M | | | | | | |
| CMM-ST152512A | 1500×2500×1200 | TP20 | ±(3.5+4L/1000) | ±3.5 | 1690×3200×1400 | 3000 | 2190×3850×3870 | 6730 |
| CMM-ST152512B | | TP200B | ±(3.2+4L/1000) | ±3.2 | | | | |
| CMM-ST152512C | | SP25M | | | | | | |
| CMM-ST152515A | 1500×2500×1500 | TP20 | ±(3.8+4L/1000) | ±3.8 | 1680×3330×1700 | 3000 | 2190×3980×4500 | 6950 |
| CMM-ST152515B | | TP200B | ±(3.5+4L/1000) | ±3.5 | | | | |
| CMM-ST152515C | | SP25M | | | | | | |
| CMM-ST153015A | 1500×3000×1500 | TP20 | ±(4.0+4L/1000) | ±4.0 | 1680×3830×1700 | 3000 | 2260×4040×4520 | 8440 |
| CMM-ST153015B | | TP200B | ±(3.7+4L/1000) | ±3.7 | | | | |
| CMM-ST153015C | | SP25M | | | | | | |
| CMM-ST163515A | 1600×3500×1500 | TP20 | ±(4.0+4L/1000) | ±4.0 | 1780×4330×1700 | 3000 | 2360×4540×4520 | 9960 |
| CMM-ST163515B | | TP200B | ±(3.7+4L/1000) | ±3.7 | | | | |
| CMM-ST163515C | | SP25M | | | | | | |
| CMM-ST203015A | 2000×3000×1500 | TP20 | ±(4.5+4L/1000) | ±4.5 | 2180×3930×1700 | 6000 | 2760×4240×4520 | 11200 |
| CMM-ST203015B | | TP200B | ±(4.0+4L/1000) | ±4.0 | | | | |
| CMM-ST203015C | | SP25M | | | | | | |
| CMM-ST203018A | 2000×3000×1800 | TP20 | ±(4.5+4L/1000) | ±4.5 | 2180×3930×2000 | 6000 | 2760×4240×5120 | 11200 |
| CMM-ST203018B | | TP200B | ±(4.0+4L/1000) | ±4.0 | | | | |
| CMM-ST203018C | | SP25M | | | | | | |

STANDARD DELIVERY

| | | |
|--------------------|-----------------------|-------|
| Main unit | | 1 pc |
| Probe system | probe head (Renishaw) | 1 pc |
| | probe body (Renishaw) | 1 pc |
| | styli (Renishaw) | 1 set |
| Calibration sphere | Ø19mm | 1 pc |
| Computer | | 1 pc |
| Printer | | 1 pc |
| Software | | 1 pc |

OPERATION ENVIRONMENT

| | |
|--------------|-----------------------------|
| Air pressure | 0.5~1.0MPa |
| Air supply | 0.3~0.45m ³ /min |
| Temperature | 20±2°C |
| Humidity | 55%~65% |
| Power | 220V±10%, 50/60Hz |

STYLI INCLUDED IN SP25M

| Material | Ball diameter | Length | Quantity |
|------------------------------------|---------------|--------|----------|
| ruby ball/ stainless steel stem | SØ2mm | 21mm | 2 pcs |
| | SØ3mm | 21mm | 2 pcs |
| | SØ4mm | 21mm | 2 pcs |
| | SØ2mm | 30mm | 2 pcs |
| | SØ3mm | 40mm | 2 pcs |
| | SØ4mm | 50mm | 2 pcs |
| | SØ6mm | 75mm | 2 pcs |
| stainless steel stem | — | 20mm | 1 pc |

PROBE HEAD SPECIFICATION

| | | |
|-----------------------|---------------------------------------|----------------------|
| Probe head (PH10T) | angular movement with horizontal axis | 0°~105° in 7.5 steps |
| | angular movement with vertical axis | ±180° in 7.5 steps |
| | number of positions | 720 |
| | probe mounting | M8 |
| | max. output torque | 0.45N.m |
| | max. extension length | 300mm |
| | weight | 645g |
| Probe body | detect direction | ±X, ±Y, ±Z |
| | styli mounting | M2 |
| | rating life | >1000,000 times |

STYLI INCLUDED IN TP20 AND TP200B

| Material | Ball diameter | Length | Quantity |
|------------------------------------|---------------|--------|----------|
| ruby ball/ stainless steel stem | SØ1mm | 10mm | 1 pc |
| | SØ2mm | 20mm | 1 pc |
| | SØ3mm | 20mm | 1 pc |
| | SØ3mm | 30mm | 1 pc |
| | SØ4mm | 10mm | 1 pc |
| | SØ4mm | 30mm | 1 pc |
| | SØ4mm | 40mm | 1 pc |
| | SØ5mm | 20mm | 1 pc |
| stainless steel stem | — | 10mm | 1 pc |
| | — | 20mm | 1 pc |
| | — | 30mm | 1 pc |

COORDINATE MEASURING MACHINES



FEATURES

- Classic bridge structure, integrated workbench
- High precision air bearing
- Unique Z-axis anti torque design to reduce rotation error

RENISHAW SYSTEMS

- Precision grating system, including grating and data acquisition device
- UCC control system, including control box and manual operator
- Probe system, including probe head, probe body and styli

VISUAL DMIS CNC CAD+SOFTWARE

- The software is designed and developed based on the DMIS standard, with excellent compatibility and versatility
- Geometric element measurement, evaluation of shape and position
- Bidirectional data transfer with mainstream CAD systems, complete graphical display
- Optional specialized modules, such as gear module, worm module, pipeline module, blade module, SPC data analysis module, etc.



CMM-LM564A

SPECIFICATION

| Code | Range (X×Y×Z) | Probe system | | Accuracy | | Max. weight of workpiece | Overall dimension (mm) | Weight (kg) |
|-------------|----------------|--------------|-------|--------------|-------|--------------------------|------------------------|-------------|
| | | head | body | MPEE (μm) | MPEP | | | |
| CMM-LM564A | 500×600×400mm | MH20i | TP20 | ±(2.3+L/250) | 2.4μm | 500kg | 1420×1135×2350 | 900 |
| CMM-LM564B | | PH10T | | | | | | |
| CMM-LM686A | 600×800×600mm | MH20i | TP20 | ±(2.6+L/250) | 2.7μm | 800kg | 1740×1420×2760 | 1300 |
| CMM-LM686B | | PH10T | | | | | | |
| CMM-LM686C | | PH10M | SP25M | ±(2.1+L/250) | 2.1μm | | | |
| CMM-LM8106A | 800×1000×600mm | MH20i | TP20 | ±(2.7+L/250) | 2.8μm | 1000kg | 1940×1620×2760 | 1700 |
| CMM-LM8106B | | PH10T | | | | | | |
| CMM-LM8106C | | PH10M | SP25M | ±(2.2+L/250) | 2.2μm | | | |
| CMM-LM8126A | 800×1200×600mm | MH20i | TP20 | ±(2.7+L/250) | 2.8μm | 1000kg | 2140×1620×2760 | 1900 |
| CMM-LM8126B | | PH10T | | | | | | |
| CMM-LM8126C | | PH10M | SP25M | ±(2.2+L/250) | 2.2μm | | | |
| CMM-LM8156A | 800×1500×600mm | MH20i | TP20 | ±(2.7+L/250) | 2.8μm | 1000kg | 2440×1620×2760 | 2200 |
| CMM-LM8156B | | PH10T | | | | | | |
| CMM-LM8156C | | PH10M | SP25M | ±(2.2+L/250) | 2.2μm | | | |

To be continued

Continued from previous page

OPERATION ENVIRONMENT

| | |
|--------------|------------------------------|
| Air pressure | 0.6-0.8MPa |
| Air supply | 200L/min |
| Temperature | 20°C±2°C; <0.5°C/h, <1°C/24h |
| Humidity | 30%~70% |
| Max. power | 1000W |
| Power supply | 220V±5%, 50HZ |

PH10T AND PH10M SPECIFICATION

| | |
|---------------------------------------|----------------------|
| Angular movement with horizontal axis | 0°~105° in 7.5 steps |
| Angular movement with vertical axis | ±180° in 7.5 steps |
| Number of positions | 720 |
| Steering mode | motorized |
| Max. output torque | 0.45N.m |
| Max. extension length | 300mm |
| Weight | 649g |

STANDARD DELIVERY

| | | |
|-----------------------|------------|-------|
| Main unit | 1 pc | |
| Probe system | probe head | 1 pc |
| | probe body | 1 pc |
| | styli | 1 set |
| Control system | 1 set | |
| Calibration sphere | 1 pc | |
| Universal sphere seat | 1 pc | |
| Computer | 1 pc | |
| Printer | 1 pc | |
| Software | 1 set | |
| Table and chair | 1 set | |

MH20i SPECIFICATION

| | |
|---------------------------------------|---------------------|
| Angular movement with horizontal axis | 0°~105° in 15 steps |
| Angular movement with vertical axis | ±180° in 15 steps |
| Number of positions | 168 |
| Steering mode | manual |
| Max. extension length | 75mm |
| Weight | 210g |

STYLI SET INCLUDED IN TP20

| Name | Material | Ball diameter | Length | Stem diameter | Effective working length | Quantity |
|-------|------------------------------------|---------------|--------|---------------|--------------------------|----------|
| Styli | ruby ball/ stainless steel stem | SØ2.5mm | 20mm | SØ1.4mm | 14mm | 4 pcs |
| | | SØ4mm | | SØ1.5mm | 20mm | |
| | | SØ3mm | 10mm | | 7.5mm | 1 pc |

| Name | Material | Diameter | Length | Quantity |
|-------------|-----------------|----------|--------|----------|
| Extension | stainless steel | Ø3mm | 20mm | 1 pc |
| Center base | | | 30mm | |
| | | | Ø7mm | |

STYLI SET INCLUDED IN SP25M

| Name | Material | Ball diameter | Length | Stem diameter | Effective working length | Quantity |
|-------|------------------------------------|---------------|--------|---------------|--------------------------|----------|
| Styli | ruby ball/ stainless steel stem | SØ1.5mm | 21mm | Ø1mm | 14mm | 1 pc |
| | | SØ2mm | | Ø1.4mm | 8mm | 1 pc |
| | | SØ3mm | | Ø1.5mm | 12mm | 4 pcs |
| | | SØ4mm | Ø2.5mm | 27mm | 1 pc | |
| | ruby ball/ carbon fiber stem | SØ5mm | 50mm | Ø3mm | 42.5mm | 1 pc |
| | | SØ6mm | 75mm | Ø4mm | 75mm | 1 pc |

| Name | Material | Diameter | Length | Quantity |
|-------------|-----------------|----------|--------|----------|
| Extension | stainless steel | Ø5mm | 10mm | 1 pc |
| Center base | | | Ø4mm | |
| | | | Ø10mm | |

MEASURING ARMS



- In accordance with ISO 10360-12
- Internal balance
- Dual high performance batteries
- Equivalent-arm design
- High-speed WiFi performance
- Aerospace grade carbon-fiber material
- Automatic power off
- U-shaped anti-collision design of the base



CMM-CM30

HIGH PRECISION, CM SERIES, 6-AXIS

(mm)

| Code | Measuring range | Maximum permissible error | | | | |
|----------|-----------------|---------------------------|------------------|-------------------|-------------------|------------------|
| | | SPAT | E _{UNI} | P _{SIZE} | P _{FORM} | L _{DIA} |
| CMM-CM15 | 1500 | 0.018 | 0.025 | 0.009 | 0.016 | 0.026 |
| CMM-CM20 | 2000 | 0.020 | 0.028 | 0.010 | 0.018 | 0.032 |
| CMM-CM25 | 2500 | 0.023 | 0.030 | 0.012 | 0.022 | 0.038 |
| CMM-CM30 | 3000 | 0.034 | 0.042 | 0.016 | 0.032 | 0.052 |
| CMM-CM35 | 3500 | 0.043 | 0.056 | 0.020 | 0.038 | 0.066 |
| CMM-CM40 | 4000 | 0.052 | 0.066 | 0.024 | 0.044 | 0.083 |
| CMM-CM45 | 4500 | 0.061 | 0.089 | 0.038 | 0.078 | 0.108 |

HIGH PRECISION, CM SERIES, 7-AXIS

(mm)

| Code | Measuring range | Maximum permissible error | | | | |
|-----------|-----------------|---------------------------|------------------|-------------------|-------------------|------------------|
| | | SPAT | E _{UNI} | P _{SIZE} | P _{FORM} | L _{DIA} |
| CMM-CM20S | 2000 | 0.022 | 0.030 | 0.012 | 0.022 | 0.040 |
| CMM-CM25S | 2500 | 0.027 | 0.032 | 0.013 | 0.025 | 0.048 |
| CMM-CM30S | 3000 | 0.042 | 0.053 | 0.020 | 0.035 | 0.078 |
| CMM-CM35S | 3500 | 0.055 | 0.066 | 0.024 | 0.043 | 0.092 |
| CMM-CM40S | 4000 | 0.065 | 0.082 | 0.029 | 0.048 | 0.102 |
| CMM-CM45S | 4500 | 0.073 | 0.099 | 0.043 | 0.082 | 0.132 |

STANDARD PRECISION, BE SERIES, 6-AXIS

(mm)

| Code | Measuring range | Maximum permissible error | | | | |
|----------|-----------------|---------------------------|------------------|-------------------|-------------------|------------------|
| | | SPAT | E _{UNI} | P _{SIZE} | P _{FORM} | L _{DIA} |
| CMM-BE15 | 1500 | 0.028 | 0.036 | 0.015 | 0.029 | 0.038 |
| CMM-BE20 | 2000 | 0.030 | 0.040 | 0.018 | 0.035 | 0.041 |
| CMM-BE25 | 2500 | 0.035 | 0.045 | 0.020 | 0.038 | 0.050 |
| CMM-BE30 | 3000 | 0.055 | 0.065 | 0.028 | 0.045 | 0.080 |
| CMM-BE35 | 3500 | 0.075 | 0.080 | 0.035 | 0.058 | 0.098 |
| CMM-BE40 | 4000 | 0.090 | 0.100 | 0.044 | 0.068 | 0.116 |
| CMM-BE45 | 4500 | 0.112 | 0.120 | 0.048 | 0.086 | 0.128 |

To be continued

Continued from previous page



Single-point articulation test



Distance measurement error between two points



Sphere form measurement error



Sphere size measurement error



Sphere diameter obtained from performing the articulated location test (diameter of the spherical zone containing the centers of a sphere measured from multiple orientations)

SPECIFICATION

| | |
|-----------------------|--|
| Temperature rate | 3°C/5min |
| Battery life | 5h for one battery; 10h for two batteries |
| Output | USB, WIFI |
| Operation temperature | 5°C~45°C |
| Operation humidity | 0~95%, non-condensing |
| Power | 100~240VAC, 50/60HZ |
| Weight | 8.8kg~10.6kg |



3mm zircon ball probe (included)



6mm zircon ball probe (included)



calibration cone (included)

STANDARD DELIVERY

| | |
|-----------------------|-------|
| Main unit | 1 pc |
| 3mm zircon ball probe | 1 pc |
| 6mm zircon ball probe | 1 pc |
| Calibration cone | 1 pc |
| Lithium batteries | 2 pcs |
| USB cable | 1 pc |
| Power adapter | 1 pc |
| Dust cover | 1 pc |



magnetic base (optional)



electric vacuum base (optional)



DELL laptop (optional)

OPTIONAL ACCESSORY

| | |
|-----------------------------|--------------|
| DELL laptop | CMM-CEM-PCE |
| Polyworks software | CMM-CEM-PW |
| Adjustable tripod | CMM-CEM-FAT |
| Electric vacuum base | CMM-CEM-EVCP |
| Magnetic base | CMM-CEM-IMM |
| Magnetic cones | CMM-CEM-MC |
| Magnetic spheres | CMM-CEM-MS |
| Point probe | CMM-CEM-PP |
| 2mm ruby ball probe | CMM-CEM-RP2 |
| 5mm zircon ball probe | CMM-CEM-ZP5 |
| 10mm zircon ball probe | CMM-CEM-ZP10 |
| 3" straight probe extension | CMM-CEM-SPE3 |
| 4" straight probe extension | CMM-CEM-SPE4 |
| 60° probe adapter | CMM-CEM-DP60 |
| 90° probe adapter | CMM-CEM-DP90 |
| 3mm extended ball probe | CMM-CEM-EPB3 |
| 6mm extended ball probe | CMM-CEM-EPB6 |
| Probe adapter | CMM-CEM-PA |



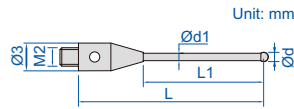
adjustable tripod (optional)

STYLI FOR CMM

INSIZE PLUS
MADE IN EUROPE



ISQ-01-2010-020STR



Unit: mm

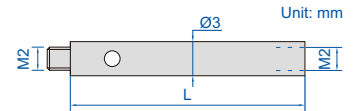


ISQ-02-2030-040ST

M2 styli (stainless steel base)

(mm)

| Code | Ød | Ød1 | L | L1 | Material of rod | Material of tip |
|--------------------|-----|-----|------|------|-----------------|-----------------|
| ISQ-01-2010-010STR | 1 | 0.8 | 10 | 4 | carbide | ruby |
| ISQ-01-2010-020LTR | 1 | 0.8 | 20 | 7 | | |
| ISQ-01-2010-020STR | 1 | 0.8 | 20 | 13 | | |
| ISQ-01-2010-028STR | 1 | 0.8 | 27.5 | 20.5 | | |
| ISQ-01-2015-020STR | 1.5 | 1 | 20 | 13 | | |
| ISQ-01-2015-030STR | 1.5 | 1 | 30 | 23 | | |
| ISQ-01-2020-020STR | 2 | 1 | 20 | 13 | | |
| ISQ-01-2020-030STR | 2 | 1.5 | 30 | 23 | | |
| ISQ-01-2020-040STR | 2 | 1.5 | 40 | 33 | | |
| ISQ-01-2025-020STR | 2.5 | 1.5 | 20 | 13 | | |
| ISQ-01-2025-030STR | 2.5 | 2 | 30 | 23 | | |
| ISQ-01-2025-040STR | 2.5 | 2 | 40 | 33 | | |
| ISQ-01-2030-020STR | 3 | 1.5 | 20 | 13 | | |
| ISQ-01-2030-030STR | 3 | 2 | 30 | 23 | | |
| ISQ-01-2030-040STR | 3 | 2 | 40 | 33 | | |
| ISQ-01-2030-050STR | 3 | 2 | 50 | 43 | | |
| ISQ-01-2040-022STR | 4 | 2 | 22 | 15 | | |
| ISQ-01-2040-030STR | 4 | 2 | 30 | 23 | | |
| ISQ-01-2040-040STR | 4 | 2 | 40 | 33 | | |
| ISQ-01-2040-050STR | 4 | 2 | 50 | 43 | | |
| ISQ-01-2020-020SSR | 2 | 1.5 | 20 | 13 | stainless steel | |
| ISQ-01-2030-020SSR | 3 | 1.5 | 20 | 13 | | |
| ISQ-01-2040-020SSR | 4 | 1.5 | 20 | 13 | | |
| ISQ-01-2030-050SCE | 3 | 2 | 50 | 43 | ceramic | |

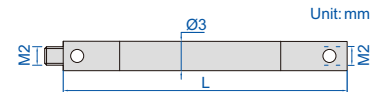


Unit: mm

M2 extension rods of styli

(mm)

| Code | L | Material |
|-------------------|----|-----------------|
| ISQ-02-2030-005ST | 5 | stainless steel |
| ISQ-02-2030-010ST | 10 | |
| ISQ-02-2030-020ST | 20 | |
| ISQ-02-2030-030ST | 30 | |
| ISQ-02-2030-040ST | 40 | |

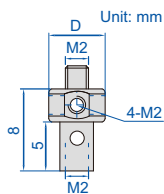


Unit: mm

M2 extension rods of styli

(mm)

| Code | L | Material |
|--------------------|----|--------------|
| ISQ-02-2035-030SCF | 30 | carbon fibre |
| ISQ-02-2035-040SCF | 40 | |
| ISQ-02-2035-050SCF | 50 | |
| ISQ-02-2035-060SCF | 60 | |
| ISQ-02-2035-070SCF | 70 | |

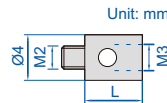


Unit: mm

M2 multi way bases of styli

(mm)

| Code | D | Remark | Material |
|-------------------|-----|--------|-----------------|
| ISQ-03-2075-008ST | 7.5 | 4-way | stainless steel |
| ISQ-03-2070-008ST | 7 | 5-way | steel |



Unit: mm

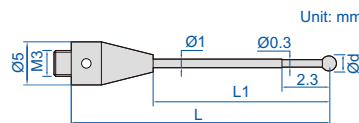
M2 thread converters

(mm)

| Code | L | Material |
|-------------------|---|-----------------|
| ISQ-05-2040-005M3 | 5 | stainless steel |
| ISQ-05-2040-007M3 | 7 | steel |



ISQ-01-3005-020TTR2



Unit: mm

M3 styli with step (stainless steel base)

(mm)

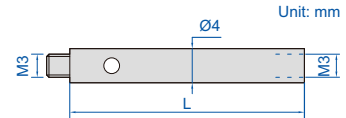
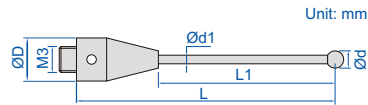
| Code | Ød | L | L1 | Material of rod | Material of tip |
|---------------------|-----|----|----|-----------------|-----------------|
| ISQ-01-3005-018TTR2 | 0.5 | 18 | 9 | carbide | ruby |
| ISQ-01-3005-020TTR2 | 0.5 | 20 | 11 | | |

To be continued

Continued from previous page



ISQ-01-3020-030STR



M3 styli (stainless steel base)

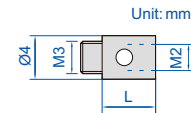
(mm)

| Code | Ød | Ød1 | L | L1 | ØD | Material of rod | Material of tip |
|--------------------|-----|-----|----|------|----|-----------------|-----------------|
| ISQ-01-3010-020TTR | 1 | 0.8 | 20 | 11 | 5 | carbide | ruby |
| ISQ-01-3010-040TTR | 1 | 0.8 | 40 | 31 | 5 | | |
| ISQ-01-3015-020TTR | 1.5 | 1 | 20 | 11 | 5 | | |
| ISQ-01-3015-030TTR | 1.5 | 1 | 30 | 21 | 5 | | |
| ISQ-01-3015-040TTR | 1.5 | 1 | 40 | 31 | 5 | | |
| ISQ-01-3020-014TTR | 2 | 1 | 14 | 5 | 5 | | |
| ISQ-01-3020-040TTR | 2 | 1.5 | 40 | 31 | 5 | | |
| ISQ-01-3020-050TTR | 2 | 1.5 | 50 | 41 | 5 | | |
| ISQ-01-3030-050TTR | 3 | 2 | 50 | 41 | 5 | | |
| ISQ-01-3040-030TTR | 4 | 2 | 30 | 21 | 5 | | |
| ISQ-01-3040-040TTR | 4 | 2 | 40 | 31 | 5 | | |
| ISQ-01-3040-050TTR | 4 | 2 | 50 | 41 | 5 | | |
| ISQ-01-3020-030STR | 2 | 1.5 | 30 | 22.5 | 4 | | |
| ISQ-01-3030-030STR | 3 | 1.5 | 30 | 22.5 | 4 | | |
| ISQ-01-3030-050TCR | 3 | 2 | 50 | 41 | 5 | | |
| ISQ-01-3030-075TCR | 3 | 2 | 75 | 66 | 5 | | |
| | | | | | | carbon fibre | |

M3 extension rods of styli

(mm)

| Code | L | Material |
|-------------------|----|-----------------|
| ISQ-02-3040-010ST | 10 | stainless steel |
| ISQ-02-3040-020ST | 20 | |
| ISQ-02-3040-030ST | 30 | |
| ISQ-02-3040-040ST | 40 | |
| ISQ-02-3040-050ST | 50 | |



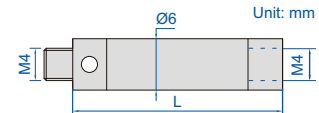
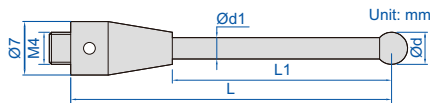
M3 thread converters

(mm)

| Code | L | Material |
|-------------------|----|-----------------|
| ISQ-05-3040-005M2 | 5 | stainless steel |
| ISQ-05-3040-010M2 | 10 | |
| ISQ-05-3040-020M2 | 20 | |



ISQ-01-4060-100SCE



M4 styli (stainless steel base)

(mm)

| Code | Ød | Ød1 | L | L1 | Material of rod | Material of tip |
|--------------------|----|-----|-----|------|-----------------|-----------------|
| ISQ-01-4010-020STR | 1 | 0.8 | 20 | 10 | carbide | ruby |
| ISQ-01-4020-020STR | 2 | 1.5 | 20 | 10 | | |
| ISQ-01-4020-050STR | 2 | 1.5 | 50 | 40 | | |
| ISQ-01-4040-050SCE | 4 | 3 | 50 | 33.5 | ceramic | |
| ISQ-01-4060-100SCE | 6 | 4.5 | 100 | 83.5 | | |

M4 extension rods of styli

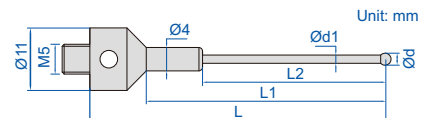
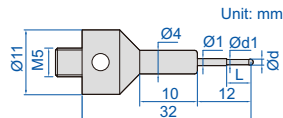
(mm)

| Code | L | Material |
|--------------------|-----|----------|
| ISQ-02-4070-030SCT | 30 | ceramic |
| ISQ-02-4070-050SCT | 50 | |
| ISQ-02-4070-100SCT | 100 | |
| ISQ-02-4070-200SCT | 200 | |

23



ISQ-01-5010-032STR



M5 styli with step (stainless steel base)

(mm)

| Code | Ød | Ød1 | L | Material of rod | Material of tip |
|--------------------|-----|-----|-----|-----------------|-----------------|
| ISQ-01-5005-032STR | 0.5 | 0.3 | 2.5 | carbide | ruby |
| ISQ-01-5008-032STR | 0.8 | 0.6 | 4.8 | | |
| ISQ-01-5010-032STR | 1 | 0.8 | 5 | | |

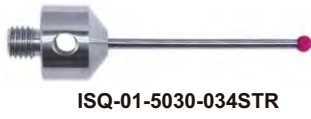
M5 styli with step (stainless steel base)

(mm)

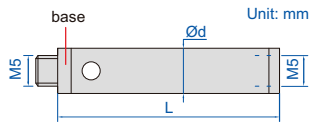
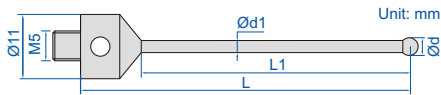
| Code | Ød | Ød1 | L | L1 | L2 | Material of rod | Material of tip |
|--------------------|-----|-----|----|----|----|-----------------|-----------------|
| ISQ-01-5015-044STR | 1.5 | 1 | 44 | 34 | 19 | carbide | ruby |
| ISQ-01-5020-044STR | 2 | 1.5 | 44 | 34 | 19 | | |
| ISQ-01-5020-058STR | 2 | 1.5 | 58 | 48 | 33 | | |

To be continued

Continued from previous page



ISQ-01-5030-034STR



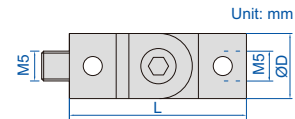
M5 styli (stainless steel base)

(mm)

| Code | Ød | Ød1 | L | L1 | Material of rod | Material of tip |
|--------------------|-----|-----|-------|-------|-----------------|-----------------|
| ISQ-01-5015-033STR | 1.5 | 1 | 33 | 23 | carbide | ruby |
| ISQ-01-5015-040STR | 1.5 | 1 | 40 | 30 | | |
| ISQ-01-5020-034STR | 2 | 1.5 | 33.5 | 23.5 | | |
| ISQ-01-5020-040STR | 2 | 1.5 | 40 | 30 | | |
| ISQ-01-5030-034STR | 3 | 2 | 33.5 | 23.5 | | |
| ISQ-01-5030-050STR | 3 | 2 | 50 | 40 | | |
| ISQ-01-5030-058STR | 3 | 2 | 58 | 48 | | |
| ISQ-01-5030-075STR | 3 | 2 | 75 | 65 | | |
| ISQ-01-5050-050STR | 5 | 2.5 | 50 | 40 | | |
| ISQ-01-5050-075STR | 5 | 2.5 | 75 | 65 | | |
| ISQ-01-5060-054STR | 6 | 3 | 54 | 44 | | |
| ISQ-01-5080-115STR | 8 | 4 | 114.5 | 101.5 | | |
| ISQ-01-5030-058SCR | 3 | 2 | 58 | 48 | carbon fibre | |
| ISQ-01-5050-100SCR | 5 | 3.5 | 100 | 90 | | |
| ISQ-01-5080-100SCR | 8 | 6 | 100 | 87 | | |



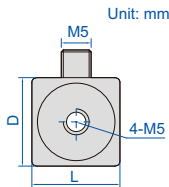
ISQ-03-5110-030TI



M5 extension rods of styli

(mm)

| Code | Ød | L | Material | Material of base |
|--------------------|----|-----|-----------------|------------------|
| ISQ-02-5110-040SAL | 11 | 40 | aluminium | stainless steel |
| ISQ-02-5110-060SAL | 11 | 60 | | |
| ISQ-02-5110-080SAL | 11 | 80 | | |
| ISQ-02-5110-100SAL | 11 | 100 | stainless steel | |
| ISQ-02-5110-020ST | 11 | 20 | | |
| ISQ-02-5110-040TCF | 11 | 40 | carbon fibre | titanium |
| ISQ-02-5110-050TCF | 11 | 50 | | |
| ISQ-02-5110-060TCF | 11 | 60 | | |
| ISQ-02-5110-100TCF | 11 | 100 | | |



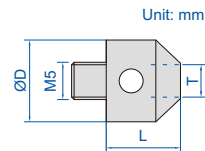
M5 rotating joints

(mm)

| Code | L | ØD | Material |
|-------------------|----|----|----------|
| ISQ-03-5110-030TI | 30 | 11 | titanium |
| ISQ-03-5180-036TI | 36 | 18 | |



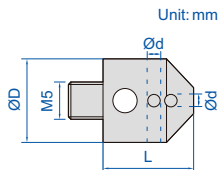
ISQ-05-5110-090M3



M5 4-way cubes of styli

(mm)

| Code | D | L | Material |
|-------------------|----|----|----------|
| ISQ-03-5150-150TI | 15 | 15 | titanium |
| ISQ-03-5200-200TI | 20 | 20 | |



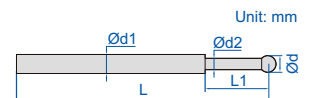
M5 thread converters

(mm)

| Code | L | ØD | Thread (T) | Material |
|-------------------|----|----|------------|-----------------|
| ISQ-05-5110-090M2 | 10 | 11 | M2 | stainless steel |
| ISQ-05-5110-090M3 | 10 | 11 | M3 | |



ISQ-01-0008-016TR



Holders for pin styli

(mm)

| Code | L | Ød | ØD | Material |
|---------------------|----|-----|----|-----------------|
| ISQ-03-5110-012H1 | 12 | 1 | 11 | stainless steel |
| ISQ-03-5110-012H1D5 | 12 | 1.5 | 11 | |
| ISQ-03-5110-012H2 | 12 | 2 | 11 | |

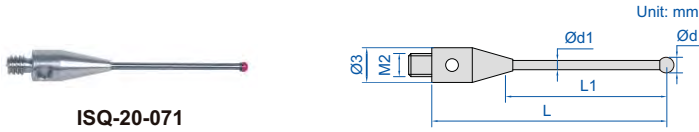
Pin styli

(mm)

| Code | L | Ød | L1 | Ød1 | Ød2 | Material of rod | Material of tip |
|-------------------|------|-----|-----|-----|-----|-----------------|-----------------|
| ISQ-01-0008-016TR | 15.8 | 0.8 | 4.8 | 1 | 0.6 | carbide | ruby |
| ISQ-01-0020-027TR | 27 | 2 | - | 1.5 | - | | |
| ISQ-01-0030-038TR | 38 | 3 | - | 2 | - | | |

STYLI FOR CMM

- Roundness: 0.25µm



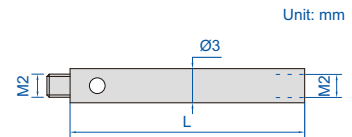
ISQ-20-071



ISQ-25-125

M2 styli (mm)

| Code | Ød | Ød1 | L | L1* | Material of rod | Material of tip |
|------------|-----|-----|----|------|-----------------|-----------------|
| ISQ-20-002 | 1 | 0.7 | 10 | 4.5 | stainless steel | ruby |
| ISQ-20-006 | 2 | 1 | 10 | 6 | | |
| ISQ-20-010 | 3 | 1.5 | 10 | 10 | | |
| ISQ-20-021 | 2 | 1.4 | 20 | 14 | | |
| ISQ-20-025 | 3 | 1.5 | 20 | 17.5 | | |
| ISQ-20-027 | 4 | 2 | 20 | 20 | | |
| ISQ-20-052 | 0.5 | 0.3 | 10 | 3 | carbide | ruby |
| ISQ-20-071 | 1 | 0.7 | 20 | 12.5 | | |
| ISQ-20-105 | 2 | 1.5 | 30 | 22.5 | ceramic | ruby |
| ISQ-20-120 | 3 | 2 | 30 | 27.5 | | |
| ISQ-20-201 | 4 | 3 | 50 | 50 | carbon fibre | ruby |



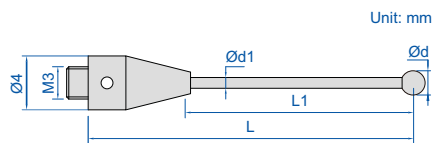
M2 extension rods of styli (mm)

| Code | L | Material |
|------------|----|-----------------|
| ISQ-25-105 | 10 | stainless steel |
| ISQ-25-110 | 20 | |
| ISQ-25-125 | 30 | ceramic |

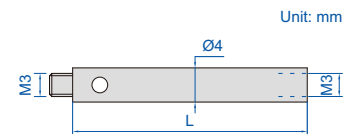
*L1 is the effective working length, which is the distance from the center of the tip to the section of the stem with the same diameter as the tip



ISQ-30-066



ISQ-35-110



M3 styli (mm)

| Code | Ød | Ød1 | L | L1* | Material of rod | Material of tip |
|------------|----|-----|----|------|-----------------|-----------------|
| ISQ-30-001 | 1 | 0.7 | 21 | 4 | carbide | ruby |
| ISQ-30-003 | 2 | 1.4 | 21 | 8 | | |
| ISQ-30-005 | 3 | 1.5 | 21 | 12 | | |
| ISQ-30-031 | 2 | 1.5 | 30 | 22.5 | | |
| ISQ-30-066 | 3 | 2 | 50 | 42.5 | ceramic | ruby |
| ISQ-30-080 | 6 | 4 | 75 | 75 | carbon fibre | |

*L1 is the effective working length, which is the distance from the center of the tip to the section of the stem with the same diameter as the tip

M3 extension rods of styli (mm)

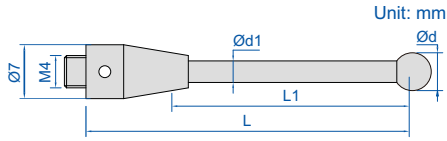
| Code | L | Material |
|------------|----|-----------------|
| ISQ-35-101 | 10 | stainless steel |
| ISQ-35-105 | 20 | |
| ISQ-35-110 | 35 | |
| ISQ-35-115 | 50 | ceramic |

To be continued

Continued from previous page



ISQ-40-195

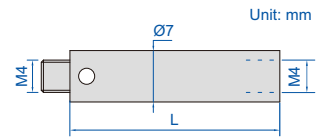


ISQ-45-025

M4 styli (mm)

| Code | Ød | Ød1 | L | L1* | Material of rod | Material of tip |
|------------|----|-----|------|-----|-----------------|-----------------|
| ISQ-40-113 | 3 | 2 | 18.5 | 13 | stainless steel | ruby |
| ISQ-40-208 | 6 | 4 | 50 | 36 | | |
| ISQ-40-106 | 1 | 0.7 | 19.5 | 4 | carbide | |
| ISQ-40-109 | 2 | 1.4 | 19 | 8 | | |
| ISQ-40-141 | 1 | 0.7 | 20 | 10 | | |
| ISQ-40-195 | 2 | 1.5 | 50 | 40 | | |
| ISQ-40-202 | 4 | 2 | 50 | 38 | ceramic | |
| ISQ-40-173 | 5 | 4 | 50 | 34 | | |
| ISQ-40-179 | 6 | 4 | 50 | 36 | | |
| ISQ-40-222 | 6 | 4 | 75 | 63 | | |
| ISQ-40-240 | 5 | 4 | 100 | 84 | | |
| ISQ-40-245 | 6 | 4 | 100 | 86 | | |

*L1 is the effective working length, which is the distance from the center of the tip to the section of the stem with the same diameter as the tip

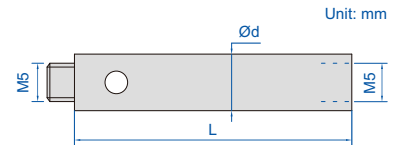
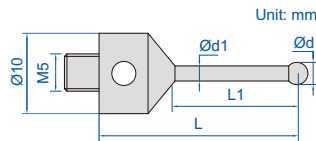


M4 extension rods of styli (mm)

| Code | L | Material |
|------------|----|----------|
| ISQ-45-025 | 30 | ceramic |
| ISQ-45-028 | 50 | |



ISQ-50-059



M5 styli (mm)

| Code | Ød | Ød1 | L | L1* | Material of rod | Material of tip |
|------------|----|-----|----|-----|-----------------|-----------------|
| ISQ-50-051 | 1 | 0.7 | 20 | 5 | carbide | ruby |
| ISQ-50-059 | 2 | 1.5 | 20 | 11 | | |
| ISQ-50-067 | 3 | 2 | 20 | 11 | | |
| ISQ-50-071 | 4 | 2 | 20 | 11 | | |
| ISQ-50-075 | 5 | 3 | 20 | 11 | | |

*L1 is the effective working length, which is the distance from the center of the tip to the section of the stem with the same diameter as the tip

M5 extension rods of styli (mm)

| Code | L | Ød | Material |
|------------|-----|----|-----------------|
| ISQ-55-012 | 20 | 10 | stainless steel |
| ISQ-55-014 | 30 | 10 | |
| ISQ-55-016 | 50 | 10 | |
| ISQ-55-018 | 100 | 10 | |
| ISQ-55-031 | 50 | 20 | aluminum |
| ISQ-55-035 | 100 | 20 | |
| ISQ-55-039 | 200 | 20 | |

REFER TO PAGE 330-331 FOR DETAILS



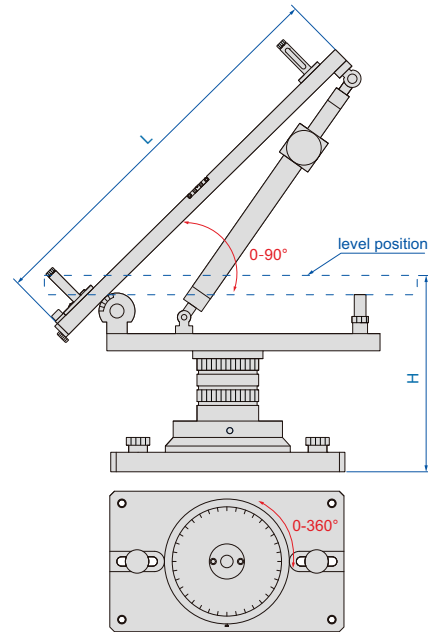
6882-600



6874-1000

CMM CHECK MASTERS

GAGE BLOCK STAND FOR CMM



6885-1000

- Made of aluminum
- Used with gage blocks to calibrate CMM
- Optional accessory: gage blocks (4101, 4103 and 4104 series)

| Code | Length (L) | Height (H) |
|-----------|--|---------------|
| 6885-1000 | 500, 600, 650, 700, 750, 800, 850, 900, 1000 | 235, 355, 475 |



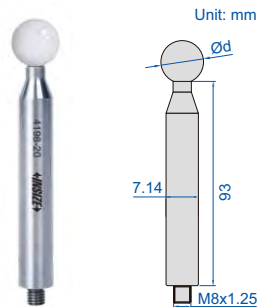
height column (included, 2 pcs)



extension plate (included, 4 pcs)

CERAMIC BALL GAGES

- To calibrate CMM probes
- Zirconia material, high strength and hardness, extremely wear resistance and corrosion resistance good insulation, antistatic and magnetic resistance
- Mirror surface, with pole
- Supplied with manufacturer inspection certificate



4198-20



High accuracy

| Code | Diameter (Ød) | Accuracy | Roundness |
|-----------|---------------|----------|-----------|
| 4198-8 | 8mm | ±5µm | 0.5µm |
| 4198-10 | 10mm | ±5µm | 0.5µm |
| 4198-12D7 | 12.7mm | ±5µm | 0.5µm |
| 4198-13 | 13mm | ±5µm | 0.5µm |
| 4198-14 | 14mm | ±5µm | 0.5µm |
| 4198-15 | 15mm | ±5µm | 0.5µm |
| 4198-16 | 16mm | ±5µm | 0.5µm |
| 4198-17 | 17mm | ±5µm | 0.5µm |
| 4198-20 | 20mm | ±5µm | 0.5µm |
| 4198-25D4 | 25.4mm | ±5µm | 0.5µm |

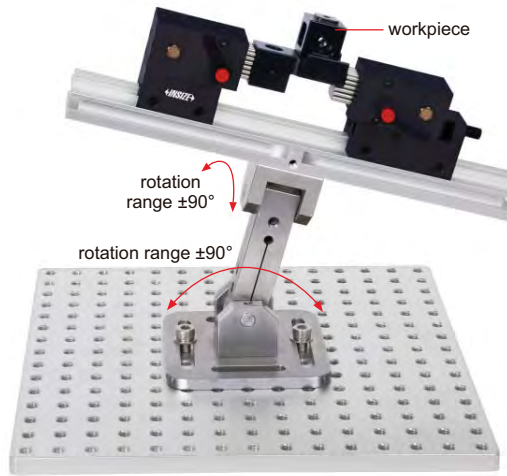
Standard accuracy

| Code | Diameter (Ød) | Accuracy | Roundness |
|------------|---------------|----------|-----------|
| 4198-8A | 8mm | ±5µm | 1µm |
| 4198-10A | 10mm | ±5µm | 1µm |
| 4198-12D7A | 12.7mm | ±5µm | 1µm |
| 4198-13A | 13mm | ±5µm | 1µm |
| 4198-14A | 14mm | ±5µm | 1µm |
| 4198-15A | 15mm | ±5µm | 1µm |
| 4198-16A | 16mm | ±5µm | 1µm |
| 4198-17A | 17mm | ±5µm | 1µm |
| 4198-20A | 20mm | ±5µm | 1µm |
| 4198-25D4A | 25.4mm | ±5µm | 1µm |

CAN BE
CUSTOMIZED



JIGS FOR CMM (ANVIL Ø2.5mm)



ISY-200



ISY-200-1



ISY-200-2



ISY-200-3



ISY-200-4



ISY-200-5



ISY-200-6

| Code | Product | Remark |
|---------|---------|--|
| ISY-200 | jig set | including 1 pc ISY-200-1, 1 pc ISY-200-2, 1 pc ISY-200-3, 1 pc ISY-200-4, 1 pc ISY-200-5 and 2 pcs ISY-200-6 |

| Code | Product | Size | Anvil area | Anvil stroke |
|-----------|---|----------|------------|--------------|
| ISY-200-1 | spring anvil | 60×40×57 | 20.5×23 | 14 |
| ISY-200-2 | adjustable spring anvil (range 0-20mm) | 70×40×57 | 20.5×23 | 14 |

| Code | Product | Size | Hole size |
|-----------|------------|--------------|-----------|
| ISY-200-3 | base plate | 300×300×12mm | M8 |

| Code | Product | Size |
|-----------|--------------------------|-------------|
| ISY-200-4 | guide | 300×40×27 |
| ISY-200-5 | two-way adjustable stand | 110×110×142 |
| ISY-200-6 | clamp handle | — |

JIGS FOR CMM (ANVIL Ø6mm)



CAN BE CUSTOMIZED



ISY-500



ISY-500-1



ISY-500-2



ISY-500-3



ISY-500-4



ISY-500-5



ISY-500-6



ISY-500-7

| Code | Product | Remark |
|---------|---------|---|
| ISY-500 | jig set | including 1 pc ISY-500-1, 1 pc ISY-500-2, 2 pcs ISY-500-3, 10 pcs ISY-500-4, 2 pcs ISY-500-5, 1 pc ISY-500-6, 2 pcs ISY-500-7 |

| Code | Product | Size | Anvil area | Anvil stroke (mm) |
|-----------|--|-------------|------------|-------------------|
| ISY-500-1 | spring anvil | 134×90×90 | 36×100 | 24 |
| ISY-500-2 | adjustable spring anvil (range 0-40mm) | 134×120×130 | 36×100 | 24 |

| Code | Product | Size (mm) |
|-----------|--------------------------------|------------|
| ISY-500-3 | base plate | 300×240×20 |
| ISY-500-4 | block | 120×90×20 |
| ISY-500-5 | connecting plate | 170×90×15 |
| ISY-500-6 | connecting block of base plate | 80×50×10 |
| ISY-500-7 | clamp handle | — |

CAN BE
CUSTOMIZED



JIGS FOR CMM (ANVIL Ø2.5mm)



ISY-300-1



ISY-300



ISY-300-2



ISY-300-3



ISY-300-4



ISY-300-5



ISY-300-6



ISY-300-7



ISY-300-8



ISY-300-9



ISY-300-10



ISY-300-11



ISY-300-12



ISY-300-13

| Code | Product | Remark |
|---------|---------|--|
| ISY-300 | jig set | including 1 pc ISY-300-1, 2 pcs ISY-300-2, 1 pc ISY-300-3, 2 pcs ISY-300-4, 14 pcs ISY-300-5, 2 pcs ISY-300-6, 8 pcs ISY-300-7, 6 pcs ISY-300-8, 2 pcs ISY-300-9, 2 pcs ISY-300-10, 2 pcs ISY-300-11, 2 pcs ISY-300-12, 2 pcs ISY-300-13 |

| Code | Product | Size | Hole size |
|-----------|------------|--------------|-----------|
| ISY-300-1 | base plate | 300×300×12mm | M8 |

| Code | Product | Size | Anvil area | Anvil stroke |
|-----------|--------------|----------|------------------------------|--------------|
| ISY-300-2 | spring anvil | 60×40×75 | 20.5×23 | 14 |
| ISY-300-3 | spring anvil | Ø26×73 | 3.1cm ² (hexagon) | 14 |

| Code | Product | Size |
|------------|--------------------------------|-----------|
| ISY-300-4 | block | 50×50×50 |
| ISY-300-5 | block | 50×50×20 |
| ISY-300-6 | connecting plate | 110×50×10 |
| ISY-300-7 | block | Ø26×20 |
| ISY-300-8 | block | Ø26×30 |
| ISY-300-9 | connecting plate | 150×26×10 |
| ISY-300-10 | clip | 65×11 |
| ISY-300-11 | clip | 100×11 |
| ISY-300-12 | connecting block of clip stand | Ø26×20 |
| ISY-300-13 | clip stand | Ø8×75 |

(mm)

JIGS FOR CMM (ANVIL Ø6mm)



CAN BE CUSTOMIZED



ISY-400



ISY-400-1



ISY-400-2



ISY-400-3



ISY-400-4



ISY-400-5



ISY-400-6

23

| Code | Product | Remark |
|---------|---------|---|
| ISY-400 | jig set | including 3 pcs ISY-400-1, 9 pcs ISY-400-2, 9 pcs ISY-400-3, 1 pc ISY-400-4, 3 pcs ISY-400-5, 3 pcs ISY-400-6 |

| Code | Product | Size | Anvil area | Anvil stroke |
|-----------|--------------|-----------|------------|--------------|
| ISY-400-1 | spring anvil | 135×60×90 | 36×100 | 24 |

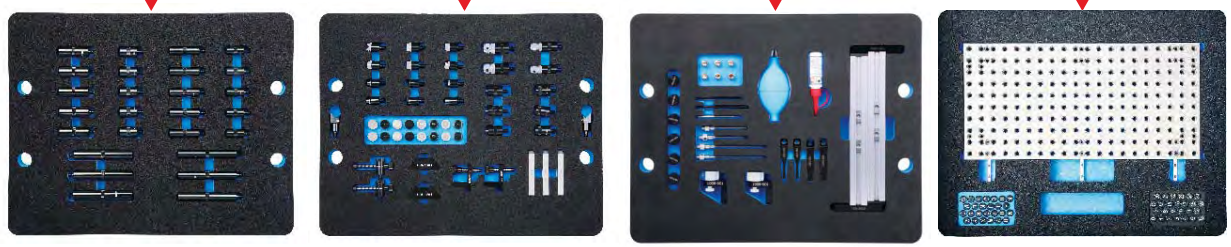
(mm)

| Code | Product | Size |
|-----------|------------------|------------|
| ISY-400-2 | block | 120×60×20 |
| ISY-400-3 | block | 120×60×30 |
| ISY-400-4 | base plate | 500×500×12 |
| ISY-400-5 | connecting plate | 130×120×12 |
| ISY-400-6 | clamp handle | — |

(mm)

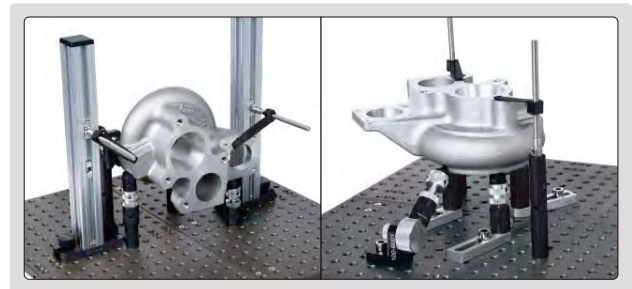





JIG SET FOR CMM CODE ISY-100



ISY-100

application examples



| Product | Code | Size (mm) | Quantity | Application |
|---|--------------|-----------|----------|---|
|  | ISY-100-1001 | Ø16×30 | 5 |  |
| | ISY-100-1002 | Ø16×50 | 5 | |
| | ISY-100-1003 | Ø16×100 | 3 | |
|  | ISY-100-1004 | Ø20×30 | 5 | |
| | ISY-100-1005 | Ø20×50 | 5 | |
| | ISY-100-1006 | Ø20×100 | 3 | |
| stand with fine adjustment | ISY-100-2001 | Ø16×45~60 | 2 | height adjustment: 45~60mm |
| stand with fine adjustment | ISY-100-2003 | Ø20×45~60 | 2 | |
| horizontal spring stand | ISY-100-4001 | — | 2 | |

| Product | Code | Size (mm) | Quantity | Application |
|---------------------------------------|--------------|-----------|----------|---|
| horizontal screw stand | ISY-100-5001 | — | 2 |  |
| magnetic stand (magnetic top surface) | ISY-100-7001 | Ø20×25 | 3 |  |
| stand for slice parts | ISY-100-8001 | Ø20×25 | 2 | ISY-100-8001 and ISY-100-8002 use cooperatively |
| clamping stand for slice parts | ISY-100-8002 | | 1 | |









To be continued

Continued from previous page

| Product | Code | Size (mm) | Quantity | Application |
|---|----------------|--|----------|---|
| clip  | ISY-100-1201 | — | 2 |  |
| clip  | ISY-100-1301 | — | 2 |  |
| clip stand  | ISY-100-1401 | Ø6×60 | 2 |  |
| | ISY-100-1402 | Ø6×100 | 2 | |
| vertical square column  | ISY-100-3003 | 30×30×250 | 2 |  |
| sliding support plate  | ISY-100-1801 | 78×20×10 | 3 |  |
| clamping screw  | ISY-100-2301 | Ø8×20 | 6 |  |
| screw  | ISY-100-2302 | Ø8×20 | 6 |  |
| base plate  | ISY-600-400200 | 400×400×12 hole size: M8×1.25 hole center distance: 20 | 2 pieces | — |
| wrench  | ISY-100-3701 | Ø3.8×70 | 1 | — |
| wrench  | ISY-100-3801 | M2.5 | 1 | — |
| | ISY-100-3802 | M5 | 1 | — |
| | ISY-100-3803 | M6 | 1 | — |
| 45° stand  | ISY-100-9001 | — | 2 |  |
| V shaped support  | ISY-100-1901 | — | 2 |  |

| Product | Code | Quantity | Application |
|---|---------------|----------|---|
| V shaped support  | ISY-100-1902 | 2 |  |
| marker  | ISY-6100-1501 | 52* |  |
| dust cleaner  | ISY-100-3501 | 1 | — |
| lubricating oil  | ISY-100-3601 | 1 | — |

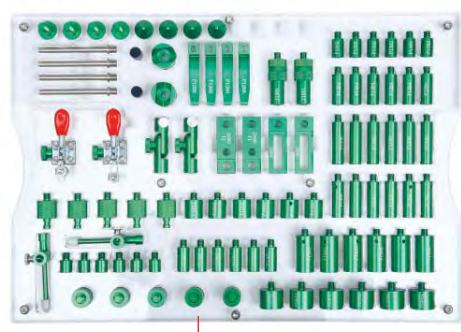
*Letter A~Z, number 0~25

| Product | Code | Quantity | Material | Application |
|---|---------------|----------|----------|---|
| support head  | ISY-100-27016 | 2 | aluminum |  |
| | ISY-100-27018 | 2 | nylon | |
| support head  | ISY-100-27026 | 2 | aluminum | |
| | ISY-100-27028 | 2 | nylon | |
| support head  | ISY-100-27036 | 2 | aluminum | |
| | ISY-100-27038 | 2 | nylon | |
| support head  | ISY-100-27046 | 2 | aluminum | |
| | ISY-100-27048 | 2 | nylon | |
| support head  | ISY-100-27056 | 2 | aluminum | |
| | ISY-100-27058 | 2 | nylon | |
| support head  | ISY-100-27066 | 2 | aluminum | |
| | ISY-100-27068 | 2 | nylon | |
| support head  | ISY-100-27076 | 2 | aluminum | |
| | ISY-100-27078 | 2 | nylon | |

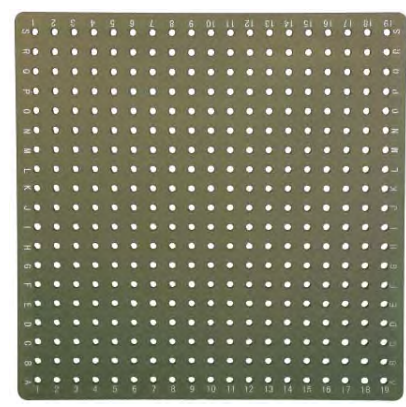
JIG SET FOR CMM CODE ISY-600













application example











acrylic tray (included)



ISY-600

| Product | Code | Size (mm) | Quantity |
|--|---------------|-----------|----------|
| stand  | ISY-600-P1301 | Ø13×13 | 6 |
| | ISY-600-P1302 | Ø13×20 | 6 |
| | ISY-600-P1303 | Ø13×26 | 6 |
| stand  | ISY-600-P1304 | Ø13×32 | 6 |
| | ISY-600-P1305 | Ø13×40 | 6 |
| | ISY-600-P1306 | Ø13×45 | 6 |
| stand  | ISY-600-P1902 | Ø20×20 | 6 |
| | ISY-600-P1905 | Ø20×38 | 6 |
| | ISY-600-P2602 | Ø26×20 | 6 |
| spring stand  | ISY-600-P1522 | — | 2 |
| universal support  | ISY-600-J1560 | — | 2 |
| stand with fine adjustment  | ISY-600-J1501 | 48-60 | 2 |
| magnetic stand (magnetic top surface)  | ISY-600-J2020 | Ø20×20 | 4 |
| adaptor  | ISY-600-J2021 | Ø20×19 | 2 |
| V shaped support  | ISY-600-J2520 | Ø25×20 | 2 |
| clamping screw  | ISY-600-P2003 | M8x1.25 | 4 |

| Product | Code | Size (mm) | Quantity |
|---|---------------|-------------------------------------|----------|
| sliding support plate  | ISY-600-J2060 | 60×20×10 | 2 |
| sliding support plate  | ISY-600-J2060 | 60×20×10 | 2 |
| clip  | ISY-600-P1266 | 12×66 | 4 |
| chuck support  | ISY-600-JS201 | — | 2 |
| clip stand  | ISY-600-P0684 | Ø6×74 | 4 |
| aluminum support head  | ISY-600-P2002 | — | 4 |
| nylon support head  | ISY-600-P2001 | — | 4 |
| base plate  | ISY-600-400 | 400×400×18 hole size: M8X1.25 | 1 |



Profile Projectors
Page 559-568



Quick Measurement Systems
Page 569-574



Vision Measuring Systems
Page 575-589



Horizontal Vision Measuring Systems
Page 578-579



Vision Measuring Softwares
Page 590-591



Jig Sets For Vision Measuring Systems
Page 592



Standard Glass Scales
Page 593

PROFILE PROJECTORS



ISP-Z3015

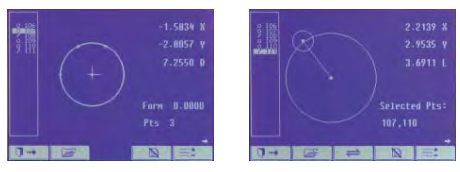


ISP-A1000E

digital readout of ISP-A1000E



- touch buttons
- USB data output to Excel and CAD
- show diagram

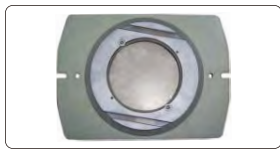


software flash disk (included, only for ISP-A1000E)

OPTIONAL ACCESSORY



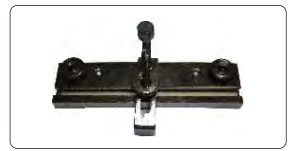
lens



rotary table (glass plate diameter 100mm)



overlay chart (protractor with 1° graduation, radius with 1mm increment)



holder with clamp



swivel center support



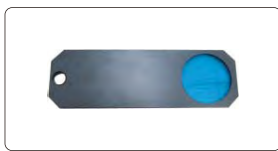
V-block with clamp



50mm reading scale (check magnification accuracy)



300mm calibration scale (check magnification accuracy together with 50mm reading scale or calibrate measuring accuracy)



blue filter



demo sample



printer (only for ISP-A1000E)

To be continued

Continued from previous page

SPECIFICATION

| Code | | ISP-Z3015 | ISP-A1000E | |
|---|------------------------|---|---|-----------------------------|
| Edge detector | | not included | included | |
| Lens | magnification | 10X (included) 20X (optional) | 50X (optional) 100X (optional) | |
| | view field | Ø30mm Ø15mm | Ø6mm Ø3mm | |
| | working distance | 77.7mm 44.3mm | 38.4mm 25.3mm | |
| Max. workpiece height | | 90mm 90mm | 90mm 90mm | |
| Magnification accuracy | | ±0.08% | | |
| Image | | erect image | | |
| Projector screen | | diameter: Ø300mm | | |
| | | rotation range: 0°~360°, resolution: 1" or 0.01° | | |
| | | reference lines: cross-hairs | | |
| Stage | metal stage size | 340×152mm | | |
| | glass stage size | 196×96mm | | |
| | X-Y stage travel | range: 150×50mm | | |
| | | resolution: 0.5µm | | |
| | Z (focus) travel range | 90mm | | |
| max. load capacity | 4kg | | | |
| Illumination | | contour illumination: 24V/150W halogen lamp, brightness is adjustable | | |
| | | surface illumination: 24V/150W halogen lamp | | |
| Data processing unit | display | X-Y stage travel, screen rotation | | |
| | output | RS232C | RS232C, USB (data output to Excel and CAD) | |
| | function | measure coordinate of point | | measure coordinate of point |
| | | measure coordinate of line | | measure coordinate of line |
| measure center coordinate, radius of circle with three points | | | measure center coordinate, radius of circle with three points | |
| measure distance between two objects | | | measure distance between two objects | |
| measure angle with four points or two lines | | | measure angle with four points or two lines | |
| set origin of coordinate | | | coordinate transform | |
| coordinate transform | | | choose measurement object automatically according to the selective point and display the result | |
| set midpoint of coordinate | | | | |
| advanced function | — | programming for batch measurements | | |
| Power supply | | 110/220V, 50/60Hz | | |
| Dimension (L×W×H) | | 550×770×1100mm | | |
| Weight | | 135kg | | |

24

STANDARD DELIVERY

| | |
|---|-------|
| Main unit | 1 pc |
| 10X lens with half-reflection mirror and oblique illuminator mirror | 1 pc |
| Overlay chart clip | 4 pcs |
| Foot-switch | 1 pc |
| Anti-dust cover | 1 pc |
| Software (only for ISP-A1000E) and USB cable | 1 pc |

OPTIONAL ACCESSORY

| | |
|---|--------------------|
| 20X lens with half-reflection mirror and oblique illuminator mirror | ISP-Z3015-LENS20X |
| 50X lens with half-reflection mirror | ISP-Z3015-LENS50X |
| 100X lens with half-reflection mirror | ISP-Z3015-LENS100X |
| Rotary table | ISP-Z3015-TABLE |
| Overlay chart | ISP-Z3015-CHART |
| Holder with clamp | ISP-Z3015-HOLDER |

| | |
|-------------------------------|-------------------|
| Swivel center support | ISP-Z3015-SUPPORT |
| V-block with clamp | ISP-Z3015-VBLOCK |
| 50mm reading scale | ISP-Z3015-SCALE50 |
| 300mm calibration scale | ISP-Z3015-RULE |
| Blue filter | ISP-Z3015-FILTER |
| Demo sample | ISP-Z3015-DEMO |
| Printer (only for ISP-A1000E) | ISP-A1000-PRINTER |

THE STAGE DOESN'T
MOVE UP AND DOWN

INSPECTION
CERTIFICATE

PROFILE PROJECTORS



ISP-AZ3020



ISP-A5000E



digital readout of ISP-A5000E

- Adjust the focus by ascending and descending the projector head, the stage doesn't move up and down
- Maximum workpiece weight 50kg

- touch buttons
- USB data output to Excel and CAD
- show diagram

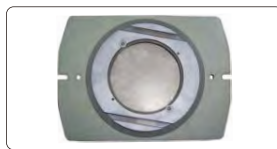


software flash disk
(included, only for
ISP-A5000E)

OPTIONAL ACCESSORY



lens



rotary table
(glass plate diameter 100mm)



overlay chart (protractor with 1°
graduation, radius with 1mm increment)



holder with clamp



swivel center support



V-block with clamp



50mm reading scale
(check magnification accuracy)



300mm calibration scale (check
magnification accuracy together
with 50mm reading scale or
calibrate measuring accuracy)



demo sample



printer (only for ISP-A5000E)

To be continued

Continued from previous page

SPECIFICATION

| Code | | ISP-AZ3020 | ISP-A5000E | |
|---|------------------------|---|--|-----------------|
| Edge detector | | not included | included | |
| Lens | magnification | 10X (included) 20X (optional) | 50X (optional) | 100X (optional) |
| | view field | Ø30mm | Ø15mm | Ø6mm |
| | working distance | 77.7mm | 44.3mm | 38.4mm |
| Max. workpiece height | | 100mm | 100mm | 100mm |
| Magnification accuracy | | ±0.08% | | |
| Image | | erect image | | |
| Projector screen | | diameter: Ø300mm | | |
| | | rotation range: 0°~360°, resolution: 1" or 0.01° | | |
| | | reference lines: cross-hairs | | |
| Stage | metal stage size | 404×228mm | | |
| | glass stage size | 260×160mm | | |
| | X-Y stage travel | range: 200×100mm | | |
| | | resolution: 0.5µm | | |
| | Z (focus) travel range | accuracy: (3+L/75)µm L is the measuring length in mm | | |
| max. load capacity | 100mm | | | |
| Illumination | | contour illumination: 24V/150W halogen lamp, brightness is adjustable | | |
| | | surface illumination: 24V/150W halogen lamp | | |
| Data processing unit | display | X-Y stage travel, screen rotation | | |
| | output | RS232C | RS232C, USB (data output to Excel and CAD) | |
| | function | measure coordinate of point | measure coordinate of point | |
| | | measure coordinate of line | measure coordinate of line | |
| measure center coordinate, radius of circle with three points | | measure center coordinate, radius of circle with three points | | |
| measure distance between two objects | | measure distance between two objects | | |
| measure angle with four points or two lines | | measure angle with four points or two lines | | |
| set origin of coordinate | | coordinate transform | | |
| coordinate transform | | choose measurement object automatically according to the selective point and display the result | | |
| set midpoint of coordinate | | | | |
| advanced function | — | programming for batch measurements | | |
| Power supply | | 110/220V, 50/60Hz | | |
| Dimension (L×W×H) | | 780×780×1100mm | | |
| Weight | | 160kg | | |

24

STANDARD DELIVERY

| | |
|---|-------|
| Main unit | 1 pc |
| 10X lens with half-reflection mirror and oblique illuminator mirror | 1 pc |
| Overlay chart clip | 4 pcs |
| Foot-switch | 1 pc |
| Blue filter | 1 pc |
| Anti-dust cover | 1 pc |
| Software (only for ISP-A5000E) and USB cable | 1 pc |

OPTIONAL ACCESSORY

| | |
|---|--------------------|
| 20X lens with half-reflection mirror and oblique illuminator mirror | ISP-A5000-LENS20X |
| 50X lens with half-reflection mirror | ISP-A5000-LENS50X |
| 100X lens with half-reflection mirror | ISP-A5000-LENS100X |
| Rotary table | ISP-A5000-TABLE |
| Overlay chart | ISP-A5000-CHART |
| Holder with clamp | ISP-A5000-HOLDER |
| Swivel center support | ISP-A5000-SUPPORT |
| V-block with clamp | ISP-A5000-VBLOCK |
| 50mm reading scale | ISP-A5000-SCALE50 |
| 300mm calibration scale | ISP-A5000-RULE |
| Demo sample | ISP-A5000-DEMO |
| Printer (only for ISP-A5000E) | ISP-A5000-PRINTER |

HORIZONTAL PROFILE PROJECTORS



ISP-W3020



ISP-A3000E

digital readout of ISP-A3000E



- touch buttons
- USB data output to Excel and CAD
- show diagram



software flash disk (included, only for ISP-A3000E)

OPTIONAL ACCESSORY



lens



overlay chart (protractor with 1° graduation, radius with 1mm increment)



50mm reading scale (check magnification accuracy)



demo sample



vise



rotary table



300mm calibration scale (check magnification accuracy together with 50mm reading scale or calibrate measuring accuracy)



printer (only for ISP-A3000E)

Continued from previous page

SPECIFICATION

| Code | | ISP-W3020 | ISP-A3000E |
|---|------------------------|--|--|
| Edge detector | | not included | included |
| Lens | magnification | 10X (included) 20X (optional) | 50X (optional) 100X (optional) |
| | view field | Ø30mm Ø15mm | Ø6mm Ø3mm |
| | working distance | 77.7mm 44.3mm | 38.4mm 25.3mm |
| Magnification accuracy | | ±0.08% | |
| Projector screen | | diameter: Ø300mm rotation range: 0°~360°, resolution: 1' or 0.01° reference lines: cross-hairs | |
| Stage | metal stage size | 400×150mm | |
| | turning range | ±15° | |
| | X-Z stage travel | range: 200×100mm | |
| | | resolution: 0.5µm | |
| | Y (focus) travel range | accuracy: (4+L/25)µm L is the measuring length in mm | |
| max. load capacity | 75mm | | |
| Illumination | | contour illumination: 24V/150W halogen lamp, brightness is adjustable surface illumination: 12V/150W halogen lamp (with 2 fibers), position is adjustable | |
| Data processing unit | display | X-Z stage travel, screen rotation | |
| | output | RS232C | RS232C, USB (data output to Excel and CAD) |
| | function | measure coordinate of point | measure coordinate of point |
| | | measure coordinate of line | measure coordinate of line |
| measure center coordinate, radius of circle with three points | | measure center coordinate, radius of circle with three points | |
| measure distance between two objects | | measure distance between two objects | |
| measure angle with four points or two lines | | measure angle with four points or two lines | |
| set origin of coordinate | | coordinate transform | |
| coordinate transform | | choose measurement object automatically according to the selective point and display the result | |
| advanced function | — | programming for batch measurements | |
| Power supply | | 110/220V, 50/60Hz | |
| Dimension (L×W×H) | | 830×1090×1010mm | |
| Weight | | 160kg | |

24

STANDARD DELIVERY

| | |
|--|-------|
| Main unit | 1 pc |
| 10X lens | 1 pc |
| Overlay chart clip | 4 pcs |
| Foot-switch | 1 pc |
| Anti-dust cover | 1 pc |
| Software (only for ISP-A3000E) and USB cable | 1 pc |

OPTIONAL ACCESSORY

| | |
|-------------------------|--------------------|
| 20X lens | ISP-A3000-LENS20X |
| 50X lens | ISP-A3000-LENS50X |
| 100X lens | ISP-A3000-LENS100X |
| Overlay chart | ISP-A3000-CHART |
| 50mm reading scale | ISP-A3000-SCALE50 |
| 300mm calibration scale | ISP-A3000-RULE |

| | |
|-------------------------------|-------------------|
| Demo sample | ISP-A3000-DEMO |
| V-block with clamp | ISP-A3000-VBLOCK |
| Rotary table | ISP-A3000-RTABLE |
| Vise | ISP-A3000-VISE |
| Printer (only for ISP-A3000E) | ISP-A3000-PRINTER |

HORIZONTAL PROFILE PROJECTORS



ISP-W4025



ISP-A7000E

digital readout of ISP-A7000E



- touch buttons
- USB data output to Excel and CAD
- show diagram



software flash disk (included, only for ISP-A7000E)

OPTIONAL ACCESSORY



lens



vise



rotary table



demo sample (need rotary table)



printer (only for ISP-A7000E)



50mm reading scale (check magnification accuracy)



300mm calibration scale (check magnification accuracy together with 50mm reading scale or calibrate measuring accuracy)



Ø300mm overlay chart (protractor with 1° graduation, radius with 1mm increment)

To be continued

Continued from previous page

SPECIFICATION

| Code | | ISP-W4025 | | | ISP-A7000E | |
|---|------------------------|---|---|------------------------------------|--|-----------------|
| Edge detector | | not included | | | included | |
| Lens | magnification | 5X (optional) | 10X (standard) | 20X (optional) | 50X (optional) | 100X (optional) |
| | view field | Ø80mm | Ø40mm | Ø20mm | Ø8mm | Ø4mm |
| | working distance | 93.7mm | 103.9mm | 95.1mm | 65.7mm | 35mm |
| Magnification accuracy | | ±0.08% | | | | |
| Image | | erect image | | | | |
| Projector screen | | diameter: Ø400mm | | | | |
| | | rotation range: 0°~360°, resolution: 1' or 0.01° | | | | |
| | | reference lines: cross-hairs | | | | |
| Stage | metal stage size | 450×200mm | | | | |
| | turning range | ±15° | | | | |
| | X-Z stage travel | range: 250×150mm | | | | |
| | | resolution: 0.5µm | | | | |
| | Y (focus) travel range | accuracy: (4+L/25)µm L is the measuring length in mm | | | | |
| max. load capacity | 100mm | | | | | |
| Illumination | | contour illumination: 24V/150W halogen lamp, brightness is adjustable | | | | |
| | | surface illumination: 12V/150W halogen lamp (with 2 fibers), position is adjustable | | | | |
| Data processing unit | display | X-Z stage travel, screen rotation | | | | |
| | output | RS232C | | | RS232C, USB (data output to Excel and CAD) | |
| | function | measure coordinate of point | measure coordinate of point | | | |
| | | measure coordinate of line | measure coordinate of line | | | |
| | | measure center coordinate, radius of circle with three points | measure center coordinate, radius of circle with three points | | | |
| measure distance between two objects | | measure distance between two objects | | | | |
| measure angle with four points or two lines | | measure angle with four points or two lines | | | | |
| set origin of coordinate | | coordinate transform | | | | |
| coordinate transform | | choose measurement object automatically according to the selective point and display the result | | | | |
| advanced function | — | | | programming for batch measurements | | |
| Power supply | | 110/220V, 50/60Hz | | | | |
| Dimension (L×W×H) | | 646×1215×1210mm | | | | |
| Weight | | 240kg | | | | |

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STANDARD DELIVERY

| | |
|--|-------|
| Main unit | 1 pc |
| 10X lens | 1 pc |
| Overlay chart clip | 4 pcs |
| Foot-switch | 1 pc |
| Anti-dust cover | 1 pc |
| Software (only for ISP-A7000E) and USB cable | 1 pc |

OPTIONAL ACCESSORY

| | |
|----------------------|--------------------|
| 5X lens | ISP-W4025-LENS5X |
| 20X lens | ISP-W4025-LENS20X |
| 50X lens | ISP-W4025-LENS50X |
| 100X lens | ISP-W4025-LENS100X |
| Ø300mm overlay chart | ISP-A3000-CHART |
| 50mm reading scale | ISP-A3000-SCALE50 |

| | |
|-------------------------------|-------------------|
| 300mm calibration scale | ISP-A3000-RULE |
| Demo sample | ISP-A3000-DEMO |
| V-block with clamp | ISP-A3000-VBLOCK |
| Rotary table | ISP-A3000-RTABLE |
| Vise | ISP-A3000-VISE |
| Printer (only for ISP-A7000E) | ISP-A3000-PRINTER |

PROFILE PROJECTORS



edge detector (for ISP-A6000E)

digital readout

- touch buttons
- USB data output to Excel and CAD
- show diagram

ISP-A6000 (without edge detector)



software flash disk (included)

OPTIONAL ACCESSORY



lens



rotary table (glass plate diameter 100mm)



holder with clamp



printer



300mm calibration scale (check magnification accuracy together with 50mm reading scale or calibrate measuring accuracy)



50mm reading scale (check magnification accuracy)



demo sample

To be continued

Continued from previous page

SPECIFICATION

| | | | | | | |
|-------------------------------|---|---|-----------------------------|-------------------------|-------------------------|--------------------------|
| Code | | ISP-A6000 | ISP-A6000E | | | |
| Edge detector | | not included | included | | | |
| Projector screen | | diameter: Ø600mm | | | | |
| | | rotation range: 0°~360°, resolution: 1' or 0.01° | | | | |
| | | reference lines: cross-hairs | | | | |
| Lens | magnification | 5X (optional) | 10X (included) | 20X (optional) | 50X (optional) | 100X (optional) |
| | view field | Ø120mm | Ø60mm | Ø30mm | Ø12mm | Ø6mm |
| | working distance | 242.8mm | 143.2mm | 85.5mm | 92mm | 48.5mm |
| Magnification accuracy | | ±0.08% | | | | |
| Image | | erect image | | | | |
| Stage | metal stage size | 404×265mm | | | | |
| | glass stage size | 207×170mm | | | | |
| | X-Y stage travel | range: 200×100mm | | | | |
| | | resolution: 0.5µm | | | | |
| | Z (focus) travel range | 50mm | | | | |
| max. load capacity | 5kg | | | | | |
| Illumination | | contour illumination: 24V/150W halogen lamp, brightness is adjustable | | | | |
| | | surface illumination: 12V/150W halogen lamp (with 2 fibers), position is adjustable | | | | |
| Data processing unit | display | X-Y stage travel, screen rotation | | | | |
| | output | RS232C, USB (data output to Excel and CAD) | | | | |
| | function | | measure coordinate of point | | | |
| | | | measure coordinate of line | | | |
| | | measure center coordinate, radius of circle with three points | | | | |
| | | measure distance between two objects | | | | |
| | | measure angle with four points or two lines | | | | |
| | coordinate transform | | | | | |
| | choose measurement object automatically according to the selective point and display the result | | | | | |
| advanced function | programming for batch measurements | | | | | |
| Power supply | | 110/220V, 50/60Hz | | | | |
| Dimension (L×W×H) | | 1200×1140×1940mm | | | | |
| Weight | | 360kg | | | | |

STANDARD DELIVERY

| | |
|-------------------------------|-------|
| Main unit | 1 pc |
| 10X lens | 1 pc |
| Foot-switch | 1 pc |
| Software and USB cable | 1 pc |
| Overlay chart clip | 4 pcs |
| Anti-dust cover | 1 pc |

OPTIONAL ACCESSORY

| | |
|--------------------------|---------------------------|
| 5X lens | ISP-A6000-LENS5X |
| 20X lens | ISP-A6000-LENS20X |
| 50X lens | ISP-A6000-LENS50X |
| 100X lens | ISP-A6000-LENS100X |
| Holder with clamp | ISP-A6000-HOLDER |

| | |
|--------------------------------|--------------------------|
| 300mm calibration scale | ISP-A6000-RULE |
| 50mm reading scale | ISP-A6000-SCALE50 |
| Rotary table | ISP-A6000-TABLE |
| Demo sample | ISP-A6000-DEMO |
| Printer | ISP-A6000-PRINTER |



LARGE SIZE QUICK MEASUREMENT SYSTEM CODE QMS-A450



SPECIFICATION

| | | | |
|---------------------------|--------------------------|---|---------------------------|
| Optical lens | | dual-field dual-telecentric low-distortion lens | |
| Measurement range | | wide view field | small view field |
| | | 500×400mm | 430×350mm |
| Measurement Accuracy | without stitching | ±3μm ^① | ±1μm ^② |
| | with stitching | ±(5+0.02L)μm ^③ | ±(3+0.02L)μm ^④ |
| Repeatability | without stitching | ±1μm | ±0.5μm |
| | with stitching | ±2μm | ±1.5μm |
| Illumination system | transmission light | telecentric illuminator, green light | |
| | surface light | vertical illuminator, high angle ring white light vertical illuminator, 4-zone low and medium angle ring white light (electric) vertical illuminator, circular (directional) green light (electric) | |
| | coaxial light (optional) | vertical illuminator, white light | |
| Max. weight of workpiece | | 25kg | |
| Measurement time | | <2s | |
| Measurement data | | 2D measurement | |
| Environmental requirement | | temperature: 20°C±2°C, relative humidity: 30%~80%, vibration: <0.002g, less than 15Hz | |
| Power supply | | 220V, 50Hz, 1200W | |
| Dimension (L×W×H) | | 1060×860×1890mm | |
| Weight | | 650kg | |

* The optimum temperature is 20°C±1°C

① Within 73×49mm, on focal position and environment temperature at 20°C±1°C

② Within 16×12mm, on focal position and environment temperature at 20°C±1°C

③ Within 450×360mm, on focal position and environment temperature at 20°C±1°C

④ Within 387×315mm, on focal position and environment temperature at 20°C±1°C

Continued from previous page

- One or more workpieces can be measured by one step operation
- Place workpieces at any position
- Focus and measure automatically
- Measurement of 999+dimensions and 200+workpieces
- Suitable for parts with high precision requirements for large, medium, and small sizes

STANDARD DELIVERY

| | |
|-----------|------|
| Main unit | 1 pc |
| Computer | 1 pc |
| Software | 1 pc |

OPTIONAL ACCESSORY

| | |
|--|------------|
| Coaxial light illumination | QMS-43-A1 |
| Data transmission function of software | QMS-23-D1 |
| CAD import function of software | QMS-23-C1 |
| Laser sensor | QMS-43-SJ1 |
| Foot-switch | QMS-43-FS1 |

Software (included)

- Automatically measure widths, holes, rings, angles at the same time, simple and efficient

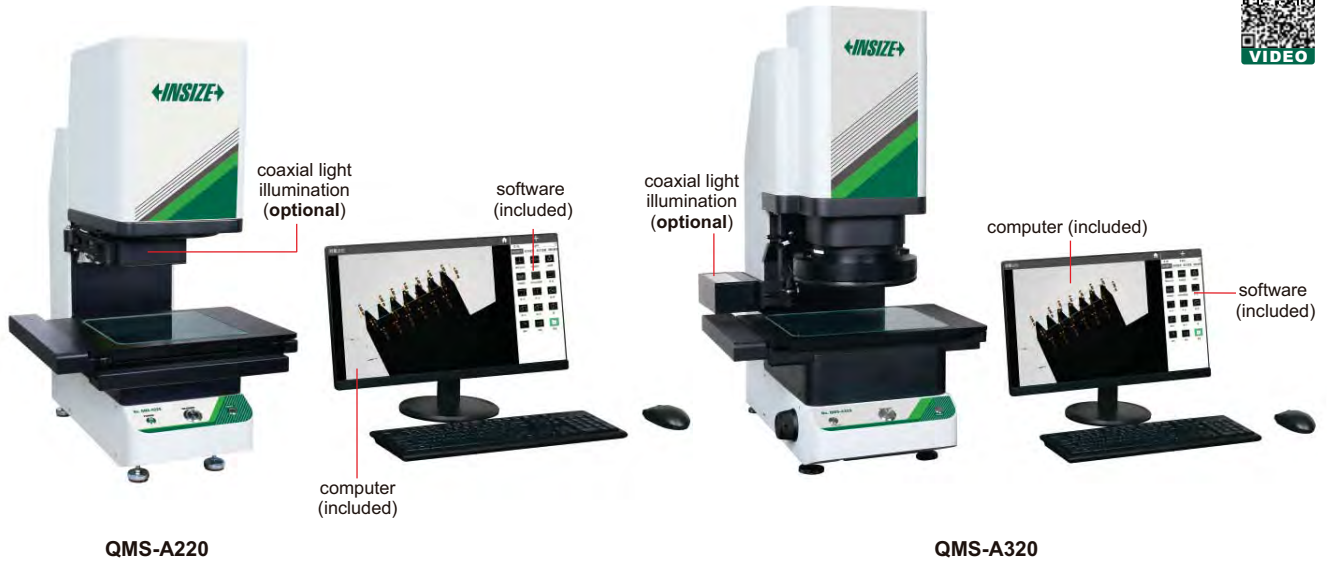


- Measuring result can be stored automatically. OK items and NG items can be counted automatically



NOTE: NOT SUITABLE FOR SMALL SIZES SUCH AS THREADS, CHAMFERS, ETC

QUICK MEASUREMENT SYSTEMS (WITH STITCHING)



QMS-A220

QMS-A320

SPECIFICATION

| Code | QMS-A220 | | QMS-A315 | | QMS-A320 | |
|---------------------------|---|---|--|---------------------------|--|---------------------------|
| Optical lens | dual-field dual-telecentric low-distortion lens | | | | | |
| | wide view field: Ø100mm small view field: Ø25mm | | wide view field: Ø100mm small view field: Ø25mm | | wide view field: Ø150mm small view field: Ø50mm | |
| View field range | wide view field | small view field | wide view field | small view field | wide view field | small view field |
| | 93×62mm | 20×16mm | 100×80mm | 25×20mm | 150×110mm | 50×35mm |
| Measurement range | 200×200mm | 130×130mm | 300×200mm | 230×130mm | 300×210mm | 200×135mm |
| Measurement accuracy * | without stitching | ±3µm ^① | ±1µm ^② | ±3µm ^① | ±1µm ^② | ±5µm ^③ |
| | with stitching | ±(5+0.02L)µm ^⑤ | ±(3+0.02L)µm ^⑥ | ±(5+0.02L)µm ^⑦ | ±(3+0.02L)µm ^⑧ | ±(7+0.02L)µm ^⑨ |
| Repeatability | without stitching | ±1µm | ±0.5µm | ±1µm | ±0.5µm | ±1µm |
| | with stitching | ±2µm | ±1.5µm | ±2µm | ±1.5µm | ±2µm |
| Max. weight of workpiece | 5kg | | | | | |
| Measurement time | <2s | | | | | |
| Measurement data | 2D measurement | | | | | |
| Power supply | 220V, 50Hz, 600W | | | | | |
| Illumination system | back light | telecentric illuminator, green light | | | | |
| | ring light | 4-zone circular white high light circular (directional) low-angle green light (electric) | | | | |
| | coaxial light (optional) | vertical illuminator, white light | | | | |
| Environmental requirement | temperature: 20°C±2°C, relative humidity: 30%~80%, vibration: <0.002g, less than 15Hz | | | | | |
| Dimension (L×W×H) | 532×480×766mm | | 532×497×766mm | | 669×510×883mm | |
| Weight | 50kg | | 60kg | | 68kg | |

* The optimum temperature is 20°C±1°C

① Within 80×64mm, on focal position and environment temperature at 20°C±1°C

② Within 20×16mm, on focal position and environment temperature at 20°C±1°C

③ Within 120×88mm, on focal position and environment temperature at 20°C±1°C

④ Within 40×28mm, on focal position and environment temperature at 20°C±1°C

⑤ Within 180×180mm, on focal position, environment temperature at 20°C±1°C, and workpiece is less than 2kg, L is the travel of stage

⑥ Within 117×117mm, on focal position, environment temperature at 20°C±1°C, and workpiece is less than 2kg, L is the travel of stage

⑦ Within 270×180mm, on focal position, environment temperature at 20°C±1°C, and workpiece is less than 2kg, L is the travel of stage

⑧ Within 207×117mm, on focal position, environment temperature at 20°C±1°C, and workpiece is less than 2kg, L is the travel of stage

⑨ Within 270×189mm, on focal position, environment temperature at 20°C±1°C, and workpiece is less than 2kg, L is the travel of stage

⑩ Within 180×121mm, on focal position, environment temperature at 20°C±1°C, and workpiece is less than 2kg, L is the travel of stage

To be continued

Continued from previous page

- One or more workpieces can be measured by one step operation
- Place workpieces at any position
- Focus and measure automatically
- Measurement of 999+dimensions and 200+workpieces
- **QMS-A220** and **QMS-A315** are suitable for small and medium-size parts with high precision requirements
- **QMS-A320** is suitable for medium-size parts with low accuracy requirements and fast efficiency requirements



11.6" LCD (optional)

STANDARD DELIVERY

| | |
|-----------|------|
| Main unit | 1 pc |
| Computer | 1 pc |
| Software | 1 pc |

OPTIONAL ACCESSORY

| | |
|--|--|
| Coaxial light illumination | QMS-23-A3 (for QMS-A220, QMS-A315) QMS-23-A4 (for QMS-A320) |
| Data transmission function of software | QMS-23-D1 |
| CAD import function of software | QMS-23-C1 |
| Laser sensor | QMS-43-SJ1 (for QMS-A315) |
| Foot-switch | QMS-43-FS1 |
| 11.6" LCD | QMS-23-B1 (must be installed in factory) |

Software (included)

- Automatically measure widths, holes, rings, angles at the same time, simple and efficient



- Measuring result can be stored automatically. OK items and NG items can be counted automatically



NOTE: NOT SUITABLE FOR SMALL SIZES SUCH AS THREADS, CHAMFERS, ETC

QUICK MEASUREMENT SYSTEMS (WITHOUT STITCHING)



QMS-A110



QMS-A200

SPECIFICATION

| Code | QMS-A110 | QMS-A200 | |
|---------------------------|---|---|------------------------------------|
| Optical lens | low-distortion lens, single-field telecentric Ø100mm | dual-field dual-telecentric low-distortion lens wide view field: Ø150mm small view field: Ø50mm | |
| View field range | 100×80mm | wide view field 150×110mm | small view field 50×35mm |
| Measurement range (X×Y) | 98×78mm | 148×108mm | 48×33mm |
| Measurement accuracy * | ±3µm ① | ±5µm ② | ±2µm ③ |
| Repeatability | ±1µm | ±1µm | ±0.5µm |
| Max. weight of workpiece | 5kg | | |
| Measurement time | <2s | | |
| Measurement data | 2D measurement | | |
| Power supply | 220V, 50Hz, 600W | | |
| Illumination system | back light | telecentric illuminator, green light | |
| | ring light | 4-zone circular white high light circular (directional) low-angle green light (electric) | |
| | coaxial light (optional) | vertical illuminator, white light | |
| Environmental requirement | temperature: 20°C±2°C, relative humidity: 30%~80%, vibration: <0.002g, less than 15Hz | | |
| Dimension (L×W×H) | 580×235×790mm | 638×336×885mm | |
| Weight | 40kg | 60kg | |

* The optimum temperature is 20°C±1°C

- ① Within 80×64mm, on focal position and environment temperature at 20°C±1°C
- ② Within 120×88mm, on focal position and environment temperature at 20°C±1°C
- ③ Within 40×28mm, on focal position and environment temperature at 20°C±1°C

Continued from previous page

- One or more workpieces can be measured by one step operation
- Place workpieces at any position
- Focus and measure automatically
- Measurement of 999+dimensions and 200+workpieces
- **QMS-A110** is suitable for measuring small flat parts
- **QMS-A200** is suitable for measuring flat parts with low precision requirements and small surface sizes

STANDARD DELIVERY

| | |
|-----------|------|
| Main unit | 1 pc |
| Computer | 1 pc |
| Software | 1 pc |



11.6" LCD (optional)

OPTIONAL ACCESSORY

| | |
|--|--|
| Coaxial light illumination | QMS-23-A3 (for QMS-A110) QMS-23-A4 (for QMS-A200) |
| Data transmission function of software | QMS-23-D1 |
| CAD import function of software | QMS-23-C1 |
| Foot-switch | QMS-43-FS1 |
| 11.6" LCD | QMS-23-B1 (must be installed in factory) |

Software (included)

- Automatically measure widths, holes, rings, angles at the same time, simple and efficient



- Measuring result can be stored automatically. OK items and NG items can be counted automatically





AUTOMATIC CNC VISION MEASURING SYSTEM (PROFESSIONAL TYPE) CODE ISD-F432



- Stable and high-precision measurement under high-speed, silent and stable mode
- Accurately detect the edge of surface size



six-ring eight-zone ring light (included)



vertical light (included)

SPECIFICATION

| | | |
|--------------------------|---------|---|
| Camera | | giga-bit network camera |
| Measuring range (X×Y×Z) | | 400×300×200mm (650TVL) |
| Granite stage size | | 827×480mm |
| Glass stage size | | 450×350mm |
| Resolution of X/Y/Z axis | | 0.5μm |
| Accuracy of X/Y axis | | ≤(2+L/250)μm (L is the measuring length in mm) |
| Accuracy of Z axis | | ≤(3+L/150)μm (L is the measuring length in mm) |
| Objective | | 0.7X~5X (zoom) |
| Working distance | | 68mm |
| Magnification | | 28X~155X (on 23.5" monitor) |
| Illumination | surface | six-ring eight-zone ring light and vertical light |
| | contour | bottom horizontal light |
| Max. height of workpiece | | 200mm |
| Max. weight of workpiece | | 30kg |
| Operation system | | Windows 10 |
| Power supply | | 220V±10% (AC), 50Hz |
| Environment requirement | | temperature: 18~24°C, relative humidity: 30~75% |
| Dimension (L×W×H) | | 1270×910×1750mm |
| Weight | | 360kg |

To be continued

Continued from previous page

STANDARD DELIVERY

| | |
|-------------------------|------|
| Main unit | 1 pc |
| Computer | 1 pc |
| Computer table | 1 pc |
| Calibration glass chart | 1 pc |
| Software | 1 pc |



laser probe (optional)

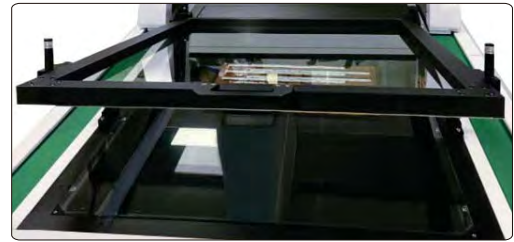


plate clamp (optional)

OPTIONAL ACCESSORY

| | | |
|--|-------------|--|
| Advanced probe | probe base* | code ISD-F-BASE1 (must be installed before shipment) |
| | probe* | code ISD-F-TP20 (must be installed before shipment) |
| | ruby probe | optional M2 probe series with ISQ-01 , refer to page 545 |
| Standard probe | probe base* | code ISD-F-BASE2 (must be installed before shipment) |
| | ruby probe | code ISD-F-P2 |
| | | code ISD-F-P3 |
| Laser probe** (can measure glass thickness, step height, flatness, height etc.) | | code ISD-F-PB (must be installed before shipment) |
| Special lens for large field navigation | | code ISD-F-LENS (must be installed before shipment) |
| PLC full-angle intelligent programmable lighting system | | code ISD-F-LIGHT (must be installed before shipment) |
| Plate fixture (manual self-locking tempered glass) | | code ISD-F-HOLDER glass size: 450×350mm can be customized |
| Protector | | code ISD-F-PROTECTOR (must be installed before shipment) |
| Contour comparison module | | code ISD-F-PROFILE |
| Office software | | code 7313-OFFICE |

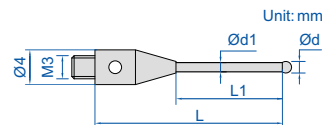


advanced probe (optional)



standard probe (optional)

* The probe head and probe are Renishaw brand
 ** Laser probe is KEYENCE brand



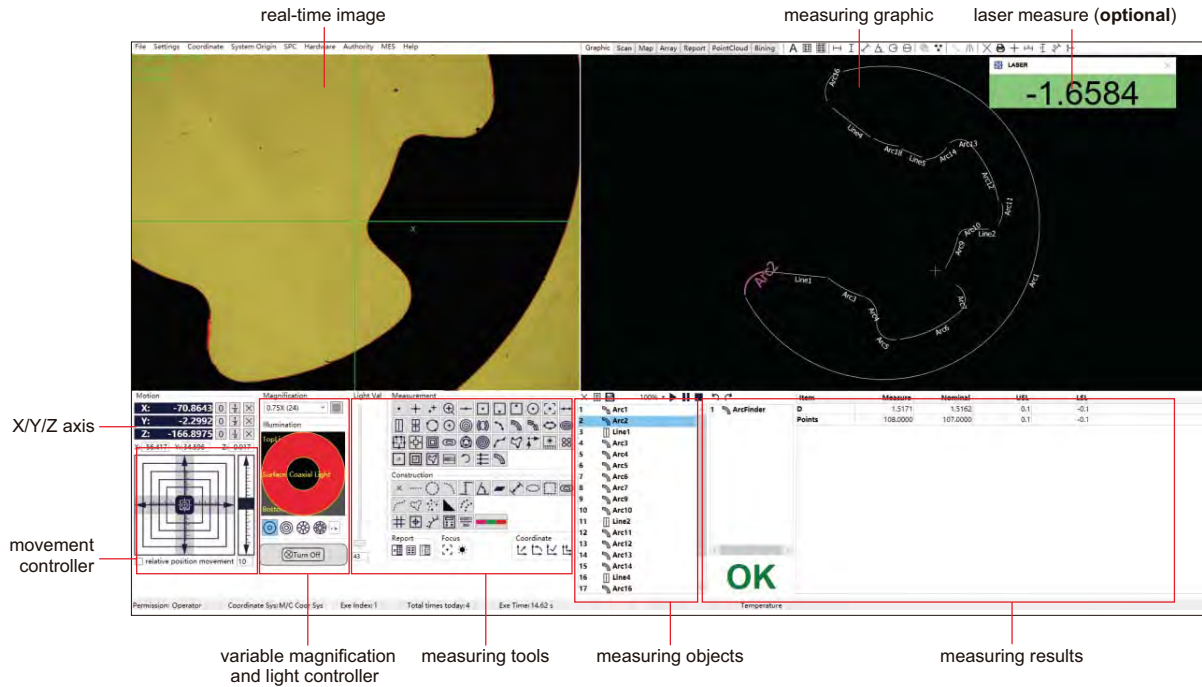
STYLUS (INCLUDED) SPECIFICATION

| Code | Material | Ød | Ød1 | L | L1 | Quantity |
|----------|-------------------------------|------|--------|------|------|----------|
| ISD-F-P2 | ruby ball/stainles steel stem | Ø2mm | Ø1.4mm | 21mm | 8mm | 1 pc |
| ISD-F-P3 | | Ø3mm | Ø1.5mm | | 12mm | 1 pc |

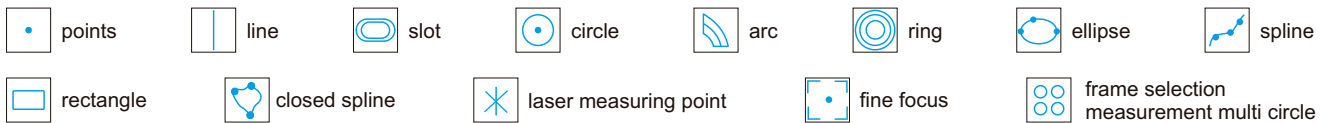
To be continued

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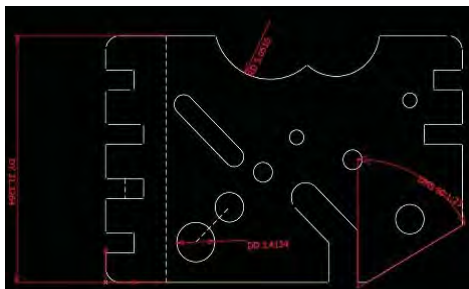
MEASURING SOFTWARE (INCLUDED)



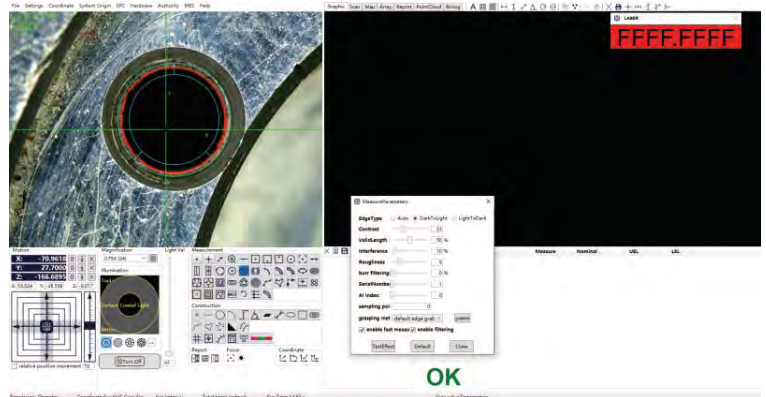
- Operation system: Windows 10
- Language: English
- Image measuring methods: crosshair point, manual point, auto point, zoom in point, line point, center point, lowest point, highest point, closest point, focus point
- Constructable elements: point, line circle, arc, height, angle, plane, distance, ellipse, rectangle, construction ringgroove, spline, closed spline, profile, geometric tolerance
- Geometric tolerance: concentricity, parallelism, verticality, angularity, symmetry, circular, arc profile
- Measurement elements can be translated and rotated
- Measuring data can export to Excel, DXF and other format files. The image area can save BMP image format
- The software includes CAD drawing import module
- The software includes SPC analysis module. The measurement software is seamlessly linked with the SPC module. After the measurement is completed, the measurement software automatically imports the data into the SPC database, allowing simple data analysis
- Dimension measuring tools:



■ Element annotations



■ Accurately detect the edge of the surface size



HORIZONTAL VISION MEASURING SYSTEM CODE ISD-W3150



table (optional)

SPECIFICATION

| | | |
|------------------------------|---|-----------|
| Measuring range (X×Z) | 300×150mm | |
| Accuracy | ≤(4+L/25)μm L is the measuring length in mm | |
| Resolution | 0.5μm | |
| Y travel range (focus) | 125mm | |
| Stage | metal stage size | 455×126mm |
| | turning range | ±15° |
| | max. load capacity | 30kg |
| Objective | 0.7X~4.5X (zoom) | |
| Working distance | 96mm | |
| View field (diagonal length) | 1.3~8.2mm | |
| Magnification | 34X~213X | |
| Display | 19" | |
| Camera | 1/3" CMOS, 0.8M pixel | |
| Illumination | surface and contour with adjustable LED | |
| Operation system | Windows 10 | |
| Drive method | manual | |
| Power supply | 220V, 50Hz | |
| Dimension (L×W×H) | 1164×634×1048mm | |
| Weight | 200kg | |



demo sample (optional)



vise (optional)

STANDARD DELIVERY

| | |
|--------------------------------|------|
| Main unit (including computer) | 1 pc |
| Software | 1 pc |
| Calibration glass chart | 1 pc |
| Clay | 1 pc |
| Anti-dust cover | 1 pc |

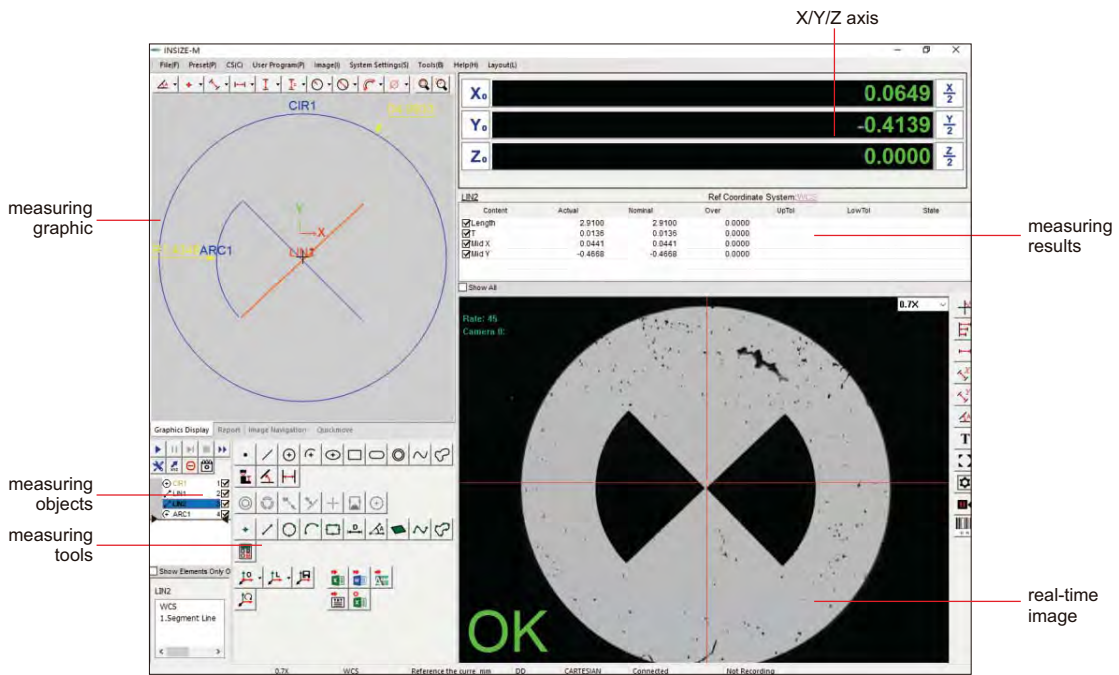
OPTIONAL ACCESSORY

| | |
|--------------------------|--|
| 0.5X auxiliary objective | code: ISD-W-OB05X working distance: 175mm magnification: 17~106.5X |
| 2X auxiliary objective | code: ISD-W-OB2X working distance: 32mm magnification: 68~426X |
| Office software | code: 7313-OFFICE |
| Table | code: ISD-W-TABLE |
| Vise | code: ISP-A3000-VISE |
| Demo sample | code: ISP-A3000-DEMO |

To be continued

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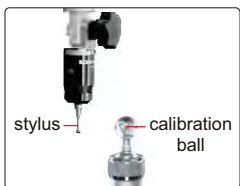
MEASURING SOFTWARE (INCLUDED)



HIGH-DEFINITION VISION MEASURING SYSTEMS (MANUAL TYPE)

- High-definition image
- Large view field
- Electronic magnification feedback lens: when the objective lens magnification is changed manually, the software automatically selects the corresponding pre-calibration data and calibration is not needed

INSPECTION CERTIFICATE



probe (optional), includes Ø2mm and Ø3mm styli, Ø25mm calibration ball, measuring accuracy is 10µm



lens with coaxial light (optional, must be installed in factory)



ISD-H210

computer is included

STANDARD DELIVERY

| | |
|-------------------------|------|
| Main unit | 1 pc |
| Computer | 1 pc |
| Calibration glass chart | 1 pc |
| Clay | 1 pc |
| Foot switch | 1 pc |
| Anti-dust cover | 1 pc |

To be continued

Continued from previous page

SPECIFICATION

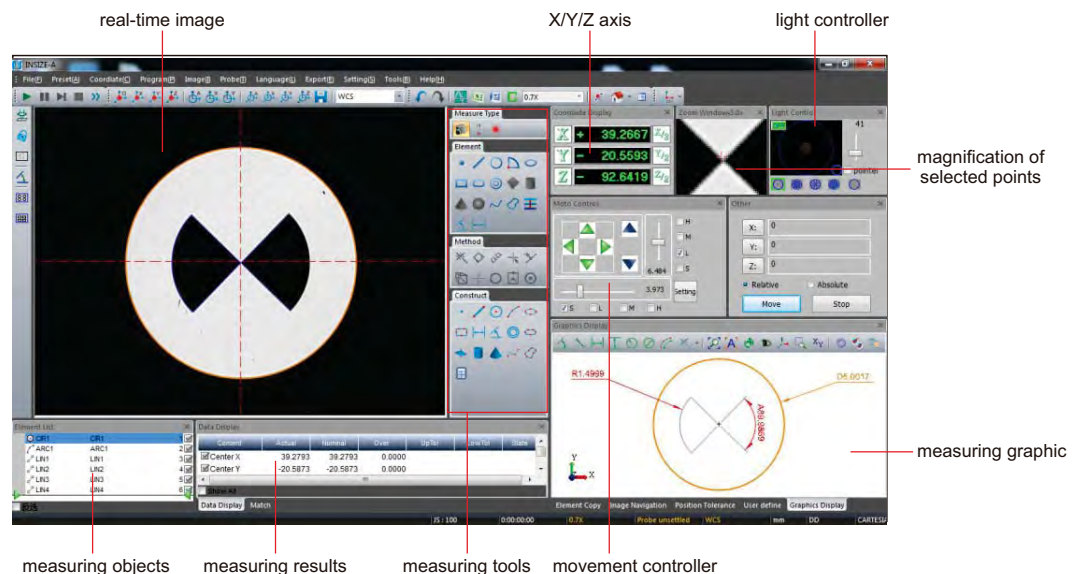
| Code | ISD-H210 | ISD-H320 | ISD-H430 |
|------------------------------|--|---------------|---------------|
| Measuring range (X×Y×Z) | 200×100×150mm | 300×200×150mm | 400×300×150mm |
| Stage size | 404×228mm | 500×330mm | 606×466mm |
| Glass stage size | 260×160mm | 350×250mm | 450×350mm |
| Resolution of X/Y/Z axis | 0.5μm | | |
| Accuracy of X/Y axis | ≤(3.5+L/100)μm (L is the measuring length in mm) | | |
| Repeatability of X/Y axis | 2μm | | |
| Objective | 0.58X~7.5X (zoom) | | |
| View field (diagonal length) | 1.4mm~14mm | | |
| Working distance | 82mm | | |
| Magnification | 27.4X~351X (on 24" monitor) | | |
| Camera | giga-bit network camera | | |
| Illumination | surface and contour with adjustable LED | | |
| Max. height of workpiece | 150mm | | |
| Max. weight of workpiece | 20kg | | |
| Operation system | Windows 7/8/10 | | |
| Drive method | manual | | |
| Power supply | 110~240V, 50/60Hz | | |
| Dimension (L×W×H) | 540×560×850mm | 760×600×900mm | 970×670×940mm |
| Weight | 110kg | 140kg | 240kg |

OPTIONAL ACCESSORY

| | |
|---|--|
| 0.5X auxiliary objective | code: ISD-H-OB05X working distance: 155mm magnification: 13.7~175.5X (on 24" monitor) |
| 2X auxiliary objective | code: ISD-H-OB2X working distance: 34.5mm magnification: 54.8~702X (on 24" monitor) |
| Probe | code: ISD-V-PROBE includes Ø2mm and Ø3mm styli, Ø25mm calibration ball |
| Vision measuring system with coaxial light lens | code: ISD-H210CL, ISD-H320CL, ISD-H430CL |
| Office software | code: 7313-OFFICE |

SOFTWARE (INCLUDED)

- Refer to page 590~591 for details

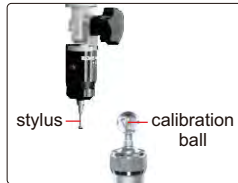




VISION MEASURING SYSTEMS (MANUAL TYPE)



lens with coaxial light (**optional**, must be installed in factory)



probe (**optional**), includes Ø2mm and Ø3mm styli, Ø25mm calibration ball, measuring accuracy is 10µm



ISD-V250A

computer is included

SPECIFICATION

| Code | ISD-V150A | ISD-V250A | ISD-V300A | ISD-V400A |
|---------------------------|--|---------------|---------------|---------------|
| Measuring range (X×Y×Z) | 150×100×150mm | 250×150×150mm | 300×200×150mm | 400×300×150mm |
| Stage size | 354×228mm | 450×280mm | 500×330mm | 606×466mm |
| Glass stage size | 210×160mm | 306×196mm | 350×250mm | 450×350mm |
| Resolution of X/Y/Z axis | 0.5µm | | | |
| Accuracy of X/Y axis | ≤(3.5+L/100)µm (L is the measuring length in mm) | | | |
| Repeatability of X/Y axis | 2µm | | | |
| Objective | 0.7X~4.5X (zoom) | | | |
| Working distance | 92mm | | | |
| Magnification | 33X~195X (on 19" monitor) | | | |
| Camera | 1/3" color CCD, 0.3M pixel | | | |
| Illumination | surface and contour with adjustable LED | | | |
| Max. height of workpiece | 150mm | | | |
| Max. weight of workpiece | 20kg | | | |
| Operation system | Windows 7/8/10 | | | |
| Drive method | manual | | | |
| Power supply | 110/220V, 50/60Hz | | | |
| Dimension (L×W×H) | 560×540×850mm | 760×600×900mm | 760×600×900mm | 970×670×940mm |
| Weight | 100kg | 120kg | 140kg | 240kg |

STANDARD DELIVERY

| | |
|-------------------------|------|
| Main unit | 1 pc |
| Computer | 1 pc |
| Calibration glass chart | 1 pc |
| Clay | 1 pc |
| Foot switch | 1 pc |
| Anti-dust cover | 1 pc |

OPTIONAL ACCESSORY

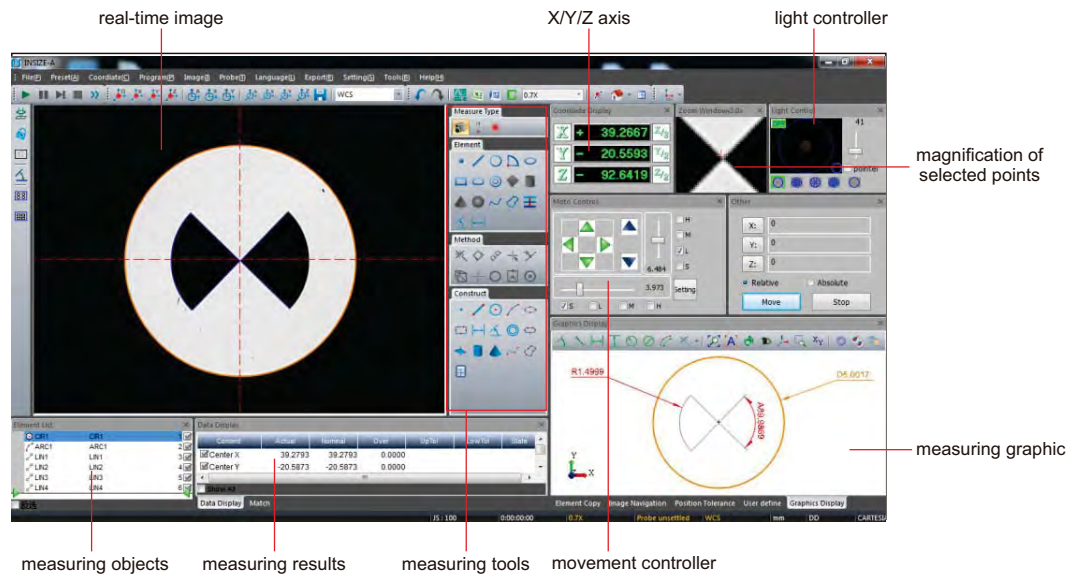
| | |
|---|---|
| 0.5X auxiliary objective | code: ISD-V-OB05X working distance: 175mm magnification: 16.5~97.5X (on 19" monitor) |
| 2X auxiliary objective | code: ISD-V-OB2X working distance: 36mm magnification: 66~390X (on 19" monitor) |
| Probe | code: ISD-V-PROBE includes Ø2mm and Ø3mm styli, Ø25mm calibration ball |
| Vision measuring system with coaxial light lens (with computer) | code: ISD-V150ACL, ISD-V250ACL, ISD-V300ACL, ISD-V400ACL |
| Office software | code: 7313-OFFICE |

To be continued

Continued from previous page

SOFTWARE (INCLUDED)

- Refer to page 590–591 for details



CNC VISION MEASURING SYSTEMS (WITH STAND)

MOTORIZED ZOOM OBJECTIVE IS OPTIONAL



lens with coaxial light (included)



programmable segmented ring light (included)



software flash disk (included)



- Automatic edge-detection, focus, measuring, contour scanning, calibration, etc.
- Servo motors for X, Y, Z axis
- Granite body, more stable
- SPC function for large quantity measurement
- Measuring software is included (page 590–591)

STANDARD DELIVERY

| | |
|-------------------------|------|
| Main unit | 1 pc |
| Dongle | 1 pc |
| Software | 1 pc |
| Computer | 1 pc |
| Display | 1 pc |
| Lens with coaxial light | 1 pc |
| Controller | 1 pc |
| Calibration glass chart | 1 pc |
| Laser positioner | 1 pc |
| Clay | 1 pc |
| Anti-dust cover | 1 pc |



ISD-E320

To be continued

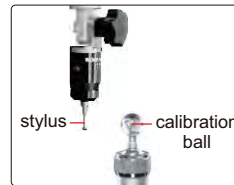
Continued from previous page

SPECIFICATION

| Code | | ISD-E320 | ISD-E430 |
|------------------------------|---------|--|--|
| Measuring range (X×Y×Z) | | 300×200×200mm | 400×300×200mm |
| Stage size | | 556×406mm | 561×556mm |
| Glass stage size | | 350×250mm | 450×350mm |
| Resolution of X/Y/Z axis | | 0.5μm | |
| Accuracy of X/Y axis | | ≤(2.5+L/200)μm (L is measuring length in mm) | ≤(3.5+L/200)μm (L is measuring length in mm) |
| Repeatability of X/Y axis | | 2μm | |
| Objective (manual zoom) | | 0.7X~4.5X (zoom) | |
| Working distance | | 92mm | |
| View field (diagonal length) | | 1.7~11.1mm | |
| Magnification | | 33X~208.6X (on 24" monitor) | |
| Camera | | giga-bit network camera | |
| Illumination | surface | coaxial light, programmable segmented ring light | |
| | contour | adjustable LED light | |
| Max. height of workpieces | | 200mm | |
| Max. weight of workpieces | | 30kg | |
| Operation system | | Windows 7/8/10 | |
| Drive method | | automatic | |
| Power supply | | 220V, 50/60Hz | |
| Dimension (L×W×H) | | 1420×915×1830mm | 1650×1170×1900mm |
| Weight | | 500kg | 700kg |

OPTIONAL ACCESSORY

| | |
|--------------------------|--|
| 0.5X auxiliary objective | code: ISD-V-OB05X working distance: 175mm magnification: 16.5~104.3X (on 24" monitor) |
| 2X auxiliary objective | code: ISD-V-OB2X working distance: 36mm magnification: 66~417.2X (on 24" monitor) |
| Probe | code: ISD-V-PROBE includes Ø2mm and Ø3mm styli, Ø25mm calibration ball |
| Office software | code: 7313-OFFICE |
| Laser probe | code: ISD-V-LASER |



probe (optional), includes Ø2mm and Ø3mm styli, Ø25mm calibration ball, measuring accuracy is 10μm



laser probe (optional) measuring accuracy is 5μm

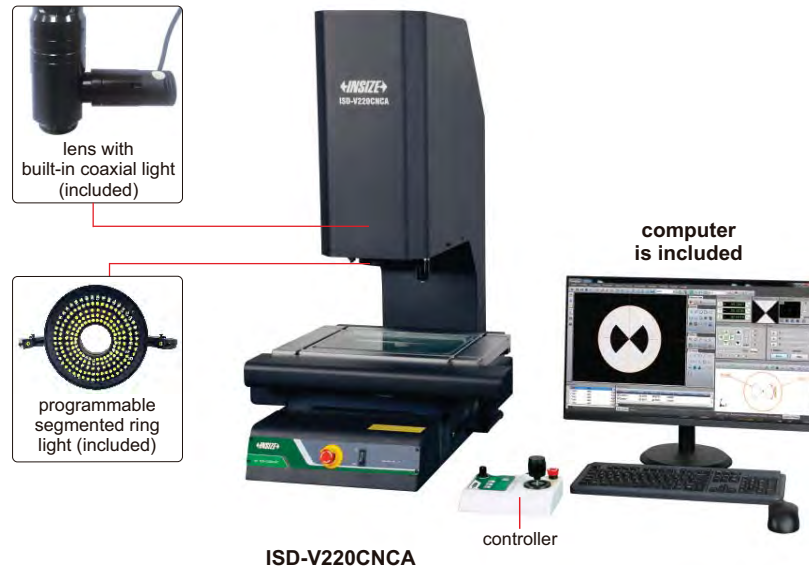
SOFTWARE (INCLUDED)

- Refer to page 590~591 for details

The screenshot displays the INSIZE software interface with several key components labeled:

- real-time image:** The main window showing a circular measuring object with a dark, butterfly-shaped feature.
- X/Y/Z axis:** A control panel on the right showing numerical values for X (39.2667), Y (20.5593), and Z (-92.6419).
- light controller:** A panel on the right with a light controller icon and a 'Move' button.
- magnification of selected points:** A zoomed-in view of the measuring object with labels R1.4999 and D5.6017.
- measuring results:** A table at the bottom left showing measurement data for various elements (ARC1, LK1, LK2, LK3, LK4).
- measuring tools:** A toolbar on the left side of the interface.
- measuring objects:** The main measuring object in the real-time image.
- measuring graphic:** A graphic representation of the measuring object and its features.
- movement controller:** A panel at the bottom right with movement controls.

CNC VISION MEASURING SYSTEMS



- Automatic edge-detection, focus, measuring, contour scanning, calibration, etc.
- Servo motors for X, Y, Z axis
- SPC function for large quantity measurement
- Measuring software is included (page 590-591)

SPECIFICATION

| Code | motorized zoom lens | ISD-V220ZA | ISD-V220ZHN | ISD-V270ZA | ISD-V270ZHN | ISD-V370ZA | ISD-V370ZHN |
|------------------------------|---------------------|---|----------------|---------------|----------------|---|----------------|
| | manual zoom lens | ISD-V220CNCA | ISD-V220HN | ISD-V270CNCA | ISD-V270HN | ISD-V370CNCA | ISD-V370HN |
| Measuring range (X×Y×Z) | | 220×120×150mm | 220×120×300mm | 270×170×150mm | 270×170×300mm | 370×270×150mm | 370×270×300mm |
| Stage size | | 450×280mm | 450×280mm | 500×330mm | 500×330mm | 606×466mm | 606×466mm |
| Glass stage size | | 306×196mm | 306×196mm | 350×250mm | 350×250mm | 450×350mm | 450×350mm |
| Resolution of X/Y/Z axis | | 0.5μm | | | | | |
| Accuracy of X/Y axis | | ≤(2.5+L/100)μm (L is the measuring length in mm) | | | | ≤(3.5+L/100)μm (L is the measuring length in mm) | |
| Repeatability of X/Y axis | | 2μm | | | | | |
| Objective | | 0.7X~4.5X (zoom) | | | | | |
| Working distance | | 92mm | | | | | |
| Magnification | | 33.0X~208.6X (with manual zoom lens, on 24" monitor) 31.9X~188.7X (with motorized zoom lens, on 24" monitor) | | | | | |
| Camera | | giga-bit network camera | | | | | |
| Illumination | surface | coaxial light, programmable segmented ring light | | | | | |
| | contour | adjustable LED light | | | | | |
| View field (diagonal length) | | 1.5~10.8mm | | | | | |
| Max. height of workpiece | | 150mm | 300mm | 150mm | 300mm | 150mm | 300mm |
| Max. weight of workpiece | | 30kg | | | | | |
| Operation system | | Windows 7/8/10 | | | | | |
| Drive method | | automatic | | | | | |
| Power supply | | 220V, 50/60Hz | | | | | |
| Dimension (L×W×H) | | 760×600×900mm | 760×600×1050mm | 760×600×900mm | 760×600×1050mm | 970×670×940mm | 970×670×1090mm |
| Weight | | 146kg | 156kg | 168kg | 178kg | 266kg | 276kg |

To be continued

Continued from previous page



software flash disk (included)



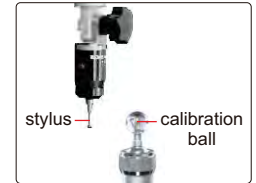
laser probe (optional)
measuring accuracy is 5µm

STANDARD DELIVERY

| | |
|-------------------------|------|
| Main unit | 1 pc |
| Software | 1 pc |
| Computer | 1 pc |
| 24" display | 1 pc |
| Len with coaxial light | 1 pc |
| Controller | 1 pc |
| Calibration glass chart | 1 pc |
| Laser positioner | 1 pc |
| Clay | 1 pc |
| Anti-dust cover | 1 pc |



desk (optional)



stylus calibration ball

probe (optional), includes Ø2mm and Ø3mm styli, Ø25mm calibration ball, measuring accuracy is 10µm

OPTIONAL ACCESSORY

| | |
|--------------------------|--|
| 0.5X auxiliary objective | code: ISD-V-OB05X , working distance: 175mm magnification: 16.5~104.3X (with manual zoom lens, on 24" monitor), 16.0~94.4X (with motorized zoom lens, on 24" monitor) |
| 2X auxiliary objective | code: ISD-V-OB2X , working distance: 36mm magnification: 66~417.2X (with manual zoom lens, on 24" monitor), 63.8~377.4X (with motorized zoom lens, on 24" monitor) |
| Probe | code: ISD-V-PROBE , includes Ø2mm and Ø3mm styli, Ø25mm calibration ball |
| Laser probe | code: ISD-V-LASER |
| Office software | code: 7313-OFFICE |
| Desk | code: ISD-V-DESK |

SOFTWARE (INCLUDED)

- Refer to page 590~591 for details

real-time image

X/Y/Z axis

light controller

magnification of selected points

measuring graphic

measuring objects

measuring results

measuring tools

movement controller

CNC VISION MEASURING SYSTEMS



ISD-V500N



computer is included

- Automatic edge-detection, focus, measuring, contour scanning, calibration, etc.
- Servo motors for X, Y, Z axis
- SPC function for large quantity measurement

SPECIFICATION

| Code | ISD-V500N | ISD-V501N | ISD-V500HN | ISD-V501HN |
|------------------------------|--|--|------------------|------------------|
| Measuring range (X×Y×Z) | 470×370×200mm | 500×400×200mm | 470×370×400mm | 500×400×400mm |
| Stage size | 786×636mm | 846×696mm | 786×636mm | 846×696mm |
| Glass stage size | 570×470mm | | | |
| Resolution of X/Y/Z axis | 0.5μm | | | |
| Accuracy of X/Y axis | ≤(2.5+L/200)μm (L is measuring length in mm) | | | |
| Repeatability of X/Y axis | 2μm | | | |
| Objective | 0.7X~4.5X (zoom) | | | |
| Working distance | 92mm | | | |
| View field (diagonal length) | 1.5~10.8mm | | | |
| Magnification | 33.0X~208.6X (on 24" monitor) | | | |
| Camera | giga-bit network camera | | | |
| Illumination | surface | coaxial light, programmable segmented ring light | | |
| | contour | adjustable LED light | | |
| Max. height of workpieces | 200mm | | 400mm | |
| Max. weight of workpieces | 30kg | | | |
| Operation system | Windows 7/10 | | | |
| Drive method | automatic | | | |
| Power supply | 220V, 50/60Hz | | | |
| Dimension (L×W×H) | 1270×1200×1870mm | 1405×1260×1870mm | 1270×1200×2070mm | 1405×1260×2070mm |
| Weight | 870kg | 1000kg | 900kg | 1030kg |

To be continued

Continued from previous page

STANDARD DELIVERY

| | |
|-------------------------|------|
| Main unit | 1 pc |
| Video card with dongle | 1 pc |
| Software disc | 1 pc |
| Lens with coaxial light | 1 pc |
| Controller | 1 pc |
| Computer | 1 pc |
| Calibration glass chart | 1 pc |
| Laser positioner | 1 pc |
| Clay | 1 pc |
| Anti-dust cover | 1 pc |



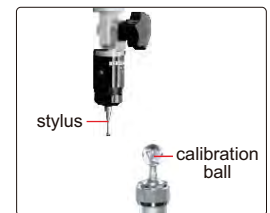
lens with coaxial light (included)



programmable segmented ring light (included)

OPTIONAL ACCESSORY

| | |
|--------------------------|--|
| 0.5X auxiliary objective | code: ISD-V-OB05X working distance: 175mm magnification: 16.5~104.3X (on 24" monitor) |
| 2X auxiliary objective | code: ISD-V-OB2X working distance: 36mm magnification: 66~417.2X (on 24" monitor) |
| Probe | code: ISD-V-PROBE includes Ø2mm and Ø3mm styli, Ø25mm calibration ball |
| Office software | code: 7313-OFFICE |



probe (optional), includes Ø2mm and Ø3mm styli, Ø25mm calibration ball, measuring accuracy is 10µm

SOFTWARE (INCLUDED)

- Refer to page 590~591 for details

The screenshot shows the INSIZE software interface with various components labeled:

- real-time image:** The main window displaying a live video feed of a circular object with a crosshair.
- X/Y/Z axis:** A panel on the right showing coordinate values (X: 39.2667, Y: -20.5593, Z: -92.6419) and movement controls.
- light controller:** A panel on the right with buttons for light control and movement.
- magnification of selected points:** A zoomed-in view of the object's features, showing radii R1.4999 and R5.6017.
- measuring graphic:** A 2D graphical representation of the object's geometry.
- measuring objects:** A list of measured features in the bottom-left corner.
- measuring results:** A table of measurement data in the bottom-left corner.
- measuring tools:** A toolbar on the left side of the interface.
- movement controller:** A panel on the right with directional buttons for moving the probe.

CNC VISION MEASURING SYSTEMS

MOTORIZED ZOOM
OBJECTIVE IS OPTIONAL



VMM-L1001CN

- Automatic edge-detection, focus, measuring, contour scanning, calibration, etc.
- Servo motors for X, Y, Z axis, X, Y axis adopt linear guide rail structure, without air supply
- Fixed glass table and granite platform base, good stability
- SPC function for large quantity measurement
- Measuring software is included (page 590~591)

SPECIFICATION

| Code | VMM-L600CN | VMM-L601CN | VMM-L800CN |
|------------------------------|--|--|------------------|
| Measuring range (X*Y*Z) | 600×600×200mm | 600×900×200mm | 800×1000×200mm |
| Glass stage size | 765×1238mm | 702×1543mm | 902×1643mm |
| Resolution of X/Y/Z axis | 0.5μm | | |
| Accuracy of X/Y axis | ≤(3.5+L/200)μm (L is measuring length in mm) | | |
| Repeatability of X/Y axis | 2μm | | |
| Objective (manual zoom) | 0.7X~4.5X (zoom) | | |
| Working distance | 92mm | | |
| View field (diagonal length) | 1.7~11.1mm | | |
| Magnification | 33.0X~208.6X (on 24" monitor) | | |
| Camera | giga-bit network camera | | |
| Illumination | surface | coaxial light, programmable segmented ring light | |
| | contour | adjustable LED light | |
| Max. height of workpiece | 200mm | | |
| Max. weight of workpiece | 35kg | | |
| Operation system | Windows 7/8/10 | | |
| Drive method | automatic | | |
| Power supply | AC 220V, 50/60Hz | | |
| Dimension (L*W*H) | 1445×1185×1560mm | 1745×1220×1720mm | 1850×1420×1720mm |
| Weight | 1000kg | 1400kg | 2200kg |

To be continued

Continued from previous page

SPECIFICATION

| Code | | VMM-L1000CN | VMM-L1001CN | VMM-L1200CN |
|------------------------------|---------|--|------------------|------------------|
| Measuring range (X×Y×Z) | | 1000×1200×200mm | 1000×1500×200mm | 1200×1500×200mm |
| Glass stage size | | 1100×1831mm | 1100×2113mm | 1300×2113mm |
| Resolution of X/Y/Z axis | | 0.5μm | | |
| Accuracy of X/Y axis | | ≤(3.5+L/200)μm (L is measuring length in mm) | | |
| Repeatability of X/Y axis | | 2μm | | |
| Objective(manual zoom) | | 0.7X~4.5X (zoom) | | |
| Working distance | | 92mm | | |
| View field (diagonal length) | | 1.7~11.1mm | | |
| Magnification | | 33.0X~208.6X (on 24" monitor) | | |
| Camera | | giga-bit network camera | | |
| Illumination | surface | coaxial light, programmable segmented ring light | | |
| | contour | adjustable LED light | | |
| Max. height of workpiece | | 200mm | | |
| Max. weight of workpiece | | 30kg | | |
| Operation system | | Windows 7/8/10 | | |
| Drive method | | automatic | | |
| Power supply | | AC 220V, 50/60Hz | | |
| Dimension (L×W×H) | | 2035×1590×1720mm | 2315×1590×1720mm | 2315×1790×1720mm |
| Weight | | 2900kg | 3200kg | 4000kg |



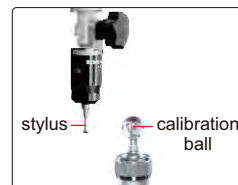
programmable segmented ring light (included)



lens with coaxial light (included)

STANDARD DELIVERY

| | |
|-------------------------|------|
| Main unit | 1 pc |
| Dongle | 1 pc |
| Computer | 1 pc |
| Software | 1 pc |
| Display | 1 pc |
| Lens with coaxial light | 1 pc |
| Controller | 1 pc |
| Calibration glass chart | 1 pc |
| Laser positioner | 1 pc |
| Clay | 1 pc |
| Anti-dust cover | 1 pc |



probe (optional), includes Ø2mm and Ø3mm styli, Ø25mm calibration ball, measuring accuracy is 10μm



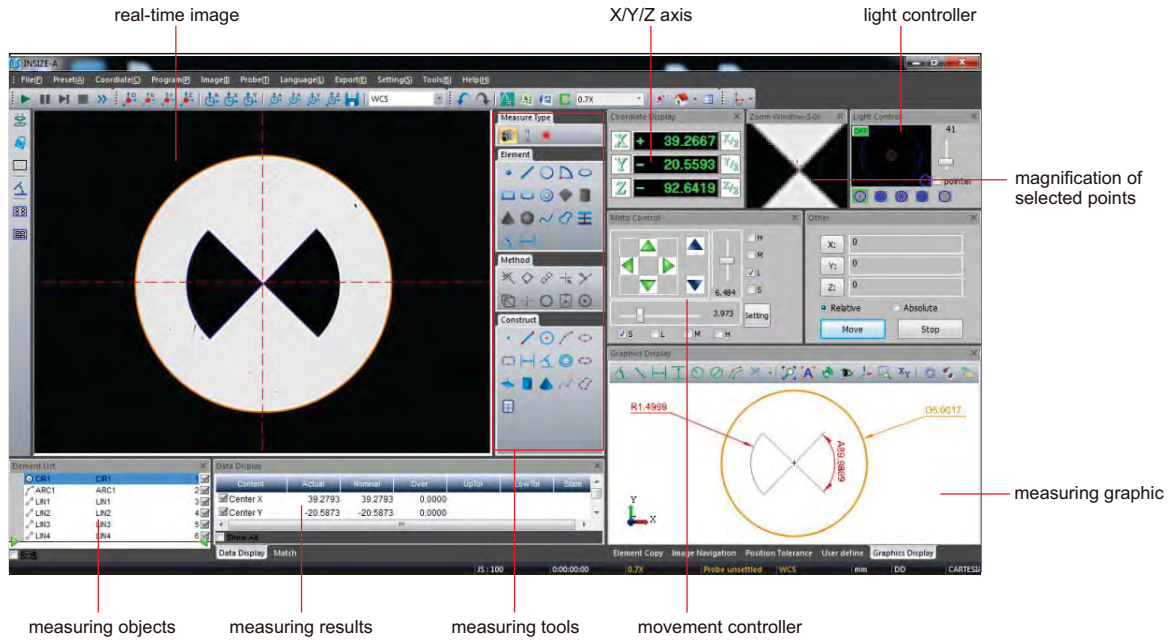
laser probe (optional) measuring accuracy is 5μm

OPTIONAL ACCESSORY

| | |
|--------------------------|--|
| 0.5X auxiliary objective | code: ISD-V-OB05X working distance: 175mm magnification: 16.5~104.3X (on 24" monitor) |
| 2X auxiliary objective | code: ISD-V-OB2X working distance: 36mm magnification: 66~417.2X (on 24" monitor) |
| Probe | code: ISD-V-PROBE includes Ø2mm and Ø3mm styli, Ø25mm calibration ball |
| Laser probe | code: ISD-V-LASER |
| Office software | code: 7313-OFFICE |

VISION MEASURING SOFTWARE

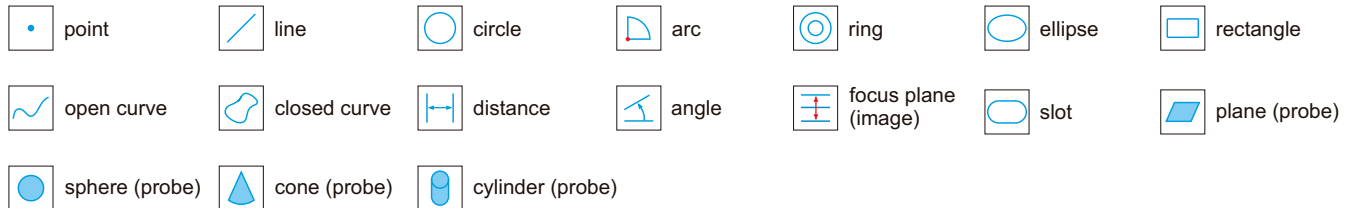
SOFTWARE FOR VISION MEASURING SYSTEMS
 ISD-V SERIES, ISD-H SERIES, ISD-VMM SERIES,
 ISD-E SERIES AND VMM-L SERIES



- Operation system: Windows 7/10
- Language: English
- Control features: assistant focus (manual machines), auto focus (CNC machines), auxiliary light control, motion controlled by mouse (CNC machines), auto zoom lens (CNC machines)
- Image measuring methods: intelligent automatic edge detect, select points of an area, select points from multiple parts, select points via mouse, select adjacent points, select points via cross line, magnify to select points, comparatively select points, select points via probe, edge point, contour point
- Constructable elements: point, line, circle, arc, ellipse, rectangle, distance, angle, ring, slot, plane, cone, open curve, closed curve
- Support fixture (CNC machines), scanning, image navigation, user define, pixel calibration
- Measuring by image and probe, image and probe can be synchronized
- Measuring data can be sent to Excel, Word, SPC, measuring elements can be sent to dxf

24

■ Dimension measuring tools:



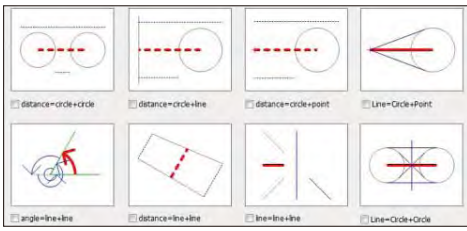
■ Geometric measuring tools:



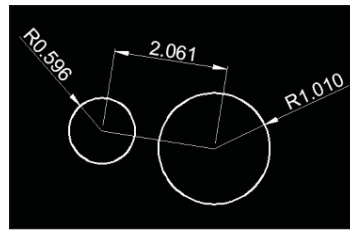
To be continued

Continued from previous page

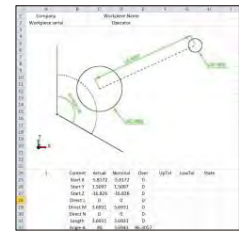
Measuring and element construct methods:



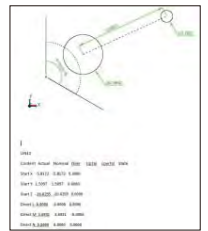
Sent to CAD, EXCEL, WORD



CAD



EXCEL



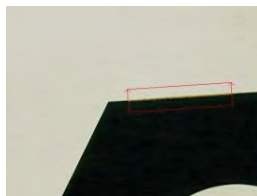
WORD

Edge-detection:

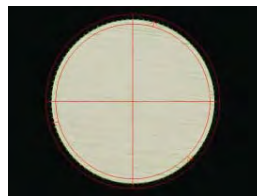
point tool



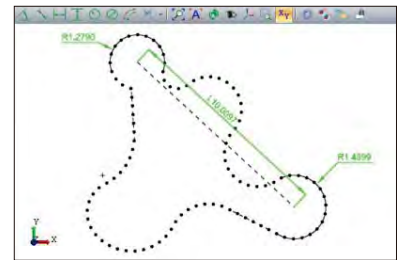
box tool



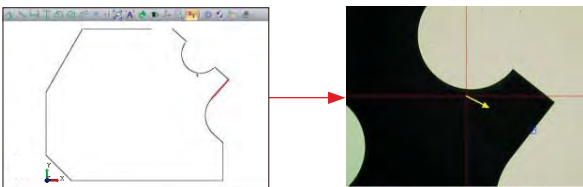
circle tool



Contour scanning:

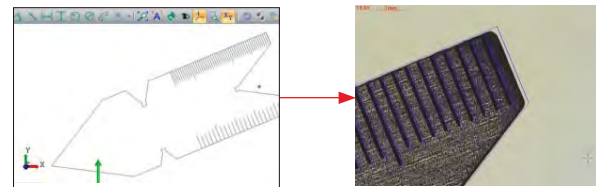


CAD measuring:



import CAD drawing, set the datum, establish coordinate system, then the software will automatically measure

CAD comparison:

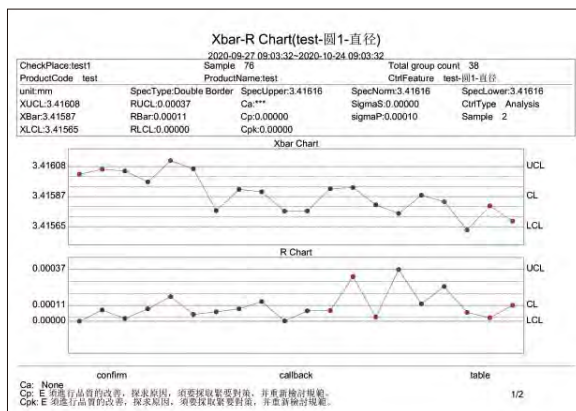


import CAD drawing, then compare with real-time image

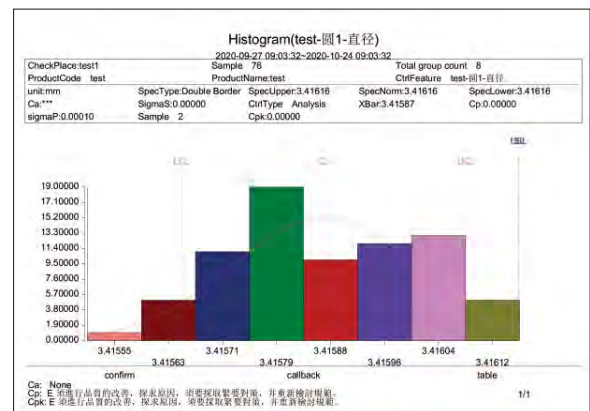
Profile scanning:



SPC analysis, import the measuring data to SPC module, generate Xbar-R chart, Xbar-S chart, Mid-R chart, X-Rs chart, Histogram, Sigma A and Sigma S chart, Cpk process chart, Process state analyse chart, Single process advice analyse chart

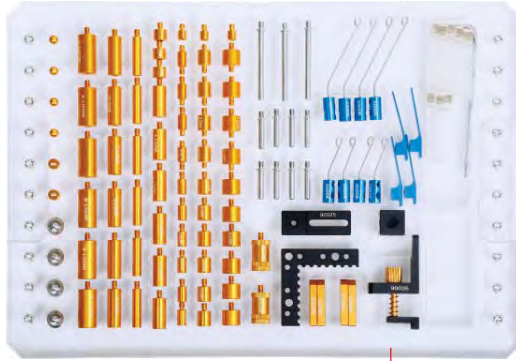


Xbar-R chart

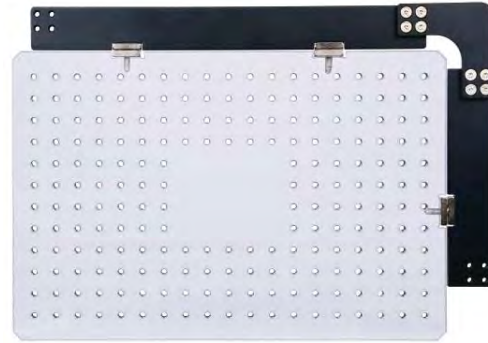


Histogram

JIG SET FOR VISION MEASURING SYSTEMS CODE ISY-700

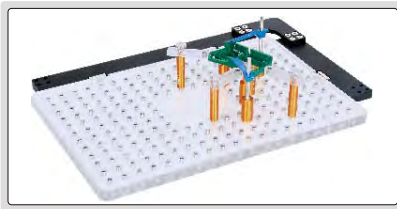




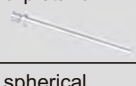
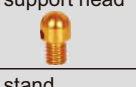
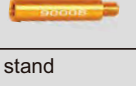

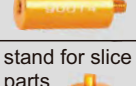
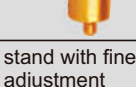

acrylic tray (included)



ISY-700

application example



| Product | Code | Size (mm) | Quantity |
|--|---------------|-----------|----------|
|  clip | ISY-700-90001 | 7×34 | 4 |
|  clip | ISY-700-90002 | ∅1.5×24 | 4 |
| | ISY-700-90003 | ∅1.5×50 | 4 |
|  clip stand | ISY-700-90004 | ∅4×20 | 8 |
| | ISY-700-90005 | ∅4×46 | 3 |
|  spherical support head | ISY-700-90006 | — | 4 |
|  stand | ISY-700-90007 | ∅6×10 | 6 |
| | ISY-700-90008 | ∅6×25 | 6 |
| | ISY-700-90019 | ∅6×6 | 3 |
|  stand | ISY-700-90009 | ∅9×7 | 3 |
| | ISY-700-90010 | ∅9×10 | 6 |
| | ISY-700-90011 | ∅9×20 | 6 |
| | ISY-700-90012 | ∅9×25 | 6 |
|  stand | ISY-700-90013 | ∅12×10 | 6 |
| | ISY-700-90014 | ∅12×25 | 6 |
|  stand for slice parts | ISY-700-90015 | ∅6×10 | 4 |
| | ISY-700-90016 | ∅9×10 | 4 |
| | ISY-700-90017 | ∅12×10 | 4 |
|  stand with fine adjustment | ISY-700-90018 | ∅12×20~25 | 2 |

| Product | Code | Size (mm) | Quantity |
|---|---------------|------------------------------------|----------|
|  adapter for square support | ISY-700-90020 | — | 2 |
|  clamping screw | ISY-700-90021 | — | 4 |
|  L-shaped positioning plate | ISY-700-90022 | 50×50×6 | 1 |
|  sliding support plate | ISY-700-90023 | 30×12×5 | 4 |
|  square support | ISY-700-90024 | 20×16×16 | 1 |
|  base for square support | ISY-700-90025 | 45×16×6 | 1 |
|  spring stand | ISY-700-90026 | — | 1 |
|  acrylic sliding support plate | ISY-700-90028 | 45×12×5 | 8 |
|  wrench | ISY-700-90029 | M3 | 1 |
|  acrylic base plate | ISY-700-90030 | 300×200×12 Hole size: M4X0.7 | 1 |

STANDARD GLASS SCALES



ISD-CL300A

- To calibrate optical measuring instruments, also can be used as optical positioning elements in precision machine tools

STANDARD TYPE

| Code | Measuring range | Graduation | Length | Width | Thickness | Accuracy |
|------------|-----------------|------------|--------|-------|-----------|----------|
| ISD-CL100A | 100mm | 1mm | 130mm | 30mm | 5mm | 1µm |
| ISD-CL200A | 200mm | 1mm | 230mm | 30mm | 5mm | 1µm |
| ISD-CL300A | 300mm | 1mm | 330mm | 30mm | 5mm | 1µm |
| ISD-CL400A | 400mm | 1mm | 430mm | 30mm | 5mm | 1µm |
| ISD-CL500A | 500mm | 1mm | 530mm | 30mm | 5mm | 2µm |

ECONOMIC TYPE

| Code | Measuring range | Graduation | Length | Width | Thickness | Accuracy |
|------------|-----------------|------------|--------|-------|-----------|----------|
| ISD-CL100B | 100mm | 1mm | 130mm | 30mm | 5mm | 3µm |
| ISD-CL200B | 200mm | 1mm | 230mm | 30mm | 5mm | 3µm |
| ISD-CL300B | 300mm | 1mm | 330mm | 30mm | 5mm | 3µm |
| ISD-CL400B | 400mm | 1mm | 430mm | 30mm | 5mm | 3µm |
| ISD-CL500B | 500mm | 1mm | 530mm | 30mm | 5mm | 3µm |

PROFESSIONAL TYPE (The scale is between two layers of glass and will not be worn off)

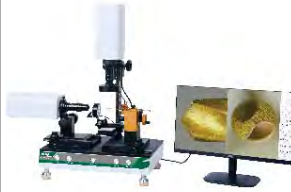
| Code | Measuring range | Graduation | Length | Width | Thickness | Accuracy |
|------------|-----------------|------------|--------|-------|-----------|----------|
| ISD-CL100S | 100mm | 1mm | 130mm | 30mm | 10mm | 1µm |
| ISD-CL200S | 200mm | 1mm | 230mm | 30mm | 10mm | 1.5µm |
| ISD-CL300S | 300mm | 1mm | 330mm | 30mm | 15mm | 2.5µm |
| ISD-CL400S | 400mm | 1mm | 430mm | 30mm | 15mm | 3µm |
| ISD-CL500S | 500mm | 1mm | 530mm | 30mm | 15-25mm | 3.5µm |



Toolmaker Microscopes
Page 595-596



Digital Microscopes
Page 597-635



Cutting Tools Microscopes
Page 622



Industrial Microscopes
Page 636-637



Metallurgical Microscopes
Page 638-641



Zoom Stereo Microscopes
Page 642-648



Polarizing Microscopes
Page 649



Digital Cameras For Microscopes
Page 650-658



Metallurgical Analysis Softwares
Page 657-658



Portable Measuring Microscopes
Page 659



Table Magnifiers With Illumination
Page 660



Digital Magnifiers
Page 661-662



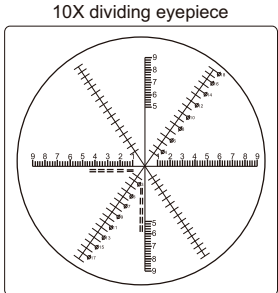
Magnifiers
Page 663-667



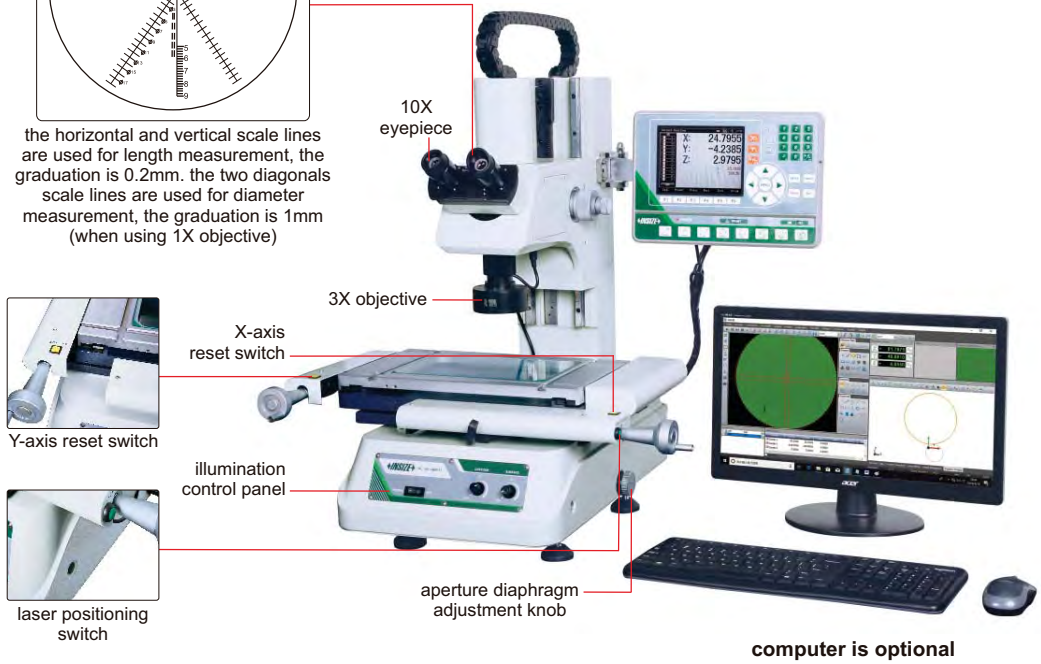
Telescoping Inspection Mirrors
Page 667



Telescoping Pick-up
Page 668



the horizontal and vertical scale lines are used for length measurement, the graduation is 0.2mm. the two diagonals scale lines are used for diameter measurement, the graduation is 1mm (when using 1X objective)



computer is optional

ISD-VMM215

SPECIFICATION

| Code | binocular | ISD-VMM205 | ISD-VMM215 | ISD-VMM225 | ISD-VMM235 |
|--------------------------|-----------|--|---------------|---------------|---------------|
| | monocular | ISD-VMM205D | ISD-VMM215D | ISD-VMM225D | ISD-VMM235D |
| X/Y axis travel | | 150×100mm | 200×100mm | 250×150mm | 300×200mm |
| Z axis travel | | 150mm | 150mm | 200mm | 200mm |
| Metal stage size | | 354×228mm | 404×228mm | 450×280mm | 500×330mm |
| Glass stage size | | 210×160mm | 260×160mm | 306×196mm | 350×250mm |
| Resolution of X/Y/Z axis | | 0.5μm | | | |
| Accuracy of X/Y axis | | ≤(3.5+L/100)μm (L is the measuring length in mm) | | | |
| Repeatability | | 2μm | | | |
| Camera | | 1/3" color CCD, 0.3M pixel | | | |
| Optical magnification | | 30X (with 3X objective) | | | |
| Image magnification | | 114X (on 19" monitor) | | | |
| Illumination | | surface and contour with adjustable LED | | | |
| Max. weight of workpiece | | 25kg | | | |
| Power supply | | 100V~240V, 50/60Hz | | | |
| Operation system | | Windows 7/8/10 | | | |
| Drive method | | manual | | | |
| Dimension (L×W×H) | | 540×667×850mm | 540×667×850mm | 800×675×920mm | 800×675×920mm |
| Weight | | 100kg | 110kg | 135kg | 140kg |

Continued from previous page

DATA PROCESSING UNIT

| | |
|---|--|
| Output | RS232 |
| Function | simple measuring tools |
| | measure coordinate of points |
| | measure lines |
| | measure center coordinate, radius of circle with three points |
| | measure distances between two objects |
| | measure angles |
| | set origin of coordinate |
| | skew and calibrate the workpiece |
| | measure rectangle (including length, width, perimeter and center coordinate) |
| | measure thread (including thread diameter, screw pitch, screw angle) |
| measure slot (including center coordinate, length, width) | |

STANDARD DELIVERY

| | |
|-------------------------|------|
| Main unit | 1 pc |
| Video card with dongle | 1 pc |
| Software disc | 1 pc |
| Calibration glass chart | 1 pc |
| Demo sample | 1 pc |
| Foot switch | 1 pc |
| 3X objective | 1 pc |

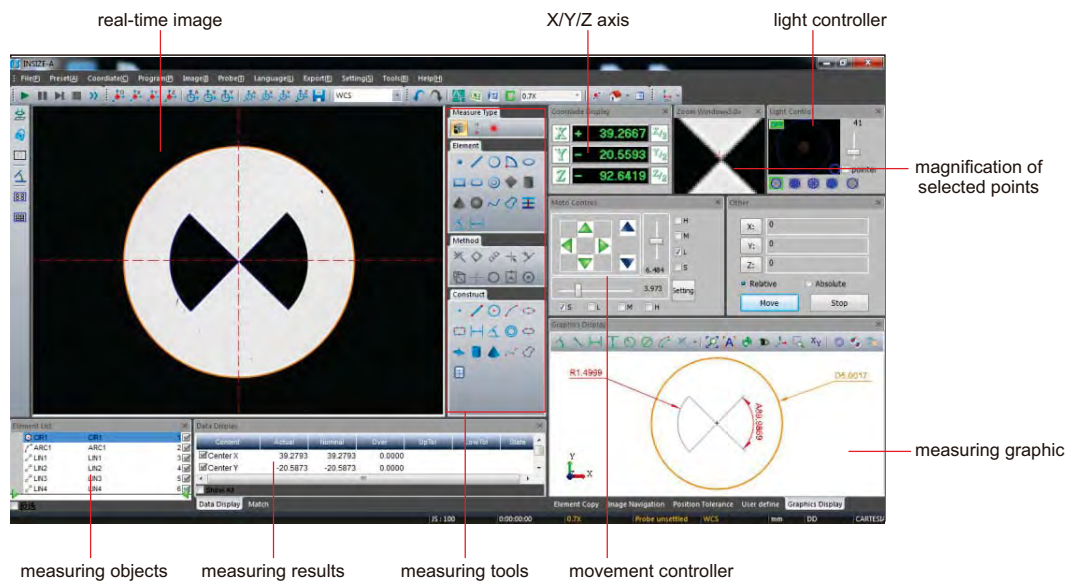
OPTIONAL ACCESSORY

| | |
|--|--------------------------------|
| 1X objective | ISD-VMM-LENS1X |
| 5X objective | ISD-VMM-LENS5X |
| 10X objective | ISD-VMM-LENS10X |
| Toolmaker microscopes (with computer) | code: ISD-VMM205A (binocular) |
| | ISD-VMM215A (binocular) |
| | ISD-VMM225A (binocular) |
| | ISD-VMM235A (binocular) |
| | code: ISD-VMM205DA (monocular) |
| | ISD-VMM215DA (monocular) |
| ISD-VMM225DA (monocular) | |
| ISD-VMM235DA (monocular) | |

SOFTWARE (INCLUDED)

- Refer to page 590~591 for details

25





TAKE PICTURES AND VIDEOS

MEASUREMENT

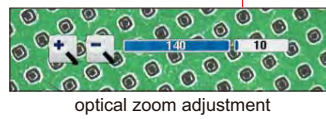
CAN BE CONNECTED TO PC AND TV AT THE SAME TIME

AUTO FOCUS

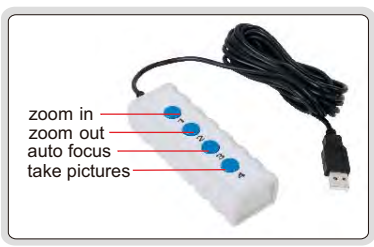
AUTO FOCUS DIGITAL MICROSCOPES (LARGE VIEW FIELD)



connect to computer through cable to save pictures (software for computer is included)



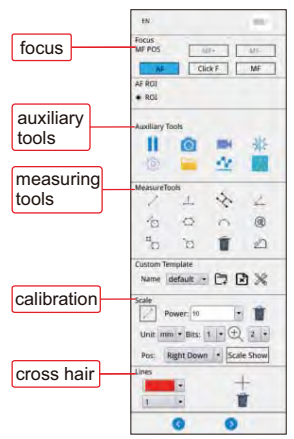
optical zoom adjustment



zoom in
zoom out
auto focus
take pictures

controller (optional, for TV)

TV SOFTWARE (INCLUDED)



- Auto focus camera
- Take pictures and videos
- Can be connected to TV (HDMI port) and computer (RJ45 port) at the same time
- Built-in measuring software for TV
- Measuring software for computers is included
- Automatic exposure and white balance
- Brightness, contrast ratio, gain are adjustable
- Display cross hair (blue/green/red /yellow/black/brown colors)

SPECIFICATION

| Code | 5302-AF105 (standard type) | 5302-AF108 (high-definition type) |
|---------------------|----------------------------|-----------------------------------|
| Pixel | 2M | 8M |
| Resolution | 1920×1080 | 3840×2160 |
| Magnification | 1.4X~25.8X (on 28" TV) | 1.4X~51.6X (on 28" TV) |
| Sensor | 1/2.8" CMOS | |
| Auto focus distance | 100mm~∞ | |
| Output | HDMI, RJ45 | |
| Frame rate | HDMI: 60fps, RJ45: 50fps | |
| Power supply | power adapter | |
| Dimension (L×W×H) | 500×280×410mm | |
| Weight | 17kg | |

VIEW FIELD

| Focus distance | Adjustable magnification (on 28" TV) | View field |
|----------------|--------------------------------------|-----------------|
| 100mm | 3.9~25.8X | 24×14~168×91mm |
| 150mm | 2.6~20X | 30×17~240×128mm |
| 200mm | 2.1~17X | 37×20~315×170mm |
| 250mm | 1.7~14.7X | 42×24~385×210mm |
| 270mm | 1.4~14X | 43×25~415×225mm |

MEASURING ACCURACY

| Optical magnification (5302-AF105) | Optical magnification (5302-AF108) | Measuring accuracy |
|------------------------------------|------------------------------------|--------------------|
| 2X | 2X | ±0.1mm |
| 4X | 4X | ±0.1mm |
| 6X | 6X | ±0.04mm |
| 8X | 8X | ±0.02mm |
| 14X | 14X | ±0.02mm |
| / | 28X | ±0.02mm |



STANDARD DELIVERY

| | |
|------------------------------|-------|
| Main unit (with stand) | 1 pc |
| LED illumination | 1 pc |
| 16G USB flash disk | 1 pc |
| Mouse | 1 pc |
| HDMI cable (for TV) | 1 pc |
| Network cable (for computer) | 1 pc |
| Switch | 1 pc |
| Software for computer | 1 pc |
| Power adapter | 2 pcs |

OPTIONAL ACCESSORY

| | |
|------------|--------------------|
| 28" 4K TV | 5302-AF-TV28 |
| 32" 4K TV | 5302-AF-TV32 |
| Computer | 5302-AF-COMPUTER |
| Controller | 5302-AF-CONTROLLER |

HIGH-DEFINITION AUTO FOCUS DIGITAL MICROSCOPE (LARGE VIEW FIELD) CODE 5320-AF410

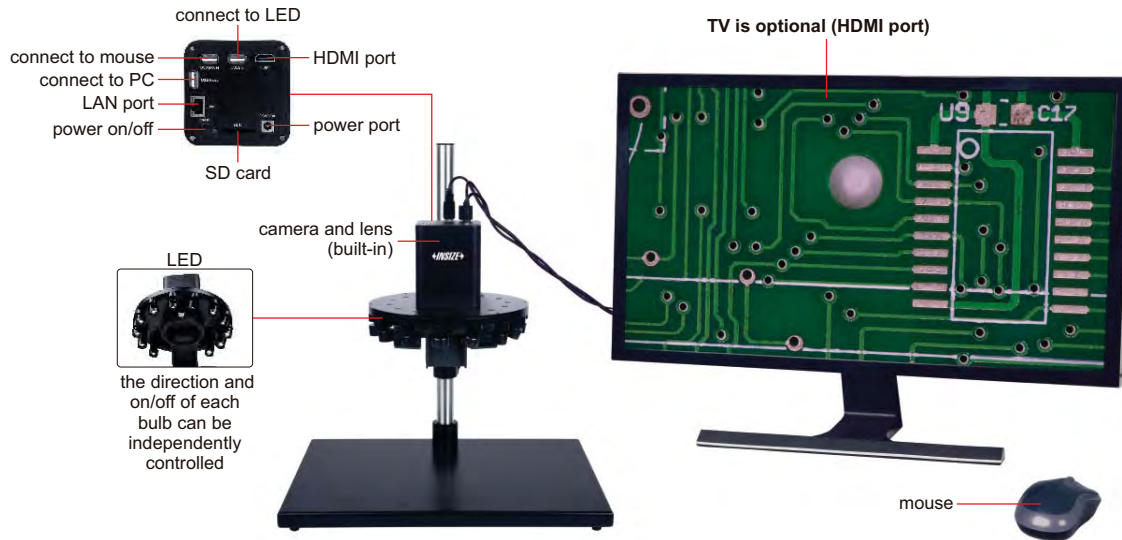
AUTO FOCUS

MEASUREMENT

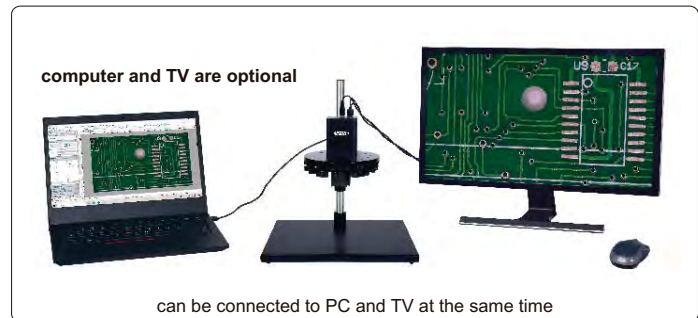
TAKE PICTURES
AND VIDEOS

LED INDEPENDENT
ADJUSTMENT

CAN BE CONNECTED TO PC
AND TV AT THE SAME TIME



- Auto focus camera
- Take pictures and videos
- Built-in measuring software
- Automatic exposure, sharpening, denoising and white balance
- 4K/1080P automatically switched by display resolution
- Display actual magnification
- Digital magnification
- Motorized light control
- Display cross hair and gridline



SPECIFICATION

| | |
|---------------------------|------------------|
| Magnification (on 28" TV) | 2.4X~43.7X |
| View field | 14.2×8~255×145mm |
| Auto focus distance | 200~255mm |
| Sensor | 1/2.8" CMOS |
| Pixel | 8M |
| Resolution | 3840×2160 |
| Frame rate | 30fps |
| Output | HDMI/USB/LAN |
| Power supply | power adapter |
| Dimension (L×W×H) | 400×300×450mm |
| Weight | 5.8kg |

MEASURING ACCURACY (ON 28" TV)

| Optical magnification | Measuring accuracy |
|-----------------------|--------------------|
| 2X | ±0.1mm |
| 4X | ±0.1mm |
| 6X | ±0.04mm |
| 10X | ±0.02mm |
| 14X | ±0.02mm |
| 18X | ±0.01mm |

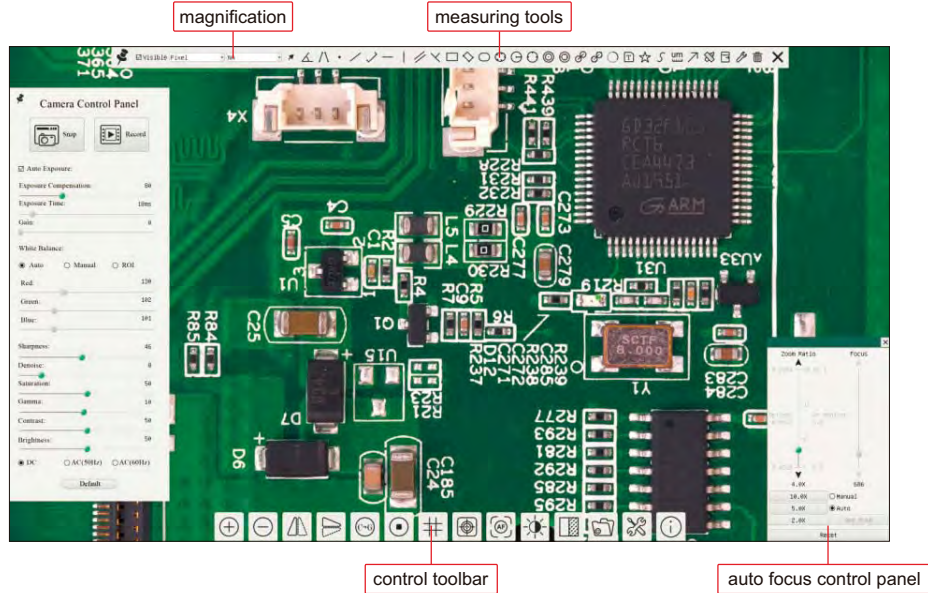
STANDARD DELIVERY

| | |
|----------------------------|------|
| Main unit (with stand) | 1 pc |
| LED illumination | 1 pc |
| 32G memory card and holder | 1 pc |
| Mouse | 1 pc |
| HDMI cable | 1 pc |
| USB 2.0 cable | 1 pc |
| Power adapter | 1 pc |

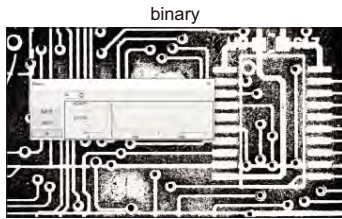
To be continued

Continued from previous page

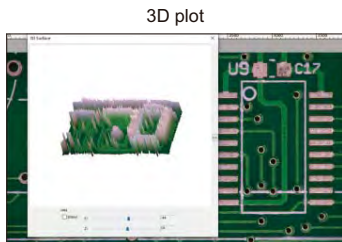
SOFTWARE FOR TV (INCLUDED)



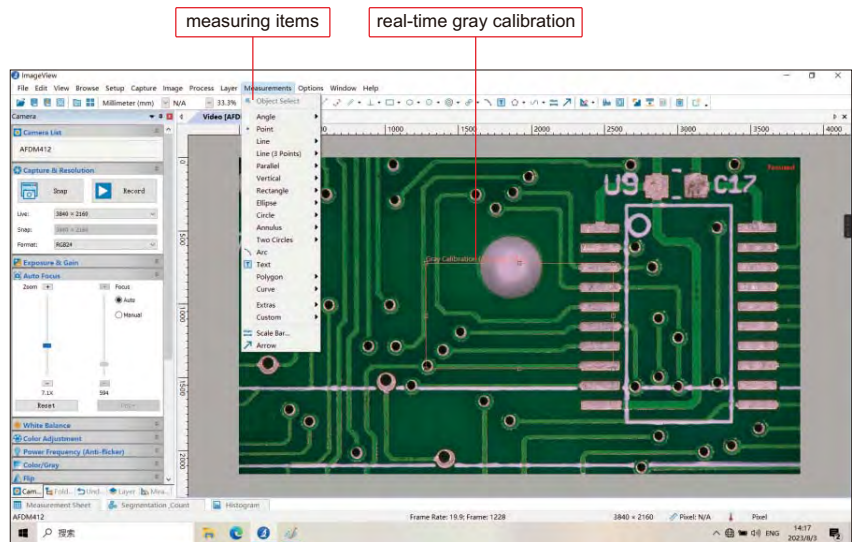
PROFESSIONAL SOFTWARE (INCLUDED, FOR COMPUTER)



separate target and background



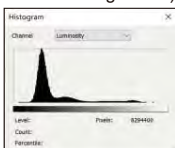
visualize the distribution of image brightness and color



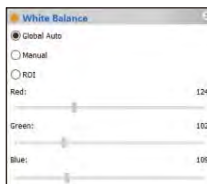
selectable resolution



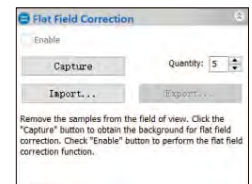
histogram (quantify the distribution of color and brightness)



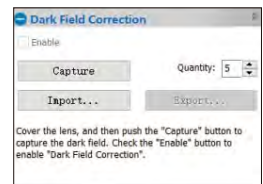
white balance (reduce color difference)



flat field balance (reduce brightness difference)



dark field balance (reduce thermal noise)



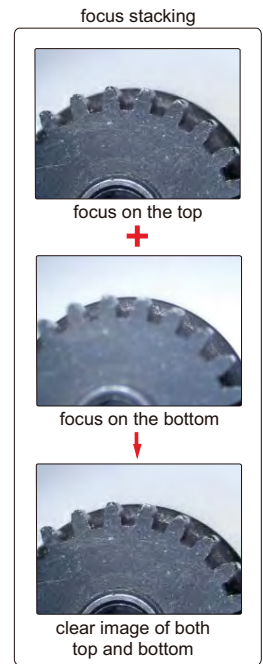
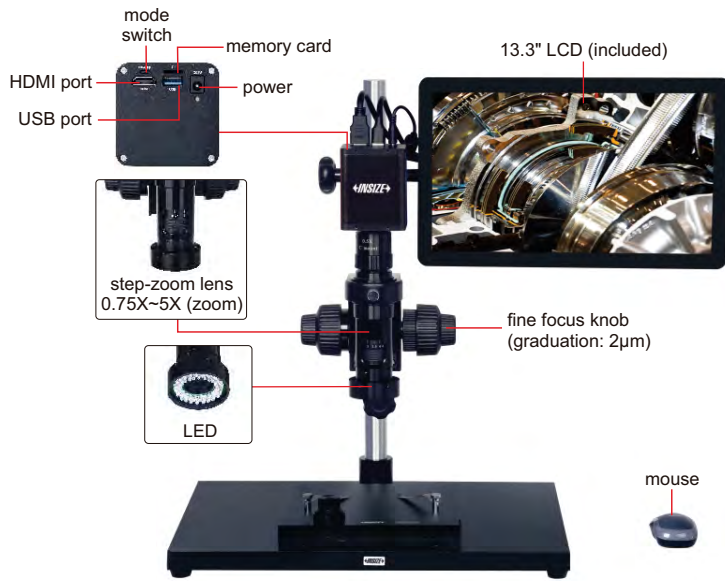
the software can control image completely, including measurement, image stitching, image gray processing, RGB histogram observation, image color sampling, 3D plot (3D representation of image intensity), image exposure, white balance, image bit depth, flat field correction and dark field correction, etc.

HIGH-DEFINITION AUTO FOCUS MEASURING MICROSCOPE CODE 5315-S710

IMAGE
STITCHING

DUAL SCREEN
OPERATION

FOCUS
STACKING



- 12M high-definition image
- Switchable LCD mode and computer mode
- Take pictures or videos, save to memory card
- Measurement results can be sent to Excel
- Auto focus
- Automatic white balance and exposure



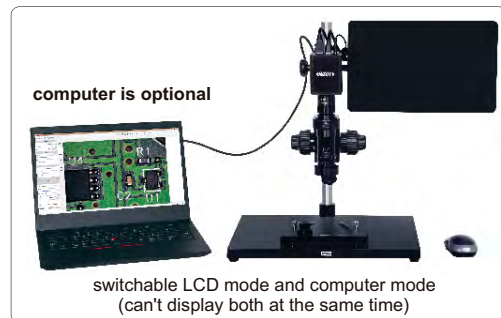
calibration plate
(included)



1X camera adapter
(optional)



2X auxiliary objective
(optional)



computer is optional

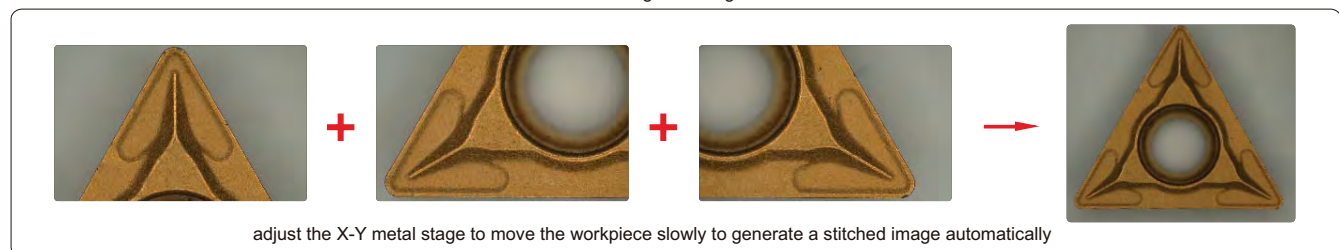
switchable LCD mode and computer mode
(can't display both at the same time)



stage moving knob

X-Y metal stage
(included)
(X-Y travel: 100×86mm)

image stitching



adjust the X-Y metal stage to move the workpiece slowly to generate a stitched image automatically

To be continued



Continued from previous page

SPECIFICATION

| | |
|-------------------|-------------------------|
| Magnification | 15X~100X (on 13.3" LCD) |
| Sensor | 1/1.7" CMOS |
| Pixel | 12M |
| Resolution | 1920×1080 |
| Frame rate | 30fps |
| Output | HDMI/USB |
| Power supply | power adapter |
| Dimension (L×W×H) | 570×300×430mm |

STANDARD DELIVERY

| | |
|------------------------|------|
| Main unit | 1 pc |
| 0.5X camera adapter | 1 pc |
| 1X auxiliary objective | 1 pc |
| Calibration plate | 1 pc |
| 32G memory card | 1 pc |
| Mouse | 1 pc |
| X-Y metal stage | 1 pc |

MAGNIFICATION AND MEASURING ACCURACY (on 13.3" LCD)

| Objective magnification | Image magnification | Measuring accuracy |
|-------------------------|---------------------|--------------------|
| 0.75X | 15X | ±20μm |
| 1X | 20X | ±20μm |
| 1.5X | 30X | ±20μm |
| 2X | 40X | ±20μm |
| 2.5X | 50X | ±20μm |
| 3X | 60X | ±20μm |
| 3.5X | 70X | ±20μm |
| 4X | 80X | ±10μm |
| 4.5X | 90X | ±10μm |
| 5X | 100X | ±10μm |

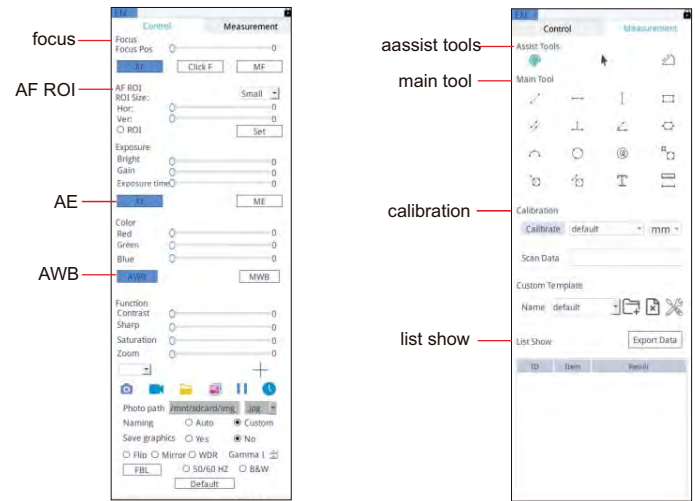
MAGNIFICATION, FOCUS DISTANCE AND VIEW FIELD (on 13.3" LCD)

| Specification | Camera adapter | |
|----------------|---------------------|--------------------|
| | 0.5X (included) | 1X (optional) |
| Magnification | 15~100X | 30~200X |
| Focus distance | 80±2mm | 80±2mm |
| View filed | 20.0×11.2~5.5×3.1mm | 10.0×5.6~2.7×1.5mm |

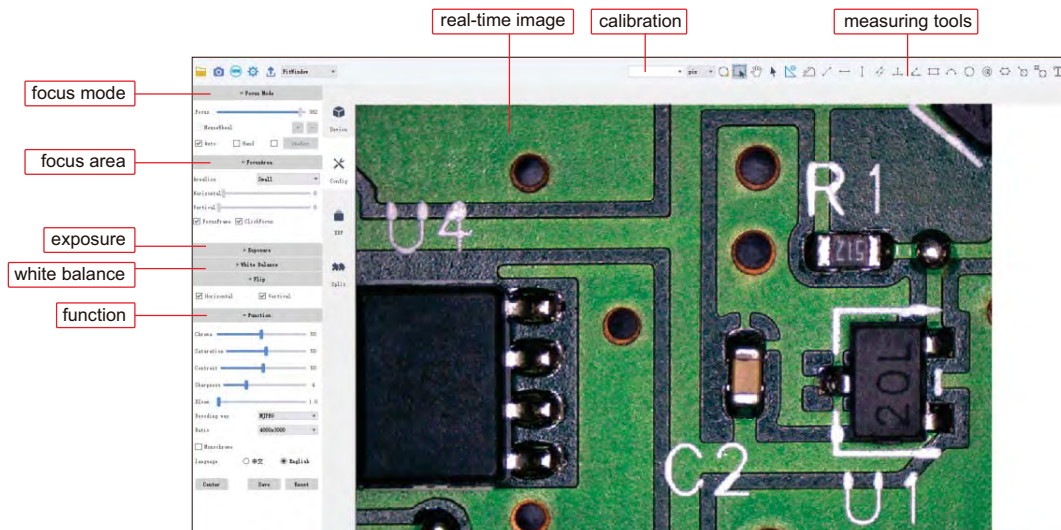
OPTIONAL ACCESSORY

| | |
|------------------------|-----------------|
| 1X camera adapter | ISM-DL-CA1X |
| 2X auxiliary objective | ISM-DL-OB2X |
| Computer | ISM-DL-COMPUTER |
| LED light | page 626~627 |
| Auxiliary objective | page 628 |

SOFTWARE FOR LCD (INCLUDED)



SOFTWARE FOR COMPUTER (INCLUDED)

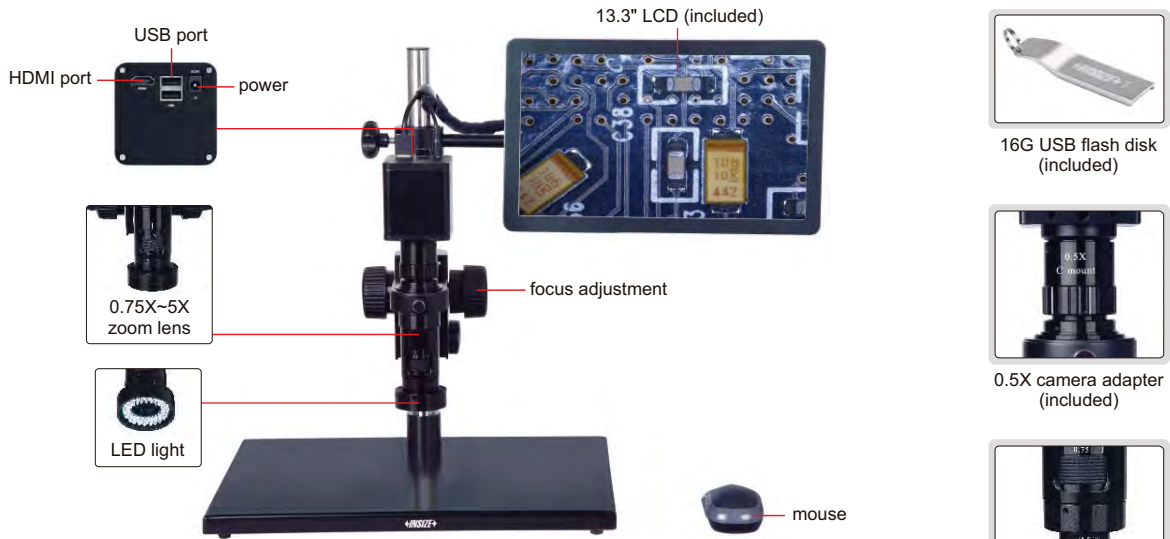


AUTO FOCUS DIGITAL MICROSCOPE CODE 5303-AF103

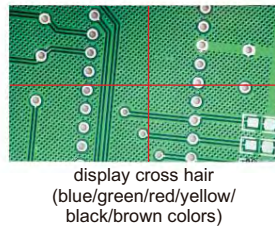
AUTO FOCUS

TAKE PICTURES
AND VIDEOS

MEASUREMENT



- 1080P high-definition image
- Auto focus camera
- Take pictures and videos, saved to USB flash disk
- Picture review, picture compare
- Automatic exposure and white balance
- Brightness, contrast ratio, gain are adjustable
- Display cross hair (blue/green/red/yellow/black/ brown colors)
- Built-in software without computer, operation by mouse



SPECIFICATION

| | |
|-------------------|---------------|
| Magnification | 20X~123X |
| Sensor | 1/2.8" CMOS |
| Pixel | 2M |
| Resolution | 1920×1080 |
| Frame rate | 60fps |
| Output | HDMI |
| Power supply | power adapter |
| Dimension (L×W×H) | 570×300×430mm |
| Weight | 6.5kg |

MAGNIFICATION, FOCUS DISTANCE AND VIEW FIELD

| Auxiliary objective | Specification | Camera adapter | |
|---------------------|--------------------|-------------------|-------------------|
| | | 0.5X (included) | 1X (optional) |
| 1X (included) | magnification | 20~123X | 40~246X |
| | focus distance | 48~84mm | 48~84mm |
| | view field | 13×7~2.2×1mm | 6.3×3.5~1.1×0.5mm |
| 2X (optional) | magnification | 40~246X | 80~492X |
| | focus distance | 24~42mm | 24~42mm |
| | view field | 6.5×3.5~1.1×0.5mm | 3.3×1.8~0.6×0.3mm |
| | measuring accuracy | ±0.02mm | ±0.02mm |

AUTO FOCUS DISTANCE

| Zoom objective scale | 0.75X | 1X | 1.5X | 2X | 2.5X |
|--------------------------|-------|-------|-------|-------|-------|
| Auto focus distance (mm) | 48~84 | 50~78 | 55~73 | 62~71 | 65~70 |
| Zoom objective scale | 3X | 3.5X | 4X | 4.5X | 5X |
| Auto focus distance (mm) | 66~70 | 67~70 | 68~70 | 68~70 | 68~70 |

STANDARD DELIVERY

| | |
|------------------------|-------|
| Main unit | 1 pc |
| 0.5X camera adapter | 1 pc |
| 1X auxiliary objective | 1 pc |
| Calibration plate | 1 pc |
| 16G USB flash disk | 1 pc |
| White/black plate | 1 pc |
| Mouse | 1 pc |
| HDMI cable | 1 pc |
| Power adapter | 2 pcs |

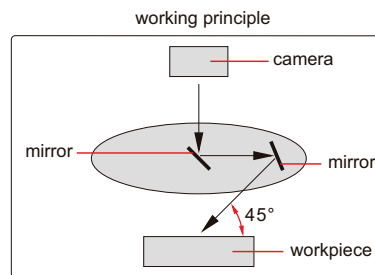
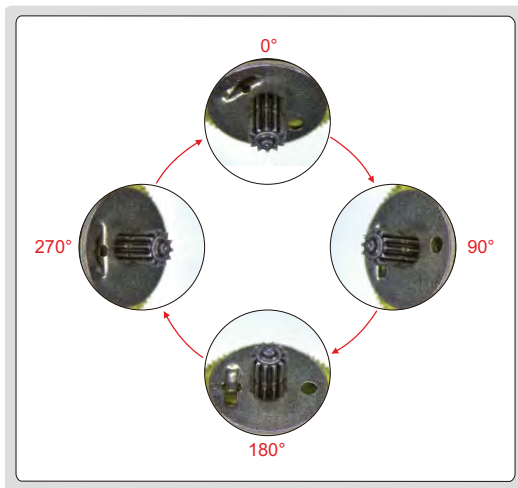
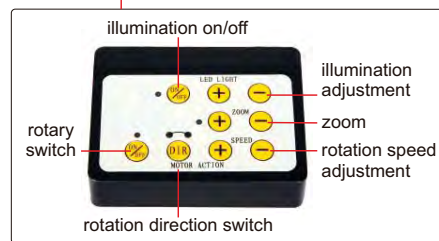
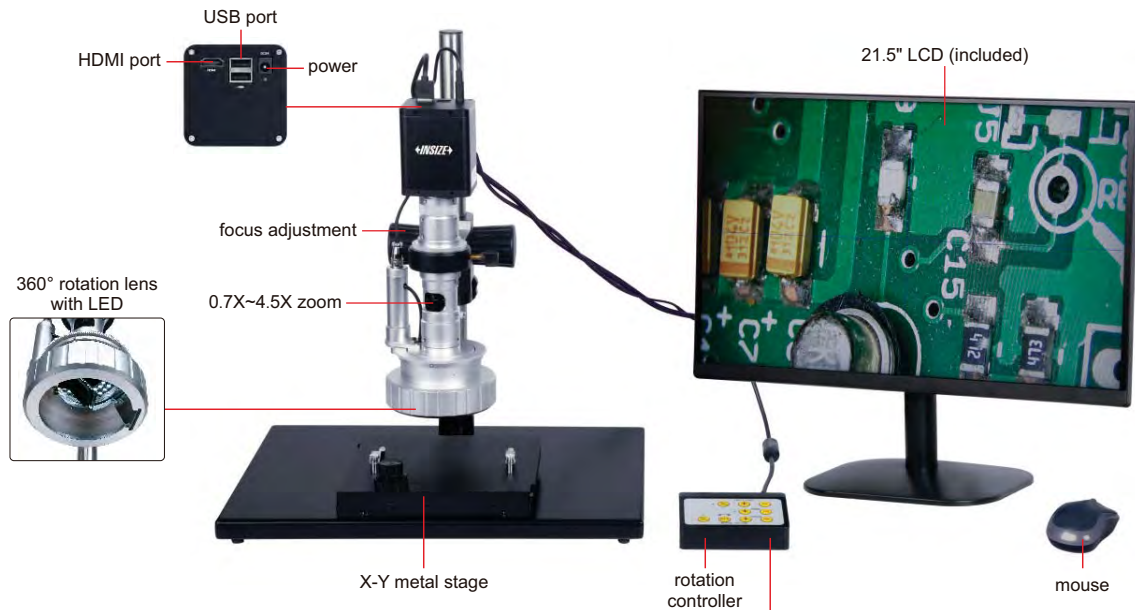
OPTIONAL ACCESSORY

| | |
|------------------------------------|---------------|
| 1X camera adapter | ISM-DL-CA1X |
| 2X auxiliary objective | ISM-DL-OB2X |
| X-Y glass stage (travel: 100×86mm) | ISM-DL-STAGE |
| X-Y metal stage | ISM-DL-STAGE1 |
| LED light | page 626~627 |
| Auxiliary objective | page 628 |

TAKE PICTURES AND VIDEOS

SUITABLE TO CHECK CONVEX OBJECTS AND WALL OF HOLE

3D MOTORIZED ROTATION MICROSCOPE CODE 5301-D400



SPECIFICATION

| | |
|-------------------|-------------------|
| Magnification | 15X~100X |
| View field | 4.2×2.7mm~28×18mm |
| Focus distance | 40mm |
| View angle | 45° |
| Sensor | 1/2.8" CMOS |
| Pixel | 2M |
| Resolution | 1920×1080 |
| Frame rate | 60fps |
| Output | HDMI |
| Rotation speed | 2~4RPM |
| Power supply | 110/220V, 50/60Hz |
| Dimension (L×W×H) | 570×300×430mm |
| Weight | 10kg |

- 1080P high-definition 3D image
- Take pictures and videos, save to USB flash disk
- Automatic white balance and exposure
- Brightness, contrast ratio and gain are adjustable

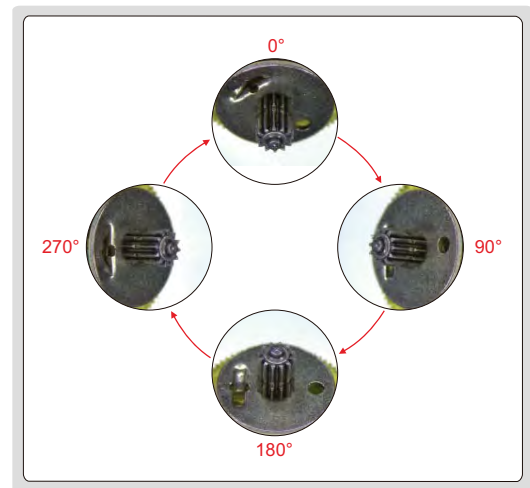
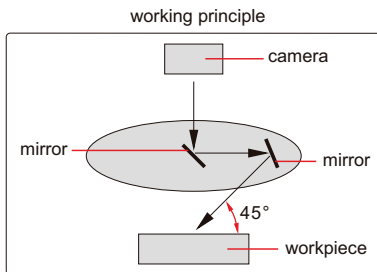
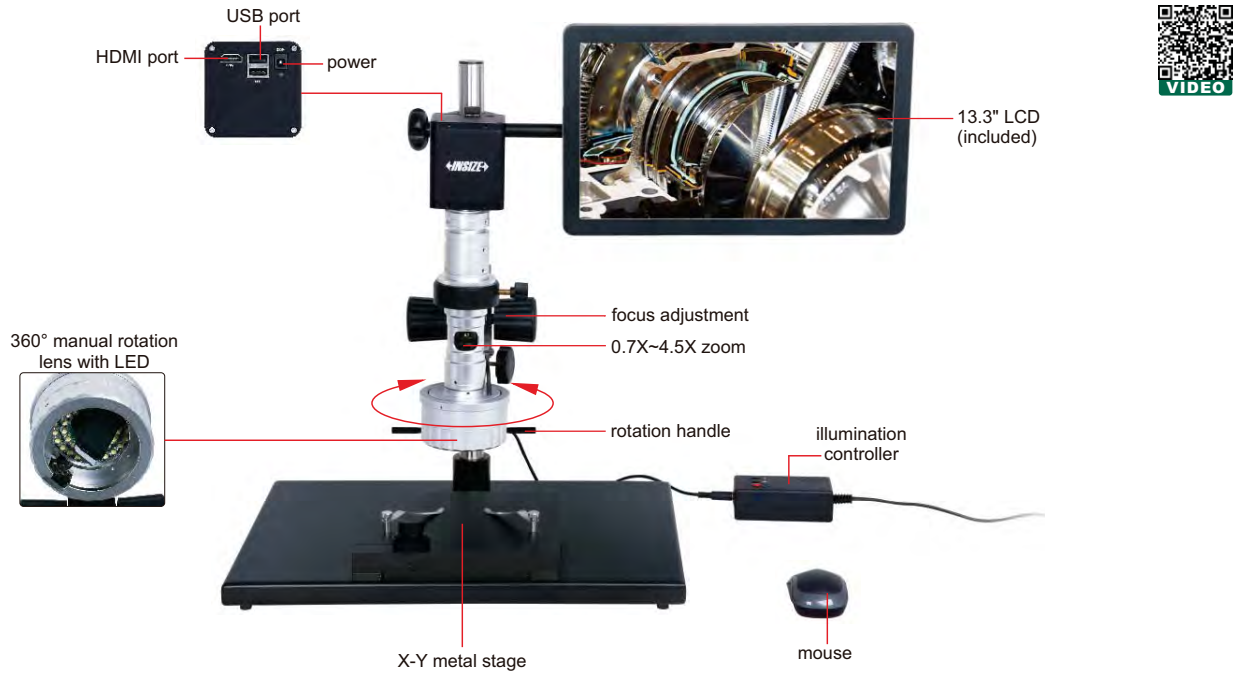
STANDARD DELIVERY

| | |
|---------------------|-------|
| Main unit | 1 pc |
| Rotation controller | 1 pc |
| X-Y metal stage | 1 pc |
| 16G USB flash disk | 1 pc |
| White/black plate | 1 pc |
| Mouse | 1 pc |
| Power adapter | 2 pcs |

3D MANUAL ROTATION MICROSCOPE CODE 5313-S407

TAKE PICTURES AND VIDEOS

SUITABLE TO CHECK CONVEX OBJECTS
AND WALL OF HOLES



360° rotation observation

SPECIFICATION

| | |
|-------------------|------------------|
| Magnification | 18X~120X |
| View field | 2.4×1.5mm~16×9mm |
| Focus distance | 20mm |
| View angle | 45° |
| Sensor | 1/2.8" CMOS |
| Pixel | 2M |
| Resolution | 1920×1080 |
| Frame rate | 60fps |
| Output | HDMI |
| Power supply | 220V, 50/60Hz |
| Dimension (L×W×H) | 570×300×430mm |
| Weight | 10kg |

STANDARD DELIVERY

| | |
|--------------------|-------|
| Main unit | 1 pc |
| X-Y metal stage | 1 pc |
| 16G USB flash disk | 1 pc |
| White/black plate | 1 pc |
| Mouse | 1 pc |
| Power adapter | 2 pcs |

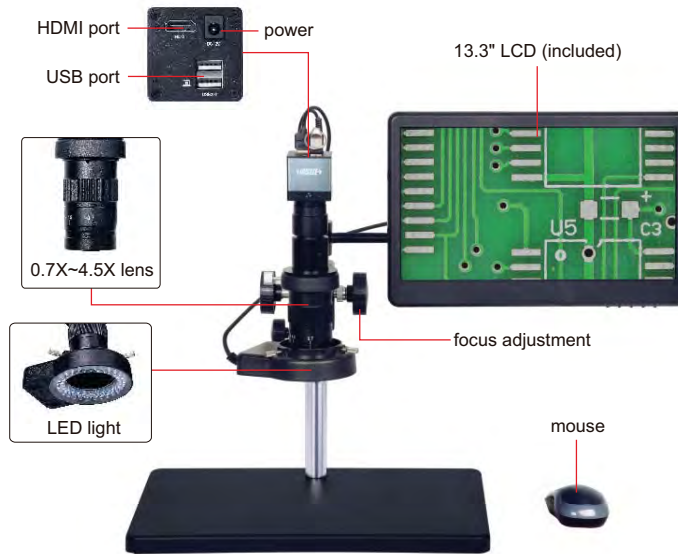
MEASUREMENT

TAKE PICTURES

BUILT-IN SOFTWARE WITHOUT COMPUTER

POPULAR MODEL

DIGITAL MEASURING MICROSCOPE (BASIC TYPE) CODE 5318-MD60



- 1080P high-definition image
- Built-in software without computer, operated by mouse
- Take pictures, save to USB flash disk
- Measurement results can be sent to Excel
- Brightness, contrast ratio, gain are adjustable

SPECIFICATION

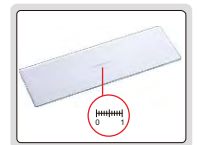
| | |
|--------------------|---|
| Magnification | 12.5X~80X |
| Sensor | 1/2.8" CMOS |
| Pixel | 2M |
| Resolution | 1920×1080 |
| Frame rate | 60fps |
| Measuring accuracy | ±0.02mm |
| Lines | cross lines, scale lines (number, color and position of lines are adjustable) |
| Output | HDMI |
| Power supply | power adapter |
| Dimension (L×W×H) | 380×260×350mm |
| Weight | 4.5kg |



16G USB flash disk (included)



white/black plate (included)



glass calibration rule (graduation 0.1mm, included)

MAGNIFICATION AND VIEW FIELD

| Auxiliary objective | Specification | Camera adapter |
|---------------------|---------------|------------------|
| | | 0.5X (included) |
| 0.5X (optional) | magnification | 6.2~40X |
| | view field | 47×26~7.4×4mm |
| 1X (included) | magnification | 12.5~80X |
| | view field | 23.5×13~3.7×2mm |
| 2X (optional) | magnification | 25~160X |
| | view field | 11.8×6.5~1.8×1mm |

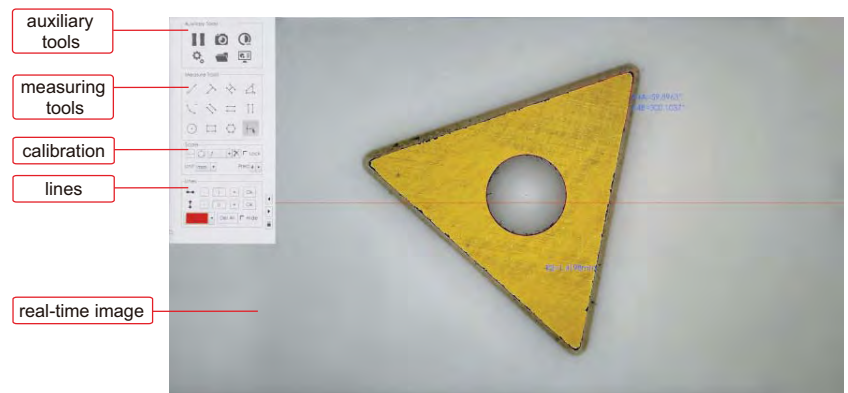
STANDARD DELIVERY

| | |
|------------------------|-------|
| Main unit | 1 pc |
| 0.5X camera adapter | 1 pc |
| 1X auxiliary objective | 1 pc |
| White/black plate | 1 pc |
| Glass calibration rule | 1 pc |
| 16G USB flash disk | 1 pc |
| Mouse | 1 pc |
| HDMI cable | 1 pc |
| Power adapter | 3 pcs |

OPTIONAL ACCESSORY

| | |
|--------------------------|------------|
| 0.5X auxiliary objective | 5318-OB05X |
| 2X auxiliary objective | 5318-OB2X |

MEASURING SOFTWARE (INCLUDED)



DIGITAL MEASURING MICROSCOPES

BUILT-IN SOFTWARE
WITHOUT COMPUTER

MEASUREMENT

TAKE
PICTURES



0.5X camera adapter
(included)



1X auxiliary objective
(included)



calibration plate
(included)



16G USB flash disk
(included)

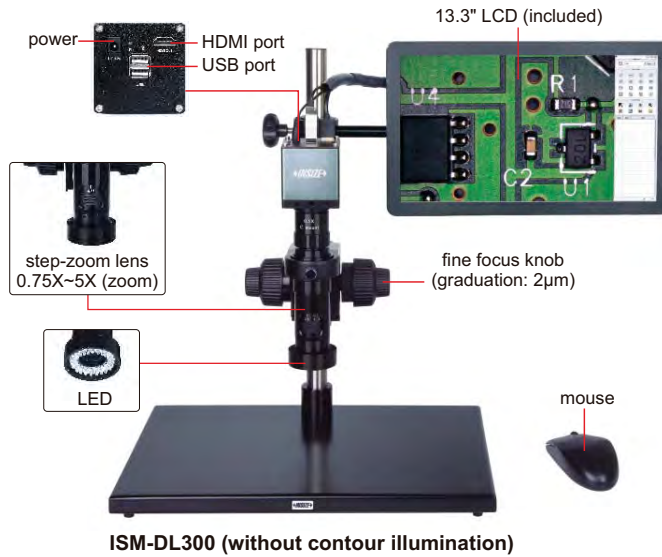


1X camera adapter
(optional)

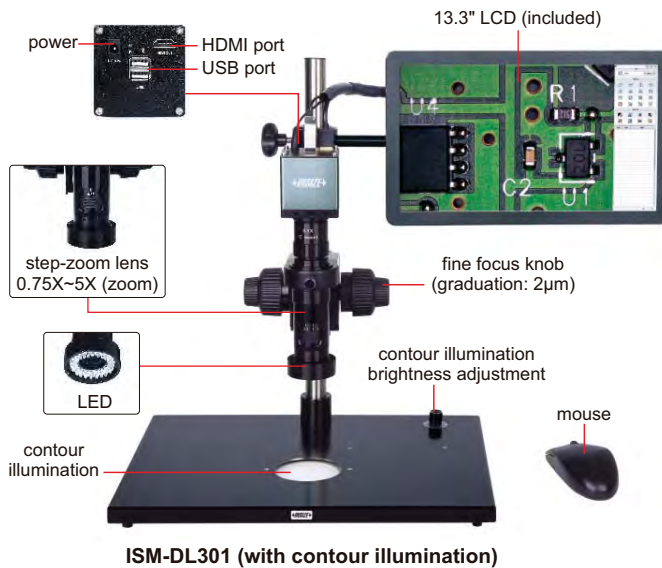


2X auxiliary objective
(optional)

- 1080P high-definition image
- Built-in software without computer, operated by mouse
- Take pictures, save to USB flash disk
- Measurement results can be sent to Excel
- Automatic white balance and exposure
- Brightness, contrast ratio, gain are adjustable



ISM-DL300 (without contour illumination)



ISM-DL301 (with contour illumination)

SPECIFICATION

| Code | ISM-DL300 (without contour illumination) | ISM-DL301 (with contour illumination) |
|-------------------|---|--|
| Magnification | 15X~100X | |
| Sensor | 1/2" CMOS | |
| Pixel | 2M | |
| Resolution | 1920×1080 | |
| Frame rate | 60fps | |
| Output | HDMI | |
| Power supply | power adapter | |
| Dimension (L×W×H) | 570×300×430mm | |
| Weight | 6.5kg | |

To be continued

Continued from previous page

STANDARD DELIVERY

| Code | ISM-DL300 | ISM-DL301 |
|------------------------|-----------|-----------|
| Main unit | 1 pc | 1 pc |
| 0.5X camera adapter | 1 pc | 1 pc |
| 1X auxiliary objective | 1 pc | 1 pc |
| Calibration plate | 1 pc | 1 pc |
| 16G USB flash disk | 1 pc | 1 pc |
| White/black plate | 1 pc | 1 pc |
| Mouse | 1 pc | 1 pc |
| HDMI cable | 1 pc | 1 pc |
| Power adapter | 2 pcs | 3 pcs |

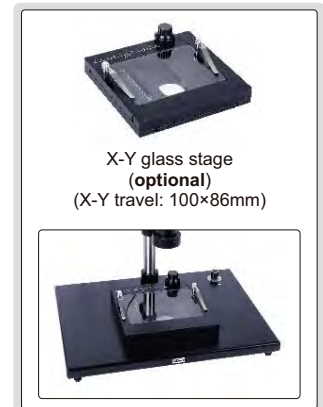
OPTIONAL ACCESSORY

| | |
|------------------------------------|---------------|
| 1X camera adapter | ISM-DL-CA1X |
| 2X auxiliary objective | ISM-DL-OB2X |
| X-Y glass stage (travel: 100×86mm) | ISM-DL-STAGE |
| X-Y metal stage | ISM-DL-STAGE1 |
| LED light | page 626~627 |
| Auxiliary objective | page 628 |

MAGNIFICATION AND MEASURING ACCURACY

| Objective magnification | Image magnification | Measuring accuracy* |
|-------------------------|---------------------|---------------------|
| 0.75X | 15X | ±8μm |
| 1X | 20X | ±7μm |
| 1.5X | 30X | ±6μm |
| 2X | 40X | ±6μm |
| 2.5X | 50X | ±6μm |
| 3X | 60X | ±5μm |
| 3.5X | 70X | ±5μm |
| 4X | 80X | ±4μm |
| 4.5X | 90X | ±4μm |
| 5X | 100X | ±4μm |

* When measuring the contour of workpieces, please use **ISM-DL301** to ensure accuracy.

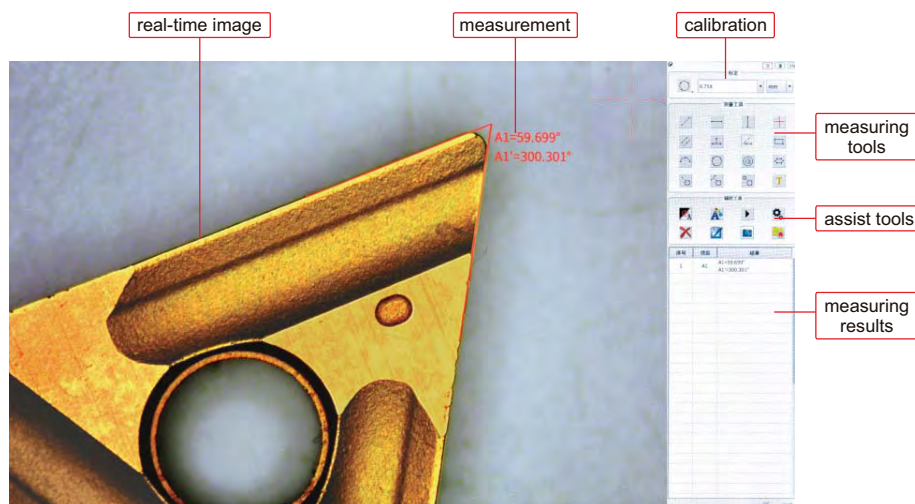


MAGNIFICATION, FOCUS DISTANCE AND VIEW FIELD

| Auxiliary objective | Specification | Camera adapter | |
|---------------------|----------------|-------------------|-------------------|
| | | 0.5X (included) | 1X (optional) |
| 1X (included) | magnification | 15~100X | 30~200X |
| | focus distance | 70±2mm | 70±2mm |
| | view filed | 16×11~2.5×1.6mm | 7.8×5.3~1.2×0.8mm |
| 2X (optional) | magnification | 30~200X | 60~400X |
| | focus distance | 29±2mm | 29±2mm |
| | view filed | 7.8×5.3~1.2×0.8mm | 3.8×2.7~0.6×0.4mm |

SOFTWARE (INCLUDED)

- Refer to page 623 for details

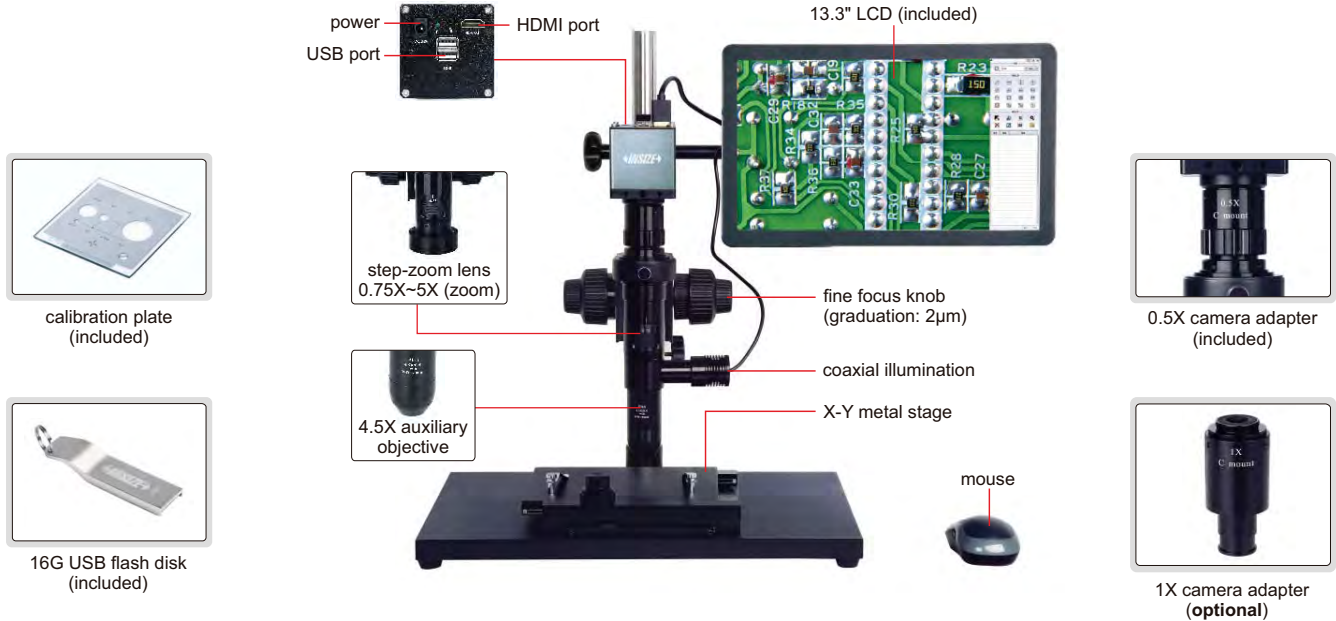


HIGH MAGNIFICATION MEASURING MICROSCOPE

CODE ISM-DL302

SOFTWARE IS INCLUDED,
REFER TO PAGE 623 FOR DETAILS

OBSERVATION AND MEASUREMENT
AT HIGH MAGNIFICATION



calibration plate
(included)



16G USB flash disk
(included)

- 1080P high-definition image
- Maximum 1000X optical magnification (using camera adapter 1X, optional)
- Built-in software without computer, operated by mouse
- Solid base and column to avoid lens shaking during focusing
- Software is included, refer to page 623 for details

SPECIFICATION

| | |
|-------------------|---------------|
| Magnification | 78X~504X |
| Sensor | 1/2" CMOS |
| Pixel | 2M |
| Resolution | 1920×1080 |
| Frame rate | 60fps |
| Output | HDMI |
| Power supply | power adapter |
| Dimension (L×W×H) | 570×300×430mm |
| Weight | 15kg |

SATNDARD DELIVERY

| | |
|--------------------------|------|
| Main unit | 1 pc |
| 0.5X camera adapter | 1 pc |
| 4.5X auxiliary objective | 1 pc |
| Calibration plate | 1 pc |
| 16G USB flash disk | 1 pc |
| Mouse | 1 pc |
| HDMI cable | 1 pc |
| X-Y metal stage | 1 pc |

OPTIONAL ACCESSORY

| | |
|-------------------|--------------|
| 1X camera adapter | ISM-DL-CA1X |
| LED light | page 626~627 |

MAGNIFICATION AND MEASURING ACCURACY

| Objective magnification | Image magnification | Measuring accuracy |
|-------------------------|---------------------|--------------------|
| 0.75X | 78X | ±5µm |
| 1X | 102X | ±4µm |
| 1.5X | 153X | ±4µm |
| 2X | 204X | ±4µm |
| 2.5X | 255X | ±4µm |
| 3X | 305X | ±4µm |
| 3.5X | 356X | ±4µm |
| 4X | 408X | ±4µm |
| 4.5X | 458X | ±4µm |
| 5X | 504X | ±4µm |

MAGNIFICATION, FOCUS DISTANCE AND VIEW FIELD

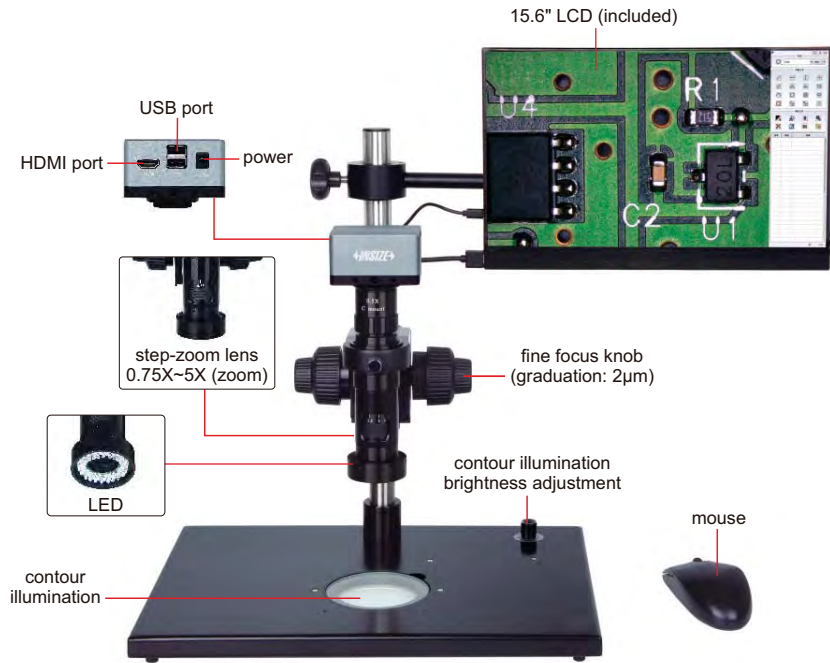
| | | |
|----------------|-------------------|-------------------|
| Camera adapter | 0.5X (included) | 1X (optional) |
| Magnification | 78~504X | 156~1008X |
| Focus distance | 14±2mm | 14±2mm |
| View field | 2.8×1.7~0.5×0.3mm | 1.4×0.9~0.3×0.2mm |

BUILT-IN SOFTWARE
WITHOUT COMPUTER

TAKE
PICTURES

MEASUREMENT

4K DIGITAL MEASURING MICROSCOPE CODE 5310-DL401



- 4K high-definition image
- Built-in software without computer, operated by mouse
- Take pictures, save to USB flash disk
- Measurement results can be sent to Excel
- Automatic white balance and exposure
- Brightness, contrast ratio, gain are adjustable

SPECIFICATION

| | |
|-------------------|-------------------------|
| Magnification | 17.6X~120X |
| Sensor | 1/2.3" CMOS |
| Pixel | 8M |
| Resolution | 3840×2160 |
| Frame rate | 4K: 30fps, 1080P: 60fps |
| Output | HDMI |
| Power supply | power adapter |
| Dimension (L×W×H) | 570×300×430mm |
| Weight | 6.5kg |



To be continued

Continued from previous page

MAGNIFICATION, VIEW FIELD AND MEASURING ACCURACY

| Objective magnification | Image magnification | View field | Measuring accuracy |
|-------------------------|---------------------|-------------|--------------------|
| 0.75X | 17.6X | 19.5×11.5mm | ±5μm |
| 1X | 23.7X | 14.0×8.0mm | ±5μm |
| 1.5X | 36.6X | 9.0×5.0mm | ±5μm |
| 2X | 49X | 7.0×4.0mm | ±5μm |
| 2.5X | 62X | 5.5×3.0mm | ±4μm |
| 3X | 73X | 4.5×2.5mm | ±4μm |
| 3.5X | 85X | 4.0×2.2mm | ±4μm |
| 4X | 97X | 3.5×2.0mm | ±3μm |
| 4.5X | 109X | 3.0×1.8mm | ±3μm |
| 5X | 120X | 2.7×1.5mm | ±3μm |

STANDARD DELIVERY

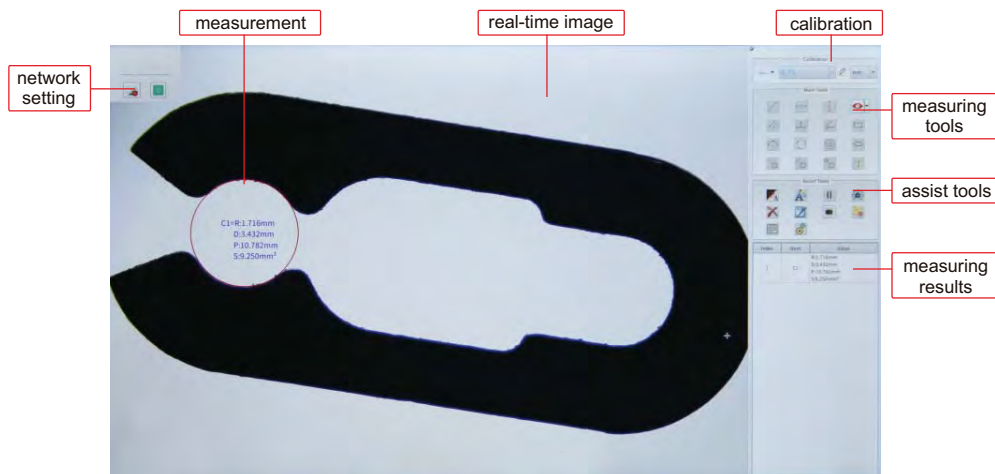
| | |
|------------------------|-------|
| Main unit | 1 pc |
| 0.5X camera adapter | 1 pc |
| 1X auxiliary objective | 1 pc |
| Calibration plate | 1 pc |
| 16G USB flash disk | 1 pc |
| White/black plate | 1 pc |
| Mouse | 1 pc |
| HDMI cable | 1 pc |
| Power adapter | 3 pcs |

OPTIONAL ACCESSORY

| | |
|------------------------------------|---------------|
| 1X camera adapter | ISM-DL-CA1X |
| 2X auxiliary objective | ISM-DL-OB2X |
| X-Y glass stage (travel: 100×86mm) | ISM-DL-STAGE |
| X-Y metal stage (travel: 100×86mm) | ISM-DL-STAGE1 |
| LED light | page 626~627 |
| Auxiliary objective | page 628 |

SOFTWARE (INCLUDED)

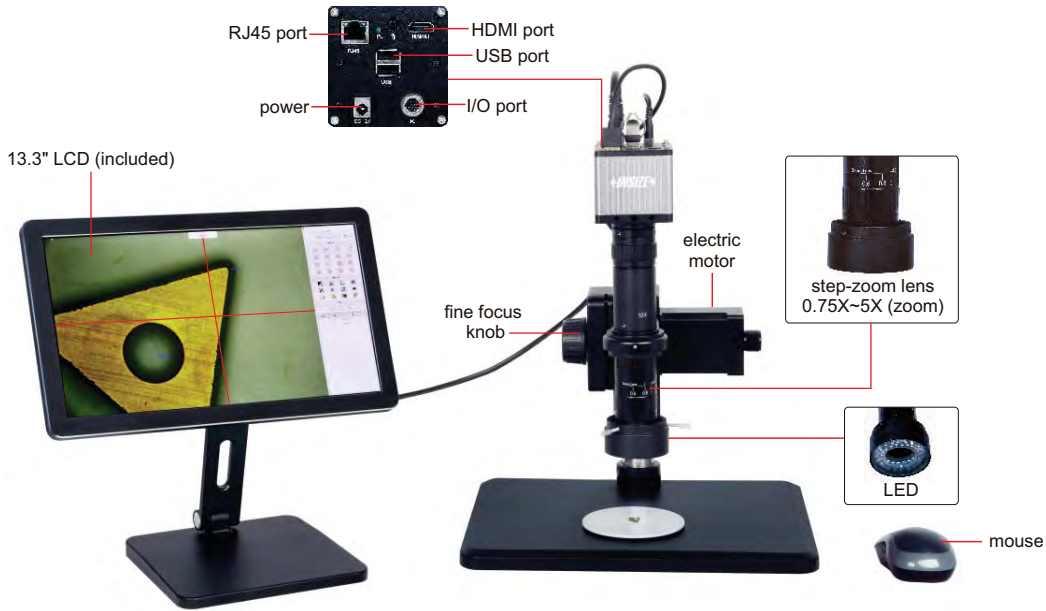
- Refer to page 623 for details



MOTORIZED FOCUS STACKING

BUILT-IN SOFTWARE WITHOUT COMPUTER

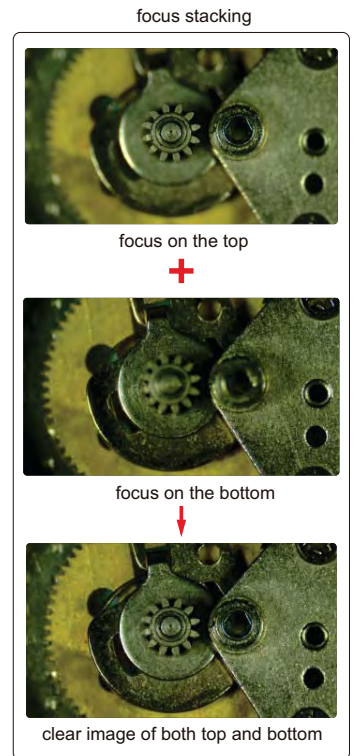
MOTORIZED FOCUS STACKING MICROSCOPE (LARGE DEPTH OF VIEW) CODE ISM-DL520



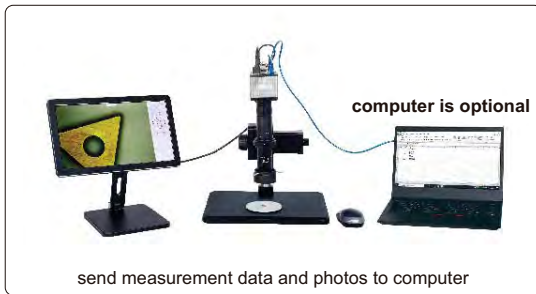
- 1080P high-definition image
- Built-in software without computer, operated by mouse
- Take pictures, save to USB flash disk
- Measurement results can be sent to Excel
- Automatic white balance and exposure
- Motorized focus stacking
- Send photos and measurement data via ethernet (TCP/IP)
- Name photos and measurement data files with serial number of workpieces read by scanner

SPECIFICATION

| | |
|-------------------|-----------------|
| Magnification | 24.5X~204.5X |
| View field | 2.8×1.6~18×10mm |
| Focus distance | 65mm |
| Sensor | 1/1.2" CMOS |
| Pixel | 2M |
| Resolution | 1920×1080 |
| Frame rate | 30fps |
| Output | RJ45 |
| Power supply | power adapter |
| Dimension (L×W×H) | 320×260×500mm |
| Weight | 7kg |



Continued from previous page



calibration plate (included)



16G USB flash disk (included)

STANDARD DELIVERY

| | |
|------------------------|-------|
| Main unit | 1 pc |
| 1X camera adapter | 1 pc |
| 1X auxiliary objective | 1 pc |
| Calibration plate | 1 pc |
| 16G USB flash disk | 1 pc |
| Mouse | 1 pc |
| LED ring light | 1 pc |
| White/black plate | 1 pc |
| Power adapter | 3 pcs |

MAGNIFICATION AND MEASURING ACCURACY

| Objective magnification | Image magnification | Measuring accuracy |
|-------------------------|---------------------|--------------------|
| 0.6X | 24.5X | ±8μm |
| 0.8X | 32.7X | ±7μm |
| 1X | 40.9X | ±6μm |
| 1.5X | 61.3X | ±6μm |
| 2X | 81.8X | ±6μm |
| 2.5X | 102.2X | ±5μm |
| 3X | 122.7X | ±5μm |
| 3.5X | 143.1X | ±4μm |
| 4X | 163.6X | ±4μm |
| 4.5X | 184.0X | ±4μm |
| 5X | 204.5X | ±4μm |

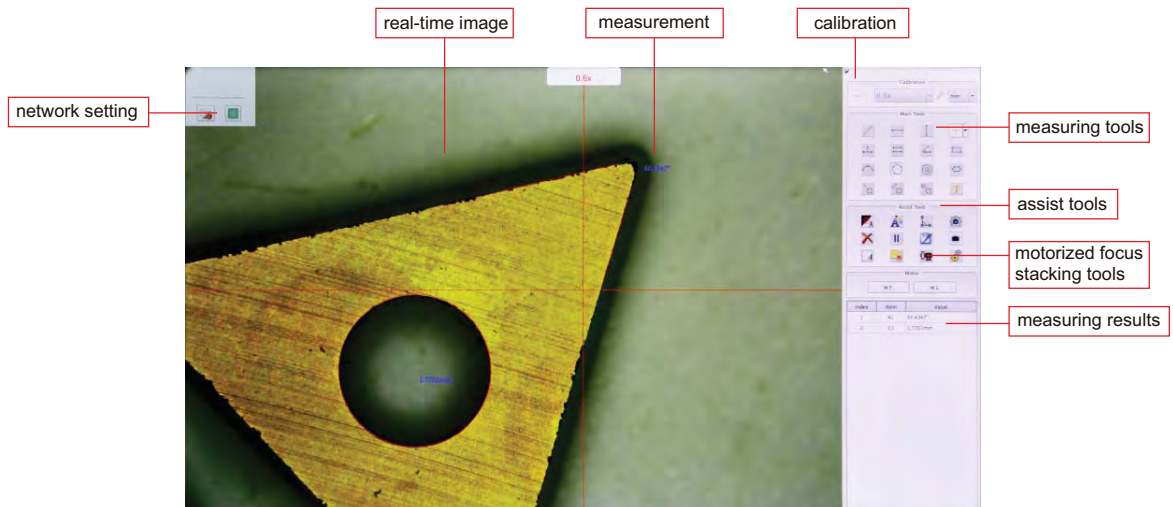


OPTIONAL ACCESSORY

| | |
|------------------------------------|---------------|
| X-Y metal stage (travel: 100×86mm) | ISM-DL-STAGE1 |
|------------------------------------|---------------|

SOFTWARE (INCLUDED)

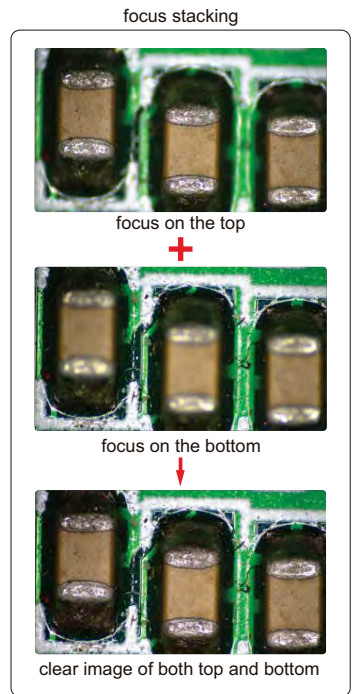
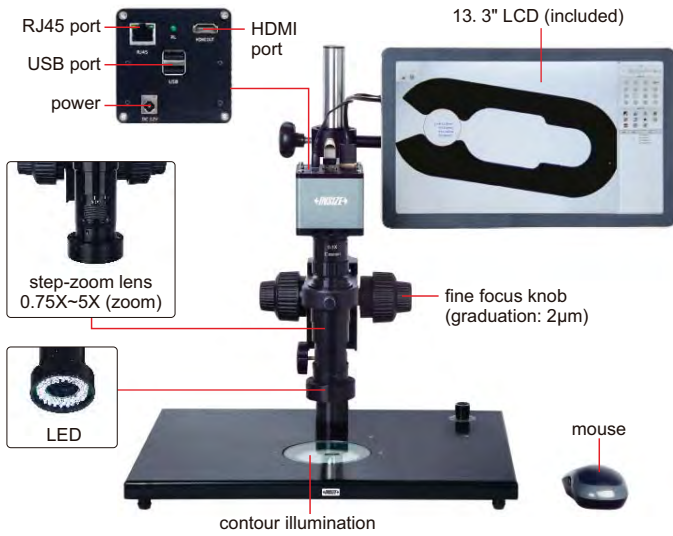
- Refer to page 623 for details



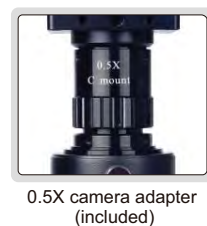
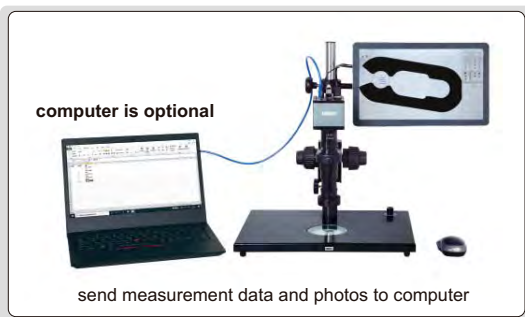
BUILT-IN SOFTWARE
WITHOUT COMPUTER

FOCUS
STACKING

MANUAL FOCUS STACKING MICROSCOPE (LARGE DEPTH OF VIEW) CODE ISM-DL510



- 1080P high-definition image
- Built-in software without computer, operated by mouse
- Take pictures, save to USB flash disk
- Measurement results can be sent to Excel
- Automatic white balance and exposure
- Focus stacking
- Send photos and measurement data via ethernet (TCP/IP)
- Name photos and measurement data files with serial number of workpieces read by scanner



SPECIFICATION

| | |
|-------------------|---------------|
| Magnification | 15X~100X |
| Sensor | 1/2" CMOS |
| Pixel | 2M |
| Resolution | 1920×1080 |
| Frame rate | 60fps |
| Output | HDMI |
| Power supply | power adapter |
| Dimension (L×W×H) | 570×300×430mm |

To be continued

Continued from previous page

STANDARD DELIVERY

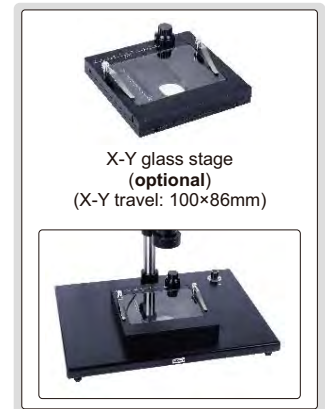
| | |
|------------------------|-------|
| Main unit | 1 pc |
| 0.5X camera adapter | 1 pc |
| 1X auxiliary objective | 1 pc |
| Calibration plate | 1 pc |
| 16G USB flash disk | 1 pc |
| White/black plate | 1 pc |
| Mouse | 1 pc |
| Power adapter | 3 pcs |

OPTIONAL ACCESSORY

| | |
|------------------------------------|--------------|
| 1X camera adapter | ISM-DL-CA1X |
| 2X auxiliary objective | ISM-DL-OB2X |
| X-Y glass stage (travel: 100×86mm) | ISM-DL-STAGE |
| Scanner and hub | 7328-SCAN |
| LED light | page 626~627 |
| Auxiliary objective | page 628 |

MAGNIFICATION AND MEASURING ACCURACY

| Objective magnification | Image magnification | Measuring accuracy |
|-------------------------|---------------------|--------------------|
| 0.75X | 15X | ±8μm |
| 1X | 20X | ±7μm |
| 1.5X | 30X | ±6μm |
| 2X | 40X | ±6μm |
| 2.5X | 50X | ±6μm |
| 3X | 60X | ±5μm |
| 3.5X | 70X | ±5μm |
| 4X | 80X | ±4μm |
| 4.5X | 90X | ±4μm |
| 5X | 100X | ±4μm |



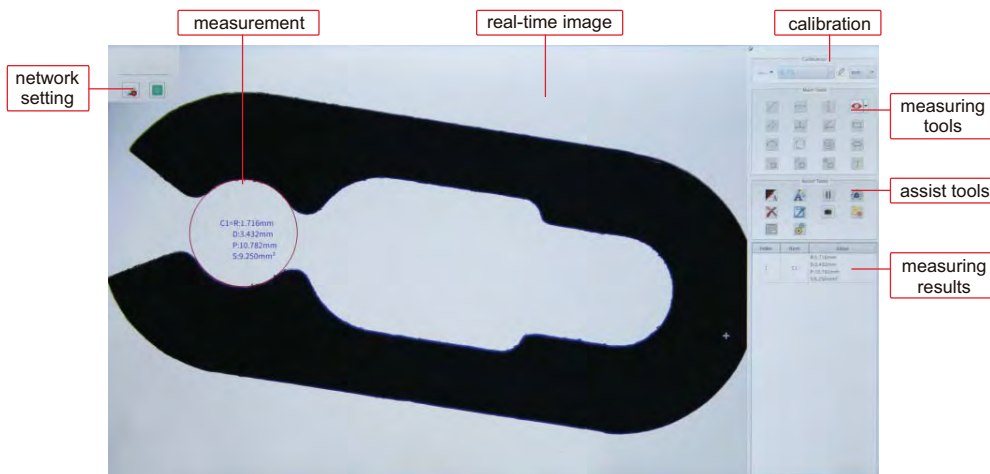
MAGNIFICATION, FOCUS DISTANCE AND VIEW FIELD

| Auxiliary objective | Specification | Camera adapter | |
|---------------------|----------------|-------------------|-------------------|
| | | 0.5X (included) | 1X (optional) |
| 1X (included) | magnification | 15~100X | 30~200X |
| | focus distance | 70±2mm | 70±2mm |
| | view filed | 16×11~2.5×1.6mm | 7.8×5.3~1.2×0.8mm |
| 2X (optional) | magnification | 30~200X | 60~400X |
| | focus distance | 29±2mm | 29±2mm |
| | view filed | 7.8×5.3~1.2×0.8mm | 3.8×2.7~0.6×0.4mm |

25

SOFTWARE (INCLUDED)

■ Refer to page 623 for details

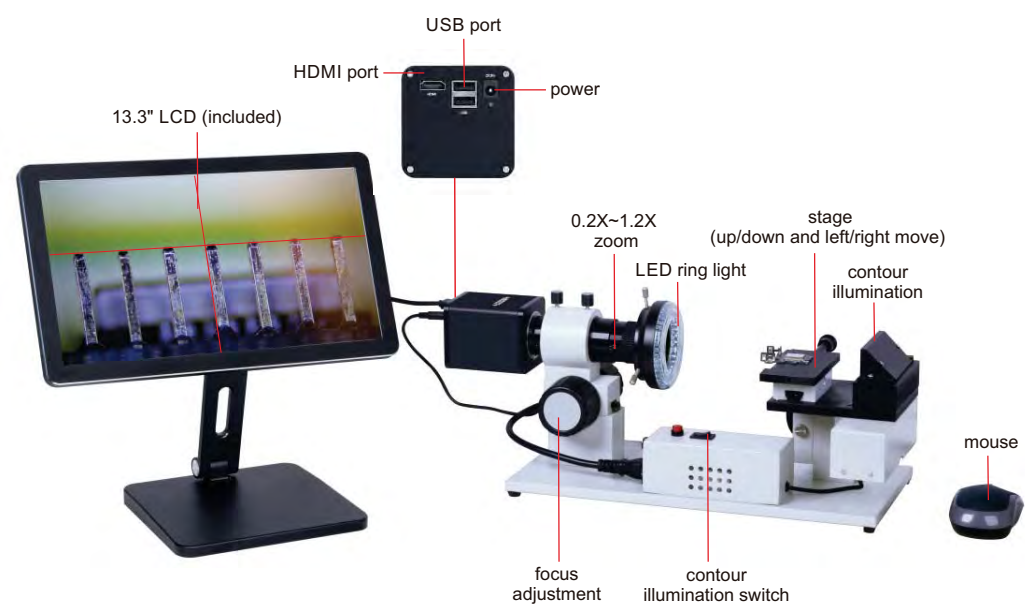




BUILT-IN SOFTWARE WITHOUT COMPUTER

TAKE PICTURES

HORIZONTAL MICROSCOPE CODE 5316-HM810



- 1080P high-definition image
- Built-in software without computer, operated by mouse
- Take pictures, save to USB flash disk
- Automatic white balance and exposure
- Brightness, contrast ratio, gain are adjustable
- Display cross hair (blue/green/red/yellow/black/brown colors)



plastic calibration rule (included, graduation 1mm)



16G USB flash disk (included)

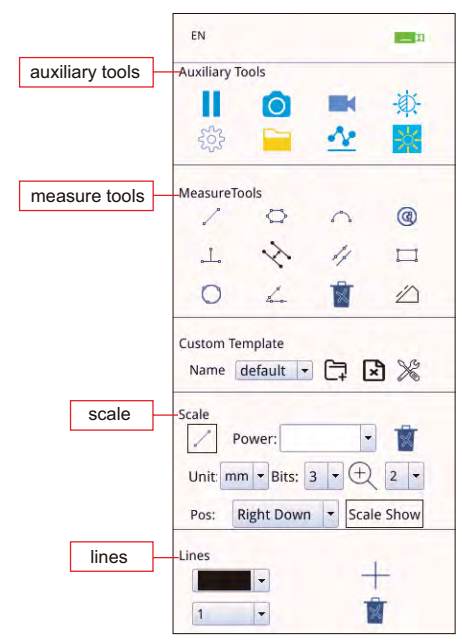
SPECIFICATION

| | |
|--------------------|--------------------|
| Magnification | 10.5X~62.5X |
| View field | 4.5×2.5~28×12.3mm |
| Focus distance | 115mm |
| Measuring accuracy | ±0.02mm |
| Sensor | 1/2.8" CMOS |
| Pixel | 2M |
| Resolution | 1920×1080 |
| Frame rate | 1080P: 60fps/50fps |
| Output | HDMI |
| Power supply | 110/220V, 50/60Hz |
| Dimension (L×W×H) | 500×200×200mm |
| Weight | 7kg |

STANDARD DELIVERY

| | |
|--------------------------|------|
| Main unit | 1 pc |
| 1X camera adapter | 1 pc |
| 1X auxiliary adapter | 1 pc |
| Plastic calibration rule | 1 pc |
| 16G USB flash disk | 1 pc |
| Mouse | 1 pc |
| LED ring light | 1 pc |

SOFTWARE (INCLUDED)



FLEXIBLE ARM AUTO FOCUS DIGITAL MICROSCOPES

AUTO FOCUS

TAKE PICTURES AND VIDEOS

MEASUREMENT

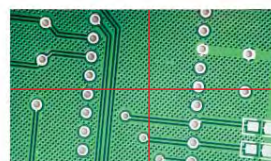


5317-AF109



5317-AF110

- 1080P high-definition image
- Auto focus camera
- Take pictures and videos, saved to USB flash disk
- Picture review, picture compare
- Automatic exposure and white balance
- Brightness, contrast ratio, gain are adjustable
- Display cross hair (blue/green/red/yellow/black/brown colors)
- Built-in software without computer, operation by mouse
- Flexible arm



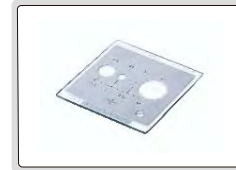
display cross hair (blue/green/red/yellow/black/brown colors)

To be continued

Continued from previous page

SPECIFICATION

| | | |
|---------------------------|--|---|
| Code | 5317-AF109 (with magnetic stand) | 5317-AF110 (with desktop clamp) |
| Magnification | 20X~123X | |
| Sensor | 1/2.8" CMOS | |
| Pixel | 2M | |
| Resolution | 1920×1080 | |
| Frame rate | 60fps | |
| Power supply | power adapter | |
| Dimension (height) | 480mm | 600mm |
| Weight | 5.6kg | 8.5kg |



calibration plate
(included)



16G USB flash disk
(included)



0.5X camera adapter
(included)



1X auxiliary objective
(included)

MAGNIFICATION, FOCUS DISTANCE AND VIEW FIELD

| Auxiliary objective | Specification | Camera adapter | |
|---------------------|--------------------|-------------------|-------------------|
| | | 0.5X (included) | 1X (optional) |
| 1X (included) | magnification | 20~123X | 40~246X |
| | focus distance | 48~84mm | 48~84mm |
| | view field | 13×7~2.2×1mm | 6.3×3.5~1.1×0.5mm |
| | measuring accuracy | ±0.02mm | ±0.02mm |
| 2X (optional) | magnification | 40~246X | 80~492X |
| | focus distance | 24~42mm | 24~42mm |
| | view field | 6.5×3.5~1.1×0.5mm | 3.3×1.8~0.6×0.3mm |
| | measuring accuracy | ±0.02mm | ±0.02mm |

STANDARD DELIVERY

| | |
|------------------------|-------|
| Main unit | 1 pc |
| 0.5X camera adapter | 1 pc |
| 1X auxiliary objective | 1 pc |
| Calibration plate | 1 pc |
| 16G USB flash disk | 1 pc |
| White/black plate | 1 pc |
| Mouse | 1 pc |
| HDMI cable | 1 pc |
| Power adapter | 2 pcs |

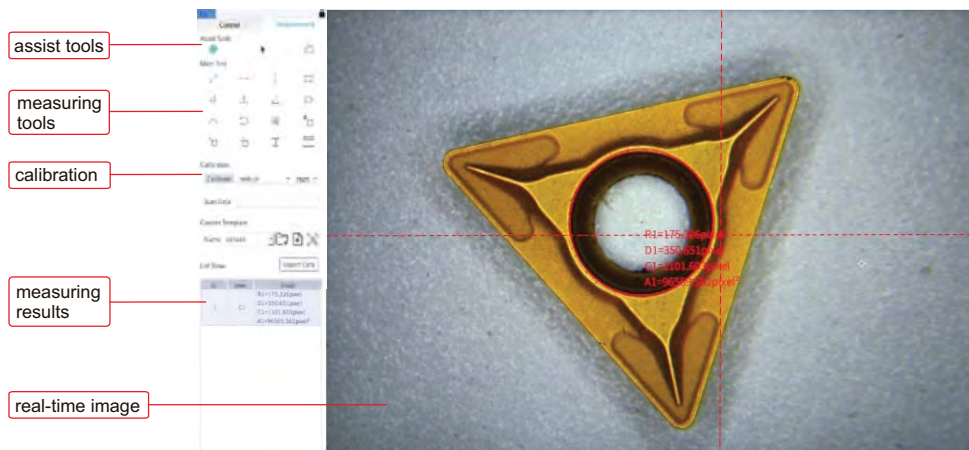
AUTO FOCUS DISTANCE

| | | | | | |
|-----------------------------|---------|---------|---------|---------|---------|
| Zoom objective scale | 0.75X | 1X | 1.5X | 2X | 2.5X |
| Auto focus distance | 48~84mm | 50~78mm | 55~73mm | 62~71mm | 65~70mm |
| Zoom objective scale | 3X | 3.5X | 4X | 4.5X | 5X |
| Auto focus distance | 66~70mm | 67~70mm | 68~70mm | 68~70mm | 68~70mm |

OPTIONAL ACCESSORY

| | |
|------------------------|-------------|
| 1X camera adapter | ISM-DL-CA1X |
| 2X auxiliary objective | ISM-DL-OB2X |
| Auxiliary objective | page 628 |

MEASURING SOFTWARE (INCLUDED)



DIGITAL MEASURING MICROSCOPE (BASIC TYPE) CODE 5307-ID100A

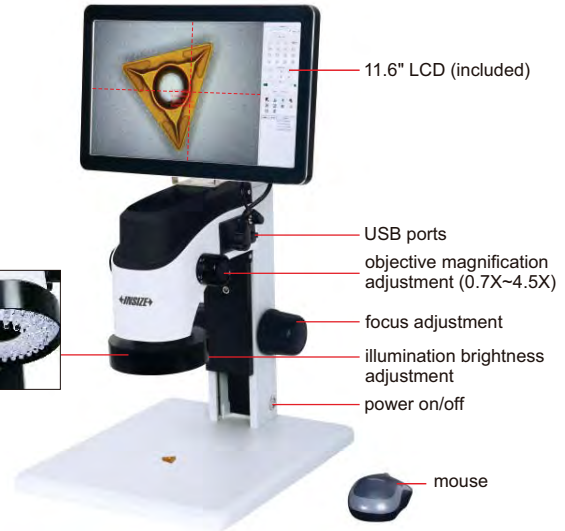
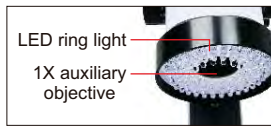
ELECTRONIC MAGNIFICATION
FEEDBACK LENS

BUILT-IN SOFTWARE
WITHOUT COMPUTER



- Electronic magnification feedback lens: when the objective lens magnification is changed manually, the software automatically selects the corresponding pre-calibration data and calibration is not needed
- Two methods of LED brightness adjustment, knob adjustment and software adjustment
- Built-in software without computer, operated by mouse
- Take pictures, save to USB flash disk
- Measuring results can be sent to Excel

adjustable display angle



SPECIFICATION

| | |
|-----------------------|---------------------|
| Sensor | 1/2" CMOS |
| Pixel | 2M |
| Resolution | 1920×1080 |
| Magnification | 12~77X |
| Focus distance | 65mm |
| View field | 3.2×1.8~20.9×11.7mm |
| Max. workpiece height | 60mm |
| Frame rate | 60fps |
| Output | USB/HDMI |
| Power supply | power adapter |
| Dimension (L×W×H) | 260×320×500mm |
| Weight | 5.2kg |

STANDARD DELIVERY

| | |
|--------------------|------|
| Main unit | 1 pc |
| Calibration plate | 1 pc |
| Power adapter | 1 pc |
| Mouse | 1 pc |
| 16G USB flash disk | 1 pc |

MAGNIFICATION AND MEASURING ACCURACY

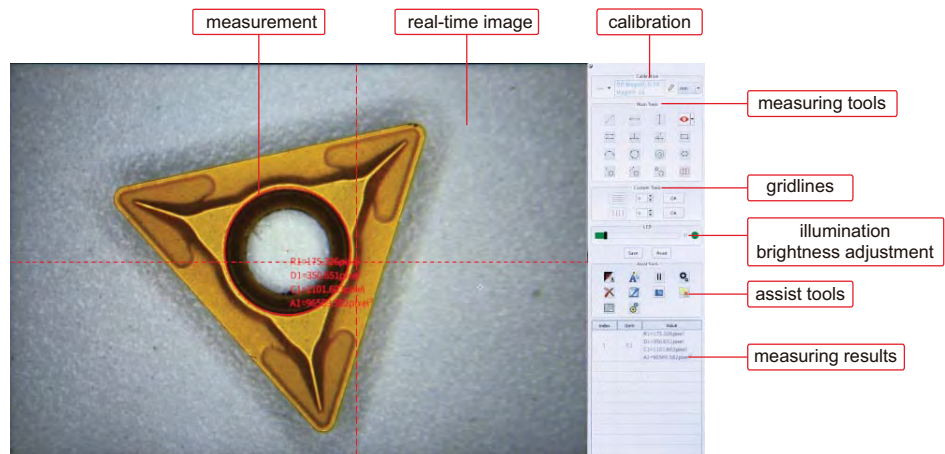
| Objective magnification | Magnification | Measuring accuracy |
|-------------------------|---------------|--------------------|
| 0.7X | 12X | ±9μm |
| 1X | 17X | ±9μm |
| 1.5X | 26X | ±8μm |
| 2X | 35X | ±7μm |
| 2.5X | 43X | ±7μm |
| 3X | 51X | ±7μm |
| 3.5X | 60X | ±6μm |
| 4X | 68X | ±6μm |
| 4.5X | 77X | ±5μm |

OPTIONAL ACCESSORY

| | |
|---------------------------|--------------------|
| 0.5X auxiliary objective | 5307-ID100A-OB05X |
| 0.75X auxiliary objective | 5307-ID100A-OB075X |
| 2X auxiliary objective | 5307-ID100A-OB2X |

SOFTWARE (INCLUDED)

- Refer to page 623 for details



LARGE DEPTH OF VIEW DIGITAL MEASURING MICROSCOPE (ADVANCED TYPE) CODE 5322-ID250A

DUAL SCREEN OPERATION

FOCUS STACKING

ELECTRONIC MAGNIFICATION FEEDBACK LENS

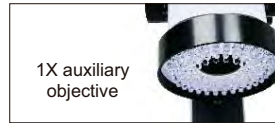
PROGRAMMABLE SEGMENTED RING LIGHT



adjustable display angle



eight-zone LED ring light



- Electronic magnification feedback lens: when the objective lens magnification is changed manually, the software automatically selects the corresponding pre-calibration data and calibration is not needed
- Send photos and measurement data via ethernet (TCP/IP)
- Digital magnification
- Can be connected to display and computer at the same time
- Take pictures, save to USB flash disk
- Measuring results can be sent to Excel



16G USB flash disk (included)



calibration plate (included)

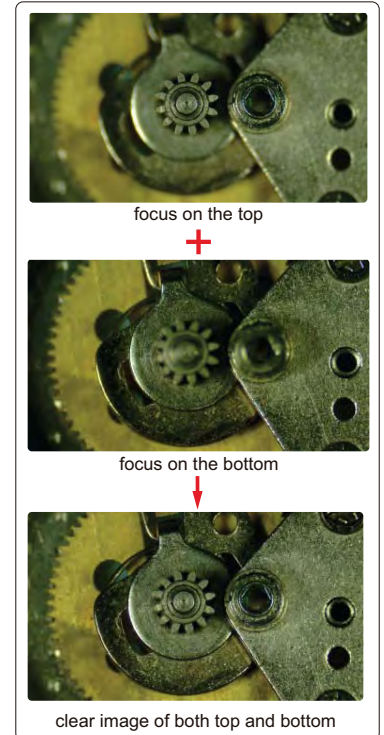
SPECIFICATION

| | |
|-----------------------|---------------------|
| Sensor | 1/2" CMOS |
| Pixel | 2M |
| Resolution | 1920×1080 |
| Magnification | 12~77X |
| Focus distance | 60mm |
| View field | 3.2×1.8~20.9×11.7mm |
| Max. workpiece height | 53mm |
| Frame rate | 60fps |
| Output | USB/HDMI/LAN |
| Power supply | power adapter |
| Dimension (L×W×H) | 260×320×500mm |
| Weight | 5.2kg |

MAGNIFICATION AND MEASURING ACCURACY

| Objective magnification | Magnification | Measuring accuracy |
|-------------------------|---------------|--------------------|
| 0.7X | 12X | ±9μm |
| 1X | 17X | ±9μm |
| 1.5X | 26X | ±8μm |
| 2X | 35X | ±7μm |
| 2.5X | 43X | ±7μm |
| 3X | 51X | ±7μm |
| 3.5X | 60X | ±6μm |
| 4X | 68X | ±6μm |
| 4.5X | 77X | ±5μm |

focus stacking



To be continued

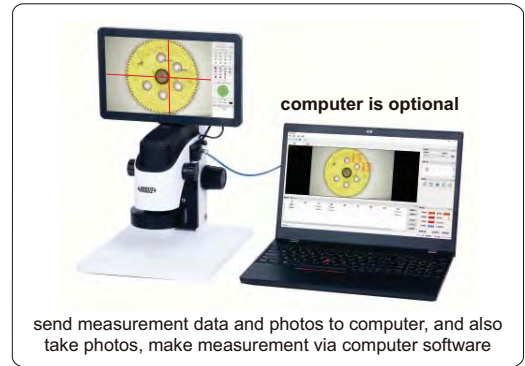
Continued from previous page

STANDARD DELIVERY

| | |
|--------------------|------|
| Main unit | 1 pc |
| Calibration plate | 1 pc |
| Power adapter | 1 pc |
| Mouse | 1 pc |
| 16G USB flash disk | 1 pc |

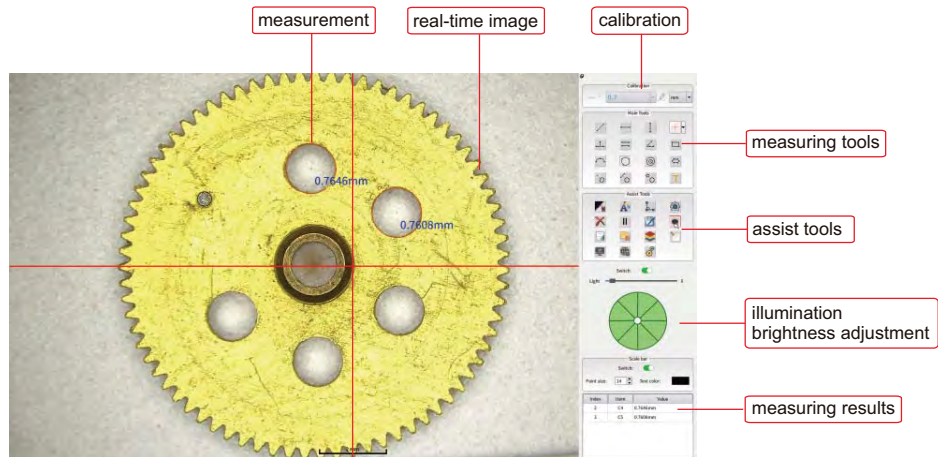
OPTIONAL ACCESSORY

| | |
|---------------------------|--------------------|
| 0.5X auxiliary objective | 5307-ID100A-OB05X |
| 0.75X auxiliary objective | 5307-ID100A-OB075X |
| 2X auxiliary objective | 5307-ID100A-OB2X |

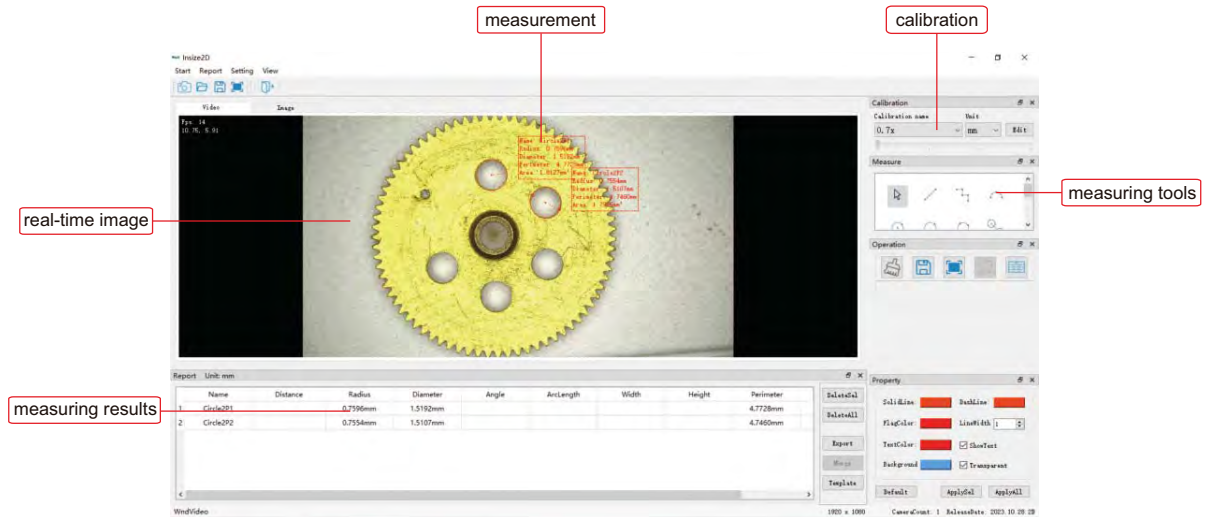


SOFTWARE FOR LCD (INCLUDED)

- Refer to page 623 for details



SOFTWARE FOR COMPUTER (INCLUDED)





NO CALIBRATION
AFTER ZOOM

TAKE PICTURES
AND VIDEOS

MEASUREMENT

MOTORIZED
ZOOM

MOTORIZED
LIGHT CONTROL

AUTO
FOCUS

AUTO FOCUS DIGITAL MICROSCOPE (PROFESSIONAL TYPE) CODE 5319-AF290



- Auto focus camera
- Take pictures and videos
- Built-in measuring software
- Automatic exposure and white balance
- Brightness, contrast ratio, gain are adjustable
- Display actual magnification
- Digital magnification
- Shortcut keyboard operation
- Display cross hair and gridline (blue/green/red/yellow/black/white colors)

SPECIFICATION

| | |
|--------------------|---------------|
| Magnification | 27.4X~163X |
| Sensor | 1/2.8" CMOS |
| Pixel | 2M |
| Measuring accuracy | ±0.02mm |
| Resolution | 1920×1080 |
| Frame rate | 50/60fps |
| Output | HDMI |
| Power supply | power adapter |
| Dimension (L×W×H) | 600×280×390mm |
| Weight | 6.5kg |

STANDARD DELIVERY

| | |
|------------------------|-------|
| Main unit (with stand) | 1 pc |
| 21.5" LCD | 1 pc |
| 16G USB flash disk | 1 pc |
| Mouse | 1 pc |
| HDMI cable | 1 pc |
| Calibration plate | 1 pc |
| White/black plate | 1 pc |
| Shortcut keyboard | 1 pc |
| Power adapter | 2 pcs |

FOCUS DISTANCE AND VIEW FIELD

| | | | | | | |
|-----------------------|------------------|-----------------|---------------|-----------------|---------------|---------------|
| Optical magnification | 0.8X | 1X | 2X | 3X | 4X | 4.76X |
| Focus distance | 88~133mm | 88~133mm | 98~123mm | 103~115mm | 108~111mm | 108~111mm |
| View field (mm) | 19.4×11~15.8×8.8 | 15×8.3~12.7×7.2 | 7.1×4~6.7×3.8 | 4.8×2.7~4.5×2.5 | 3.6×2~3.3×1.8 | 3×1.7~2.8×1.6 |

* The optical zoom lens can be arbitrarily zoomed between 0.8X and 4.76X

shortcut keyboard (included)

Shortcut keyboard function

- Take picture: take a picture and save it
- Video: record a video
- Freeze: the image can be frozen
- Manual focus-: reduce the manual focus value
- Manual focus+: increase the manual focus value
- Zoom+: increase the magnification
- Zoom-: reduce the magnification
- AF/MF: switch to auto focus or manual focus
- FBL: center the camera motor
- Mirror: image horizontal flipover
- Flip: image vertical flipover
- Focus: achieve one-key focus
- Zoom 1, 2, 3, 4: save the current magnification
- Brightness+: increase the brightness of the light
- Brightness-: reduce the brightness of the light

SOFTWARE (INCLUDED)

focus

focus area

exposure

AWB

light control

function

assist tools

main tools

calibration

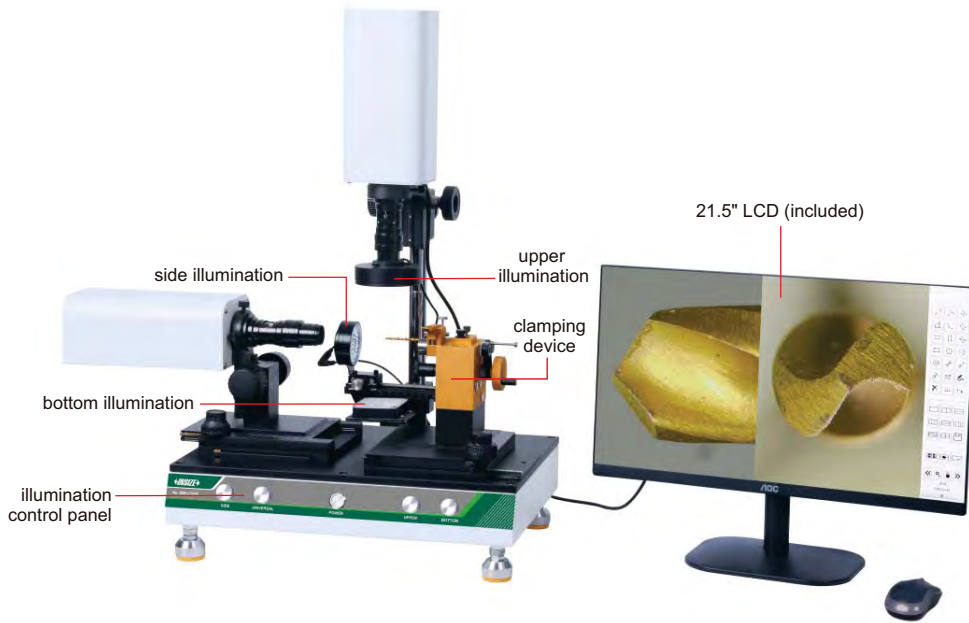
list show

CUTTING TOOLS MICROSCOPE CODE ISM-CT820

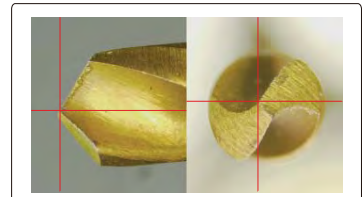
TAKE PICTURES
AND VIDEOS

BUILT-IN SOFTWARE
WITHOUT COMPUTER

SPLIT SCREEN
DESIGN



glass calibration plate (included)



display cross hairs separately (movable)

- Split screen design, zoom in and out independently
- One mouse can operate two cameras
- Display cross hairs
- Brightness, contrast ratio, white balance are adjustable
- Basic measuring tools including point to point, line to line, angle, three-point circle, etc.

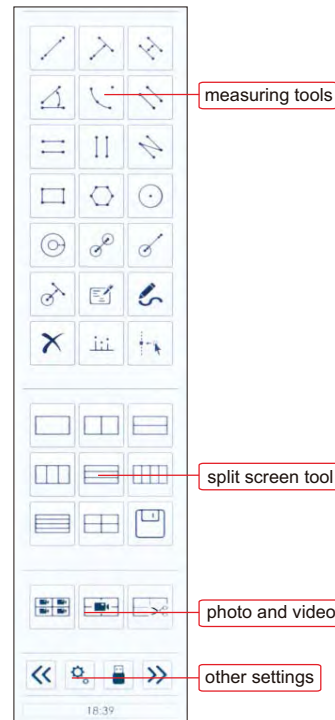
SPECIFICATION

| | |
|---------------------|-------------------------|
| Cutting tools range | Ø4~12mm, length 30-75mm |
| Lens | step-zoom lens |
| Output | HDMI |
| Resolution | 1920×1080 |
| Frame rate | 60fps |
| Focus distance | 85mm |
| View field | 2×3.5~13.2×23.9mm |
| Magnification | 20-132X |
| Power supply | AC 100-240V |
| Dimension (L×W×H) | 450×300×700mm |
| Weight | 20kg |

STANDARD DELIVERY

| | |
|-------------------------|------|
| Main unit | 1 pc |
| Display | 1 pc |
| 32G USB flash disk | 1 pc |
| Mouse | 1 pc |
| HDMI cable | 1 pc |
| Glass calibration plate | 1 pc |
| Anti-dust cover | 1 pc |

SOFTWARE (INCLUDED)



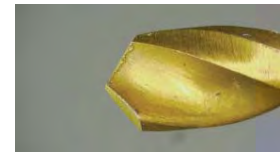
measuring tools

split screen tool

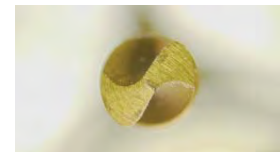
photo and video

other settings

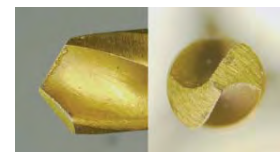
screen display



single screen display



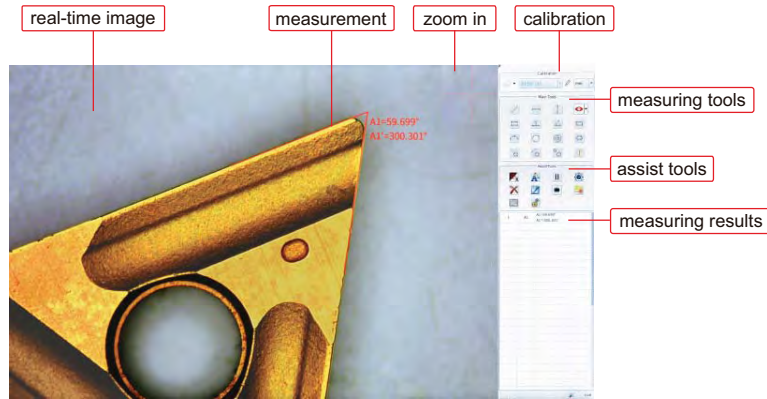
single screen display



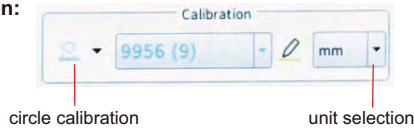
split screen display

SOFTWARE CAN BE CUSTOMIZED

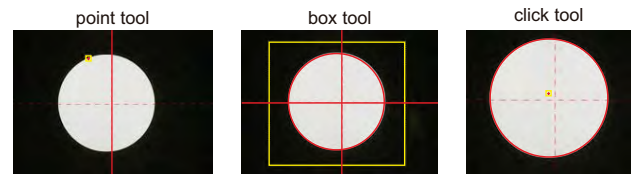
MEASURING SOFTWARE OF DIGITAL MICROSCOPES



- **Included in digital microscopes (ISM-DL300, ISM-DL301, 5310-DL401, ISM-DL302, ISM-DL510, ISM-DL520, 5307-ID100A)**
- **Language:** Simplified Chinese, Traditional Chinese, English, Korean
- **Calibration:**



Edge-detection:



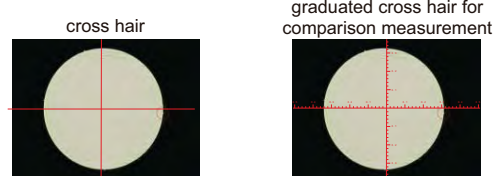
Measurement tools:

- | | | |
|--|---|---|
| measure length of line or distance between two points | measure length of line or distance between two points in horizontal direction | measure length of line or distance between two points in vertical direction |
| measure angle from horizontal line | measure angle from vertical line | measure angle of two lines |
| measure distance between two parallel lines | measure distance between two parallel lines | measure distance between multiple parallel lines |
| measure distance between point and line | measure radius, length and angle of arc | measure girth and area of polygon |
| measure radius, diameter, girth and area of circle with three points | measure radius, diameter, girth and area concentric of circles | measure length, width, girth and area of rectangle |
| measure minimum distance between point and circle | measure distance between point and center of circle | measure maximum distance between point and circle |
| measure minimum distance between line and circle | measure distance between line and center of circle | measure maximum distance between line and circle |
| measure minimum distance between two circles | measure center distance between two circles | measure maximum distance between two circles |
| add text | measure radius, diameter, girth and area of circle with two points | cross hair and graduated cross hair |

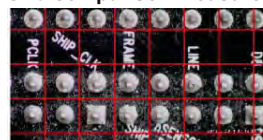
Assist tools:

- | | |
|--------------------------------------|-----------------------------------|
| manual/automatic point selection | delete images |
| line width and color settings | export measurement data to U disk |
| freeze screen | take pictures and save |
| camera parameter settings | review pictures |
| layout settings of measurement items | system settings |

Cross hair:



Grid comparison measurement:



full-screen grid for comparison measurement, adjustable grid number

Output to Excel:

| | | |
|---|----|----------------------------|
| 1 | A1 | A1=59.699° A1'=300.301° |
| | | |
| | | |

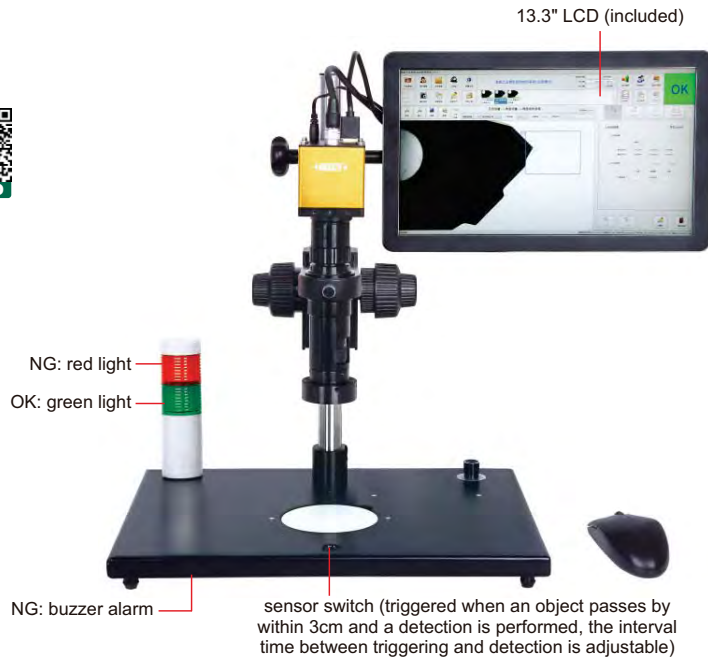
Comparison:

set the standard workpiece as the background image, superimpose the measured workpieces on the image for quick comparison

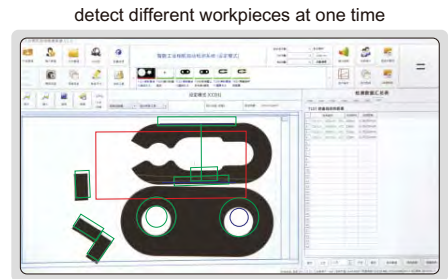
SMART MICROSCOPE CODE ISM-DL400

**AUTOMATICALLY LOCATE WORKPIECES
REGARDLESS OF POSITION AND DIRECTION**

**BUILT-IN SOFTWARE
WITHOUT COMPUTER**



- camera function
- surface defect detection
 - dimension measurement
 - read barcode
 - burr detection
 - contour matching
 - character recognition
 - color detection
 - read QR code
 - object counting
 - thread measurement



- Automatically identify different workpieces
- Automatically locate workpieces regardless of position and direction
- Built-in software, PLC control input and output interface
- Including multiple detection tools
- Automatically calculate, store the test results and sent to Excel

| Workpiece | Work Name | Detection Time | OK Count | NG Count | Yield Rate | Detection Rate |
|-----------|-----------|----------------|----------|----------|------------|----------------|
| T102 | Cluster | 400 | 300 | 100 | 75.0% | 99.9% |
| T103 | Cluster | 400 | 300 | 100 | 75.0% | 99.9% |

report showing the perform times of each tool, quantity of OK and NG, the report can be saved

| Workpiece | Detection Number | Detection Time | Detection Color | Number of Spots | Maximum Value |
|-----------|------------------|----------------|-----------------|-----------------|---------------|
| T102 | 001001_001 | 31ms | 白色 | 0 | 0.0000mm |
| T102 | 001151_001 | 31ms | 白色 | 0 | 0.0000mm |
| T102 | 001202_001 | 31ms | 白色 | 0 | 0.0000mm |

report of each detection is automatically created and saved

SPECIFICATION

| | |
|-------------------|---------------|
| Magnification | 15X~100X |
| Resolution | 1920×1080 |
| Pixel | 2M |
| Single pixel size | 3.75×3.75μm |
| Frame rate | 60fps |
| Sensor | 1/2" CMOS |
| Chip structure | FPGA+ARM |
| Operation system | Linux 3.10 |
| Power supply | power adapter |
| Dimension (L×W×H) | 570×300×430mm |
| Weight | 6.5kg |

STANDARD DELIVERY

| | |
|------------------------|-------|
| Main unit | 1 pc |
| 0.5X camera adapter | 1 pc |
| 1X auxiliary objective | 1 pc |
| Calibration plate | 1 pc |
| 16G USB flash disk | 1 pc |
| White/black plate | 1 pc |
| HDMI cable | 1 pc |
| Power adapter | 3 pcs |

MAGNIFICATION, FOCUS DISTANCE AND VIEW FIELD

| Auxiliary objective | Specification | Camera adapter | |
|---------------------|----------------|-------------------|-------------------|
| | | 0.5X (included) | 1X (optional) |
| 1X (included) | magnification | 15~100X | 30~200X |
| | focus distance | 70±2mm | 70±2mm |
| | view filed | 16×11~2.5×1.6mm | 7.8×5.3~1.2×0.8mm |
| 2X (optional) | magnification | 30~200X | 60~400X |
| | focus distance | 29±2mm | 29±2mm |
| | view filed | 7.8×5.3~1.2×0.8mm | 3.8×2.7~0.6×0.4mm |

OPTIONAL ACCESSORY

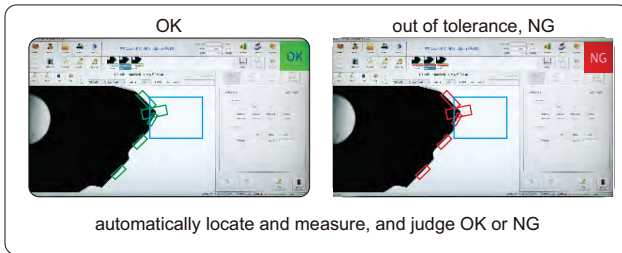
| | |
|------------------------|--------------|
| 1X camera adapter | ISM-DL-CA1X |
| 2X auxiliary objective | ISM-DL-OB2X |
| LED light | page 626~627 |
| Auxiliary objective | page 628 |

To be continued

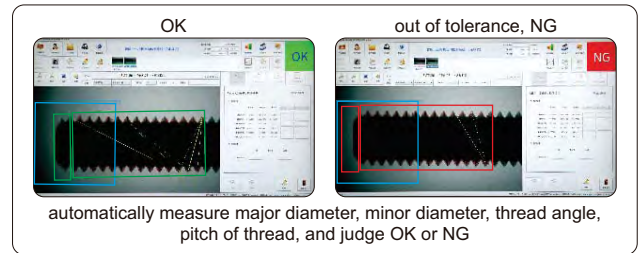
Continued from previous page

■ APPLICATION EXAMPLES:

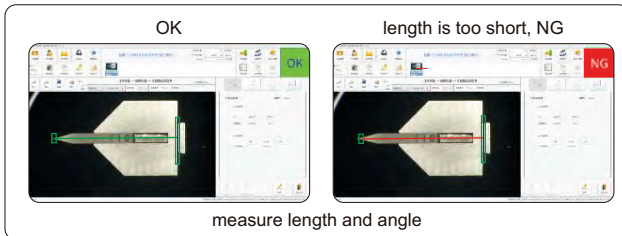
dimension measurement



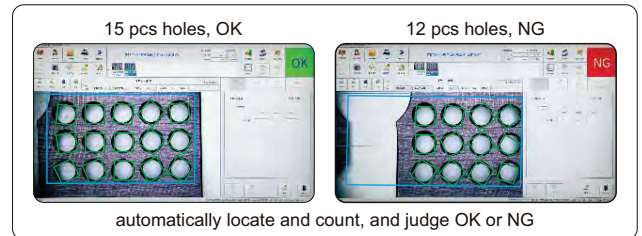
thread measurement



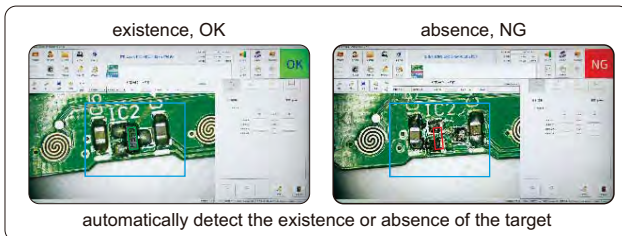
cutting tools measurement



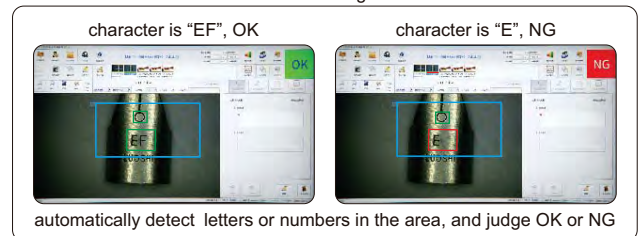
counting



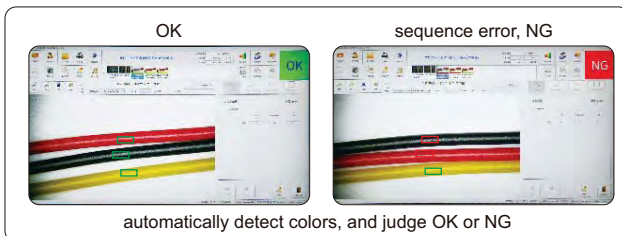
existence or absence



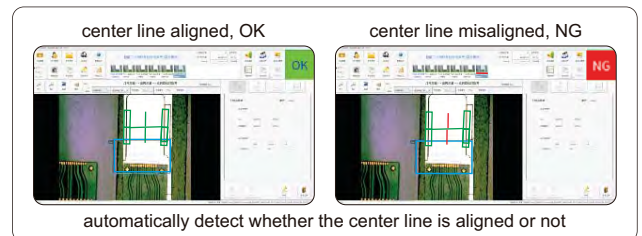
character recognition



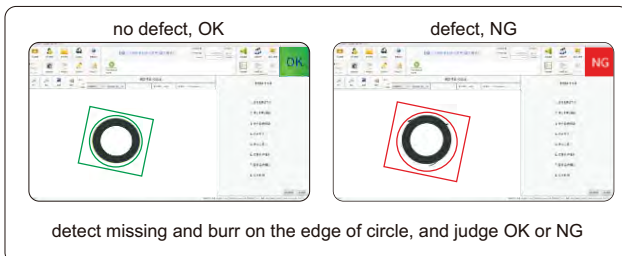
color detection



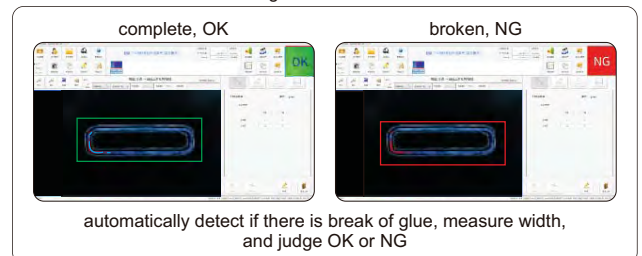
location detection



surface defect detection



glue detection

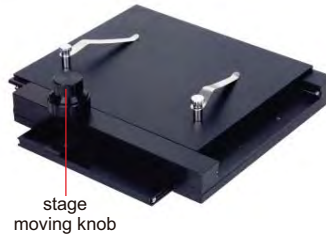


X-Y METAL STAGE CODE ISM-DL-STAGE1

- Suitable for digital microscopes 5315-S710, 5301-D400, 5313-S407, 5310-DL401, 5303-AF103, ISM-DL300, ISM-DL301, ISM-DL302, ISM-DL520

SPECIFICATION

| | |
|-------------------|--------------|
| X-Y travel range | 100×86mm |
| Dimension (L×W×H) | 180×180×50mm |
| Weight | 2.3kg |



LED RING LIGHT CODE ISM-LED-9245R

- Diffuser plate is included to reduce the reflective effect on workpieces
- Suitable for digital microscopes 5303-AF103, 5310-DL401, ISM-DL300, ISM-DL301, ISM-DL302, ISM-DL400, ISM-DL510, 5315-S710

SPECIFICATION

| | |
|-------------------------|---------|
| Light color | white |
| Power supply | 24V |
| Power | 5.5W |
| Angle | 45° |
| Outside/inside diameter | 92/52mm |

RED, GREEN, BLUE, INFRARED AND UV LIGHT CAN BE CUSTOMIZED

ATTENTION: MUST BE USED WITH LIGHT BRACKET AND LIGHT CONTROLLER



LED SQUARE LIGHT CODE ISM-LED-100L4

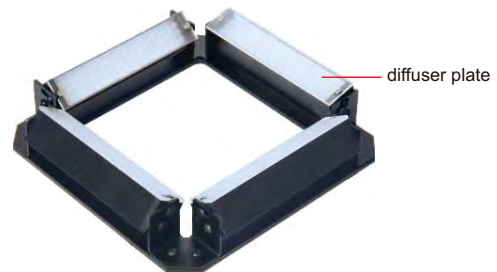
- Diffuser plate is included to reduce the reflective effect on workpieces
- Angle and brightness can be adjusted independently
- Suitable for digital microscopes 5303-AF103, 5310-DL401, ISM-DL300, ISM-DL301, ISM-DL302, ISM-DL400, ISM-DL510, 5315-S710

SPECIFICATION

| | |
|-------------------|--------------|
| Light color | white |
| Power supply | 24V |
| Power | 10.36W |
| Angle | 0~90° |
| Dimension (L×W×H) | 154×154×30mm |

RED, GREEN, BLUE, INFRARED AND UV LIGHT CAN BE CUSTOMIZED

ATTENTION: MUST BE USED WITH LIGHT BRACKET AND LIGHT CONTROLLER

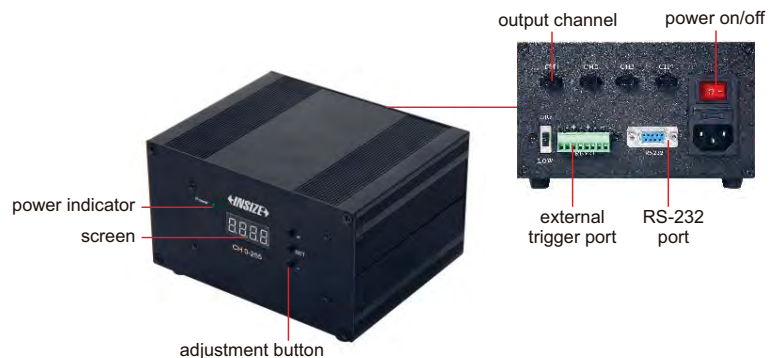


DIGITAL LIGHT CONTROLLER CODE ISM-LED-CTRL

- 256 (0-255) steps of brightness adjustment
- With power off memory function and short circuit protection function
- Suitable for ISM-LED-100L4, ISM-LED-9245R

SPECIFICATION

| | |
|------------------------|-------------------|
| Power supply | 100~240V, 50/60HZ |
| Output power (rated) | 60W |
| Output voltage (rated) | 24V |
| Dimension (L×W×H) | 145×118×83mm |



BRACKET FOR LIGHTS CODE ISM-LED-BRACKET



L-shape metal

- 4 pcs L-shape bars are included, multiple combinations can be realized
- Suitable for ISM-LED-100L4, ISM-LED-9245R

application



SPECIFICATION

| | |
|--------------|--------------|
| Size (L×W×H) | 260×300×20mm |
| Weight | 0.7kg |

DUAL HEAD LED LIGHT CODE ISM-ZS-LED

- Adjustable illumination
- For digital and stereo microscopes

SPECIFICATION

| | |
|--------------|----------|
| Power | 3W |
| Power supply | 100~240V |
| Working | 10000h |
| Illumination | 10000lux |



application



LED AUXILIARY LIGHT CODE ISM-DL-LED

- Suitable for digital microscopes
5303-AF103, 5310-DL401, ISM-DL300,
ISM-DL301, ISM-DL302, ISM-DL400,
ISM-DL510, 5315-S710

SPECIFICATION

| | |
|---------------------------|-----------------|
| Power | 8W |
| Diameter of mounting hole | Ø25mm |
| Power supply | 10~12V, 0~300mA |



brightness adjustment knob



illumination direction and brightness are adjustable

COAXIAL LIGHT CODE ISM-DL-COAXIAL

- Suitable for digital microscopes
5303-AF103, 5310-DL401, ISM-DL300,
ISM-DL301, ISM-DL302, ISM-DL400,
ISM-DL510, 5315-S710

SPECIFICATION

| | |
|--------------|-----------------|
| Power | 1W |
| Power supply | 0~3.4V, 0~400mA |



brightness adjustment knob



for smooth surfaces and small holes, brightness is adjustable

AUXILIARY OBJECTIVES



0.3X auxiliary objective*
ISM-DL-OB03X



0.5X auxiliary objective*
ISM-DL-OB05X



0.75X auxiliary objective*
ISM-DL-OB075X



1X auxiliary objective
ISM-DL-OB1X



1.5X auxiliary objective
ISM-DL-OB1D5X



2X auxiliary objective
ISM-DL-OB2X

- Suitable for digital microscopes 5303-AF103, 5310-DL401, ISM-DL300, ISM-DL301, ISM-DL302, ISM-DL400, ISM-DL510, 5315-S710, 5317-AF109, 5317-AF110

MAGNIFICATION, FOCUS DISTANCE AND VIEW FIELD (5303-AF103)

| Auxiliary objective | Specification | Camera adapter | |
|---------------------|----------------|-----------------|-----------------|
| | | 0.5X (included) | 1X (optional) |
| 0.3X (optional) | magnification | 6~37X | 12~74X |
| | focus distance | 120~310mm | 120~310mm |
| | view field | 52×30~8×5mm | 26×15~4×2.5mm |
| 0.5X (optional) | magnification | 10~61X | 20~123X |
| | focus distance | 78~230mm | 78~230mm |
| | view field | 37×20~5×3mm | 18×10~2.5×1.5mm |
| 0.75X (optional) | magnification | 15~92X | 30~184X |
| | focus distance | 60~125mm | 60~125mm |
| | view field | 21×13~3.4×2mm | 10×6.5~1.7×1mm |
| 1X (included) | magnification | 20~123X | 40~246X |
| | focus distance | 48~84mm | 48~84mm |
| | view field | 15×8~2.5×1.5mm | 7.5×4~1.3×0.7mm |
| 1.5X (optional) | magnification | 30~184X | 60~368X |
| | focus distance | 36~63mm | 36~63mm |
| | view field | 10×6~1.7×1mm | 5×3~0.9×0.5mm |
| 2X (optional) | magnification | 40~246X | 80~492X |
| | focus distance | 24~42mm | 24~42mm |
| | view field | 7.5×4~1.3×0.7mm | 3.8×2~0.7×0.4mm |

MAGNIFICATION, FOCUS DISTANCE AND VIEW FIELD (ISM-DL300, ISM-DL301, ISM-DL510)

| Auxiliary objective | Specification | Camera adapter | |
|---------------------|----------------|-------------------|-------------------|
| | | 0.5X (included) | 1X (optional) |
| 0.3X (optional) | magnification | 5~34X | 10~68X |
| | focus distance | 287±2mm | 287±2mm |
| | view field | 42×26~6.5×4.5mm | 21×13~3.3×2.3mm |
| 0.5X (optional) | magnification | 9~56X | 18~112X |
| | focus distance | 166±2mm | 166±2mm |
| | view field | 25.6×16.8~5×3.5mm | 12.8×8.4~2×1.3mm |
| 0.75X (optional) | magnification | 13~84X | 26~168X |
| | focus distance | 105±2mm | 105±2mm |
| | view field | 17×10.5~2.6×1.7mm | 8.5×5.3~1.3×0.9mm |
| 1X (included) | magnification | 15~100X | 30~200X |
| | focus distance | 70±2mm | 70±2mm |
| | view field | 16×11~2.5×1.6mm | 7.8×5.3~1.2×0.8mm |
| 1.5X (optional) | magnification | 26~168X | 52~336X |
| | focus distance | 42±2mm | 42±2mm |
| | view field | 8.5×5.2~1.3×0.9mm | 4.3×2.6~0.7×0.5mm |
| 2X (optional) | magnification | 30~200X | 60~400X |
| | focus distance | 29±2mm | 29±2mm |
| | view field | 7.8×5.3~1.2×0.8mm | 3.8×2.7~0.6×0.4mm |

- *For auxiliary objectives 0.3X, 0.5X, 0.75X, use contour illumination of ISM-DL301, ISM-DL400, ISM-DL510, 5310-DL401 or LED light

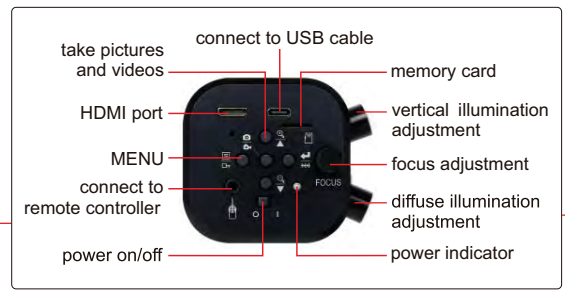
MEASUREMENT

TAKE PICTURES AND VIDEOS

DIGITAL MICROSCOPES



5309-DM50



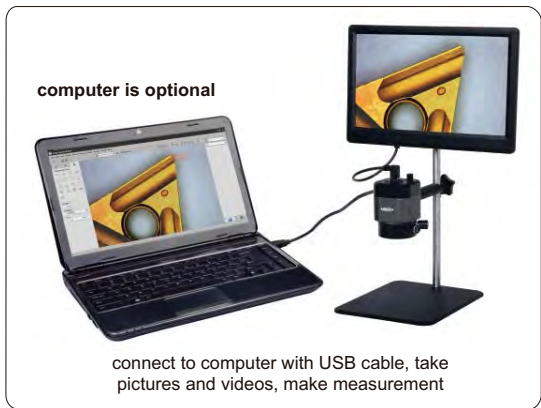
5309-DM51

- Independent control of vertical illumination and diffuse illumination
- Back focus adjustment extends working distance
- Take pictures and videos, save to memory card



SPECIFICATION

| Code | 5309-DM50 | 5309-DM51 |
|------------------|--|-------------|
| Arm type | straight | universal |
| Sensor | 1/2.8" CMOS | |
| Pixel | 2M | |
| Resolution | 1920×1080 | |
| Exposure | real-time auto, single auto, manual adjustment | |
| White balance | real-time auto, single auto, manual RGB adjustment | |
| Record format | pictures: JPG videos: MOV | |
| Record media | memory card | |
| Working distance | 45~169mm | 42~195mm |
| Magnification | 9~41X | 7.6~49.4X |
| View field | 7.6×4~38.5×21.7mm | 7×4~45×25mm |
| Power supply | DC12V 3A | |



USE COMPUTERS, OPTIONAL

| Image magnification | View field | Measuring accuracy |
|---------------------|-------------|--------------------|
| 9.0X | 38.5×21.7mm | ±0.02mm |
| 13.0X | 26.6×15.0mm | ±0.02mm |
| 17.0X | 20.5×11.7mm | ±0.02mm |
| 22.0X | 16.0×9.0mm | ±0.02mm |
| 28.5X | 11.9×6.3mm | ±0.02mm |
| 34.0X | 9.8×5.5mm | ±0.01mm |
| 41.0X | 7.6×4.1mm | ±0.01mm |

STANDARD DELIVERY

| | |
|---|------|
| Main unit | 1 pc |
| Memory card and holder | 1 pc |
| Plastic calibration rule (graduation 1mm) | 1 pc |
| White/black plate | 1 pc |
| Remote controller | 1 pc |
| USB cable | 1 pc |
| Measuring software | 1 pc |
| Power adapter | 1 pc |

To be continued

Continued from previous page



remote controller
(included)



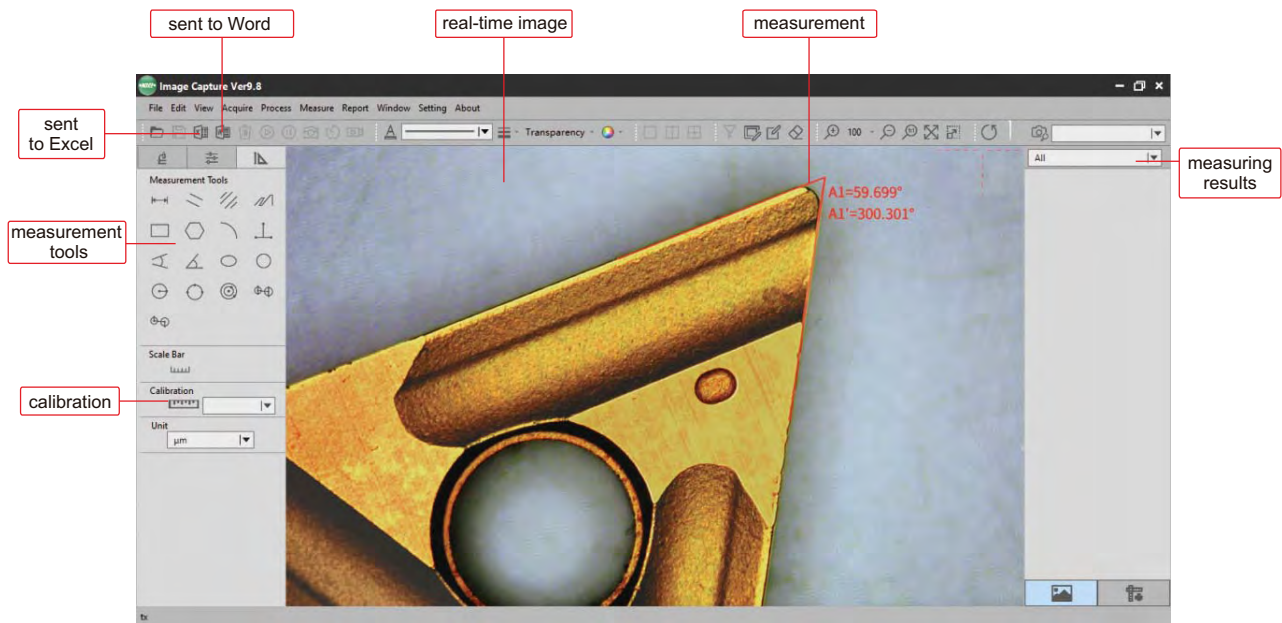
white/black plate
(included)



plastic calibration rule
(graduation 1mm, included)

SOFTWARE FOR COMPUTER

- **Language:** Chinese (Simplified), English, French, Chinese (Traditional), Portuguese, Korean, Japanese
- **Operation system:** Windows 7/8/8.1/10 (64bit)

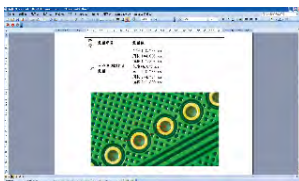


■ Measurement tools:

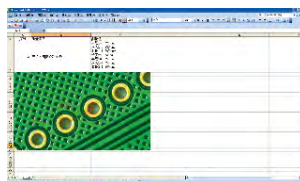
- | | | | |
|--|-------------------------------------|--|---------------------------------------|
| straight line distance measurement | parallel lines distance measurement | centre distance between parallel lines measurement | polyline line measurement |
| rectangular measurement | polygon measurement | arc measurement | three-vertical-line measurement |
| four-point perspective measurement | angle measurement | ellipse measurement | round measurement |
| circle measurement by radius | circle measurement by 3-point | torus measurement | center distance measurement by radius |
| center distance measurement by 3-point | | | |

■ Data is sent to Word or Excel:

sent to word



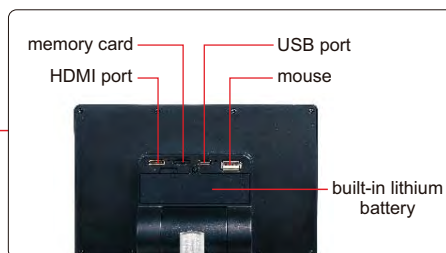
sent to excel



TAKE PICTURES AND VIDEOS

BUILT-IN LITHIUM BATTERY

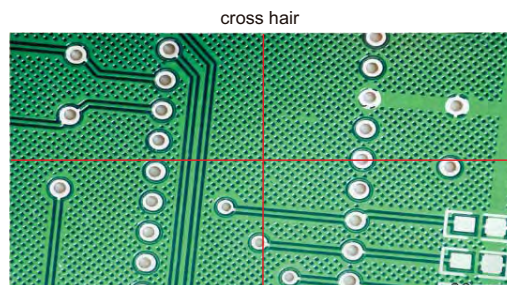
MINI DIGITAL MICROSCOPE (ECONOMIC TYPE) CODE 5311-M710



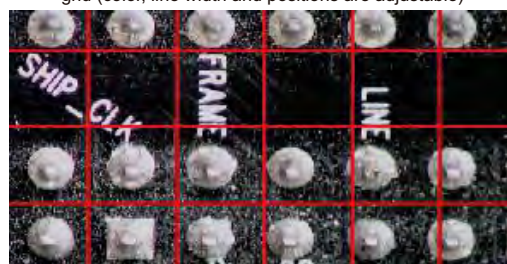
8G memory card and holder (included)



infrared ray remote controller (included)



cross hair



grid (color, line width and positions are adjustable)

SPECIFICATION

| | |
|--------------------|---|
| Display resolution | 1024×600 |
| Sensor | 1/3" CMOS |
| Sensor resolution | 1280×960 |
| Single pixel size | 2μm×2μm |
| Frame rate | 60fps/30fps |
| Magnification | 1X~16X |
| White balance | auto/manual (10 levels RGB)/calibration |
| Exposure control | AE lock/exposure compensation (10 levels) |
| Image control | contrast/saturation/sharpness |
| Record media | memory card |
| Output | HDMI |
| Power supply | built-in lithium battery/power adapter |
| Dimension (L×W×H) | 174×200×350mm |
| Weight | 1.5kg |

STANDARD DELIVERY

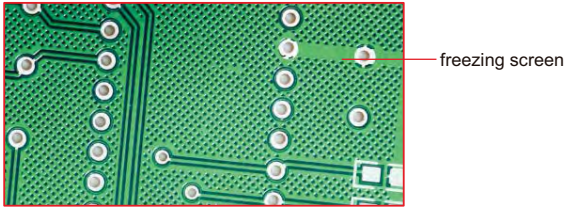
| | |
|---------------------------|------|
| Main unit | 1 pc |
| USB cable | 1 pc |
| HDMI cable | 1 pc |
| IR remote controller | 1 pc |
| 8G memory card and holder | 1 pc |
| Plastic calibration rule | 1 pc |
| Power adapter | 1 pc |

To be continued

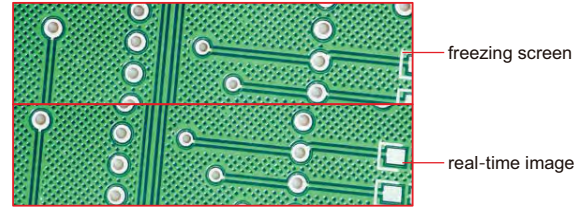
Continued from previous page

■ **Screen freezing:**

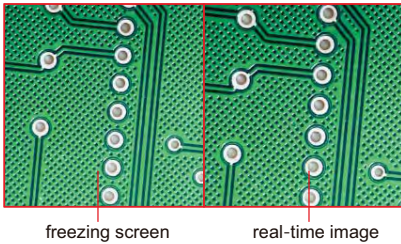
full screen



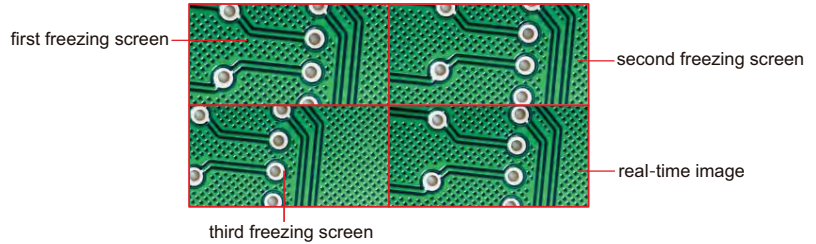
up-down split screen



left-right split screen



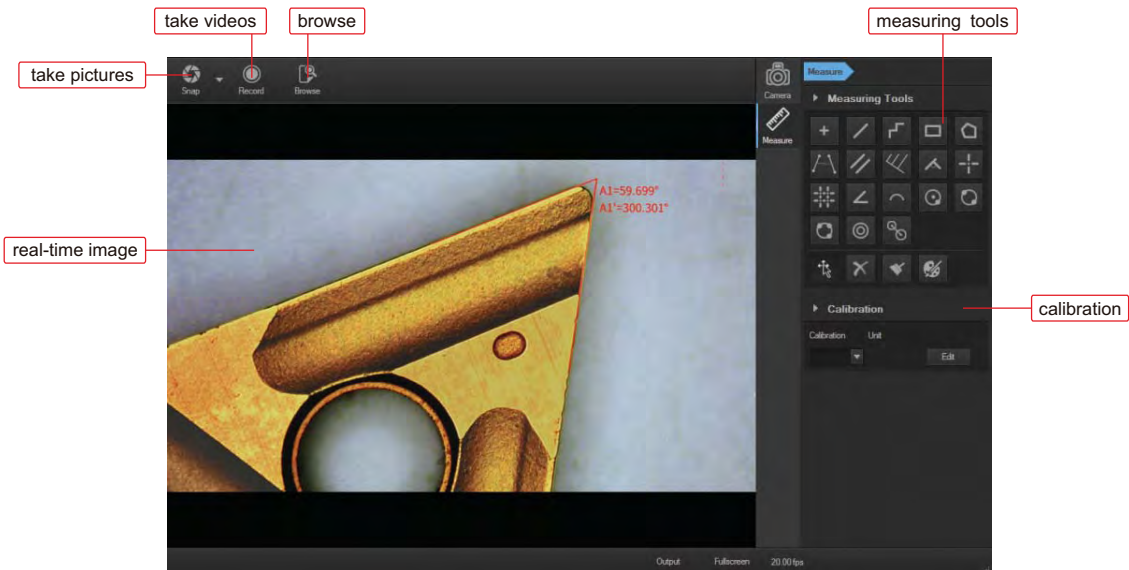
1/4 split screen



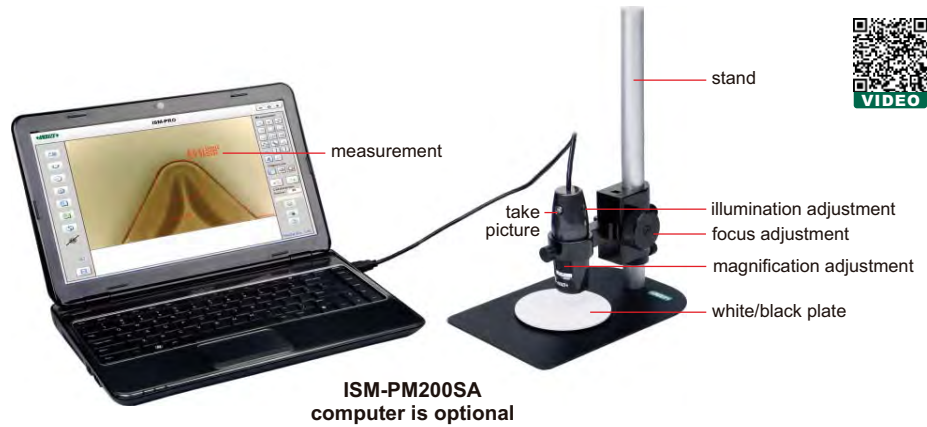
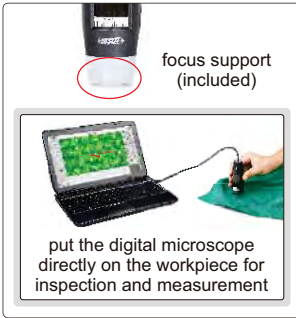
SOFTWARE FOR COMPUTER (included)

- **Language:** Chinese (Simplified), English
- **Operation system:** Windows 7/8/8.1/10 (64bit)
- **Port:** USB2.0 or above
- **Measuring accuracy:** 0.02mm

- | | | | |
|------------------------------|--------------------------------------|---------------------------------|---|
| point counting | straight line length | continuous line length | area of a rectangle |
| area of a polygon | distance between 2 lines | distance between parallel lines | distance between line and first parallel line |
| point-line distance | cross line | double cross line | angle |
| arc | radius of a circle | radius of a 2-point circle | radius of a 3-point circle |
| center distance of 2 circles | center distance of concentric circle | | |



DIGITAL MEASURING MICROSCOPES



- Can take pictures and videos
- Supplied with software
- Calibration rules (graduation 0.1 and 1mm) are included
- With focus support

SPECIFICATION

| Code | ISM-PM200SA | ISM-PM200SB |
|---------------|--|-------------|
| Magnification | 10X~200X | 10X~200X |
| Stand | standard | universal |
| Pixel | 2M (resolution: 1600×1200) | |
| Illumination | built-in adjustable LED | |
| Power supply | USB 2.0 cable (voltage required: 5±0.1V) | |

universal stand (included in ISM-PM200SB)



filter (optional)



OPTIONAL ACCESSORY

| | |
|---------------|---------------|
| Green filter | ISM-PM-GREEN |
| Yellow filter | ISM-PM-YELLOW |
| Blue filter | ISM-PM-BLUE |



software flash disk (included)

SOFTWARE

- Language:** English, Japanese, Korean, German, Turkey, Portuguese, Chinese
- Operation system:** Windows 7/8/XP/Vista
- Measuring tools:**

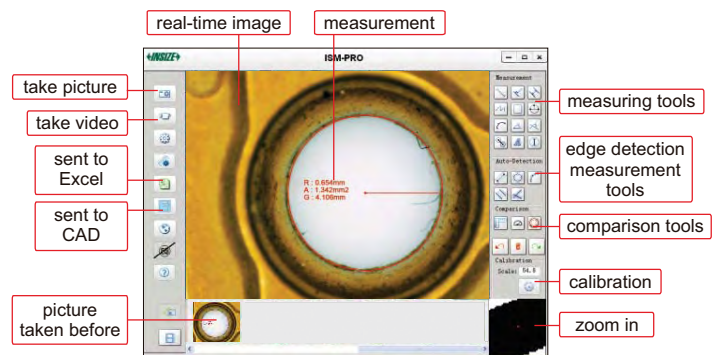
- | | |
|---|--|
| measure length of line or distance between two points | measure radius, length and angle of arc |
| measure area of rectangle | add number with circle |
| measure distance between two circles | measure length of continuous line |
| measure distance between two parallel lines | measure angle with three points |
| measure angle with two lines | measure radius, girth and area of circle |
| measure distance between point and line | add text |

Edge detection measurement tools:

- detect two parallel lines automatically and calculate distance
- detect circle automatically, and calculate radius, girth and area
- detect arc automatically, and calculate radius, angle and arc length
- detect two lines automatically, and calculate angle
- detect line automatically, and calculate length

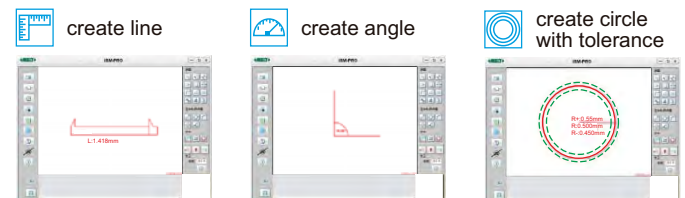
MAGNIFICATION, FOCUS DISTANCE, VIEW FIELD AND ACCURACY

| Magnification | Focus distance | View field | Accuracy |
|---------------|----------------|------------|----------|
| 50X | 21mm | 8.1×6.4mm | 30μm |
| 100X | 13mm | 3.9×3.1mm | 15μm |
| 150X | 16mm | 2.6×2.1mm | 10μm |
| 200X | 19mm | 1.8×1.5mm | 8μm |

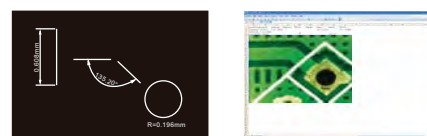


Comparison tools:

Create line, angle or circle with desired size, to compare with workpieces



Data is sent to CAD or Excel:



WIFI DIGITAL MEASURING MICROSCOPE CODE ISM-WF200



- Maximum working distance is 5m under WIFI mode
- Can be connected to multiple iPads, Android devices or computers together under WIFI mode
- Take pictures and videos
- Supplied with software

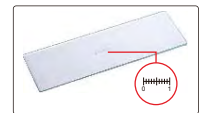


software flash disk (included)

stand (code ISM-PM-STAND, optional)



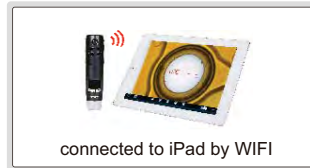
plastic calibration rule (graduation 1mm, included)



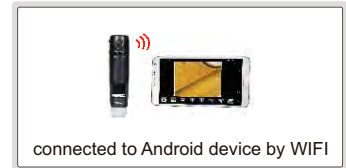
glass calibration rule (graduation 0.1mm, included)

SPECIFICATION

| | |
|---------------|-------------------------------|
| Magnification | 10X~200X |
| Pixel | 1.3M (resolution: 1280×1024) |
| Illumination | built-in adjustable LED |
| Power supply | built-in rechargeable battery |



connected to iPad by WIFI



connected to Android device by WIFI

STANDARD DELIVERY

| | |
|---|------|
| Microscope | 1 pc |
| Focus support ring for 80X/150X | 1 pc |
| Focus support ring for 60X/200X | 1 pc |
| Glass calibration rule (graduation 0.1mm) | 1 pc |
| Plastic calibration rule (graduation 1mm) | 1 pc |
| Software and USB cable | 1 pc |
| AC/DC adapter | 1 pc |



connected to computer by WIFI



connected to computer by USB cable

OPTIONAL ACCESSORY

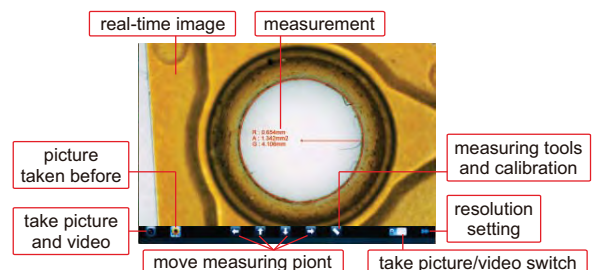
| | |
|---------------|---------------|
| Stand | ISM-PM-STAND |
| Green filter | ISM-PM-GREEN |
| Yellow filter | ISM-PM-YELLOW |
| Blue filter | ISM-PM-BLUE |

MAGNIFICATION, FOCUS DISTANCE, VIEW FIELD AND ACCURACY

| Magnification | Focus distance | View field | Accuracy |
|---------------|----------------|------------|----------|
| 50X | 21mm | 8.1×6.4mm | 30μm |
| 100X | 13mm | 3.9×3.1mm | 15μm |
| 150X | 16mm | 2.6×2.1mm | 10μm |
| 200X | 19mm | 1.8×1.5mm | 8μm |

1 Software ISM-PAD (for iPad by WIFI)

- measure length of line or distance between two points
- measure radius, girth and area of circle with three points
- measure angle

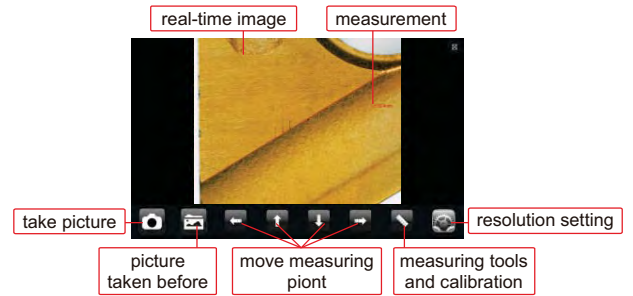


To be continued

Continued from previous page

2 Software ISM-APK (for Android devices by WIFI)

- measure length of line or distance between two points
- measure radius, girth and area of circle with three points
- measure angle



3 Software ISM-WF Partner (for computer by WIFI)

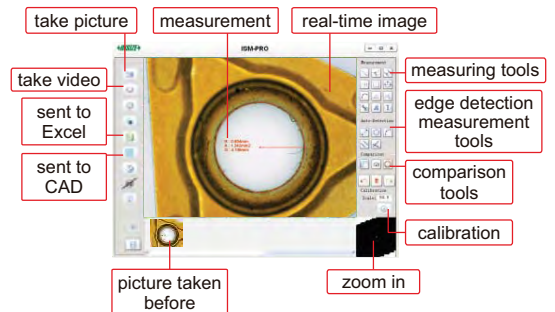
- | | |
|--|--|
| measure length of line or distance between two points | measure angle with two lines |
| measure area of polygon | measure radius, girth and area of circle with two points |
| measure angle with three points | measure distance between point and line |
| measure radius, girth and area of circle with center point | measure radius, length and angle of arc |
| measure length of continuous line | measure area of rectangle |
| measure radius, girth and area of circle with three points | |



4 Software ISM-PRO (for computer by USB cable)

Measuring tools:

- | | |
|---|---|
| measure length of line or distance between two points | measure distance between point and line |
| measure length of continuous line | measure area of rectangle |
| measure radius, length and angle of arc | measure angle with two lines |
| measure distance between two circles | add number with circle |
| measure distance between two parallel lines | measure angle with three points |
| measure radius, girth and area of circle | add text |



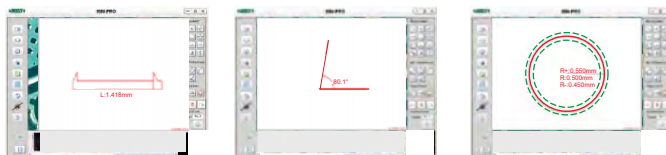
Edge detection measurement tools:

- | | |
|--|--|
| detect line automatically, and calculate length | detect two lines automatically, and calculate angle |
| detect arc automatically, and calculate radius, angle and arc length | detect two parallel lines automatically and calculate distance |
| detect circle automatically, and calculate radius, girth and area | |

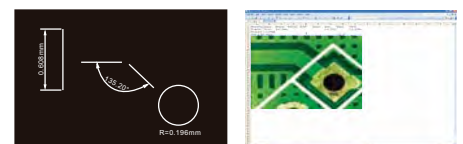
Comparison tools:

Create line, angle or circle with desired size, to compare with workpieces

- create line
- create angle
- create circle with tolerance



Data is sent to CAD or Excel:



INDUSTRIAL MICROSCOPES



5101-M500

- Infinite optical system, polarization observation, dark field observation
- Kohler illumination system provides uniform illumination field
- Objective 50X is spring type

SPECIFICATION

| Code | 5101-M500 (bright field objectives) | | | | 5101-M500BD (bright & dark field objectives) | | | |
|--------------------------------------|---|--------|--------|--------|--|--------|--------|--------|
| Illumination | 6V/30W halogen lamp, brightness is adjustable | | | | 12V/50W halogen lamp, brightness is adjustable | | | |
| Objective (infinite plan achromatic) | bright field objectives | | | | bright & dark field objectives | | | |
| | 5X | 10X | 20X | 50X | 5X | 10X | 20X | 50X |
| Working distance | 26.1mm | 20.2mm | 8.80mm | 3.68mm | 9.70mm | 9.30mm | 7.23mm | 2.50mm |
| Numerical aperture | 0.12 | 0.25 | 0.40 | 0.70 | 0.12 | 0.25 | 0.40 | 0.70 |
| Magnification | 50X~500X | | | | | | | |
| Eyepiece (wide field) | 10X (view field: Ø22mm) | | | | | | | |
| Stage | double layer | | | | | | | |
| | size: 160×140mm | | | | | | | |
| | travel: 35x30mm | | | | | | | |
| Pupil distance | 53~75mm | | | | | | | |
| Diopter adjustment | ±5 diopter (one eyepiece) | | | | | | | |
| Power supply | 220V, 50/60Hz | | | | | | | |
| Dimension (L×W×H) | 415×345×380mm | | | | | | | |
| Weight | 14kg | | | | | | | |

STANDARD DELIVERY

| | |
|-----------------|------|
| Main unit | 1 pc |
| Anti-dust cover | 1 pc |

OPTIONAL ACCESSORY

| | | |
|---|--------|--------------------------------|
| Bright & dark field objective (for 5101-M500BD) | PL40X | 5101-M-BD40X |
| | PL60X | 5101-M-BD60X |
| | PL80X | 5101-M-BD80X |
| | PL100X | 5101-M-BD100X |
| 10X dividing eyepiece (0.1mm/div.) | | 5101-M-EPD10X |
| Bright field objective (for 5101-M500) | PL40X | 5101-M-OB40X |
| | PL60X | 5101-M-OB60X |
| | PL80X | 5101-M-OB80X |
| | PL100X | 5101-M-OB100X |
| Digital camera | | ISM-CM20, ISM-CM63, ISM-ZS70-S |
| Camera adapter * | | 5101-M-ADAPTER |

* Digital camera must be used with camera adapter



INDUSTRIAL INSPECTION MICROSCOPE (LARGE STAGE) CODE 5104-M700



- For observation and inspection of large IC and chip in IT industry

SPECIFICATION

| | | | | |
|-----------------------------|--|------|-------|-------|
| Magnification | 40X~400X | | | |
| Eyepiece (wide field) | 10X (view field: Ø22mm) | | | |
| Objective (plan achromatic) | 4X | 10X | 20X | 40X |
| Numerical aperture | 0.10 | 0.25 | 0.40 | 0.60 |
| Working distance | 17.8mm | 10mm | 5.8mm | 2.9mm |
| Stage | double layer, size: 300×268mm, travel: 250×200mm | | | |
| Kohler illumination | 6V/20W halogen lamp, brightness is adjustable built-in green, blue, yellow and frosted glasses | | | |
| Pupil distance | 48~75mm | | | |
| Diopter adjustment | ±5 diopter (two eyepieces) | | | |
| Power supply | 220V, 50/60Hz | | | |
| Dimension (L×W×H) | 647×268×376mm | | | |
| Weight | 12kg | | | |

STANDARD DELIVERY

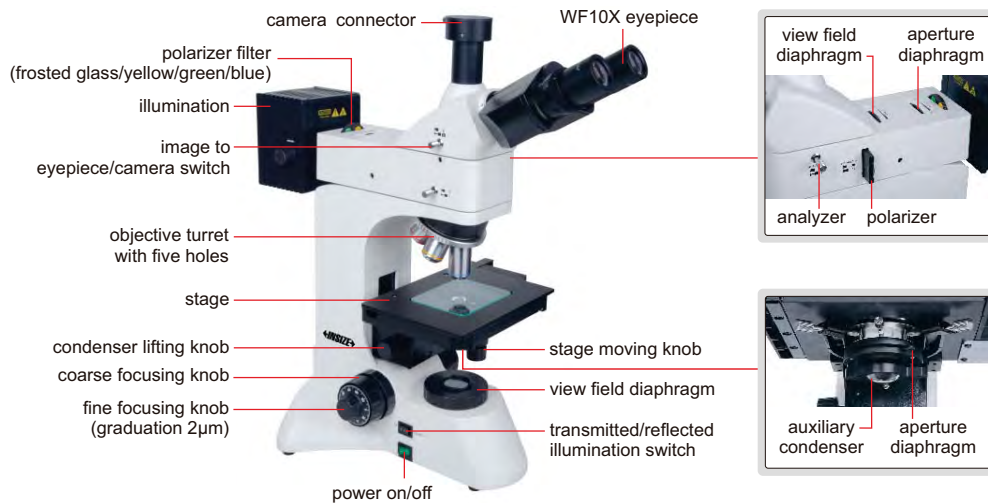
| | |
|------------------|------|
| Main unit | 1 pc |
| Camera connector | 1 pc |
| Anti-dust cover | 1 pc |

OPTIONAL ACCESSORY

| | | |
|------------------------|--|--------------------------------|
| Bright field objective | 5X plan achromatic objective (focus distance: 15.5mm) | 5104-M700-OB5X |
| | 50X plan achromatic objective (focus distance: 0.32mm) | 5104-M700-OB50X |
| | 100X plan achromatic objective (focus distance: 2mm) | 5104-M700-OB100X |
| Polarizer and analyzer | | 5104-M700-AP |
| Digital camera | | ISM-CM20, ISM-CM63, ISM-ZS70-S |
| Camera adapter 0.5X* | | ISM-MAS-ADAPTER |

*Digital camera must be used with camera adapter

METALLURGICAL MICROSCOPES



5102-M600

- Infinite optical system, observation in reflected or transmitted illumination, polarizing observation
- Kohler illumination system provides uniform illumination field
- Objectives 40X, 60X are spring type



blue filter (included)



frosted glass filter (included)

SPECIFICATION

| Code | 5102-M600 (bright field objectives) | | | | 5102-M600BD (bright & dark field objectives) | | | |
|--------------------------------------|-------------------------------------|--------|--------------------|--------|--|--------|---------------------|--------|
| illumination | 6V/30W (transmitted) | | 6V/30W (reflected) | | 12V/30W (transmitted) | | 12V/50W (reflected) | |
| Objective (infinite plan achromatic) | bright field objectives | | | | bright & dark field objectives | | | |
| | 5X | 10X | 40X | 60X | 5X | 10X | 20X | 40X |
| Working distance | 26.1mm | 20.2mm | 3.98mm | 3.18mm | 9.70mm | 9.30mm | 7.20mm | 3.00mm |
| Numerical aperture | 0.12 | 0.25 | 0.60 | 0.70 | 0.12 | 0.25 | 0.40 | 0.70 |
| Magnification | 50X~600X | | | | 50X~400X | | | |
| Eyepiece (wide field) | 10X (view field: Ø22mm) | | | | | | | |
| Stage | double layer | | | | | | | |
| | size: 210×140mm | | | | | | | |
| | travel: 75×50mm | | | | | | | |
| Pupil distance | 53~75mm | | | | | | | |
| Diopter adjustment | ±5 diopter (one eyepiece) | | | | | | | |
| Power supply | 220V, 50/60Hz | | | | | | | |
| Dimension (L×W×H) | 456×260×498mm | | | | | | | |
| Weight | 11kg | | | | | | | |

STANDARD DELIVERY

| | |
|-----------------------------|--------------|
| Main unit | 1 pc |
| Anti-dust cover | 1 pc |
| Filter (blue/frosted glass) | 1 pc of each |

OPTIONAL ACCESSORY

| | | |
|---|--------|--------------------------------|
| Bright & dark field objective (for 5102-M600BD) | PL50X | 5101-M-BD50X |
| | PL60X | 5101-M-BD60X |
| | PL80X | 5101-M-BD80X |
| | PL100X | 5101-M-BD100X |
| 10X dividing eyepiece (0.1mm/div.) | | 5101-M-EPD10X |
| Bright field objective (for 5102-M600) | PL20X | 5101-M-OB20X |
| | PL50X | 5101-M-OB50X |
| | PL80X | 5101-M-OB80X |
| | PL100X | 5101-M-OB100X |
| Digital camera | | ISM-CM20, ISM-CM63, ISM-ZS70-S |
| Camera adapter* | | 5101-M-ADAPTER |

*Digital camera must be used with camera adapter

METALLURGICAL MICROSCOPES (PROFESSIONAL TYPE)



- Infinite chromatic aberration correction optical system
- Three way observation tube with infinite hinge
- Translucent and reflective frame, front low-hand position coarse and fine coaxial focus adjustment mechanism, with adjustment elastic device to prevent sliding and random upper limit device
- Bright and dark field five-hole converter with DIC slot
- Adopt digital dimming, with light intensity reset and setting function
- With polarizer insert plate and 360° rotating analyzer insert slot



5108-M3000

SPECIFICATION

| Code | 5108-M3000 (standard type) | | | | 5108-M3000H (high-definition type) | | | |
|--|---|-------|--------|-------|------------------------------------|------|-------|-------|
| Eye-piece | high eye point large field SWH10X-H (view field: Ø25mm, adjustable visibility) | | | | | | | |
| Objective (infinite long working distance bright and dark field semi achromatic) | 5X | 10X | 20X | 50X | 5X | 10X | 20X | 50X |
| Working distance | 15mm | 8.4mm | 10.3mm | 3.0mm | 20mm | 11mm | 3.0mm | 1.0mm |
| Numerical aperture | 0.15 | 0.30 | 0.40 | 0.75 | 0.15 | 0.30 | 0.45 | 0.80 |
| Optical magnification | 50X~500X (up to 1000X with optional 100X objective) | | | | | | | |
| Digital magnification | 170X~1700X (on 21.5" monitor), up to 3400X with optional 100X objective | | | | | | | |
| Stage | double layer | | | | | | | |
| | size: 310×240mm | | | | | | | |
| | travel: 150×100mm | | | | | | | |
| Condenser | roll-out achromatic condenser (numerical aperture 0.9) | | | | | | | |
| Illumination | 5W LED, transmitted and reflected | | | | | | | |
| Observation tube | inverse image, distance adjustment: 50~76mm, two grade spectral ratio binocular: trinocular=100:0 | | | | | | | |
| Diopter adjustment | ±5 diopter (two eyepieces) | | | | | | | |
| Power supply | AC 100-240V | | | | | | | |
| Dimension (L×W×H) | 310×600×500mm | | | | | | | |
| Weight | 27kg | | | | | | | |

STANDARD DELIVERY

| | |
|---|--------------|
| Main unit | 1 pc |
| Anti-dust cover | 1 pc |
| 0.65X camera adapter (adjustable focus) | 1 pc |
| Polarizer and analyzer | 1 pc of each |

OPTIONAL ACCESSORY

| | |
|---|-----------------|
| Camera and software | ISM-CM63 |
| Glass calibration rule | ISM-MAS-SCALE |
| Computer | 5108-M-COMPUTER |
| 2.5X infinite long working distance bright field semi achromatic objective | 5108-M-OB2D5X |
| 100X infinite long working distance bright and dark field semi achromatic objective | 5108-M-BD100X |
| 50X infinite long working distance bright and dark field achromatic objective | 5108-M-APO50X |
| 100X infinite long working distance bright and dark field achromatic objective | 5108-M-APO100X |
| Differential interference module (DIC) | 5108-M-DIC |

METALLURGICAL MICROSCOPES



5103-M1000

- Infinite optical system, polarization observation
- Kohler illumination system provides uniform illumination field
- Objectives 50X, 100X are spring type

SPECIFICATION

| Code | 5103-M1000 (bright field objectives) | | | | 5103-M1000BD (bright & dark field objectives) | | | |
|--------------------------------------|---|--------|--------|--------|--|--------|--------|--------|
| Illumination | 6V/30W halogen lamp, brightness is adjustable | | | | 12V/50W halogen lamp, brightness is adjustable | | | |
| Objective (infinite plan achromatic) | bright field objectives | | | | bright & dark field objectives | | | |
| | 10X | 20X | 50X | 100X | 5X | 10X | 20X | 50X |
| Working distance | 20.2mm | 8.80mm | 3.68mm | 0.40mm | 9.70mm | 9.30mm | 7.23mm | 2.50mm |
| Numerical aperture | 0.25 | 0.40 | 0.70 | 0.85 | 0.12 | 0.25 | 0.40 | 0.70 |
| Magnification | 100X~1000X | | | | 50X~500X | | | |
| Eyepiece (wide field) | 10X (view field: Ø22mm) | | | | | | | |
| Stage | double layer | | | | | | | |
| | size: 242×200mm travel: 30x30mm | | | | | | | |
| Pupil distance | 53~75mm | | | | | | | |
| Diopter adjustment | ±5 diopter (one eyepiece) | | | | | | | |
| Power supply | 220V, 50/60Hz | | | | | | | |
| Dimension (L×W×H) | 614×250×394mm | | | | | | | |
| Weight | 13kg | | | | | | | |

STANDARD DELIVERY

| | |
|------------------------|--------------|
| Main unit | 1 pc |
| Polarizer and analyzer | 1 pc of each |
| Anti-dust cover | 1 pc |

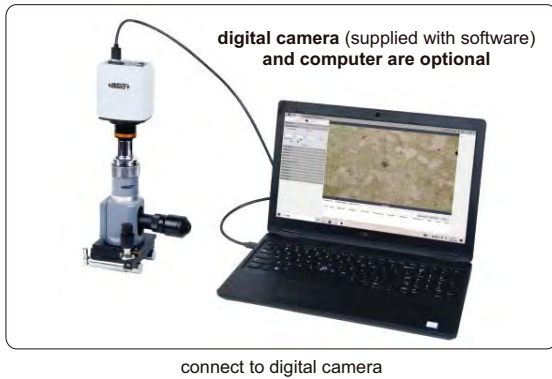
OPTIONAL ACCESSORY

| | | |
|--|--------|----------------|
| Bright & dark field objective (for 5103-M1000BD) | PL40X | 5101-M-BD40X |
| | PL60X | 5101-M-BD60X |
| | PL80X | 5101-M-BD80X |
| | PL100X | 5101-M-BD100X |
| 10X dividing eyepiece (0.1mm/div.) | | 5103-M-EPD10X |
| Bright field objective (for 5103-M1000) | PL5X | 5101-M-OB5X |
| | PL40X | 5101-M-OB40X |
| | PL60X | 5101-M-OB60X |
| | PL80X | 5101-M-OB80X |
| Digital camera | | ISM-CM63 |
| Camera adapter * | | 5101-M-ADAPTER |

* Digital camera must be used with camera adapter



PORTABLE METALLURGICAL MICROSCOPE CODE 5109-PM500



- Illumination is powered by batteries
- Aperture diaphragm improves image quality and increases depth of field
- Magnetic base with on/off switch can adhere on metal workpieces
- Can be connected to digital cameras

SPECIFICATION

| | | |
|-----------------------------|-----------------------------|----------------|
| Magnification | 100X~500X | |
| Eyepiece (wide field) | 10X/12.5X | |
| Objective (plan achromatic) | 10X (included) | 40X (included) |
| Numerical aperture | 0.25 | 0.64 |
| Illumination | 3W LED, built-in batteries | |
| Stage | double layer, size: 15×12mm | |
| Dimension (L×W×H) | 210×160×95mm | |
| Weight | 1.5kg | |

STANDARD DELIVERY

| | |
|---------------|-------|
| Main unit | 1 pc |
| Eyepiece | 2 pcs |
| Objective | 2 pcs |
| Battery (AAA) | 3 pcs |

OPTIONAL ACCESSORY

| | | |
|---------------------|----------------------|--------------------------------|
| Objective | 5X plan achromatic | 5109-PM500-OB5X |
| | 20X plan achromatic | 5109-PM500-OB20X |
| | 100X plan achromatic | 5109-PM500-OB100X |
| Eyepiece | 5X | 5109-PM500-EP5X |
| | 15X | 5109-PM500-EP15X |
| Digital camera * | | ISM-CM20, ISM-CM63, ISM-ZS70-S |
| Camera adapter 0.5X | | ISM-MAS-ADAPTER |

* Digital camera must be used with camera adapter

ZOOM STEREO MICROSCOPE (PROFESSIONAL TYPE) CODE 5107-S70T



LED ring light (optional)



- Greenough optical system, clear observation, real color
- High working distance is convenient for operation
- Excellent flat image and large depth of field, make observation comfortable
- 6.7:1 large zoom ratio, allow quick observation adjustment

SPECIFICATION

| | |
|-------------------------------|--|
| Optical tube | trinocular |
| Eyepiece (wide field) | 10X (view field: Ø22mm) |
| Objective | 0.67X~4.5X (zoom) |
| Observation tube | 45° trinocular tube inclination angle, built-in 0.5X adapter |
| Zoom ratio | 6.7:1 |
| Pupil distance | 50~75mm |
| Diopter adjustment | -8~+5 diopter (both eyepieces) |
| Working distance of objective | 110mm |
| Max. workpiece height | 106mm |
| Illumination | adjustable LED light |
| Power supply | 110/220V, 50/60HZ |
| Dimension (L×W×H) | 330×300×368mm |
| Weight | 3.5kg |



frosted glass filter (included)



white/black plate (included)

STANDARD DELIVERY

| | |
|--------------------------|-------|
| Main unit | 1 pc |
| 10X eyepiece | 2 pcs |
| Ø100mm glass plate | 1 pc |
| Ø100mm white/black plate | 1 pc |
| Anti-dust cover | 1 pc |

OPTIONAL ACCESSORY

| | | |
|---------------------|---------------------------|--------------------------------|
| Auxiliary objective | 0.5X | 5107-S70T-OB05X |
| | 1.5X | 5107-S70T-OB15X |
| | 2X | 5107-S70T-OB20X |
| Eyepiece | 15X (view field: Ø16mm) | 5107-S70T-EP15X |
| | 20X (view field: Ø12.5mm) | 5107-S70T-EP20X |
| LED ring light | | ISM-ZS-RL |
| Digital camera | | ISM-CM20, ISM-CM63, ISM-ZS70-S |

PARALLEL LIGHT PATH: REDUCE FATIGUE,
ACCESSORIES CAN BE ADDED INTO LIGHT PATH

PARALLEL LIGHT STEREO MICROSCOPE CODE ISM-ZS200



coaxial illumination (optional)



- Infinity parallel optical system and 20° inclined optical tube reduce fatigue
- Coaxial illumination is optional for deep holes which cannot be observed by ring light
- Aperture diaphragm is optional for large depth of field and high quality image

optical path splitter (optional)



iris diaphragm (optional)



SPECIFICATION

| | |
|-------------------------------|--|
| Optical tube | binocular (20° inclined) |
| Eyepiece (wide field) | 10X (view field: Ø22mm) |
| Objective | 0.8X~8X (zoom) |
| Zoom ratio | 1:10 |
| Pupil distance | 55~75mm |
| Diopter adjustment | ±5 diopter (both eyepieces) |
| Working distance of objective | 78mm |
| Max. workpiece height | 72mm |
| Illumination | adjustable reflected and transmitted LED light |
| Power supply | 110/220V, 50/60HZ |
| Dimension (L×W×H) | 240×280×440mm |
| Weight | 4.3kg |

STANDARD DELIVERY

| | |
|--------------------------|-------|
| Main unit | 1 pc |
| WF10X eyepiece | 2 pcs |
| Ø100mm glass plate | 1 pc |
| Ø100mm white/black plate | 1 pc |
| Anti-dust cover | 1 pc |

OPTIONAL ACCESSORY

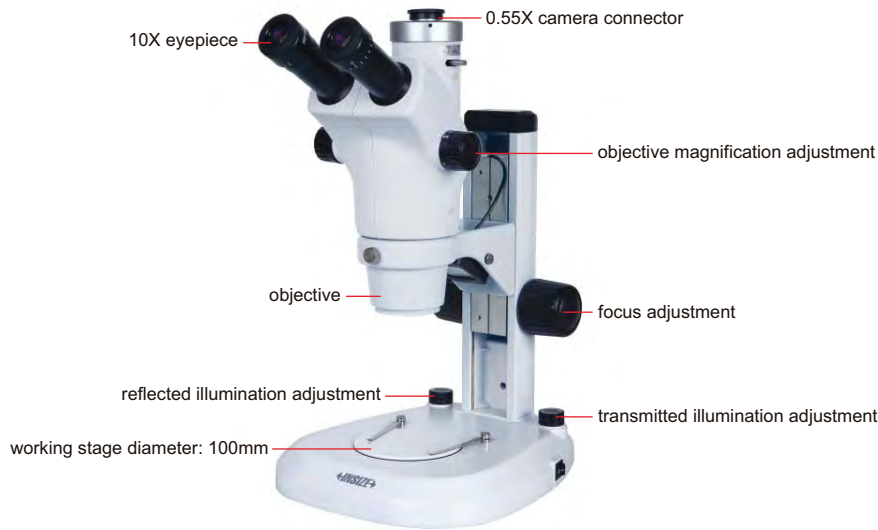
| | | |
|-----------------------|--|--------------------|
| Objective | 0.5X achromatic objective (focus distance: 186mm) | ISM-ZS200-OB05X * |
| | 2X plan achromatic objective (focus distance: 32.5mm) | ISM-ZS200-OB2X |
| | 0.5X plan apochromatic objective (focus distance: 126mm) | ISM-ZS200-APO05X * |
| Eyepiece | WF15X (view field: Ø16mm) | ISM-ZS200-EP15X |
| | WF20X (view field: Ø12mm) | ISM-ZS200-EP20X |
| | WF30X (view field: Ø20mm) | ISM-ZS200-EP30X |
| Sleeve for objective | | ISM-ZS200-ADAPTER |
| Iris diaphragm | | ISM-ZS200-IRD |
| Optical path splitter | | ISM-ZS200-OBS |
| Coaxial illumination | | ISM-ZS200-COAXIAL |
| Digital camera ** | | ISM-CM20, ISM-CM63 |

* 0.5X auxiliary objective must be used with ISM-ZS200-ADAPTER

** Digital camera must be used with optical path splitter

ZOOM STEREO MICROSCOPES (ADVANCED TYPE)

LARGE ZOOM RATIO



ISM-ZS100T

connect to digital camera (for ISM-ZS100T)



LED ring light (optional)

SPECIFICATION

| Code | ISM-ZS100 | ISM-ZS100T |
|-------------------------------|--|------------|
| Optical tube | binocular | trinocular |
| Eyepiece (wide field) | 10X (view field: Ø23mm) | |
| Objective | 0.6X~5X (zoom) | |
| Zoom ratio | 1:8.3 | |
| Pupil distance | 55~75mm | |
| Diopter adjustment | ±5 diopter (two eyepieces) | |
| Working distance of objective | 115mm | |
| Max. workpiece height | 75mm | |
| Illumination | adjustable reflected and transmitted LED light | |
| Power supply | 110/220V, 50/60HZ | |
| Dimension (L×W×H) | 260×310×490mm | |
| Weight | 4.9kg | |

STANDARD DELIVERY

| | |
|--|-------|
| Main unit | 1 pc |
| Camera connector 0.55X for ISM-ZS100T | 1 pc |
| Digital camera adapter 1X for ISM-ZS100T | 1 pc |
| WF10X eyepiece | 2 pcs |
| Ø100mm glass plate | 1 pc |
| Ø100mm white/black plate | 1 pc |
| Anti-dust cover | 1 pc |

OPTIONAL ACCESSORY

| | | |
|--------------------------------|------------------------------|--------------------------------|
| Auxiliary objective | 0.5X (focus distance: 220mm) | ISM-ZS100-OB05X * |
| | 0.7X (focus distance: 125mm) | ISM-ZS100-OB07X |
| | 2X (focus distance: 45mm) | ISM-ZS100-OB2X |
| Eyepiece | WF15X (view field: Ø16mm) | ISM-ZS100-EP15X |
| | WF20X (view field: Ø12mm) | ISM-ZS100-EP20X |
| | WF30X (view field: Ø8mm) | ISM-ZS100-EP30X |
| Sleeve for auxiliary objective | | ISM-ZS200-ADAPTER |
| LED ring light | | ISM-ZS-RL |
| Digital camera for ISM-ZS100T | | ISM-CM20, ISM-CM63, ISM-ZS70-S |

* 0.5X auxiliary objective must be used with ISM-ZS200-ADAPTER



ZOOM STEREO MICROSCOPES (STANDARD TYPE)



LED ring light (optional)

ISM-ZS50

SPECIFICATION

| Code | ISM-ZS50 | ISM-ZS50T |
|-------------------------------|--|------------|
| Optical tube | binocular | trinocular |
| Eyepiece (wide field) | 10X (view field: Ø22mm) | |
| Objective | 0.8X~5X (zoom) | |
| Zoom ratio | 1:6.3 | |
| Pupil distance | 55~75mm (adjustable) | |
| Diopter adjustment | ±5 diopter (two eyepieces) | |
| Working distance of objective | 115mm | |
| Max. workpiece height | 75mm | |
| Illumination | adjustable reflected and transmitted LED light | |
| Power supply | 110/220V, 50/60HZ | |
| Dimension (L×W×H) | 290×260×480mm | |
| Weight | 4.9kg | |

STANDARD DELIVERY

| | |
|--------------------------|-------|
| Main unit | 1 pc |
| WF 10X eyepiece | 2 pcs |
| Ø100mm glass plate | 1 pc |
| Ø100mm white/black plate | 1 pc |
| Anti-dust cover | 1 pc |

OPTIONAL ACCESSORY

| | | |
|--------------------------------------|---|--------------------------------|
| Auxiliary objective | 0.5X | ISM-ZS50-OB05X* |
| | 2X | ISM-ZS50-OB2X |
| Eyepiece | 10X dividing eyepiece (graduation 0.1mm/div.) | ISM-ZS50-EPD10X |
| | WF15X (view field: Ø16mm) | ISM-ZS50-EP15X |
| | WF20X (view field: Ø12mm) | ISM-ZS50-EP20X |
| LED ring light | | ISM-ZS-RL |
| Sleeve for auxiliary objective | | ISM-ZS200-ADAPTER |
| Digital camera for ISM-ZS50T | | ISM-CM20, ISM-CM63, ISM-ZS70-S |
| Camera adapter 0.5X for ISM-ZS50T ** | | ISM-MAS-ADAPTER |

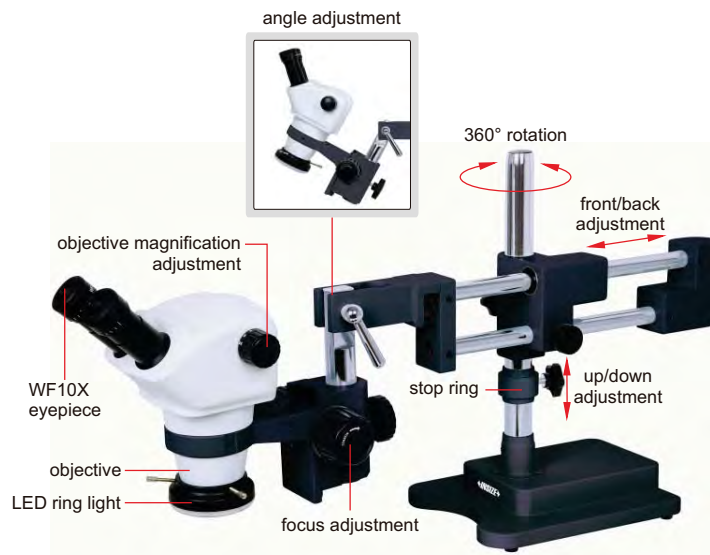
* 0.5X auxiliary objective must be used with **ISM-ZS200-ADAPTER**

** Digital camera must be used with camera adapter 0.5X

ZOOM STEREO MICROSCOPES (WITH UNIVERSAL STAND)



5106-M40 (with stand type A)



5106-M50 (with stand type B)

SPECIFICATION

| Code | 5106-M40 | 5106-M40T | 5106-M50 | 5106-M50T |
|-------------------------------|-------------------------------------|------------|---------------|------------|
| Stand | type A | | type B | |
| Optical tube | binocular | trinocular | binocular | trinocular |
| Eyepiece (wide field) | 10X (view field: Ø22mm) | | | |
| Objective | 0.8X~5X (zoom) | | | |
| Zoom ratio | 1:6.3 | | | |
| Pupil distance | 55~75mm | | | |
| Diopter adjustment | ±5 diopter (two eyepieces) | | | |
| Working distance of objective | 115mm | | | |
| Max. workpiece height | 300mm | | | |
| Illumination | adjustable reflected LED ring light | | | |
| Power supply | power adapter | | | |
| Dimension (L×W×H) | 610×220×430mm | | 790×230×430mm | |
| Weight | 13.7kg | | 20kg | |

STANDARD DELIVERY

| | |
|------------------------|-------|
| Main unit (with stand) | 1 pc |
| WF10X eyepiece | 2 pcs |
| LED ring light | 1 pc |
| Anti-dust cover | 1 pc |

OPTIONAL ACCESSORY

| | | |
|-------------------------------------|------------------------------------|--------------------|
| Auxiliary objective | 0.5X | ISM-ZS50-OB05X* |
| | 2X | ISM-ZS50-OB2X |
| Eyepiece | 10X dividing eyepiece (0.1mm/div.) | ISM-ZS50-EPD10X |
| | WF15X (view field: Ø16mm) | ISM-ZS50-EP15X |
| | WF20X (view field: Ø12mm) | ISM-ZS50-EP20X |
| Adapter sleeve | | ISM-ZS30-ADAPTER |
| 0.5X adapter for 5106-M40T/M50T | | ISM-MAS-ADAPTER |
| Digital camera for 5106-M40T/M50T** | | ISM-CM20, ISM-CM63 |

* 0.5X auxiliary objective must be used with ISM-ZS30-ADAPTER

** Digital camera must be used with 0.5X adapter ISM-MAS-ADAPTER



ZOOM STEREO MICROSCOPE (BASIC TYPE) CODE ISM-ZS30



SPECIFICATION

| | |
|-------------------------------|--|
| Optical tube | binocular |
| Eyepiece (wide field) | 10X (view field: Ø20mm) |
| Objective | 1X~4.5X (zoom) |
| Zoom ratio | 1:4.5 |
| Pupil distance | 55~75mm (adjustable) |
| Diopter adjustment | ±5 diopter (two eyepieces) |
| Working distance of objective | 97mm |
| Max. workpiece height | 60mm |
| Illumination | adjustable reflected and transmitted LED light |
| Power supply | 110/220V, 50/60HZ |
| Dimension (L×W×H) | 260×190×400mm |
| Weight | 4.3kg |



LED ring light (optional)

STANDARD DELIVERY

| | |
|-------------------------|-------|
| Main unit | 1 pc |
| WF 10X eyepiece | 2 pcs |
| Ø95mm glass plate | 1 pc |
| Ø95mm white/black plate | 1 pc |
| Anti-dust cover | 1 pc |

OPTIONAL ACCESSORY

| | | |
|--------------------------------|---|------------------|
| Auxiliary objective | 0.5X | ISM-ZS30-OB05X * |
| | 0.63X | ISM-ZS30-OB06X * |
| | 0.75X | ISM-ZS30-OB07X * |
| | 2X | ISM-ZS30-OB2X |
| Eyepiece | 10X dividing eyepiece (graduation 0.1mm/div.) | ISM-ZS30-EPD10X |
| | WF15X (view field: Ø16mm) | ISM-ZS50-EP15X |
| | WF20X (view field: Ø12mm) | ISM-ZS50-EP20X |
| LED ring light | | ISM-ZS-RL |
| Sleeve for auxiliary objective | | ISM-ZS30-ADAPTER |
| Digital camera | | ISM-CM63 |
| Camera adapter 0.75X ** | | ISM-AD-0D75 |

* 0.5X, 0.63X and 0.75X auxiliary objectives must be used with ISM-ZS30-ADAPTER

** Digital camera must be used with camera adapter 0.75X

LONG WORKING DISTANCE STEREO MICROSCOPES (LOW MAGNIFICATION)



5305-ZS80



5305-ZS90

SPECIFICATION

| Code | 5305-ZS80 (with metal base) | 5305-ZS90 (with magnetic base) |
|-------------------------------|-----------------------------|--------------------------------|
| Magnification | 8X | |
| Eyepiece (wide field) | 10X (view field: Ø20mm) | |
| Objective | 0.8X | |
| Pupil distance | 55~75mm | |
| Diopter adjustment | ±5 diopter (one eyepiece) | |
| Working distance of objective | 115mm | |
| Max. workpiece height | 100mm | 140mm |
| Dimension (L×W×H) | 280x160x370mm | 280x180x410mm |
| Weight | 3.7kg | 2.1kg |

STANDARD DELIVERY

| | |
|-----------------|--------|
| Main unit | 1 pc |
| 10X eyepieces | 1 pair |
| 0.8X objective | 1 pc |
| Anti-dust cover | 1 pc |

OPTIONAL ACCESSORY

| | | |
|----------------|---------------------------|-----------------|
| Eyepiece | WF5X (view field: Ø20mm) | 5305-ZS80-EP5X |
| | WF15X (view field: Ø15mm) | 5305-ZS80-EP15X |
| | WF20X (view field: Ø10mm) | 5305-ZS80-EP20X |
| LED ring light | ISM-ZS-RL | |



LED ring light (optional)



POLARIZING MICROSCOPE CODE ISM-POL1000



- Widely used in geology, mineralogy, fossil fuel exploration
- Single polarization, orthogonal polarization or conoscopic observation are available

SPECIFICATION

| | | | | | |
|---|--|-----------------------------|-------------------|-------------------|-------------------|
| Magnification | 40X~600X | | | | |
| Eyepiece | 10X (view field: Ø20mm) | | | | |
| Infinite strain free plan achromatic objective | 4X (transmitted/reflected) | 10X (transmitted/reflected) | 20X (transmitted) | 40X (transmitted) | 60X (transmitted) |
| Working distance | 22.2mm | 6.1mm | 6.4mm | 0.6mm | 0.3mm |
| Numerical aperture | 0.1 | 0.25 | 0.4 | 0.65 | 0.8 |
| Stage | revolving round stage diameter: Ø160mm graduation: 1°, resolution: 6' | | | | |
| Pupil distance | 53~75mm | | | | |
| Diopter adjustment | ±5 diopter (one eyepiece) | | | | |
| Illumination | 12V/50W halogen lamp, brightness is adjustable (reflected illumination) 12V/20W halogen lamp, brightness is adjustable (transmitted illumination) | | | | |
| Power supply | 110/220V, 50/60HZ | | | | |
| Dimension (L×W×H) | 614×250×394mm | | | | |
| Weight | 13kg | | | | |

STANDARD DELIVERY

| | |
|--|------|
| Main unit | 1 pc |
| Micrometer | 1 pc |
| Grid plate | 1 pc |
| 10X crossing eyepiece (view field: Ø20mm) | 1 pc |
| 10X dividing eyepiece (view field: Ø20mm, graduation 0.1mm) | 1 pc |
| λ slip (first class red) and 1/4λ slip | 1 pc |
| Quartz wedge | 1 pc |

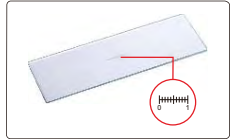
OPTIONAL ACCESSORY

| | | |
|---|--------|---------------------|
| Objective for reflected system | PL20X | ISM-POL1000-OBR20X |
| | PL40X | ISM-POL1000-OBR40X |
| | PL60X | ISM-POL1000-OBR60X |
| | PL100X | ISM-POL1000-OBR100X |
| Objective for transmitted system | PL100X | ISM-POL1000-OBT100X |
| Specimen presser | | ISM-POL1000-SP |

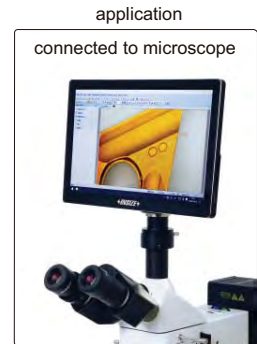
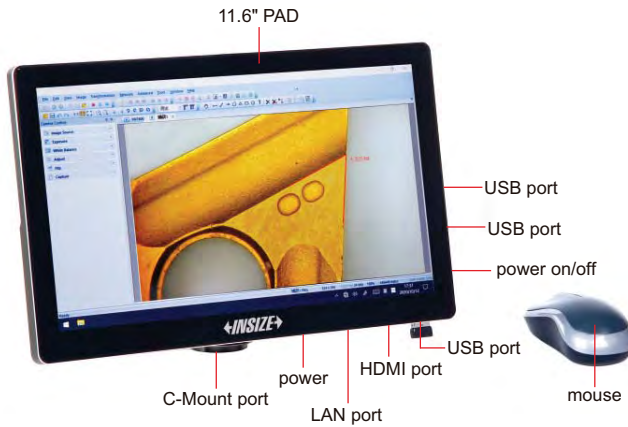
DIGITAL CAMERA FOR MICROSCOPES (WITH PAD) CODE ISM-ZS70-S

ATTENTION: CAMERA CONNECTOR AND ADAPTER ARE NEEDED ACCORDING TO MICROSCOPES

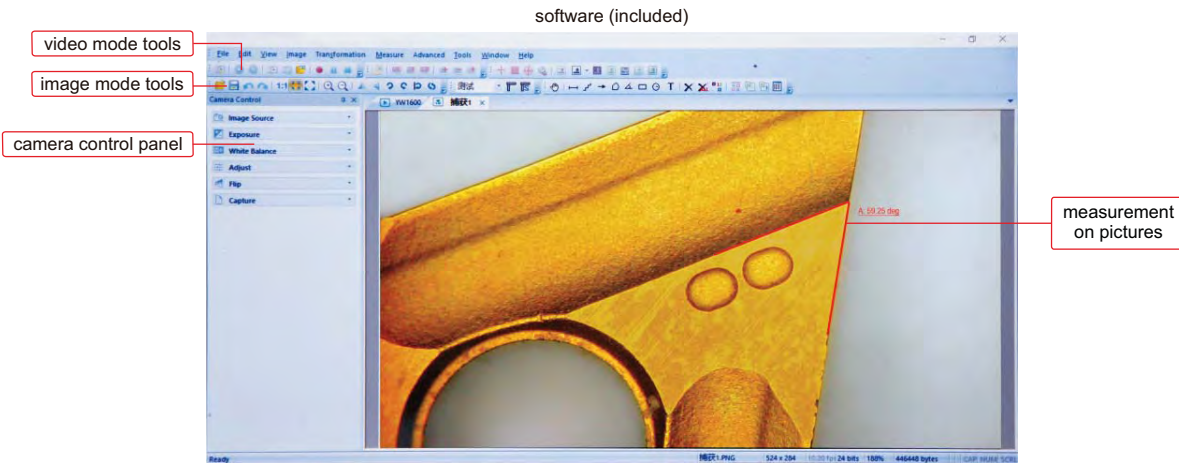
MEASUREMENT, TAKE PICTURES AND VIDEOS



glass calibration rule (included, graduation 0.1mm)



- Windows 10 operation system
- Built-in software, can take pictures and videos, can measure
- Language: Chinese, English, French, Japanese, German, Polish, Arabic
- Automatic exposure, white balance, brightness, contrast ratio, saturation are adjustable
- Image process feature: zoom in/out, flip, mirror, stitching and so on
- Output to Excel or CSV file



Measuring tools

- measure line
- measure meander line
- arrow mark
- measure polygon
- calibration
- measure angle
- measure rectangle
- measure circle
- text mark
- show/hide scale

SPECIFICATION

| | |
|-------------------|---|
| Sensor | 1/2.3" CMOS |
| Pixel | 16M |
| Resolution | 800×600, 1600×1200, 1920×1080, 2048×1536, 2304×1728, 2592×1944, 4608×3456 |
| Frame rate | 30fps (1920×1080) |
| Output | HDMI, USB 3.0 |
| Power supply | power adapter |
| Dimension (L×W×H) | 280.3×177.4×12.5mm |
| Weight | 0.9kg |

STANDARD DELIVERY

| | |
|---|------|
| Main unit | 1 pc |
| Mouse | 1 pc |
| Glass calibration rule (graduation 0.1mm) | 1 pc |
| AC/DC adapter | 1 pc |

ATTENTION: ADAPTERS ARE NEEDED ACCORDING TO MICROSCOPES

DIGITAL CAMERA FOR MICROSCOPES CODE ISM-CM63

- To be used with computers
- Sony Exmor back-illuminated CMOS sensor
- USB3.0 transmission
- Automatic exposure, gain adjustment, white balance, chrominance adjustment, saturation adjustment, gamma correction, luminance adjustment, contrast adjustment



C-mount port

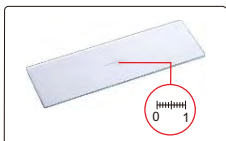
adapter 0.75X (optional)



application



glass calibration rule (included, graduation 0.1mm)



software (included)

selectable resolution

measurement items

real time gray calibration

automatic image stitching (expand field of view)

left side

right side

+

after stitching

counting

select counting tool

automatic counting

histogram (quantify the distribution of color and brightness)

black balance (reduce color difference)

flat field correction (reduce brightness difference)

dark field correction (reduce thermal noise)

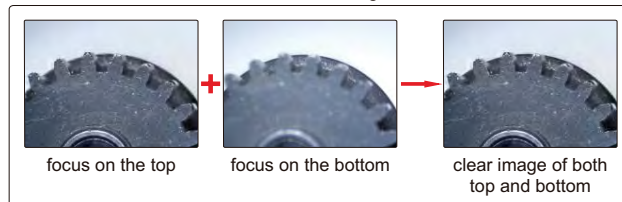
The software can control image completely, including measurement, image stitching, extend focus depth, image gray processing, RGB histogram observation, image color sampling, 3D plot (3D representation of image intensity), image exposure, white balance, black balance, image bit depth, flat field correction and dark field correction, etc.

25

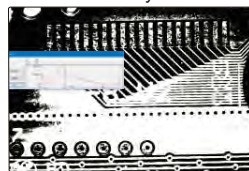
Measuring tools:

- | | | | |
|--|---|--|--|
| | measure length of line or distance between two points | | measure rectangle |
| | measure distance between two parallel lines | | measure width and diameter of ring |
| | measure angle | | measure diameter, length, perimeter angle of arc |
| | measure radius, girth and area of circle | | measure area of polygon |
| | measure axis lengths, girth and area of ellipse | | measure center distance between two circles |
| | calibration | | measure length of open curve |

focus stacking



binary



separate target and background

3D plot



visualize the distribution of image brightness and color

To be continued

Continued from previous page

SPECIFICATION

| | |
|-------------------|--------------------------------------|
| Sensor (back-up) | 1/1.8" CMOS |
| Resolution | 3072×2048 |
| Pixel | 6.3M |
| Single pixel size | 2.4×2.4μm |
| Spectral range | 380-650nm (with infrared cut filter) |
| Frame rate | 30fps |
| Sampling average | 1×1 |
| Exposure time | 0.1ms~15s |
| Power supply | USB port |
| Weight | 400g |

COMPUTER REQUIREMENT

| | |
|------------------|------------------------------|
| Operation system | Windows 7/8/10 |
| CPU | Intel Core 2 2.8Hz or above |
| Memory | 2GB or above |
| USB port | USB3.0 (recommand) or USB2.0 |
| Display | 17" or above |

STANDAER DELIVERY

| | |
|---|------|
| Camera (USB cable included) | 1 pc |
| Software | 1 pc |
| Glass calibration rule (graduation 0.1mm) | 1 pc |

OPTIONAL ACCESSORY

| | |
|---------------|-------------|
| Adapter 0.75X | ISM-AD-0D75 |
|---------------|-------------|

SMART CAMERA CODE ISM-MV10



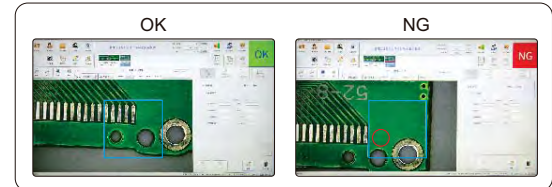
- Built-in software, operated by mouse.
- Automatically calculate, store the test results and sent to Excel
- Camera with PLC control input and output interface, can be integrated with automation equipment
- Functions: presence or absence of objects, position tilt correction, object counting, color detection, stain detection, dimension measurement, position guide, etc.

SPECIFICATION

| | |
|-----------------------|---|
| Chip structure | FPGA+ARM |
| Operation system | Linux 3.10 |
| Kernel structure | dual-core Cortex-A9 |
| Frequency | 1GHZ |
| I/O port | 3 sets of input and output (can be connected to photoelectric switch, wire switch, PLC, etc.) |
| Operation temperature | -10~70°C |
| Sensor | 1/2" CMOS |
| Single pixel size | 3.75×3.75μm |
| Resolution | 1920×1080 |
| Frame rate | 60fps |
| Video output | HDMI port |
| Lens connection | standard C port |

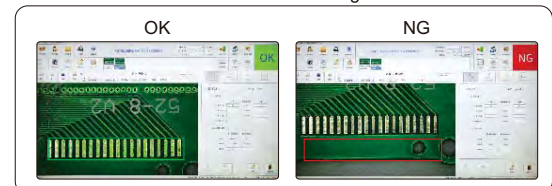
SOFTWARE

presence or absence of objects



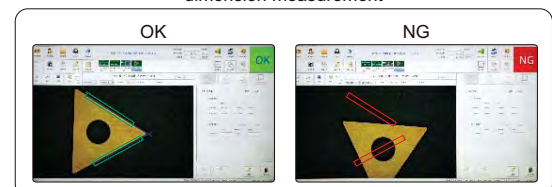
select the area and specify the target, the camera will automatically detect the presence or absence of the target.

automatic counting



select the area and specify the target, the camera will automatically calculate the number of targets.

dimension measurement



measuring angle, distance, radius, center distance, etc.

STANDAER DELIVERY

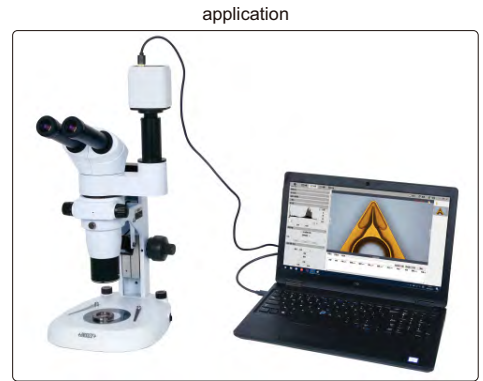
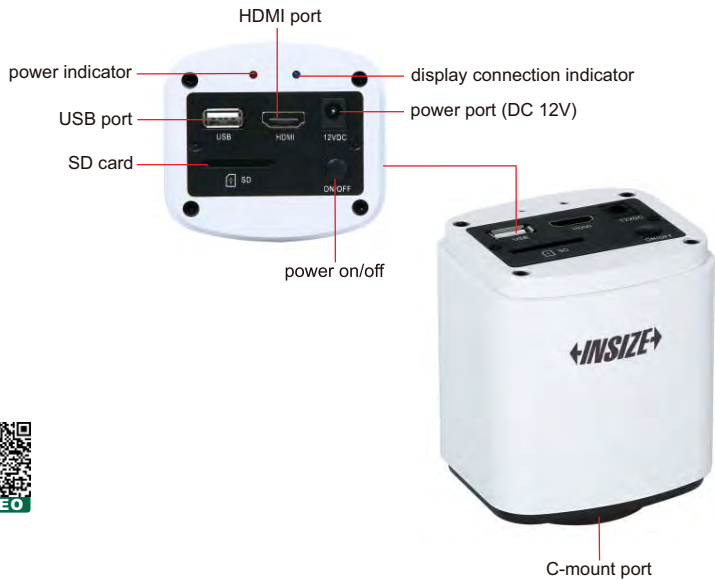
| | |
|--------------------------|------|
| Camera (with HDMI cable) | 1 pc |
| Software | 1 pc |

ATTENTION: ADAPTERS ARE NEEDED ACCORDING TO MICROSCOPES

FOCUS STACKING

AUTOMATIC IMAGE STITCHING

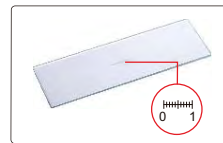
DIGITAL CAMERA FOR MICROSCOPES CODE ISM-CM20



- 1080P high-definition image
- Can be connected with displays or computers
- Built-in simple measuring software for displays, without computer
- Professional measuring software for computers is included
- For bright field, dark field or fluorescent field
- Automatic exposure, white balance, gain adjustment, gamma correction, brightness contrast adjustment, saturation adjustment, chroma sharpness adjustment
- Focus stacking, automatic image stitching

adapter 0.5X (optional)

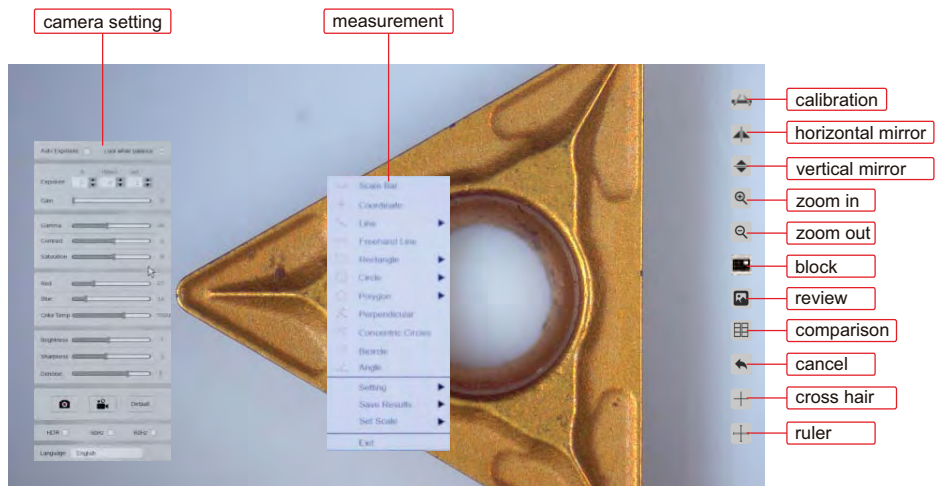
glass calibration rule
(included, graduation 0.1mm)



SIMPLE MEASURING SOFTWARE (BUILT-IN, FOR DISPLAYS)

▪ **Measuring tools:**

- measure length of line or distance between two points
- measure distance between point and line
- measure rectangle
- measure concentric circles
- measure circle
- measure curve
- measure polygon
- measure center distance of two circles
- measure angle of two lines



auto exposure, white balance, gain adjustment, gamma, chroma contrast adjustment, brightness sharpness adjustment, size measurement

To be continued

Continued from previous page

PROFESSIONAL MEASURING SOFTWARE (INCLUDED, FOR COMPUTERS)

selectable resolution

white balance
(balance color based on actual light source)

histogram
(quantify the distribution of color and brightness)

flat field correction

metrics flow
(create templates, set tolerances and build metrics flow)

manual counting
(class counting)

image coloring, fluorescence synthesis, binary, image smoothing, color filter/color extraction/color inversion, delay capture, focus stacking, automatic image stitching, metrics flow, manual counting, dynamic and static measurement, layered measurement, report generation and printing, delay record, flat field correction, image adjustment, histogram.

focus stacking

+
→

focus on the top

focus on the bottom

clear image of both top and bottom

automatic image stitching

+
→

+
→

slowly move the workpiece to generate a stitched image automatically (this image can not be used for size measurement)

SPECIFICATION

| | |
|-----------------|---------------|
| Sensor | 1/2.8" CMOS |
| Pixel | 2M |
| Resolution | 1920×1080 |
| Frame rate | 30fps |
| Power supply | power adapter |
| Output | HDMI/USB |
| Lens connection | C-mount |

COMPUTER (optional) REQUIREMENT

| | |
|------------------|-------------------------|
| Operation system | Windows 7/8/10 (64 bit) |
| CPU | Intel Core i5 or above |
| Memory | 8GB or above |
| USB port | USB 3.0 |

DISPLAY (optional) REQUIREMENT

| | |
|------------|----------------|
| Size | 13" or above |
| Resolution | 1080P or above |
| HDMI port | type A |

STANDARD DELIVERY

| | |
|---|------|
| Main unit | 1 pc |
| 16G memory card and holder | 1 pc |
| Glass calibration rule (graduation 0.1mm) | 1 pc |
| Mouse | 1 pc |
| HDMI cable | 1 pc |
| USB cable | 1 pc |
| Power supply | 1 pc |

OPTIONAL ACCESSORY

| | |
|--------------|-----------------|
| Adapter 0.5X | ISM-MAS-ADAPTER |
|--------------|-----------------|

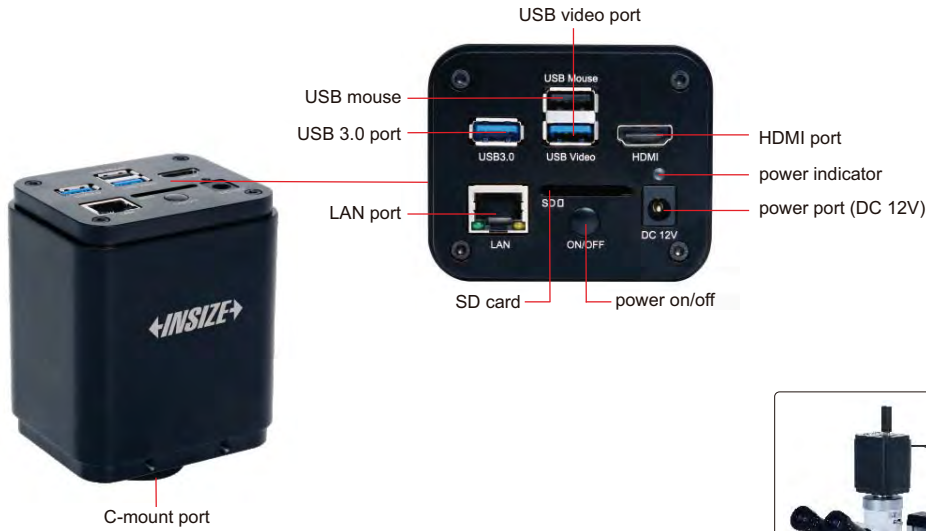


WIRELESS AD-HOC NETWORK

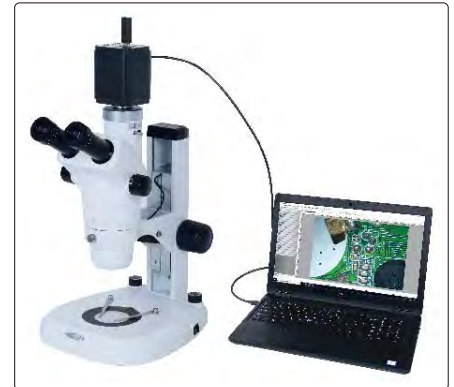
AUTOMATIC IMAGE STITCHING

FOCUS STACKING

WIFI 4K CAMERA FOR MICROSCOPES CODE ISM-MP8B



application



- 4K high-definition image
- Can be connected with displays or computers
- Built-in simple measuring software for display, without computer
- Professional measuring software for computers is included
- 4K HDMI/LAN/USB multiple video outputs
- 4K/1080P automatically switched by display resolution
- Focus stacking, automatic image stitching
- Wireless network or wired network



simple measuring software (built-in, for displays)



professional measuring software (included, for computers)



SPECIFICATION

| | |
|-------------------|--|
| Sensor | 1/1.2" CMOS |
| Pixel | 8M |
| Resolution | 3840×2160, 1920×1080 |
| Single pixel | 2.9×2.9μm |
| Frame rate | 60fps@3840×2160 (HDMI) 30fps@3840×2160 (LAN) 30fps@3840×2160 (USB) |
| Binning | 1×1 |
| Exposure | 0.04~1000ms |
| Output | HDMI/USB/LAN |
| Lens connection | C-mount |
| Power supply | DC 12V 1A |
| Dimension (L×W×H) | 80×65×105mm |
| Weight | 700g |

CONNECTION

| | |
|----------|--|
| HDMI | comply with HDMI 2.0 standard 4K/1080P automatically switched by display resolution |
| LAN | H264 encoded video bandwidth adjustment in real time DHCP configuration or manual configuration unicast/multicast configuration |
| WLAN | connecting 5G WLAN adapter (USB 3.0 interface) in AP/STA mode |
| COMPUTER | connecting USB video port of PC for video transfer H264/MJPEG format video |

To be continued

Continued from previous page

STANDARD DELIVERY

| | |
|-------------------------|------|
| Main unit | 1 pc |
| 32G SD card | 1 pc |
| USB mouse | 1 pc |
| HDMI2.0 cable | 1 pc |
| USB3.0 cable | 1 pc |
| USB wlan adapter | 1 pc |
| Wlan cable | 1 pc |
| Glass calibration ruler | 1 pc |
| Calibration plate | 1 pc |
| Software | 1 pc |
| Power adapter | 1 pc |

OPTIONAL ACCESSORY

| | | |
|--|------------------------|----------------|
| 16G USB flash disk | | IS-USBDISK-16G |
| Adjustable lens adapter | Ø23.2mm eyepiece tube | ISM-MP-2A075 |
| | Ø31.75mm eyepiece tube | ISM-MP-3A075 |
| Fixed lens adapter | Ø23.2mm eyepiece tube | ISM-MP-2F075 |
| | Ø31.75mm eyepiece tube | ISM-MP-3F075 |
| Adapter ring for Ø30.0mm eyepiece tube | | ISM-MP-300R |
| Adapter ring for Ø30.5mm eyepiece tube | | ISM-MP-305R |

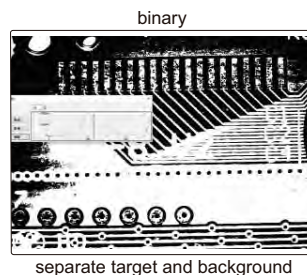
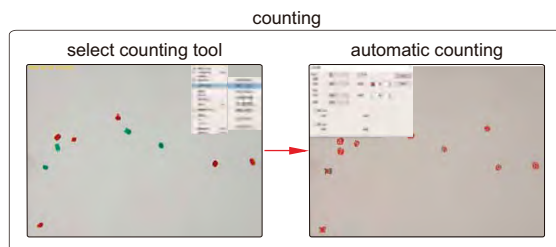
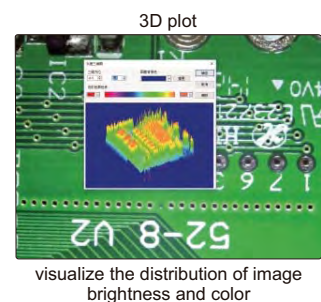
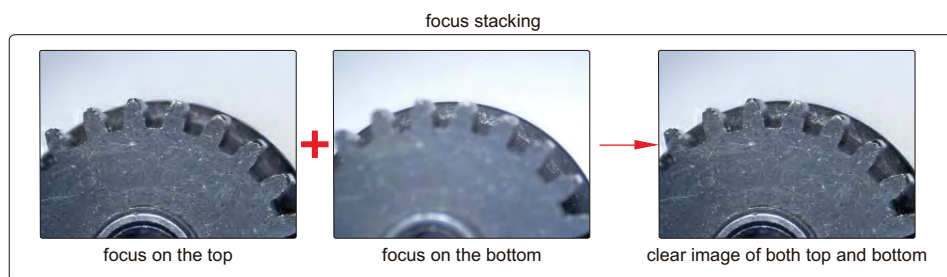
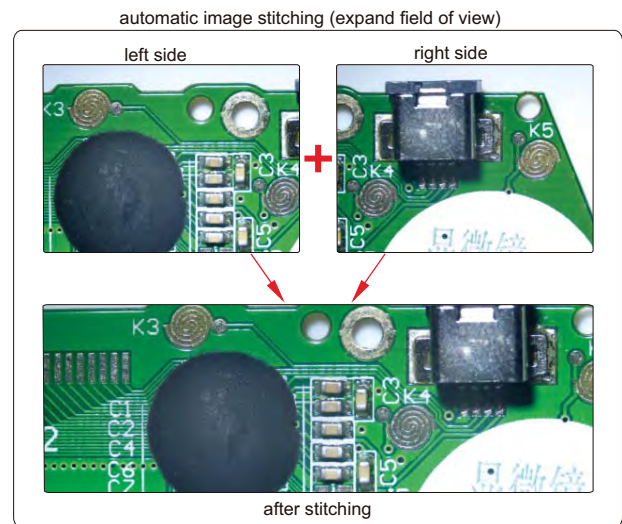
COMPUTER

| | |
|------------------|-------------------------|
| Operation system | Windows 7/8/10/11 |
| CPU | Intel Core 2 2.8Hz |
| Memory | 2GB |
| USB port | USB 3.0 or USB 2.0 port |
| Display | 17" |

PROFESSIONAL MEASURING SOFTWARE (INCLUDED, FOR COMPUTERS)

Measuring tools:

- measure length of line or distance between two points
- measure rectangle
- measure distance between two parallel lines
- measure width and diameter of ring
- measure angle
- measure diameter, length, perimeter angle of arc
- measure radius, girth and area of circle
- measure area of polygon
- measure axis lengths, girth and area of ellipse
- measure center distance between two circles
- calibration
- measure length of open curve





METALLURGICAL ANALYSIS SOFTWARE AND CAMERA CODE ISM-MAS100

- More than 100 standards (ISO, ASTM, JIS, etc.)
- For metallurgical microscopes
- The camera can be inserted into the eyepiece tube or camera connector of microscopes
- Metallurgical analysis software is included, which can make comparative analysis, measurement and evaluation of various materials



application



software flash disk (included)



glass calibration rule (included)

metallurgical analysis software (included)

tool bar

gallery

this software can be used with variety of metallographic microscopes for acquisition, processing, analysis, report generation of metallurgical images

metallurgical module list

Select autoanalysis item

- [001] METHOD OF AVERAGE GRAIN SIZE AREA OF METAL
- [002] METAL AVERAGE GRAIN SIZE CUTTING POINT METHOD
- [003] METAL AVERAGE GRAIN SIZE COMPARISON METHOD
- [004] Details of Average Grain Size Testing for Other Metals and Alloys
- [005] Standard for Dual Grain Size Characterization Test Method Area Fraction Evaluation Comparison Chart
- [006] Standard for Dual Grain Size Characterization Test Method .X1. Micrographs of Dual Grain Size Types
- [007] Standard for Dual Grain Size Characterization Test Method .X2. Application of Statistical Program for Determining Grain Size Distribution
- [009] Steel apparent grain size of micrographic estimating(planimetry) EM
- [010] steel apparent grain size of micrographic estimating(transversal method) EM
- [011] determination of nonmetallic inclusion content in steel by standard grading diagram
- [012] Evaluation Method of Inclusion Content in Steel_method (Worst field of view method)
- [013] Evaluation Method of Inclusion Content in Steel_method (Low Inclusion Content Method)
- [014] Evaluation Method of Inclusion Content in Steel_method
- [015] Metallurgical examination method. Microscopic examination of non-metallic impurities in high quality steel by metallographic diagram
- [016] metallographic examination of precious metal oxides
- [017] determination of decarburization depth of steel
- [018] DETERMINATION OF FERRITE GRAIN SIZE OF LOW CARBON STEEL COLD ROLLED SHEET GRAIN ELONGATION
- [019] determination of Phase Area Content of Stainless Steel
- [020] Metallurgical Examination of Gray Cast Iron Graphite Distribution Shape
- [021] Metallurgical Examination of Gray Cast Iron Graphite Length (Manual Analysis)
- [022] Metallurgical Inspection of Gray Cast Iron Graphite Length (Automatic Analysis)
- [023] Metallurgical Examination of Gray Cast Iron Number of Pearlite
- [024] Metallurgical Examination of Gray Cast Iron Number of Carbides
- [025] Metallurgical Examination of Gray Cast Iron Number of Phosphorus Eutectic
- [026] Metallurgical Examination of Gray Cast Iron Determination of the Number of Eutectic Groups of Cast Iron
- [027] Metallurgical examination of gray cast iron Phosphorus eutectic type etc.
- [028] Quantitative metallographic determination
- [029] Iron cementite
- [030] Pearlite in Low Carbon Deformed Steel
- [031] Zonal tissue
- [032] Microanalysis Result
- [033] Microstructure Assessment of Steel Calculation of Ferrite Content
- [034] Metallurgical Martensite Needle Length Rating of Carburized Gear for Automobile
- [035] Metallurgical Carbide Rating of Carburized Gears for Automobile
- [036] Metallurgical Retained Austenite Rating of Carburized Gears for Automobile

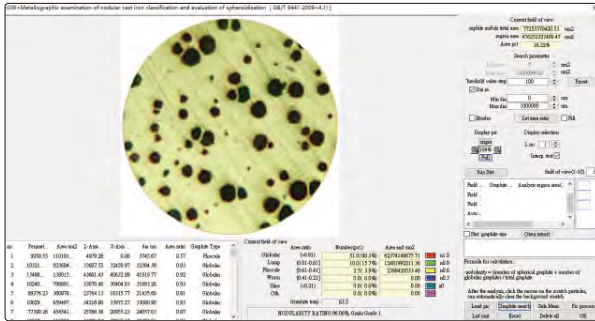
Multi-module grad Show all OK Cancel

To be continued

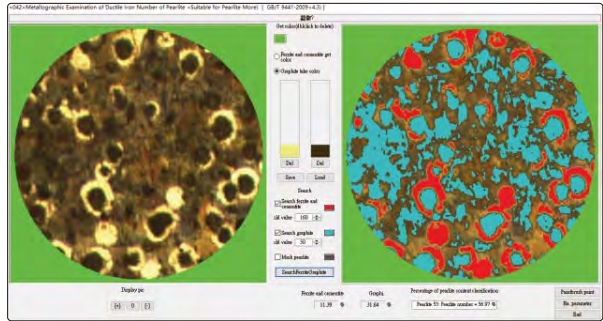
Continued from previous page

examples of metallurgical analysis

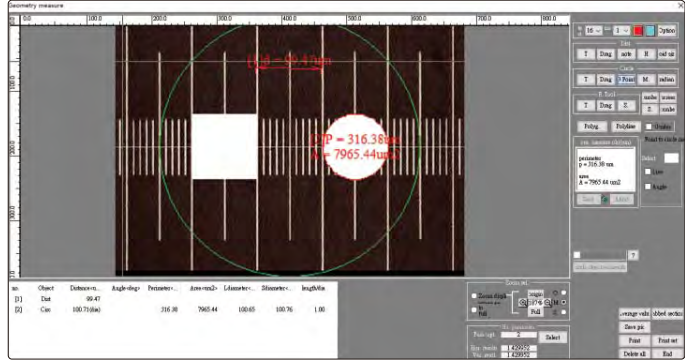
metallurgical analysis of ductile cast iron-spheroidizing grading



metallurgical analysis of ductile cast iron-pearlite quantity



dimension measurement



report



focus stacking

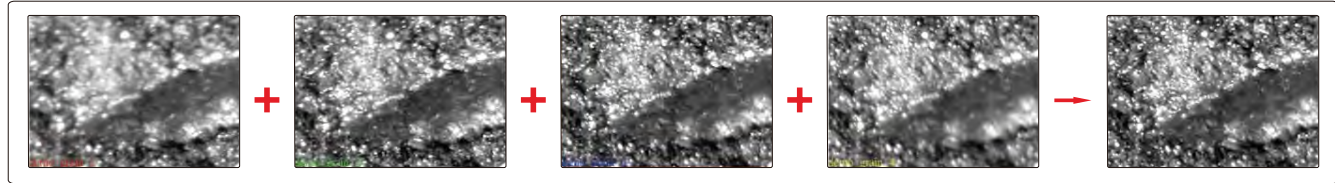
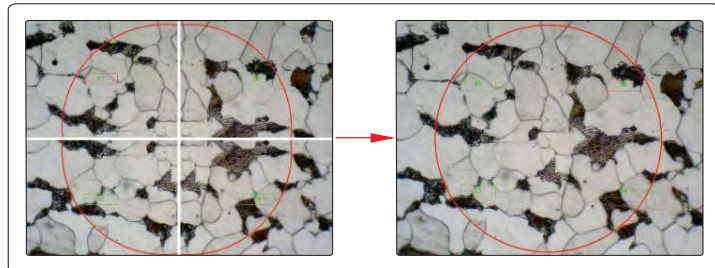
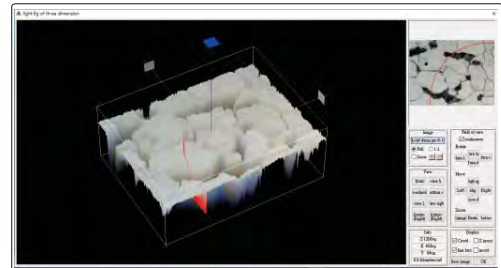


image stitch



three dimension map



SPECIFICATION

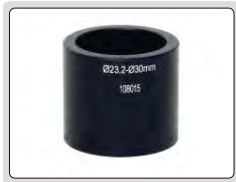
| | |
|---------------|-------------|
| Sensor | 1/1.8" CMOS |
| Pixel | 6.3M |
| Resolution | 3072×2048 |
| Frame rate | 30fps |
| Exposure time | 0.1ms~15s |
| Power supply | USB port |
| Weight | 400g |

STANDARD DELIVERY

| | |
|-----------------------------|------|
| Camera (USB cable included) | 1 pc |
| Software | 1 pc |
| Glass calibration rule | 1 pc |

CAMERA ADAPTERS

- Ø23.2/30mm eyepiece adapter is included
- Suitable for digital cameras
ISM-CM20, ISM-CM63, ISM-ZS70-S



Ø23.2/30mm eyepiece adapter (included)



0.5X camera adapter (fixed focus distance)
ISM-AD-0D5



0.75X camera adapter (fixed focus distance)
ISM-AD-0D75



0.5X camera adapter (adjustable focus distance)
ISM-AD-A0D5



0.75X camera adapter (adjustable focus distance)
ISM-AD-A0D75



SPECIFICATION

| Code | ISM-AD-0D5 | ISM-AD-A0D5 * | ISM-AD-0D75 | ISM-AD-A0D75 |
|---------------|----------------------|---------------------------|----------------------|---------------------------|
| Type | fixed focus distance | adjustable focus distance | fixed focus distance | adjustable focus distance |
| Magnification | 0.5X | 0.41X~0.58X | 0.75X | 0.64X~0.86X |

* There may be shadows on the edge of image when **ISM-AD-A0D5** is used

PORTABLE MEASURING MICROSCOPES



ISM-PM100

SPECIFICATION

| Code | ISM-PM20 | ISM-PM40 | ISM-PM50 | ISM-PM100 |
|------------------------|-------------------------------|------------------------------|-------------------------------|--------------------------------|
| Total magnification | 20X | 40X | 50X | 100X |
| Eyepiece | 10X with graduation | 10X with graduation | 10X with graduation | 10X with graduation |
| Objective (achromatic) | 2X (numerical aperture: 0.05) | 4X (numerical aperture: 0.1) | 5X (numerical aperture: 0.12) | 10X (numerical aperture: 0.25) |
| Working distance | 17.2mm | 18mm | 17.6mm | 7mm |
| Graduation | 0.05mm | 0.025mm | 0.02mm | 0.01mm |
| Viewing field | Ø9mm | Ø4.5mm | Ø3.6mm | Ø1.8mm |
| Focus range | 30mm | | | |
| Illumination | LED light | | | |
| Diameter of base | Ø63mm | | | |
| Height | 210mm | | | |
| Weight | 650g | | | |

STANDARD DELIVERY

| | |
|---------------|-------|
| Main unit | 1 pc |
| Pen light | 1 pc |
| Battery (AAA) | 2 pcs |

TABLE MAGNIFIER WITH ILLUMINATION CODE 7517-3D

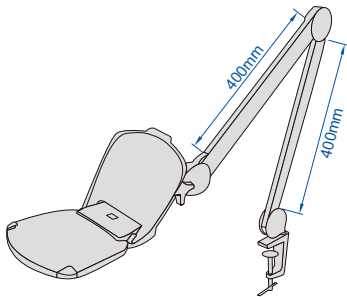
- Four steps brightness adjustment
- LED illumination, working life 20000h
- Resin lens

SPECIFICATION

| | |
|----------------------|--------------------------------|
| Magnification | 1.75X |
| Diopter | 3D |
| Lens diameter | Ø125mm |
| Illumination | power: 3W, illumination: 260lm |
| Power supply | power adapter 12V, 1A |



TABLE MAGNIFIERS WITH ILLUMINATION



- LED illumination, working life 20000h
- Resin lens

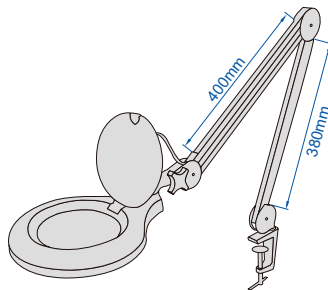
SPECIFICATION

| Code | 7520-320D | 7521-3D |
|-----------------------|--------------------------------|---------|
| Magnification | two magnifications 1.75X/6X | 1.75X |
| Diopter | 3D/20D | 3D |
| Lens dimension | 160×127mm | Ø126mm |
| Illumination | power: 6W, illumination: 550lm | |
| Power supply | power adapter 12V, 1A | |



TABLE MAGNIFIER WITH ILLUMINATION CODE 7516-5D

- LED illumination, working life 20000h



SPECIFICATION

| | |
|----------------------|--------------------------------|
| Magnification | 2.25X |
| Diopter | 5D |
| Lens diameter | Ø122mm |
| Illumination | power: 7W, illumination: 420lm |
| Power supply | 100~240V, 50~60Hz |





DIGITAL MAGNIFIER CODE 7525-D4



- 720P60 camera
- Auto focus
- With screen freezing function
- 26 color modes can be switched to meet the needs of different people
- Port to TV
- Automatic shutdown after 3 minutes

after the handle is folded, the magnifier can be directly placed on the object for observation



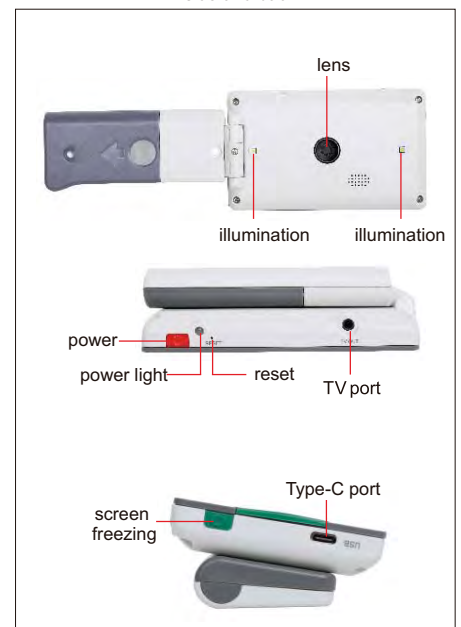
SPECIFICATION

| | |
|-----------------------|--|
| Screen size | 4.3 inch |
| Screen resolution | 480x272 |
| Magnification | 2X-32X |
| Pixel | 8M |
| Focus | manual/automatic |
| Color mode (26 modes) | color mode, color enhancement mode, negative mode, monochrome mode, black on white, white on black, blue on white, white on blue, yellow on black, black on yellow, yellow on blue, blue on yellow, green on white, white on green, orange on white, white on orange, red on black, black on red, orange on black, black on orange, yellow on green, green on yellow, red on white, white on red, yellow on white, white on yellow |
| Output | TV |
| Charging port | Type-C |
| Lithium battery | 1600mAH (for 4 hours working) |
| Dimension (LxWxH) | 123x39x76mm (when the handle is folded) |
| Weight | 210g |

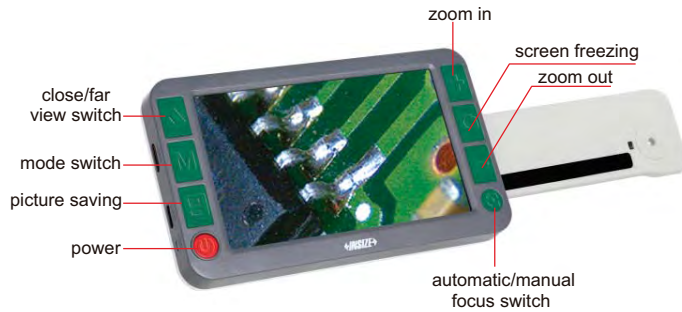
STANDARD DELIVERY

| | |
|--------------------|------|
| Main unit | 1 pc |
| Video output cable | 1 pc |
| USB charging cable | 1 pc |
| Power adapter | 1 pc |

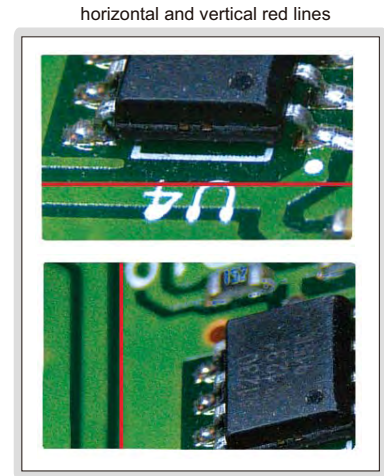
side and back



DIGITAL MAGNIFIER CODE 7526-D5



- 720P60 (close view) and 1080P30 (far view) cameras
- Double autofocus
- 26 color modes can be switched to meet the needs of different people
- Adopt folding bracket
- Detachable handle design, suitable for left-handed or right-handed use
- TV and HDMI ports to TV and display
- Automatic shutdown after 3 minutes



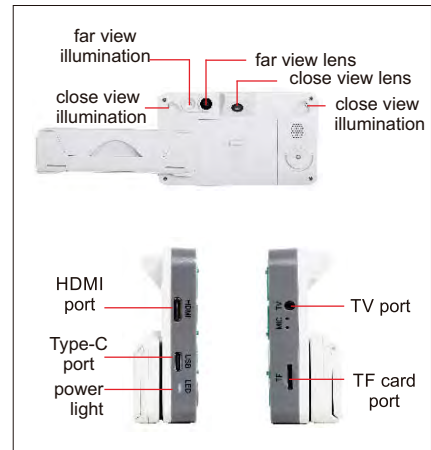
SPECIFICATION

| | |
|-----------------------|--|
| Screen size | 5 inch |
| Screen resolution | 800x480 |
| Magnification | 2X-32X |
| Close view pixel | 8M |
| Far view pixel | 8M |
| Focus | manual/automatic |
| Color mode (26 modes) | color mode, color enhancement mode, negative mode, monochrome mode, black on white, white on black, blue on white, white on blue, yellow on black, black on yellow, yellow on blue, blue on yellow, green on white, white on green, orange on white, white on orange, red on black, black on red, orange on black, black on orange, yellow on green, green on yellow, red on white, white on red, yellow on white, white on yellow |
| Line | horizontal and vertical red lines |
| Function | screen freezing, image moving, photo playback, and high definition storage |
| Output | TV and HDMI |
| Storage | supports up to 32G TF card |
| Charging port | Type-C |
| Lithium battery | 2500mAH (for 4 hours working) |
| Dimension (LxWxH) | 145x30x85mm (when the handle is folded) |
| Weight | 275g |

after the handle is folded, the magnifier can be directly placed on the object for observation



side and back



STANDARD DELIVERY

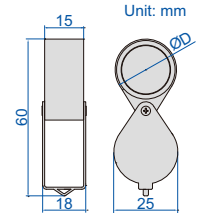
| | |
|--------------------|------|
| Main unit | 1 pc |
| HDMI cable | 1 pc |
| Video output cable | 1 pc |
| USB charging cable | 1 pc |
| Power adapter | 1 pc |

FOLDING MAGNIFIER

- Glass lens



7511-8



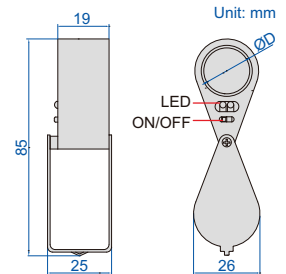
| Code | Magnification | Lens diameter (ØD) |
|--------|---------------|--------------------|
| 7511-8 | 10X | Ø21mm |

FOLDING MAGNIFIER WITH ILLUMINATION

- Resin lens
- Powered by 3xLR927 batteries (included)



7515-10

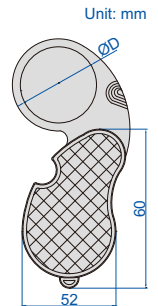
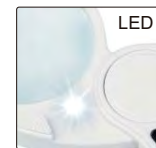


| Code | Magnification | Lens diameter (ØD) |
|---------|---------------|--------------------|
| 7515-10 | 10X | Ø21mm |

FOLDING MAGNIFIER WITH ILLUMINATION



7514-1

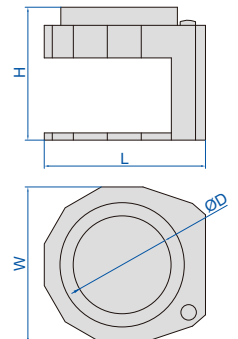
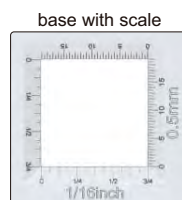


- Resin lens
- Powered by 2xCR1620 batteries (included)
- LED lights up automatically when opened

| Code | Magnification | Lens diameter (ØD) |
|--------|---------------|--------------------|
| 7514-1 | 2.5X | Ø45mm |

MAGNIFIER WITH ILLUMINATION

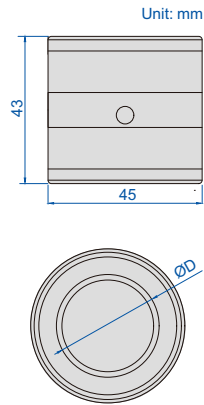
- Glass lens
- Powered by 3xAG7 batteries
- 3 pcs LED and 3 pcs UV
- Base with scale, graduation: 0.5mm, 1/16"



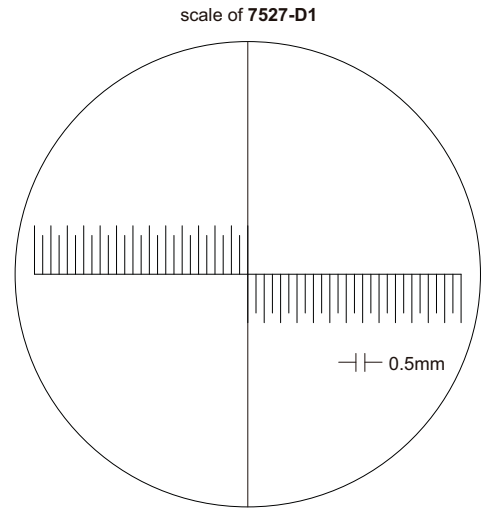
| Code | Magnification | Lens diameter (ØD) | L | H | W |
|---------|---------------|--------------------|------|------|------|
| 7524-10 | 10X | Ø30mm | 60mm | 50mm | 56mm |

7524-10

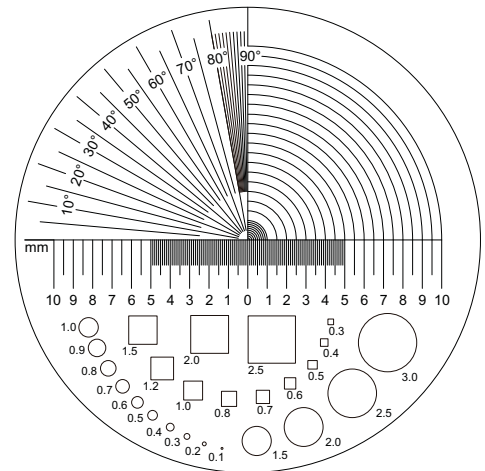
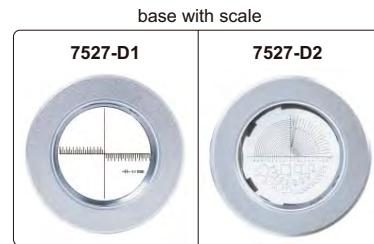
MEASURING MAGNIFIERS (WITH ILLUMINATION)



7527-D1



scale of 7527-D2
(0-5mm graduation: 0.1mm, 5-10mm graduation: 0.5mm)



- Base with scale
- With 5 white LED and 5 UV LED
- Charging port: Type-C
- Work for 1.5h after fully charged

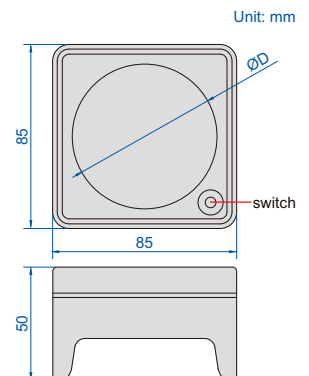
| Code | Magnification | Lens diameter (ØD) |
|---------|---------------|--------------------|
| 7527-D1 | 10X | Ø30mm |
| 7527-D2 | 10X | Ø30mm |

MAGNIFIER WITH ILLUMINATION

- Glass lens
- With 4 white LED, three levels brightness adjustment
- Charging port: Type-C



7528-3



| Code | Magnification | Lens diameter (ØD) |
|--------|---------------|--------------------|
| 7528-3 | 3X | Ø70mm |

MAGNIFIERS WITH ILLUMINATION

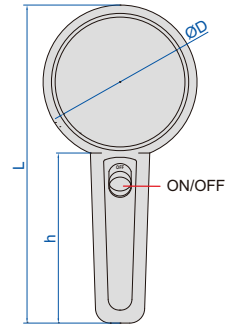


- Glass lens
- Powered by 3xAAA batteries (included)



7513-2

7513-4



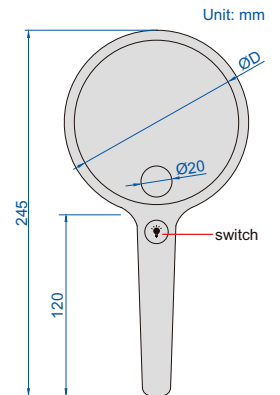
| Code | Magnification | Lens diameter (ØD) | L | h |
|--------|---------------|--------------------|-------|------|
| 7513-2 | 2X | Ø75mm | 170mm | 90mm |
| 7513-4 | 4X | Ø50mm | 145mm | 90mm |

MAGNIFIER WITH ILLUMINATION

- Resin lens
- With 20 white LED, three levels brightness adjustment
- Charging port: Type-C



7529-24



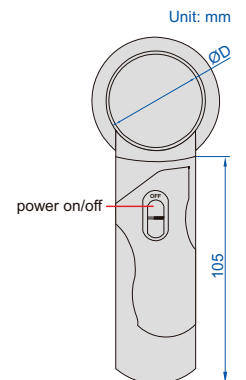
| Code | Magnification | Lens diameter (ØD) |
|---------|---------------|--------------------|
| 7529-24 | 2X/4X | Ø105mm |

MAGNIFIER WITH TWO LENSES

- Resin lens
- Interchangeable lenses
- Powered by 3 pcs AAA batteries (included)



7522-610



| Code | Lens number | Magnification | Lens diameter (ØD) |
|----------|-------------|---------------|--------------------|
| 7522-610 | 2 pcs | 6X | 50mm |
| | | 10X | 37mm |

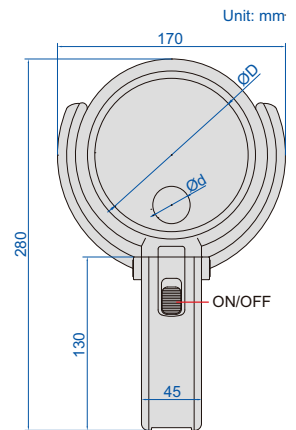
THREE WAYS MAGNIFIER WITH ILLUMINATION



three ways use



7512-1



- Resin lens
- Powered by 2xAA batteries (included) or power adapter (110~240V, 50~60Hz)

| Code | Magnification | Lens diameter (ØD/Ød) |
|--------|---------------|-----------------------|
| 7512-1 | 2X/4X | Ø120mm/Ø28mm |

MAGNIFICATION GLASSES



7523-3D5

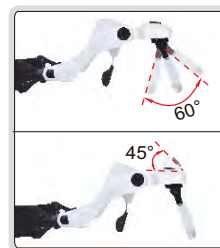
- Resin lens
- Interchangeable lenses
- Powered by 3 pcs AAA batteries (included)

| Code | Lens number | Magnification |
|----------|-------------|---------------|
| 7523-3D5 | 5 pcs | 1X |
| | | 1.5X |
| | | 2X |
| | | 2.5X |
| | | 3.5X |

interchangeable lenses



adjustable lens and LED angle



head band (included)



adjustable holder angle



moveable lens for focus



2 pcs LED



MAGNIFIER

using on table



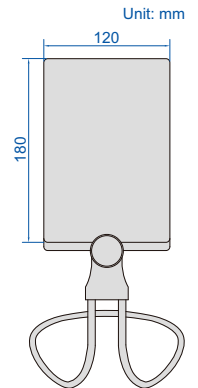
hanging around neck



- Resin lens
- Silicone hose can be shaped according to needs
- Can be used on table or hanging around neck



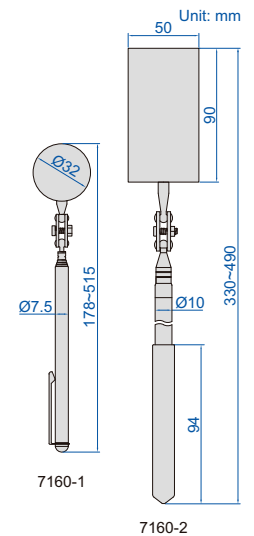
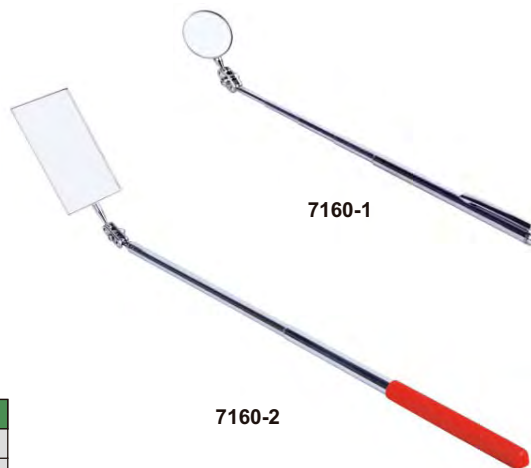
7530-1D8



| Code | Magnification | Lens size |
|----------|---------------|-----------|
| 7530-1D8 | 1.8X | 180x120mm |

TELESCOPING INSPECTION MIRRORS

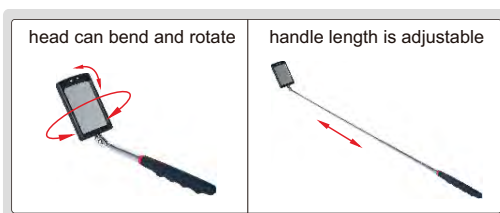
- Inspect hidden areas
- Rotation of the mirror: 360°
- Length of handle is adjustable, handle is made of stainless steel



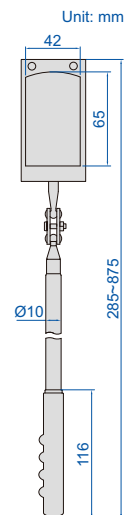
| Code | Size of mirror | Length |
|--------|----------------|-----------|
| 7160-1 | Ø32mm | 178~515mm |
| 7160-2 | 50x90mm | 330~490mm |

TELESCOPING INSPECTION MIRROR (WITH ILLUMINATION)

- Inspect hidden areas
- Head can bend and rotate
- Telescoping handle, made of stainless steel
- With two CR2032 batteries



7162-1



| Code | Size of mirror | Length |
|--------|----------------|-----------|
| 7162-1 | 65x42mm | 285~875mm |

TELESCOPING MAGNETIC PICK-UP AND FLASHLIGHT



head can bend, handle length is extendible

handle is closed



7163-1



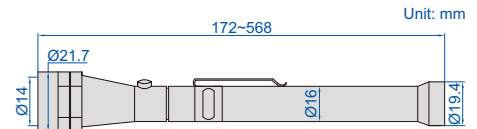
magnetic head



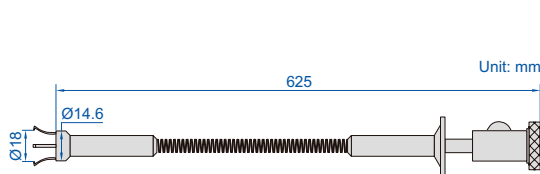
magnetic end to attach on steel surfaces

- For illumination and pick up steel parts in hidden areas
- Head can bend
- Telescoping handle, made of stainless steel
- Magnetic head and end
- With four LR44 batteries

| Code | Magnetic force of the end | Magnetic force of the head | Flashlight range | Battery life | Length |
|--------|---------------------------|----------------------------|------------------|--------------|-----------|
| 7163-1 | 4kgf | 2kgf | 3m | 8h | 172~568mm |

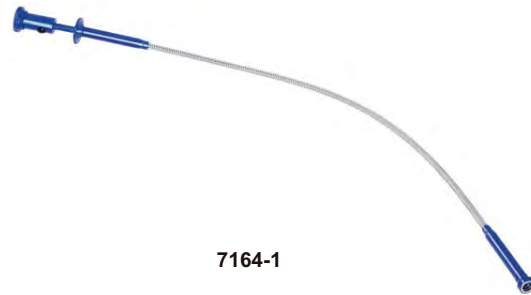


FLEXIBLE PICK-UP AND FLASHLIGHT

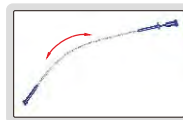


- For illumination and pick up steel parts in hidden areas
- Flexible spring rod, made of stainless steel
- Three LR44 batteries

| Code | Magnetic force | Flashlight range | Battery life |
|--------|----------------|------------------|--------------|
| 7164-1 | 0.9kgf | 1m | 24h |



7164-1



flexible spring rod



flashlight head

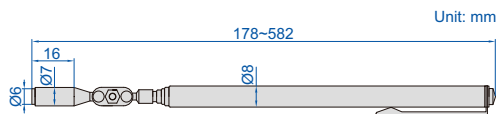


4 retractable claws



magnetic head

TELESCOPING MAGNETIC PICK-UP



- Pick up steel parts from hidden areas
- Rotation of magnetic head: 360°
- Length of handle is adjustable, handle is made of stainless steel

| Code | Size of magnetic tip | Magnetic force | Length |
|--------|----------------------|----------------|-----------|
| 7161-1 | Ø6mm | 0.45kgf | 178~582mm |



7161-1



Videoscopes
Page 670-682



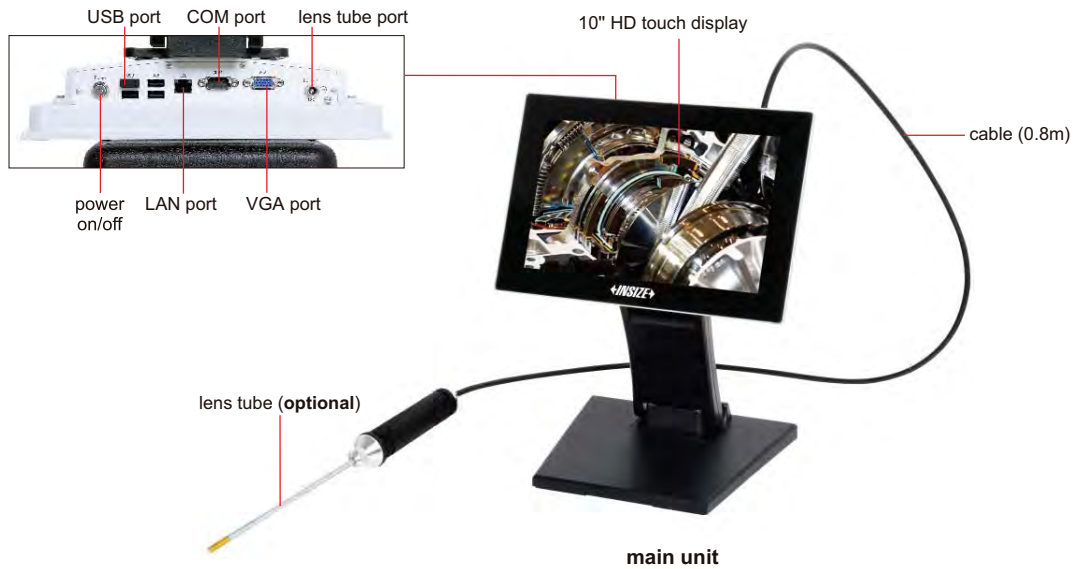
Pipe Videoscopes
Page 683



Rigid Borescopes
Page 684

VIDEOSCOPE (DESK TYPE)

REAR FIBER ILLUMINATION



MAIN UNIT (WITHOUT LENS TUBE)

| | |
|---------------------|--|
| Code | ISV-Y |
| Display | 10" HD touch display |
| Function | take picture, take video |
| File format | picture: JPG, video: MP4 |
| Memory | built-in hard disk or USB flash disk |
| Image process | image zoom (1X, 2X, 3X) |
| Image control | noise reduction, negative film, flip over, freeze, on-line edit |
| Illumination | stepless adjustment |
| Additional function | real-time dynamic annotation, real-time watermark, rapid defect mark |
| Output | USB, HDMI |
| Power supply | AC/DC adapter (for continuous working) |
| Weight | 1000g |

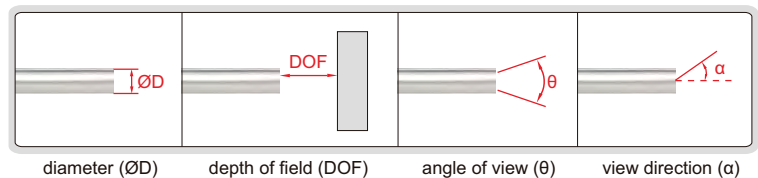
STANDARD DELIEVERY

| | |
|---------------|------|
| Main unit | 1 pc |
| USB disk | 1 pc |
| Mouse | 1 pc |
| AC/DC adapter | 1 pc |

OPTIONAL ACCESSORY

| | |
|--|------------------------|
| Lens tube | refer to below details |
| Software for automatic defect identification | can be customized |

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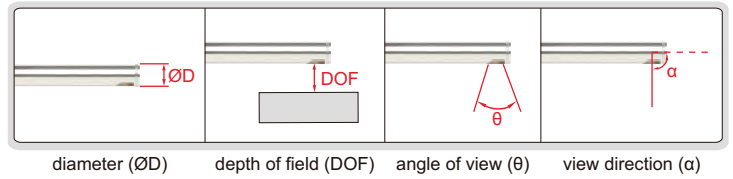


RIGID STRAIGHT LENS TUBE, FRONT VIEW

| Code | Lens tube | | Lens | | | | | |
|-----------|---------------|----------------------------|-------|--------------------|-------------------|----------------------|------------------------|------------------|
| | diameter (ØD) | length (L) | pixel | illumination | angle of view (θ) | depth of field (DOF) | view direction (α) | dust/ waterproof |
| ISV-Y1210 | 1.2mm | 90mm | 0.04M | rear optical fiber | 120° | 3~70mm | 0° | IP67 |
| ISV-Y1810 | 1.8mm | 120mm (optional 90-150mm) | 0.16M | | | 3~70mm | 0° | |
| ISV-Y2010 | 2.0mm | 120mm (optional 90-150mm) | 0.16M | | | 3~70mm | 0° | |
| ISV-Y2410 | 2.4mm | 150mm (optional 90-300mm) | 0.16M | | | 3~70mm | 0° | |
| ISV-Y2810 | 2.8mm | 150mm (optional 90-300mm) | 0.16M | | | 3~70mm | 0° | |
| ISV-Y3910 | 3.9mm | 200mm (optional 90-500mm) | 1M | | | 8~150mm | 0° (optional 30°, 70°) | |
| ISV-Y6010 | 6.0mm | 300mm (optional 90-1000mm) | 1M | | | 12~200mm | 0° (optional 30°, 70°) | |

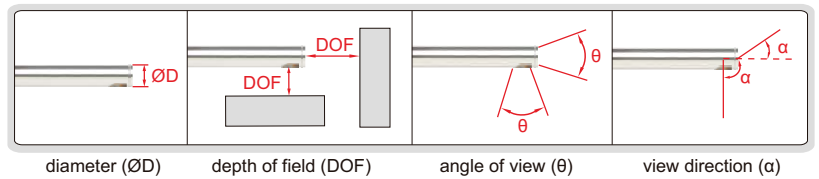
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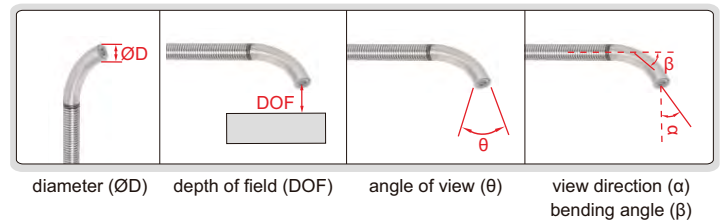
RIGID STRAIGHT LENS TUBE, SIDE VIEW

| Code | Lens tube | | Lens | | | | | |
|------------|---------------|----------------------------|-------|--------------------|-------------------|----------------------|--------------------|------------------|
| | diameter (ØD) | length (L) | pixel | illumination | angle of view (θ) | depth of field (DOF) | view direction (α) | dust/ waterproof |
| ISV-Y2810C | 2.8mm | 150mm (optional 90-300mm) | 0.16M | rear optical fiber | 120° | 3~70mm | 90° | IP67 |
| ISV-Y3910C | 3.9mm | 200mm (optional 90-500mm) | 1M | | | 8~150mm | | |
| ISV-Y4510C | 4.5mm | 250mm (optional 90-800mm) | 1M | | | 8~150mm | | |
| ISV-Y6010C | 6.0mm | 300mm (optional 90-1000mm) | 1M | | | 12~200mm | | |



RIGID STRAIGHT LENS TUBE, FRONT VIEW & SIDE VIEW

| Code | Lens tube | | Lens | | | | | |
|------------|---------------|----------------------------|-------|--------------------|-------------------|--|----------------------------------|------------------|
| | diameter (ØD) | length (L) | pixel | illumination | angle of view (θ) | depth of field (DOF) | view direction (α) | dust/ waterproof |
| ISV-Y6010S | 6.0mm | 300mm (optional 90-1000mm) | 1M | rear optical fiber | 120° | front view: 12~200mm side view: 8~150mm | front view: 0° side view: 90° | IP67 |

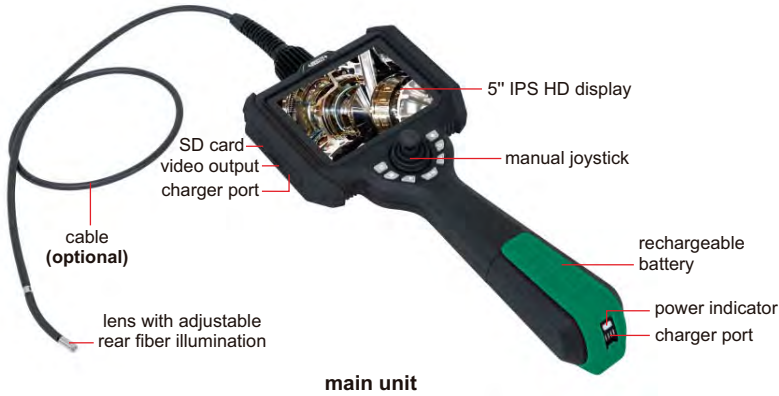


BENDING SPRING LENS TUBE

| Code | Lens tube | | Lens | | | | | | |
|------------|---------------|------------|-------|--------------------|-------------------|----------------------|--------------------|-------------------------|------------------|
| | diameter (ØD) | length (L) | pixel | illumination | angle of view (θ) | depth of field (DOF) | view direction (α) | bending angle (β) | dust/ waterproof |
| ISV-Y3010W | 3.0mm | 1000mm | 0.16M | rear optical fiber | 120° | 8~150mm | 0° | 75° (can be customized) | IP65 |
| ISV-Y5010W | 5.0mm | | 1M | | | 8~150mm | | | |
| ISV-Y7010W | 7.0mm | | 1M | | | 12~200mm | | | |

VIDEOSCOPE

REAR FIBER ILLUMINATION



main unit



changeable lens cable



tripod (included)



ISV-L-HOOK (optional)



ISV-L-MAGNET (optional)

MAIN UNIT (WITHOUT CABLE)

| | |
|---------------|--|
| Code | ISV-L |
| Display | 5" high definition LCD |
| Resolution | 1024×720 |
| Function | take pictures, take videos |
| File format | picture: JPG, video: MP4 |
| Image process | image zoom (1X, 2X, 3X, 4X) |
| Image control | freeze, flip over, playback and analog ruler |
| Memory | memory card |
| Output | USB, HDMI |
| Power supply | rechargeable lithium battery (working time ≥ 4hours) AC/DC adapter (for continuous working) |
| Weight | 1000g |



ISV-L-CLAMP (optional)

OPERATION ENVIRONMENT

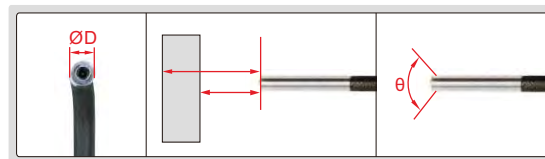
| | |
|-----------------------|------------------------------|
| Main unit | -10~50°C, no preheat |
| Operation temperature | -20~70°C |
| Storage temperature | -20~60°C |
| Relative humidity | maximum 90%, no condensation |

STANDARD DELIEVERY

| | |
|---------------|------|
| Main unit | 1 pc |
| 32G SD card | 1 pc |
| Card reader | 1 pc |
| USB cable | 1 pc |
| Tripod | 1 pc |
| AC/DC adapter | 1 pc |

OPTIONAL ACCESSORY

| | |
|-------------------|---|
| Cable | please refer to details |
| WIFI output | ISV-L-WIFI (must be installed in factory, only for Android OS) |
| Temperature alarm | ISV-L-HTALARM (must be installed in factory, for Ø3.9mm, Ø4.5mm and Ø6.0mm) |
| Hook | ISV-L-HOOK (must be installed in factory, for Ø3.9mm, Ø4.5mm and Ø6.0mm) |
| Magnet | ISV-L-MAGNET (must be installed in factory, for Ø3.9mm, Ø4.5mm and Ø6.0mm) |
| Clamp | ISV-L-CLAMP |



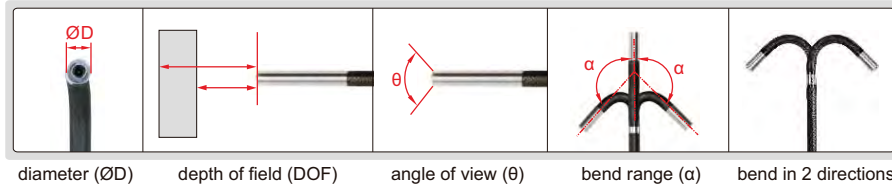
diameter (ØD) depth of field (DOF) angle of view (θ)

ONE-DIRECTION CABLE (NO BENDING), FRONT VIEW

| Code | Cable | | Lens | | | | | | | |
|------------|--------|----------------------------|----------------|---------------|----------------------|-------------------|--------------|-------|------------|------------------|
| | length | type | view direction | diameter (ØD) | depth of field (DOF) | angle of view (θ) | illumination | pixel | resolution | dust/ waterproof |
| ISV-L09505 | 0.5m | spring tube | front view | 0.95mm | 3~30mm | >120° | rear fiber | 0.16M | 400×400 | IP65 |
| ISV-L09510 | 1m | | | 1.2mm | 3~30mm | | | | | |
| ISV-L1210 | 1m | | | 1.5mm | 3~70mm | | | | | |
| ISV-L1510 | 1m | tungsten wire weaved cable | | 1.5mm | 3~70mm | | | | | |
| ISV-L1515 | 1.5m | | | | | | | | | |

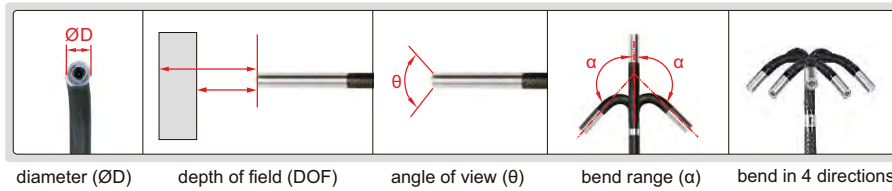
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TWO-DIRECTION BENDING CABLE, FRONT VIEW

| Code | Cable | | Lens | | | | | | | | | |
|-----------|--------|----------------------------|----------------|----------------|---------------|---------------------------|----------------|-------------------|--------------|-------|------------|------------------|
| | length | type | view direction | bend direction | diameter (ØD) | depth of field (DOF) | bend range (α) | angle of view (θ) | illumination | pixel | resolution | dust/ waterproof |
| ISV-L1810 | 1m | tungsten wire weaved cable | front view | two directions | 1.8mm | 3~30mm | ±160° | >120° | rear fiber | 0.16M | 400×400 | IP65 |
| ISV-L2010 | 1m | | | | 2.0mm | 3~30mm | | | | | | |
| ISV-L2410 | 1m | | | | 2.4mm | 3~70mm (optional 5~100mm) | | | | | | |
| ISV-L2415 | 1.5m | | | | | | | | | | | |
| ISV-L2420 | 2m | | | | | | | | | | | |

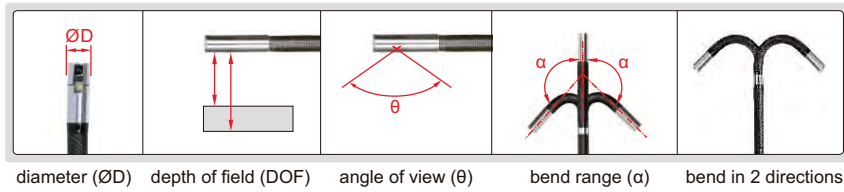


FOUR-DIRECTION BENDING CABLE, FRONT VIEW

| Code | Cable | | Lens | | | | | | | | | |
|-----------|--------|----------------------------|----------------|-----------------|---------------|-------------------------------------|----------------|-------------------|--------------|-------|------------|------------------|
| | length | type | view direction | bend direction | diameter (ØD) | depth of field (DOF) | bend range (α) | angle of view (θ) | illumination | pixel | resolution | dust/ waterproof |
| ISV-L2810 | 1m | tungsten wire weaved cable | front view | four directions | 2.8mm | 3~70mm (optional 5~100mm) | ±160° | >120° | rear fiber | 0.16M | 400×400 | IP65 |
| ISV-L2815 | 1.5m | | | | | | | | | | | |
| ISV-L2820 | 2m | | | | | | | | | | | |
| ISV-L2830 | 3m | | | | | | | | | | | |
| ISV-L3910 | 1m | | | | 3.9mm | 8~150mm (optional 3~70mm) | | | | 0.92M | 1280×720 | IP67 |
| ISV-L3915 | 1.5m | | | | | | | | | | | |
| ISV-L3920 | 2m | | | | | | | | | | | |
| ISV-L3930 | 3m | | | | | | | | | | | |
| ISV-L3940 | 4m | | | | 6.0mm | 12~200mm (optional 3~70mm, 8~150mm) | | | | 0.92M | 1280×720 | IP67 |
| ISV-L3950 | 5m | | | | | | | | | | | |
| ISV-L6010 | 1m | | | | | | | | | | | |
| ISV-L6015 | 1.5m | | | | | | | | | | | |
| ISV-L6020 | 2m | | | | | | | | | | | |
| ISV-L6030 | 3m | | | | | | | | | | | |
| ISV-L6040 | 4m | | | | | | | | | | | |
| ISV-L6050 | 5m | | | | | | | | | | | |
| ISV-L6060 | 6m | | | | | | | | | | | |
| ISV-L6070 | 7m | | | | | | | | | | | |

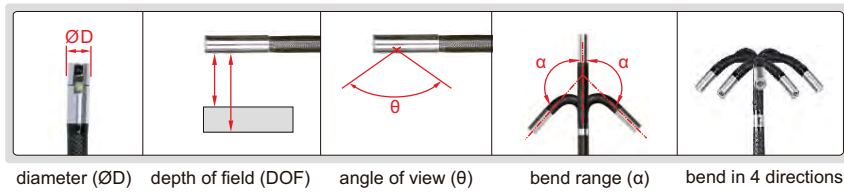
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TWO-DIRECTION BENDING CABLE, SIDE VIEW

| Code | Cable | | Lens | | | | | | | | | |
|------------|--------|----------------------------|----------------|----------------|---------------|----------------------|----------------|-------------------|--------------|-------|------------|------------------|
| | length | type | view direction | bend direction | diameter (ØD) | depth of field (DOF) | bend range (α) | angle of view (θ) | illumination | pixel | resolution | dust/ waterproof |
| ISV-L1810C | 1m | tungsten wire weaved cable | side view | two directions | 1.8mm | 3~30mm | ±160° | >120° | rear fiber | 0.16M | 400×400 | IP65 |
| ISV-L1815C | 1.5m | | | | | | | | | | | |

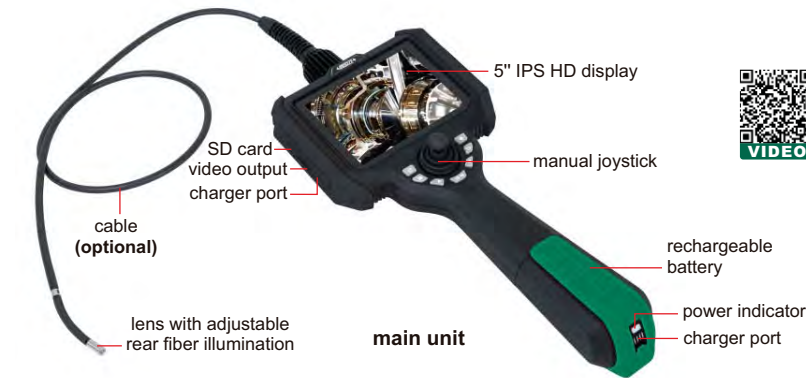


FOUR-DIRECTION BENDING CABLE, SIDE VIEW

| Code | Cable | | Lens | | | | | | | | | |
|------------|--------|----------------------------|----------------|-----------------|---------------|----------------------------|----------------|-------------------|--------------|-------|------------|------------------|
| | length | type | view direction | bend direction | diameter (ØD) | depth of field (DOF) | bend range (α) | angle of view (θ) | illumination | pixel | resolution | dust/ waterproof |
| ISV-L2810C | 1m | tungsten wire weaved cable | side view | four directions | 2.8mm | 3~70mm | ±160° | >120° | rear fiber | 0.16M | 400×400 | IP65 |
| ISV-L2815C | 1.5m | | | | | | | | | | | |
| ISV-L2820C | 2m | | | | | | | | | | | |
| ISV-L2830C | 3m | | | | | | | | | | | |
| ISV-L4510C | 1m | | | | 4.5mm | 5~100mm (optional 8~150mm) | | | | | | |
| ISV-L4515C | 1.5m | | | | | | | | | | | |
| ISV-L4520C | 2m | | | | | | | | | | | |
| ISV-L4530C | 3m | | | | | | | | | | | |
| ISV-L6010C | 1m | | | | 6.0mm | 8~150mm (optional 5~100mm) | | | | 0.92M | 960×720 | IP67 |
| ISV-L6015C | 1.5m | | | | | | | | | | | |
| ISV-L6020C | 2m | | | | | | | | | | | |
| ISV-L6030C | 3m | | | | | | | | | | | |
| ISV-L6040C | 4m | | | | | | | | | | | |
| ISV-L6050C | 5m | | | | | | | | | | | |

FRONT AND SIDE VIEW VIDEOSCOPE

REAR FIBER ILLUMINATION



MAIN UNIT (WITHOUT CABLE)

| Code | ISV-S |
|---------------|--|
| Display | 5" high definition LCD |
| Resolution | 1024×720 |
| Function | take pictures, take videos |
| File format | picture: JPG, video: MP4 |
| Image process | image zoom (1X, 2X, 3X, 4X) |
| Image control | freeze, flip over, playback and analog ruler |
| Memory | memory card |
| Output | USB, HDMI |
| Power supply | rechargeable lithium battery (working time ≥ 4hours) AC/DC adapter (for continuous working) |
| Weight | 1000g |



changeable lens cable



tripod (included)



ISV-S-CLAMP (optional)



ISV-S-HOOK (optional)



ISV-S-MAGNET (optional)

STANDARD DELIEVERY

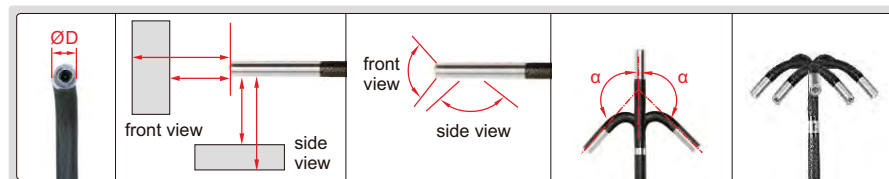
| | |
|---------------|------|
| Main unit | 1 pc |
| 32G SD card | 1 pc |
| Card reader | 1 pc |
| USB cable | 1 pc |
| Tripod | 1 pc |
| AC/DC adapter | 1 pc |

OPTIONAL ACCESSORY

| | |
|-------------------|--|
| Cable | please refer to details |
| WIFI output | ISV-S-WIFI (must be installed in factory, only for Android OS) |
| Temperature alarm | ISV-S-HTALARM (must be installed in factory) |
| Hook | ISV-S-HOOK (must be installed in factory) |
| Magnet | ISV-S-MAGNET (must be installed in factory) |
| Clamp | ISV-S-CLAMP |

OPERATION ENVIRONMENT

| | |
|-----------------------|------------------------------|
| Main unit | -10~50°C, no preheat |
| Operation temperature | -20~70°C |
| Storage temperature | -20~60°C |
| Relative humidity | maximum 90%, no condensation |



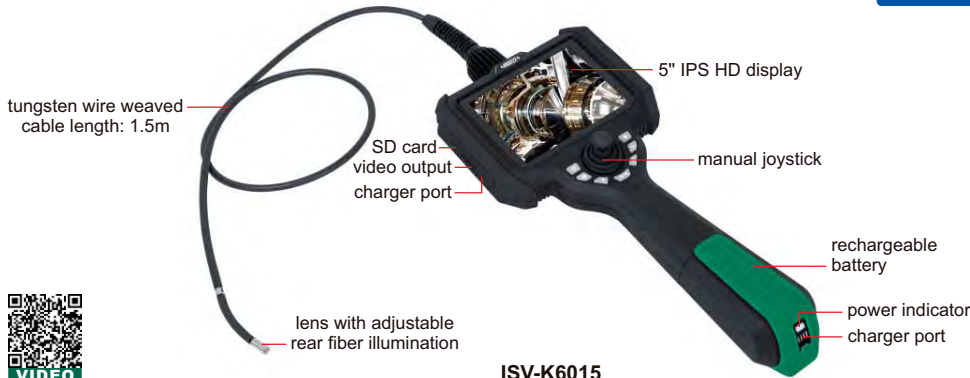
diameter (ØD) depth of field (DOF) angle of view (θ) bend range (α) bend in 4 directions

FOUR-DIRECTION BENDING CABLE, FRONT VIEW&SIDE VIEW

| Code | Cable | | Lens | | | | | | | | | |
|-----------|--------|----------------------------|--------------------------|-----------------|---------------|--|----------------|-------------------|--------------|-------|------------|------------------|
| | length | type | view direction | bend direction | diameter (ØD) | depth of field (DOF) | bend range (α) | angle of view (θ) | illumination | pixel | resolution | dust/ waterproof |
| ISV-S6010 | 1m | tungsten wire weaved cable | front view and side view | four directions | 6.0mm | front view: 12~200mm (optional 3~70mm) side view: 8~150mm (optional 3~70mm) | ±160° | >120° | rear fiber | 0.92M | 1280×720 | IP67 |
| ISV-S6015 | 1.5m | | | | | | | | | | | |
| ISV-S6020 | 2m | | | | | | | | | | | |
| ISV-S6030 | 3m | | | | | | | | | | | |
| ISV-S6040 | 4m | | | | | | | | | | | |
| ISV-S6050 | 5m | | | | | | | | | | | |

VIDEOSCOPIES

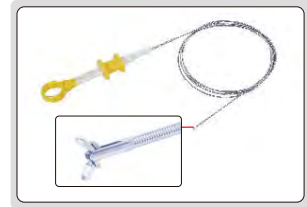
REAR FIBER ILLUMINATION



ISV-K6015



changeable lens cable



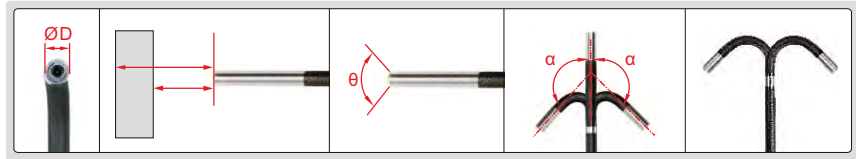
ISV-K-CLAMP (optional)



ISV-K-HOOK (optional)



ISV-K-MAGNET (optional)



diameter (ØD)

depth of field (DOF)

angle of view (θ)

bend range (α)

bend

SPECIFICATION

| Code | ISV-K1810 | ISV-K2410 | ISV-K2810 | ISV-K3915 | ISV-K6015 | |
|-----------|-------------------|---|----------------|-----------------|-----------------|-----------------|
| Lens | diameter (ØD) | 1.8mm | 2.4mm | 2.8mm | 3.9mm | 6.0mm |
| | pixel | 0.16M | | | 0.92M | |
| | resolution | 400×400 | | | 1280×720 | |
| | depth of field | 3-30mm | 3-70mm | 3-70mm | 8-150mm | 12-200mm |
| | bending direction | two directions | two directions | four directions | four directions | four directions |
| | bending range (α) | ±160° | | | | |
| | angle of view (θ) | 120° | | | | |
| | illumination | rear fiber | | | | |
| | lens | sapphire glass lens | | | | |
| | dust/waterproof | IP65 | | | IP67 | |
| Cable | bend control | manual joystick | | | | |
| | length | 1m | 1m | 1m | 1.5m | 1.5m |
| Main unit | type | tungsten wire weaved cable | | | | |
| | display | 5" high definition LCD | | | | |
| | function | take pictures, take videos | | | | |
| | file format | picture: JPG, video: MP4 | | | | |
| | image process | image zoom (1X, 2X, 3X, 4X) | | | | |
| | image control | freeze, flip over, playback and analog ruler | | | | |
| | memory | memory card | | | | |
| | output | USB, HDMI | | | | |
| Weight | power supply | rechargeable lithium battery (working time ≥ 4 hours), AC/DC adapter (for continuous working) | | | | |
| | | 1000g | | | | |

STANDARD DELIVERY

| | |
|---------------|------|
| Main unit | 1 pc |
| 32G SD card | 1 pc |
| Card reader | 1 pc |
| USB cable | 1 pc |
| Tripod | 1 pc |
| AC/DC adapter | 1 pc |

OPERATION ENVIRONMENT

| | |
|-----------------------|------------------------------|
| Main unit | -10~50°C, no preheat |
| Operation temperature | -20~70°C |
| Storage temperature | -20~60°C |
| Relative humidity | maximum 90%, no condensation |

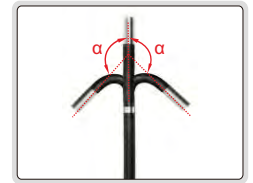
OPTIONAL ACCESSORY

| | |
|-------------------|---|
| WIFI output | ISV-K-WIFI (must be installed in factory, only for Android OS) |
| Temperature alarm | ISV-K-HTALARM (must be installed in factory, for ISV-K3915 and ISV-K6015) |
| Hook | ISV-K-HOOK (must be installed in factory, for ISV-K3915 and ISV-K6015) |
| Magnet | ISV-K-MAGNET (must be installed in factory, for ISV-K3915 and ISV-K6015) |
| Clamp | ISV-K-CLAMP |

MOBILE PHONE VIDEOSCOPE CODE ISV-P6



the clamping range of mobile phone bracket L=56-95mm



bending of lens up to 180°



angle of view



lens with LED



bend in any direction

- For Android and IOS mobile phones

SPECIFICATION

| | |
|-----------------------|--|
| Diameter of lens (ØD) | 6±0.2mm |
| Length of cable | 1m |
| Resolution | 960×720, 1280×720 (switchable) |
| Depth of field | 20mm~∞ |
| Angle of view (θ) | 100° |
| Bending range (α) | 0~180° |
| Illumination | LED with 3 levels control |
| Cable type | wear resistant |
| Interface | USB, Type-C |
| Mobile phone system | Android, IOS |
| Power supply | rechargeable battery (for 2 hours working) |
| Dimension (L×W×H) | 195×57×105mm |
| Weight | 450g |

STANDARD DELIVERY

| | |
|------------------------|------|
| Main unit (with cable) | 1 pc |
| Type-C cable | 1 pc |
| Micro USB cable | 1 pc |
| Iphone cable | 1 pc |
| Charging cable | 1 pc |

VIDEOSCOPIES (BASIC TYPE)

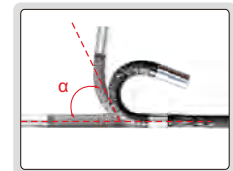
TUNGSTEN WIRE WEAVED CABLE
BREAK AND WEAR RESISTANCE



ISV-S106

SPECIFICATION

| Code | | ISV-T105 | ISV-S106 |
|--------------|--|--|----------|
| Lens | diameter (ØD) | 6mm | |
| | pixel | 1M | |
| | resolution | 1280×720 | |
| | depth of field | 20~150mm | |
| | bending direction | 360° | |
| | bending range (α) | 0°~220° | |
| | angle of view (θ) | 120° | |
| | illumination | 7 pcs LED, with 6 levels control | |
| | illuminance | 25000 Lux | |
| | lens | sapphire glass lens | |
| | dust/waterproof | IP67 | |
| | bend control | manual joystick | |
| | temperature alarm | temperature sensor (optional) | |
| Cable | length | 1m | 1.5m |
| | type | tungsten wire weaved cable | |
| Main unit | display | 3.5" IPS full-view display | |
| | display resolution | 640×480 | |
| | function | take pictures, take videos | |
| | file format | picture: JPG, video: MP4 | |
| | image process | image zoom (1X, 2X, 3X, 4X, 5X) | |
| | memory | memory card (Maximum: 64G) | |
| | output | USB, HDMI, WIFI (optional) | |
| | dust/waterproof | IP65 | |
| power supply | rechargeable lithium battery (working time ≥ 3 hours; optional: additional battery, working time ≥ 9 hours) AC/DC adapter (for continuous working) | | |
| Weight | 1000g | | |



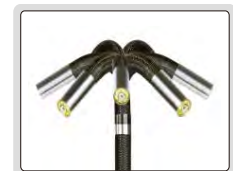
220° bending angle



120° view angle



LED 6 levels control



360° bending direction

STANDARD DELIVERY

| | |
|-------------------------------|------|
| Main unit (with cable & lens) | 1 pc |
| 16G SD card | 1 pc |
| Card reader | 1 pc |
| USB cable | 1 pc |
| Battery | 1 pc |
| AC/DC adapter | 1 pc |

OPTIONAL ACCESSORY

| | |
|--------------------|---|
| Additional battery | ISV-S106-BATTERY (must be installed in factory) |
| WIFI output | ISV-S106-WIFI |
| Temperature alarm | ISV-S106-HT-ALARM |

MEMORY CABLE CAN BE FIXED AT ANY SHAPE

IP67
WATERPROOF

**VIDEOSCOPE (BASIC TYPE)
CODE ISV-E40**



magnet pick up (included)



hook (included)



45° mirror (included)

SPECIFICATION

| | | |
|-----------|-----------------|--|
| Lens | diameter (ØD) | 8mm |
| | pixel | 0.92M |
| | resolution | 1280x720 |
| | depth of field | 30~80mm |
| | angle of view | 77° |
| | illumination | 3 levels |
| | dust/waterproof | IP67 |
| Cable | length | 1180mm |
| | type | memory (can be set at any shape) |
| Main unit | display | 5" IPS LCD |
| | function | take picture, take video |
| | file format | picture: JPG, video: MOV |
| | image process | image zoom (1.5X, 2X, 3X, 4X) |
| | memory | memory card (optional) |
| | output | Type-C |
| | power supply | rechargeable lithium battery (for 5 hours working) |
| dimension | 217×155×131mm | |
| Weight | | 506g |

STANDARD DELIVERY

| | |
|----------------|------|
| Main unit | 1 pc |
| 45° mirror | 1 pc |
| Hook | 1 pc |
| Magnet pick up | 1 pc |

OPTIONAL ACCESSORY

| | |
|-----------------|----------------|
| 32G memory card | ISV-E40-CARD |
| Card reader | ISV-E40-READER |

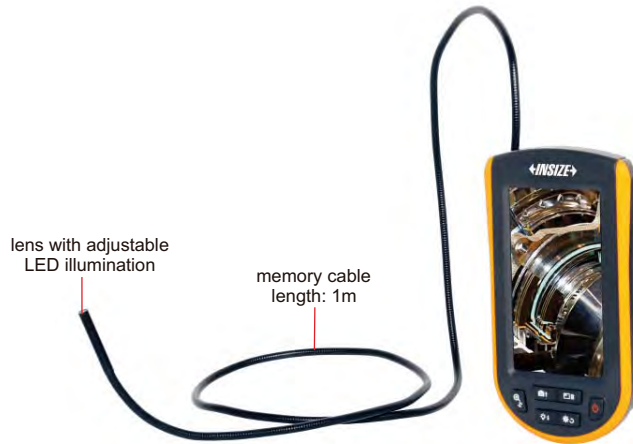
OPERATION ENVIRONMENT

| | |
|-----------------------|----------|
| Operation temperature | -10~50°C |
| Storage temperature | -20~60°C |
| Operation humidity | 15%~85% |

VIDEOSCOPE (ECONOMIC TYPE) CODE ISV-E30

MEMORY CABLE CAN
BE FIXED AT ANY SHAPE

IP67
WATERPROOF



magnet pick up (included)



hook (included)



cable can be wrapped around
the main unit

26

SPECIFICATION

| | | |
|-----------|-----------------|----------------------------------|
| Lens | diameter | 5.2mm |
| | pixel | 0.4M |
| | depth of field | 30~80mm |
| | angle of view | 72° |
| | illumination | 8 levels |
| | dust/waterproof | IP67 |
| Cable | length | 1m |
| | type | memory (can be set at any shape) |
| Main unit | display | 4.3" LCD |
| | function | take picture, take video |
| | file format | picture: JPG, video: AVI |
| | image zoom | 2X |
| | memory card | memory card (optional) |
| | output | micro USB |
| | power supply | AA battery |
| dimension | 154×32.5×87.5mm | |
| Weight | | 280g |

STANDARD DELIVERY

| | |
|----------------|-------|
| Main unit | 1 pc |
| Hook | 1 pc |
| Magnet pick up | 1 pc |
| AA battery | 4 pcs |

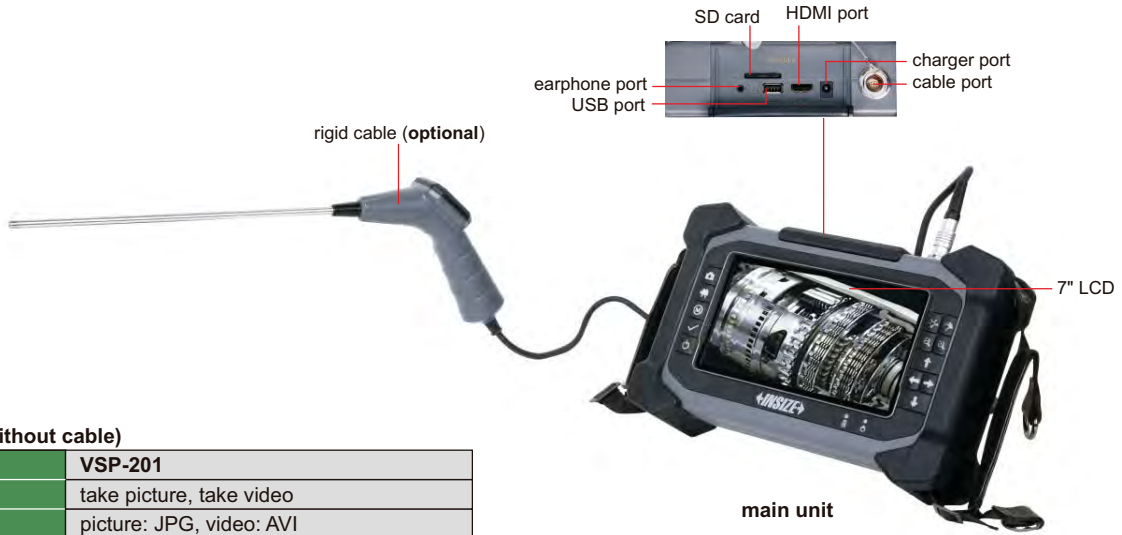
OPTIONAL ACCESSORY

| | |
|-----------------|----------------|
| 32G memory card | ISV-E40-CARD |
| Card reader | ISV-E40-READER |

OPERATION ENVIRONMENT

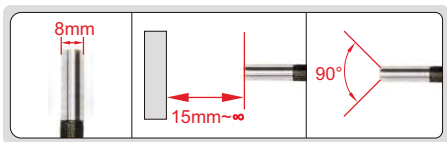
| | |
|-----------------------|----------|
| Operation temperature | -10~50°C |
| Storage temperature | -20~60°C |
| Operation humidity | 15%~85% |

MULTIPURPOSE VIDEOSCOPE



MAIN UNIT (without cable)

| | |
|----------------------|---|
| Code | VSP-201 |
| Function | take picture, take video |
| File format | picture: JPG, video: AVI |
| Image process | brightness, contrast |
| Memory | 64GB |
| Output | HDMI, USB |
| Power supply | rechargeable battery (for 4 hours working) |
| Dimension | 260×170×65mm |
| Weight | 1.2kg |



diameter (ØD) focus distance (F) angle of view (θ)



bend in any direction 360° swivel in clockwise and counter-clockwise bend within 120°



FOUR-DIRECTION BENDING CABLE (FRONT VIEW)

| | | |
|--------------|---------------------------|----------------------------|
| Code | VSP-201D | |
| Cable | length | 3m |
| | type | tungsten wire weaved cable |
| Lens | diameter (ØD) | 8mm |
| | focus distance (F) | 15mm~∞ |
| | angle of view (θ) | 90° |
| | illumination | 6 pcs LED |
| | pixel | 1M |
| | resolution | 1280×720 |
| | dust/waterproof | IP67 |



To be continued


Continued from previous page


decrease LED brightness


increase LED brightness

take video

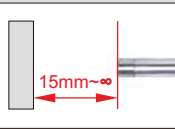
take picture



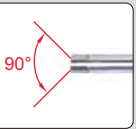




diameter (ØD)



focus distance (F)




angle of view (θ)

RIGID CABLE

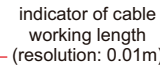
| | | |
|-----------------|--------------------|-----------------|
| Code | VSP-201H | |
| Cable | length (L) | 250mm |
| | type | stainless steel |
| Lens | diameter (ØD) | 6.4mm |
| | focus distance (F) | 15mm~∞ |
| | angle of view (θ) | 90° |
| | illumination | 6 pcs LED |
| | pixel | 1M |
| | resolution | 1280×720 |
| dust/waterproof | IP64 | |

ROTATING LENS CABLE


| | | |
|--------------|--------------------|---------------------------|
| Code | VSP-201R | |
| Cable | length | 30m |
| | type | high strength glass fibre |
| Lens | diameter (ØD) | 40mm |
| | focus distance (F) | 3mm~∞ |
| | angle of view (θ) | 100° |
| | illumination | 12 pcs LED |
| | pixel | 1M |
| | resolution | 1280×720 |
| | dust/waterproof | IP67 |
| lens control | motorized | |




indicator of cable working length (resolution: 0.01m)



support wheel (included)




rotating lens




±90° rotation in radial direction, ±180° rotation in axial direction

diameter (ØD)




focus distance (F)

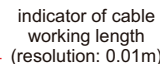


WIDE-ANGLE LENS CABLE


| | | |
|-----------------|--------------------|---------------------------|
| Code | VSP-201W | |
| Cable | length | 30m |
| | type | high strength glass fibre |
| Lens | diameter (ØD) | 24mm |
| | focus distance (F) | 25mm~∞ |
| | angle of view (θ) | 100° |
| | illumination | 12 pcs LED |
| | pixel | 1M |
| | resolution | 1280×720 |
| dust/waterproof | IP67 | |



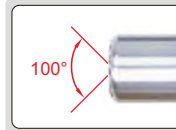
indicator of cable working length (resolution: 0.01m)



support wheel (included)

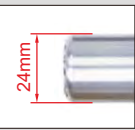


wide-angle lens

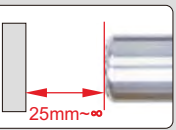


angle of view (θ)

diameter (ØD)



focus distance (F)



ADJUSTABLE SUPPORT

| Code | Working diameter (ØD) | Remark |
|--------------|-----------------------|--------------------------|
| VSP-201-R200 | 60~200mm | for VSP-201R or VSP-201W |



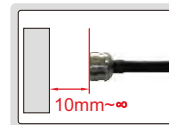
application



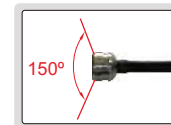
IP68
WATERPROOF

ATTENTION: RESISTANCE TO ACID AND ALKALI LIQUID (CONSULT IS NEEDED)

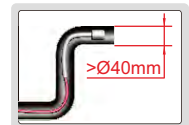
**PIPE VIDEOSCOPE
CODE ISV-VP280**



focus distance



angle of view



can turn at least two times in the pipe (>Ø40mm)

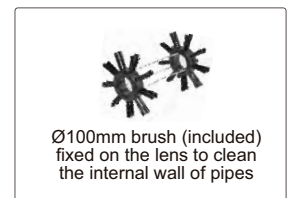


vertical use

horizontal use



Ø50mm centering ring (optional) fixed on the lens to center lens in the pipe



Ø100mm brush (included) fixed on the lens to clean the internal wall of pipes

SPECIFICATION

| | | |
|-----------|-----------------|---------------------------------|
| Lens | diameter | 28mm |
| | dust/waterproof | IP68 |
| | pixel | 0.3M |
| | resolution | 640×480 |
| Cable | frame | 30fps |
| | length | 30m |
| | dust/waterproof | IP68 |
| Main unit | type | semi-rigid |
| | function | take picture and video |
| | file format | picture: JPG, video: ASF |
| | image process | mirror, rotate, zoom (1.5X, 2X) |
| | memory | 4G SD card |
| | output | TV, USB |
| | power supply | 4×AA batteries |
| Weight | | 5kg |

STANDARD DELIVERY

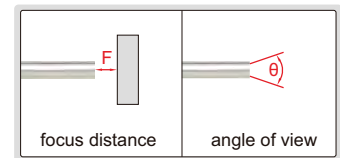
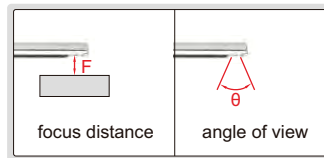
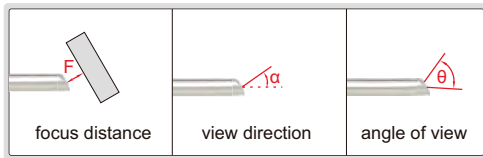
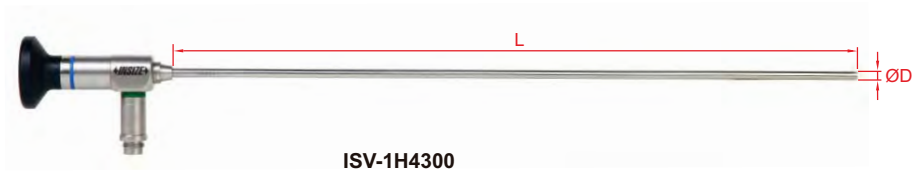
| | |
|-----------------------------------|-------|
| Main unit | 1 pc |
| Cable with lens | 1 pc |
| Stand | 1 pc |
| Indicator of cable working length | 1 pc |
| 4G SD card | 1 pc |
| Ø100mm brush | 1 pc |
| AA battery | 4 pcs |
| AAA battery | 2 pcs |
| Video output cable | 1 pc |
| USB cable | 1 pc |

OPTIONAL ACCESSORY

| | |
|----------------------|----------------|
| Ø50mm centering ring | ISV-VP280-R50 |
| Ø150mm brush | ISV-VP280-B150 |

RIGID BORESCOPIES

IP67
WATERPROOF



- Focus distance: 2mm, depth of view: 5~100mm
- Dust/waterproof level: IP67
- Can be used in liquid with temperature $-10^\circ\text{C}\sim 85^\circ\text{C}$



LED light handle
(optional)



adjustable LED light source
(optional)



camera and display
(optional)

SPECIFICATION

| Code | Length (L) | View direction (α) | Diameter (\varnothing D) | Angle of view (θ) |
|------------|------------|-----------------------------|-----------------------------|----------------------------|
| ISV-1H4170 | 174mm | 0° | 4mm | $\geq 60^\circ$ |
| ISV-1H4173 | 174mm | 30° | | |
| ISV-1H4177 | 174mm | 70° | | |
| ISV-1H4179 | 166mm | 90° | | |
| ISV-1H4300 | 302mm | 0° | | |
| ISV-1H4303 | 302mm | 30° | | |
| ISV-1H4307 | 302mm | 70° | | |

OPTIONAL ACCESSORY

| | |
|-----------------------------|-----------|
| LED light handle | ISV-1HLED |
| Adjustable LED light source | ISV-1LED1 |
| Camera and display | ISV-2CAM |



LED LIGHT HANDLE CODE ISV-1HLED

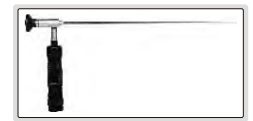
- For rigid borescopes



battery (included)



charger (included)



SPECIFICATION

| | |
|-----------|---|
| Power | 3W |
| Battery | 3.7V rechargeable battery (for 2 hours working) |
| Dimension | 120×27×27mm |
| Weight | 300g |

STANDARD DELIVERY

| | |
|-----------|------|
| Main unit | 1 pc |
| Battery | 1 pc |
| Charger | 1 pc |

ADJUSTABLE LED LIGHT SOURCE CODE ISV-1LED1

- For rigid borescopes
- High LED illumination and brightness is adjustable
- For long time work with low noise

SPECIFICATION

| | |
|-------------------|---------------------|
| Color temperature | 5600K |
| Cooling | fan cooling |
| Power | AC110~220V, 50/60Hz |
| Dimension | 400×300×112mm |
| Weight | 7kg |



STANDARD DELIVERY

| | |
|--------------------------|------|
| Main unit | 1 pc |
| 1.8m optical fiber cable | 1 pc |

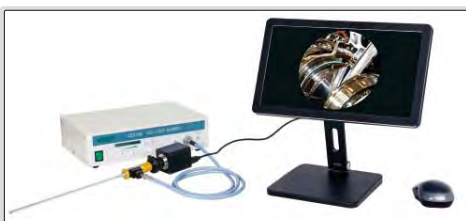


TAKE PICTURES
AND VIDEOS

AUTO FOCUS



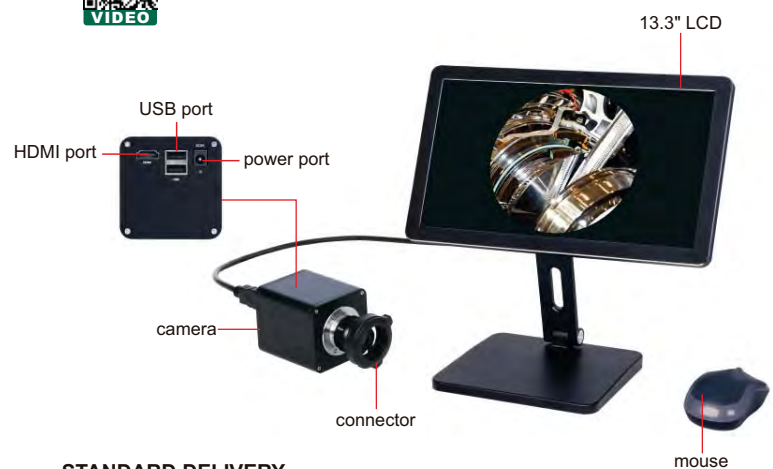
CAMERA (WITH DISPLAY) CODE ISV-2CAM



- For rigid borescopes
- 1080P high-definition image
- Auto-focus camera
- Take pictures and videos, saved to USB flash disk
- Automatic white balance and exposure
- Brightness, contrast ratio, gain are adjustable

SPECIFICATION

| | |
|-------------------|---------------|
| Sensor | 1/2.8" CMOS |
| Pixel | 2M |
| Resolution | 1920×1080 |
| Frame rate | 60fps |
| Output | HDMI |
| Power supply | power adapter |
| Dimension (L×W×H) | 350×100×430mm |
| Weight | 2kg |



STANDARD DELIVERY

| | |
|------------------------|-------|
| Camera | 1 pc |
| Connector | 1 pc |
| 13.3" LCD (with stand) | 1 pc |
| 16G USB flash disk | 1 pc |
| Mouse | 1 pc |
| HDMI cable | 1 pc |
| Power adapter | 2 pcs |



16G USB flash disk
(included)



Coating Thickness Gages
Page 687-690



Coating Thickness Gages
Page 691



Surface Profile Gages
Page 691-692



Wet Film Gages
Page 693



Holiday Detectors
Page 693



Gloss Meters
Page 694-695



Colorimeters
Page 696-698



Pencil Hardness Testers
Page 699



Cross Cut Adhesion Testers
Page 699



Digital Adhesion Testers
Page 700



Rotational Abrasion Testers
Page 701



Paint Film Flexibility Testers
Page 701



Impact Testers
Page 702

SUITABLE FOR THIN COATING
BELOW 10µm

FOR MAGNETIC AND
NON-MAGNETIC SUBSTRATES

COATING THICKNESS GAGE (HIGH PRECISION) CODE ISO-8000FN



calibration foils (included)



stand
(optional)



eddy current probe N2000
(optional)



zero calibration plate
(included)



eddy current probe N1500
(optional)



magnetic induction
probe
(included)



- Can measure thickness of thin coating below 10µm
- High repeatability
- Magnetic induction probe measures the thickness of non-magnetic coating and non-metallic coating on magnetic metal substrate
Substrate: iron, steel, magnetic stainless steel (not for non-magnetic stainless steel)
Coating: zinc, aluminum, copper, chrome, tin, plastic, powder, paint (not for nickel)
- Eddy current probe measures the thickness of non-conductive coating on non-magnetic metal substrate
Substrate: copper, aluminum, zinc, non-magnetic stainless steel
Coating: plastic, powder, paint, anodizing (not for chrome and zinc plating)
- Maximum, minimum, average and variance values can be calculated automatically

SPECIFICATION

| Probe | Magnetic induction probe (included) | Eddy current probe* (optional) | |
|--|--|---|---|
| Measuring range | 0~500µm | 0~1500µm | 0~2000µm |
| Resolution | 0.1µm (range<100µm) 1µm (100µm≤range≤500µm) | 0.1µm (range<100µm) 1µm (100µm≤range<1000µm) 0.01mm (1.00mm≤range≤1.50mm) | 0.1µm (range<100µm) 1µm (100µm≤range<1000µm) 0.01mm (1.00mm≤range≤2.00mm) |
| Accuracy | ±(0.5+2%L)µm L is measuring thickness in µm | | |
| Repeatability | ≤(0.2+0.8%L)µm L is measuring thickness in µm | | ≤(0.2+1%L)µm L is measuring thickness in µm |
| Measuring mode | single and continuous | | |
| Measuring interval | single mode | 1.5s | 0.8s |
| | continuous mode | 0.4s | 0.4s |
| Calibration mode | zero calibration and multi-points calibration (1~5 points) | | |
| Minimum substrate thickness | 0.1mm | 0.05mm | |
| Minimum measuring area | Ø7mm | | Ø25mm |
| Minimum radius of curvature workpieces | convex surface | 1.5mm | |
| | concave surface | 10mm | |
| Unit | µm/mil | | |
| Power supply | 4×1.5V AAA batteries | | |
| Dimension | 148×76×26mm | | |
| Weight | 148g | | |

STANDARD DELIVERY

| | |
|--|-------|
| Main unit | 1 pc |
| Magnetic induction probe | 1 pc |
| Zero calibration plate | 1 pc |
| Calibration foils (5.6µm, 11.6µm, 24.6µm, 50.0µm, 100µm, 252µm, 390µm) | 1 set |
| 1.5V AAA battery | 4 pcs |

OPTIONAL ACCESSORY

| | |
|--|-------------------|
| Eddy current probe (with zero calibration plate) | ISO-8000FN-N1500* |
| Stand | ISO-8000FN-STAND |

*For precision measurement of thin coating below 10µm, please use the stand for eddy current probe

COATING THICKNESS GAGE CODE 9501-1200

POPULAR
MODEL

BLUETOOTH

FOR MAGNETIC AND
NON-MAGNETIC SUBSTRATES

DATA
OUTPUT



eddy current probe
NFE (optional) with
zero calibration block



magnetic induction
probe FE90 for bores
and grooves (optional)



calibration foils
(included)



magnetic induction
probe FE10 for large
range (optional)



zero calibration block
for FE (included)



receiver (optional)



- Magnetic induction probe (FE) measures the thickness of non-magnetic coating and non-metallic coating on magnetic metal substrate.
Substrate: iron, steel, magnetic stainless steel (not for non-magnetic stainless steel)
Coating: zinc, copper, chrome, tin, plastic, powder, paint (not for nickel)
- Eddy current probe (NFE) measures the thickness of non-conductive coating on non-magnetic metal substrate.
Substrate: copper, aluminum, zinc, non-magnetic stainless steel
Coating: plastic, powder, paint, anodizing (not for chrome and zinc plating)
- Tolerance measurement
- Data statistic, including average, variance, maximum and minimum values
- Data can be sent to Excel by connecting to computers via bluetooth or cable of receiver
- Support bluetooth printer
- Automatic power off

SPECIFICATION

| Probe type | FE (included) magnetic induction probe | NFE (optional) eddy current probe | FE90 (optional) magnetic induction probe for bores and grooves | FE10 (optional) magnetic induction probe for large range |
|--|---|---|--|--|
| Measuring range | 0~1250µm | 0~1250µm | 0~1250µm | 500~10000µm |
| Accuracy | ±(3%L+1)µm (range≤1250µm) ±(3%L+10)µm (range>1250µm) L is measuring thickness in µm | | | |
| Resolution | 0.1µm (range<100µm) 1µm (range≥100µm) | | | |
| Measuring mode | continuous and single | | | |
| Minimum substrate thickness | 0.5mm | 0.3mm | 0.5mm | 2mm |
| Minimum measuring area | Ø7mm | Ø5mm | Ø7mm | Ø40mm |
| Minimum curvature radius of convex workpiece | 1.5mm | 3mm | — | 10mm |
| Memory | 600 | | | |
| Output | USB | | | |
| Power supply | 2×1.5V AA batteries | | | |
| Dimension | 135×77×32mm | | | |
| Weight | 172g | | | |

STANDARD DELIVERY

| | |
|---|-------|
| Main unit | 1 pc |
| Magnetic induction probe (FE) | 1 pc |
| Zero calibration block for FE probe | 1 pc |
| Calibration foils (50/100/250/500/1000µm) | 1 set |
| 1.5V AA battery | 2 pcs |
| Software and USB cable | 1 pc |

OPTIONAL ACCESSORY

| | |
|---|-------------------|
| Receiver | ISR-C300-RECEIVER |
| Cable of receiver | 9501-1200-CABLE |
| Bluetooth printer | ISR-C002-PRINTER |
| Eddy current probe (NFE) with zero calibration block | 9501-1200-NFE |
| Magnetic induction probe (FE90) for bores and grooves | 9501-1200-FE90 |
| Magnetic induction probe (FE10) for large range | 9501-1200-FE10 |

FOR MAGNETIC AND
NON-MAGNETIC SUBSTRATES

COATING THICKNESS GAGE (BASIC TYPE) CODE ISO-1200FN

- Probe is suitable for both magnetic and non-magnetic metal substrates
- Can measure the thickness of non-magnetic coating and non-metallic coating on magnetic metal substrate
Substrate: iron, steel, magnetic stainless steel (not for non-magnetic stainless steel)
Coating: zinc, aluminum, copper, chrome, tin, plastic, powder, paint (not for nickel)
- Can measure the thickness of non-conductive coating on non-magnetic metal substrate
Substrate: copper, aluminum, zinc, non-magnetic stainless steel
Coating: plastic, powder, paint, anodizing (not for chrome and zinc plating)
- 3 measuring modes: Fe, NFe, Fe/NFe
- Store 9 measuring records
- Small and portable, easy for operation



SPECIFICATION

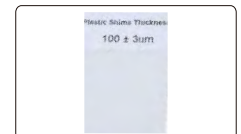
| | | |
|--|-----------------|---|
| Measuring range | | 0~2000μm |
| Resolution | | 0.1μm (range<100μm) 1μm (100μm≤range<1000μm) 0.01mm (1mm≤range≤2mm) |
| Accuracy | | ±(2μm+3%L) L is measuring thickness in μm |
| Measure interval | | 0.5s |
| Calibration mode | | zero calibration |
| Measuring mode | | Fe, NFe, Fe/NFe |
| Minimum substrate thickness | Fe | 0.2mm |
| | NFe | 0.05mm |
| Minimum measuring area | | Ø25mm |
| Minimum radius of curvature workpieces | convex surface | 5mm |
| | concave surface | 25mm |
| Unit | | μm/mil |
| Power supply | | 2×1.5V AAA batteries |
| Main unit dimension | | 101×62×28mm |
| Probe dimension | | 71×26×22mm |
| Weight | | 114g |



Fe zero calibration plate
(included)



NFe zero calibration plate
(included)



standard foil (included)

STANDARD DELIVERY

| | |
|----------------------------|-------|
| Main unit | 1 pc |
| Fe zero calibration plate | 1 pc |
| NFe zero calibration plate | 1 pc |
| Standard foil (100μm) | 1 pc |
| 1.5V AAA battery | 2 pcs |

COATING THICKNESS GAGE (BASIC TYPE) CODE ISO-1000FN

FOR MAGNETIC AND
NON-MAGNETIC SUBSTRATES

- Probe is suitable for both magnetic and non-magnetic metal substrates
- Can measure the thickness of non-magnetic coating and non-metallic coating on magnetic metal substrate
Substrate: iron, steel, magnetic stainless steel (not for non-magnetic stainless steel)
Coating: zinc, aluminum, copper, chrome, tin, plastic, powder, paint (not for nickel)
- Can measure the thickness of non-conductive coating on non-magnetic metal substrate
Substrate: copper, aluminum, zinc, non-magnetic stainless steel
Coating: plastic, powder, paint, anodizing (not for chrome and zinc plating)
- 3 measuring modes: Fe, NFe, Fe/NFe
- Store 9 measuring records
- Small and portable, easy for operation



ruby contact point

SPECIFICATION

| | | |
|--|--|--------|
| Measuring range | 0~2000 μ m | |
| Resolution | 0.1 μ m (range<100 μ m) | |
| | 1 μ m (100 μ m \leq range<1000 μ m) | |
| | 0.01mm (1mm \leq range \leq 2mm) | |
| Accuracy | $\pm(2\mu\text{m}+3\%L)$ L is measuring thickness in μ m | |
| Measure interval | 0.5s | |
| Calibration mode | zero calibration | |
| Measuring mode | Fe, NFe, Fe/NFe | |
| Minimum substrate thickness | Fe | 0.2mm |
| | NFe | 0.05mm |
| Minimum measuring area | \varnothing 25mm | |
| Minimum radius of curvature workpieces | convex surface | 5mm |
| | concave surface | 25mm |
| Unit | μ m/mil | |
| Power supply | 2 \times 1.5V AAA batteries | |
| Dimension | 101 \times 62 \times 28mm | |
| Weight | 79g | |



standard foil (included)



Fe zero calibration plate (included)



NFe zero calibration plate (included)

STANDARD DELIVERY

| | |
|-----------------------------|-------|
| Main unit | 1 pc |
| Fe zero calibration plate | 1 pc |
| NFe zero calibration plate | 1 pc |
| Standard foil (100 μ m) | 1 pc |
| 1.5V AAA battery | 2 pcs |

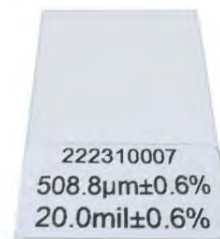
27

CALIBRATION FOILS FOR COATING THICKNESS GAGES

INSPECTION
CERTIFICATE

- To calibrate or check the accuracy of coating thickness gages
- Increase the measurement accuracy after foil calibration
- Uniformity: $\pm 0.3\mu\text{m}$ ($\leq 50\mu\text{m}$), $\pm 0.6\%$ ($> 50\mu\text{m}$)
- Dimension: 45 \times 30mm (thickness \leq 2000 μm), 50 \times 30mm (thickness $>$ 2000 μm)
- Supplied with manufacturer inspection certificate

| Code | Thickness | Deviation* | Uniformity |
|-----------|--------------|------------|----------------------|
| 9503-FL1 | 11.5 μ m | $\pm 5\%$ | $\pm 0.3\mu\text{m}$ |
| 9503-FL2 | 23 μ m | $\pm 5\%$ | $\pm 0.3\mu\text{m}$ |
| 9503-FL3 | 50.5 μ m | $\pm 5\%$ | $\pm 0.6\%$ |
| 9503-FL4 | 102 μ m | $\pm 5\%$ | $\pm 0.6\%$ |
| 9503-FL5 | 250 μ m | $\pm 5\%$ | $\pm 0.6\%$ |
| 9503-FL6 | 495 μ m | $\pm 3\%$ | $\pm 0.6\%$ |
| 9503-FL7 | 995 μ m | $\pm 2\%$ | $\pm 0.6\%$ |
| 9503-FL8 | 1780 μ m | $\pm 5\%$ | $\pm 0.6\%$ |
| 9503-FL9 | 3725 μ m | $\pm 4\%$ | $\pm 0.6\%$ |
| 9503-FL10 | 7650 μ m | $\pm 2\%$ | $\pm 0.6\%$ |



9503-FL6

* Deviation between the ordered thickness and the thickness marked on the calibration foils when supplied



X RAY FLUORESCENCE SPECTROMETER (RoHS DETECTOR/ALLOY COMPOSITION ANALYZER/COATING THICKNESS GAGE) CODE XRF-B210

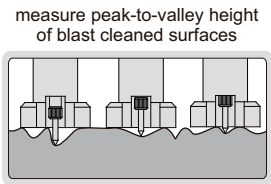
REFER TO PAGE
524-525 FOR DETAILS



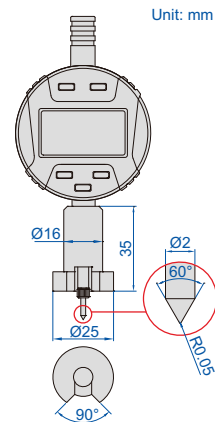
DATA
OUTPUT

DISPLAY MAXIMUM, MINIMUM, DIFFERENCE
VALUE BETWEEN MAXIMUM AND MINIMUM

DIGITAL SURFACE PROFILE GAGE



2844-10



- Measure peak-to-valley height of blast cleaned surface.
If the profile is too low, the adhesion of the coating to the surface will be reduced.
If the profile is too high, there is the danger that the profile peaks will remain uncoated, allowing rust spots to occur.
- Meet ASTM D 4417-B
- Zero set block is included, set zero before measurement
- Button function: tolerance Go and No-Go display, data preset, measuring direction change, max./min./TIR measurement, inch/metric conversion, absolute/incremental measurement
- CR2032 battery
- Automatic power off (time is adjustable)
- Data output
- Stainless steel base
- Optional accessory: data output cable
(code **7315-50M** need receiver page 5, **7302-40M** page 13)

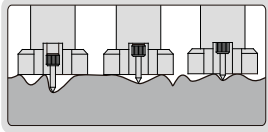
| Code | Range | Digital indicator stroke | Digital indicator resolution | Accuracy |
|----------------|-----------------|--------------------------|------------------------------|----------|
| 2844-10 | 0-12.7mm/0-0.5" | 12.7mm/0.5" | 0.001mm/0.00005" | ±0.005mm |



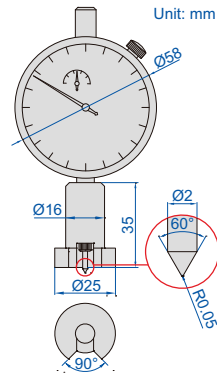
SURFACE PROFILE GAGE



measure peak-to-valley height of blast cleaned surfaces



2344-1



- Measure peak-to-valley height of blast cleaned surface. If the profile is too low, the adhesion of the coating to the surface will be reduced. If the profile is too high, there is the danger that the profile peaks will remain uncoated, allowing rust spots to occur.
- Meet ASTM D 4417-B
- Zero set block is included, set zero before measurement
- Stainless steel base

| Code | Range | Dial indicator stroke | Dial indicator graduation | Accuracy |
|--------|-------|-----------------------|---------------------------|----------|
| 2344-1 | 0-1mm | 1mm | 0.001mm | ±0.005mm |

set zero



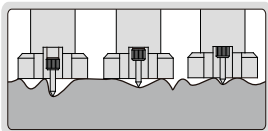
zero set block (included)

DIGITAL SURFACE PROFILE GAGE

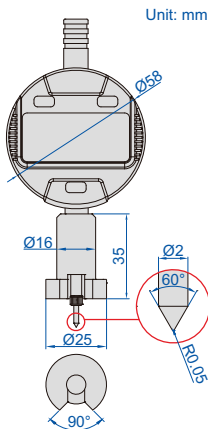


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measure peak-to-valley height of blast cleaned surfaces



2843-10



- Measure peak-to-valley height of blast cleaned surface. If the profile is too low, the adhesion of the coating to the surface will be reduced. If the profile is too high, there is the danger that the profile peaks will remain uncoated, allowing rust spots to occur.
- Meet ASTM D 4417-B
- Zero set block is included, set zero before measurement
- Button function: on/off, zero, mm/inch, absolute/incremental measurement
- CR2032 battery, automatic power off (time is adjustable)
- Data output
- Stainless steel base
- Optional accessory: data output cable (code 7315-50M need receiver page 5, 7302-40M page 13)

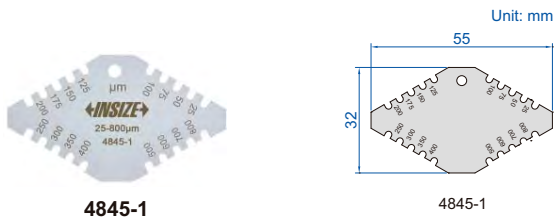
| Code | Range | Digital indicator stroke | Digital indicator resolution | Accuracy |
|---------|-----------------|--------------------------|------------------------------|----------|
| 2843-10 | 0-12.7mm/0-0.5" | 12.7mm/0.5" | 0.001mm/0.00005" | ±0.005mm |

set zero

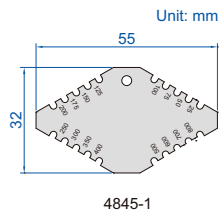


zero set block (included)

WET FILM GAGES



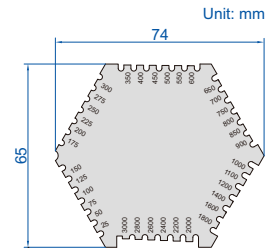
4845-1



4845-1



4845-2



4845-2

- Made of stainless steel

| Code | Range | Accuracy | Thickness |
|--------|-----------------|---|-----------|
| 4845-1 | 25-800 μ m | $\pm 5\mu$ m | 1.8mm |
| 4845-2 | 25-3000 μ m | 25-100 μ m: $\pm 5\mu$ m 100 μ m-3000 μ m: $\pm 5\%$ | 1mm |



HOLIDAY DETECTOR CODE 9511-HA30



strip brush (included)

- Inspect anti-corrosion coating status of different thickness with adjustable pulse high-voltage, coating includes insulating paint, glass lining, rubber lining, glass fiber reinforced plastic, coal tar epoxy, etc.
- When the brush with pulse high-voltage moves near the crack, pinhole or thin area on the coating surface, which results in gap gas breakdown and discharge spark, sound and light alarm will appear on the probe and the alarm sound can be heard with the headphone
- LCD display with light-control backlight
- Built-in rechargeable battery, easy to carry and suitable for outdoor inspection
- Automatic power off



headphone (included)



flat brush (included)

SPECIFICATION

| | |
|-----------------|---|
| Measuring range | 0.05~10mm (customization for inspecting coating thicker than 10mm is available) |
| Output voltage | 0.6~30.0kV (stepless adjustable) |
| Resolution | 0.1kV |
| Power | ≤ 5 W |
| Power supply | 12V rechargeable Ni-MH battery |
| Dimension | 220 \times 130 \times 88mm |
| Weight | 2.5kg |

STANDARD DELIVERY

| | |
|---------------|------|
| Main unit | 1 pc |
| Probe | 1 pc |
| Strip brush* | 1 pc |
| Flat brush | 1 pc |
| Ground wire | 1 pc |
| Ground rod | 1 pc |
| Headphone | 1 pc |
| AC/DC adapter | 1 pc |

*Arc brush and circular probe can be customized

60° GLOSS METER (BASIC TYPE) CODE 5702-DG6

- To test the gloss of coating, such as painting, varnish, printing ink, etc.
- To test the material surfaces, such as metal, granite, ceramic, plastic, paper, etc.
- According to ISO 2813, ISO 7668, ASTM D523, ASTM D2457, DIN 67530
- Automatic judgement after setting high and low limits
- Automatic power off

SPECIFICATION

| | |
|-----------------|---|
| Incidence angle | 60° |
| Measuring range | 0~200GU |
| Resolution | 0.1GU |
| Accuracy | ±1.5GU (range<120GU) ±1.5% (range≥120GU) |
| Repeatability | 0.2GU (range<120GU) 0.2% (range≥120GU) |
| Zero error | 0.1GU |
| Measuring area | 20×10mm |
| Power supply | rechargeable battery |
| Data port | USB |
| Dimension | 135×45×75mm |
| Weight | 237g |

STANDARD DELIVERY

| | |
|-----------------------------|------|
| Main unit | 1 pc |
| Base with calibration block | 1 pc |
| U disk | 1 pc |
| AC/DC adapter | 1 pc |
| USB data cable | 1 pc |
| Cleaning cloth | 1 pc |



VIDEO



base with calibration block
(included)



software (included), test can be controlled from the software,
display test data and report

report

software

measurement data is sent to Excel

60° GLOSS METER CODE ISQ-DG6

- To test the gloss of coating, such as painting, varnish, printing ink, etc.
- To test the material surfaces, such as metal, granite, ceramic, plastic, paper, etc.
- According to ISO 2813, ASTM D2457, ASTM D523
- Automatic power off

SPECIFICATION

| | |
|-----------------|-------------------|
| Incidence angle | 60° |
| Measuring range | 0~150GU |
| Resolution | 0.1GU |
| Accuracy | ±1.2GU |
| Repeatability | 0.4GU |
| Zero set error | 0.2GU |
| Measuring area | 20×10mm |
| Output | bluetooth |
| Power supply | 1×1.5V AA battery |
| Dimension | 123×38×65mm |
| Weight | 300g |

STANDARD DELIVERY

| | |
|-----------------------------|------|
| Main unit | 1 pc |
| Base with calibration block | 1 pc |
| Spare calibration block | 1 pc |



base with calibration block
(included)



connect mobile phone via bluetooth
(only Android system)

operate and output data by mobile phone



VIDEO



DATA OUTPUT

BLUETOOTH

CAN BE OPERATED BY COMPUTERS OR MOBILE PHONES

20°/60°/85° GLOSS METER CODE ISQ-DG8



base with calibration block (included)

- To test the gloss of coating, such as painting, varnish, printing ink, etc.
- To test the material surfaces, such as metal, granite, ceramic, plastic, paper, etc.
- According to ISO 2813, ASTM D2457, ASTM D523
- Memory of 10000 measurement results for browsing and output
- Automatic power off



software flash disk (included)

connect to mobile phone via bluetooth (only Android system)



operate and output data by mobile phone

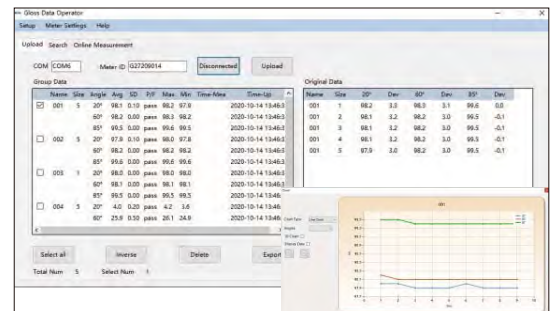
connect to computer via bluetooth or USB cable



bluetooth receiver (included)

SPECIFICATION

| | 20° | 60° | 85° |
|------------------------|---|----------|---------|
| Incidence angle | 20° | 60° | 85° |
| Measuring range | 0~2000GU | 0~1000GU | 0~160GU |
| Resolution | 0.1GU (range≤119.9GU) 1GU (range>119.9GU) | | |
| Accuracy | ±1.5GU (range≤119.9GU) ±1.5% (range>119.9GU) | | |
| Repeatability | 0.2GU (range≤119.9GU) 0.2% (range>119.9GU) | | |
| Zero set error | 0.2GU | | |
| Measuring area | 10×9mm | 16×9mm | 39×5mm |
| Output | USB and bluetooth | | |
| Power supply | 1×1.5V AA battery | | |
| Dimension | 155×48×75mm | | |
| Weight | 400g | | |



software (included), test can be controlled from the software, display test data, output to Excel

STANDARD DELIVERY

| | |
|------------------------------------|------|
| Main unit | 1 pc |
| Base with calibration block | 1 pc |
| Software and USB cable | 1 pc |
| Bluetooth receiver | 1 pc |

SPECTROPHOTOMETER CODE 9710-30

- DATA OUTPUT
- CONCAVE GRATING SPECTROPHOTOMETRIC
- Ø8/4mm DUAL APERTURE
- BLUETOOTH

- Concave grating spectrophotometric
- 3.5 inch TFT color LCD, capacitive touch screen, 256 image element double arrays CMOS image sensor
- D/8 geometrical optics, conforms with CIE No.15, ISO7724/1, ASTM E1164, DIN5033 Teil 7
- Use long life and low power consumption combined LED light source
- Camera locating function, switchable 8mm/4mm aperture, support both SCI and SCE at the same time
- Large capacity storage space, over 20,000 measurement data
- USB port and Bluetooth 4.0
- Two standard observer angles, a variety of illuminant, a variety of color indexes, conforms with a variety of standard colorimetric data
- Measure sample spectra, accurate Lab data, can be used in color matching and accurate color transmission



SPECIFICATION

| | | |
|-----------------------------------|--|--|
| Optical geometry | reflect: di: 8°, de: 8° (diffused illumination, 8-degree viewing angle) | |
| Integrating sphere size | Ø48mm | |
| Light source | combined LED light, UV light | |
| Spectrophotometric mode | concave grating | |
| Sensor | 256 image element double array CMOS image sensor | |
| Wavelength range | 400~700nm | |
| Wavelength interval | 10nm | |
| Semiband width | 10nm | |
| Measured reflectance range | 0~200% | |
| Measuring aperture | dual aperture: MAV: Ø8mm; SAV: Ø4mm | |
| Specular component | SCI&SCE | |
| Color space | CIE LAB, XYZ, Yxy, LCh, CIE LUV, hunter LAB | |
| Color difference formula | ΔE^*ab , ΔE^*uv , ΔE^*94 , ΔE^*cmc (2:1), ΔE^*cmc (1:1), ΔE^*00v , ΔE (Hunter) | |
| Other colorimetric index | WI (ASTM E313, CIE/ISO, AATCC, hunter), YI (ASTM D1925, ASTM 313), metamerism index MI, staining fastness, color fastness, color strength, opacity | |
| Observer angle | 2°/10° | |
| Illuminant | A, C, D50, D55, D65, D75, F1, F2, F3, F4, F5, F6, F7, F8, F9, F10, F11, F12, CWF, U30, T183, T184, U35 | |
| Displayed data | spectrogram/values, samples chromaticity values, color difference values/graph, PASS/FAIL result, color offset | |
| Measuring time | 2.6s | |
| Repeatability | spectral reflectance | MAV/SCI, within 0.08% of standard deviation (400~700nm: 0.18%) |
| | colorimetric values | MAV/SCI: $\Delta E^* \leq 0.03$ |
| Inter-instrument error | MAV/SCI: $\Delta E^* \leq 0.15$ | |
| Measurement mode | single measurement, average measurement | |
| Data port | USB, bluetooth 4.0 | |
| Data storage | standard 1000 pcs, sample 28000 pcs | |
| Illuminant life span | 5 years, more than 3 million times measurements | |
| Battery | Li-ion battery, 5000 measurements within 8 hours | |
| Dimension | 184×77×105mm | |
| Weight | 600g | |



software flash disk (included)



white and black calibration cavity (included)



printer (optional)



measurement



reflectivity

software

report

measurement data is sent to Excel

software (included), test can be controlled from the software, display test data, report

STANDARD DELIVERY

| | |
|---|------|
| Main unit | 1 pc |
| White and black calibration cavity | 1 pc |
| Software and USB cable | 1 pc |
| AC/DC adapter | 1 pc |

OPTIONAL ACCESSORY

| | |
|---------------------------|----------------|
| Printer | 9710-PRINTER |
| Powder test box | 9710-POWDERBOX |
| Universal test kit | 9710-TESTKIT |



- Conforms with CIE No.15, ISO7724-1, ASTM E1164 and DIN5033 Teil7 standards
- Grating spectrophotometric, 3.5" IPS full color screen, dual optical path high precise CMOS array sensor
- Use long life and low power consumption combined LED light source, include UV and exclude UV measurement
- Camera locating function, switchable 11mm/6mm/1×3mm aperture
- Large capacity storage space, over 20000 measurement data
- Two standard observer angles, a variety of illuminant, a variety of color indexes, conforms with a variety of standard colorimetric data
- Measure sample spectra, accurate Lab data, can be used in color matching and accurate color transmission



SPECTROPHOTOMETER CODE 5701-D40

FOUR KINDS OF APERTURE

GRATING
SPECTROPHOTOMETRIC

DATA
OUTPUT

MATCHING COLOR
CARD QUICKLY



SPECIFICATION

| | | |
|-------------------------------|--|---|
| Optical geometry | D/8 (diffused illumination/8° direction reception), SCI+SCE (specular component included+specular component excluded) | |
| Integrating sphere size | Ø40mm | |
| Light source | LED (full band balanced LED)+UV | |
| Spectrophotometric mode | grating | |
| Sensor | dual optical path high precise CMOS array sensor | |
| Wavelength range | 400~700nm | |
| Wavelength interval | 10nm | |
| Reflectance measurement range | 0~200% | |
| Reflectance resolution | 0.01% | |
| Display resolution | 0.01 | |
| Illumination area/aperture | MAV: Ø11mm; SAV: Ø6mm, Ø3mm; MINI: 1×3mm | |
| Color space | CIE-Lab, CIE-LCh, HunterLab, CIE Luv, XYZ, Yxy, RGB | |
| Color difference formula | ΔE^*ab , ΔE^*cmc , ΔE^*94 , ΔE^*00 | |
| Other colorimetric index | whiteness (ASTM E313-00, ASTM E313-73, CIE/ISO, AATCC, hunter, taube berger stensby), yellowness (ASTM D1925, ASTM 313-00, ASTM E313-73), blackness (My, dM), color fastness, tint (ASTM E313-73) color density CMYK (A, T, E, M), mlm, munsell, opacity, color strength | |
| Observer angle | 2°/10° | |
| Illuminant | A, B, C, D50, D55, D65, D75, F1, F2, F3, F4, F5, F6, F7, F8, F9, F10, F11, F12, CWF, U30, U35, DLF, NBF, T183, T184, Id50, Id65, LED-B1, LED-B2, LED-B3, LED-B4, LED-B5, LED-BH1, LED-RGB1, LED-V1, LED-V2 | |
| Measuring time | about 1.5s | |
| Repeatability | spectral reflectance | within 0.08% of standard deviation |
| | colorimetric values | $\Delta E^*ab \leq 0.025$ (after whiteboard correction, measuring the whiteboard 30 times at 5s interval) |
| Inter-instrument error | $\Delta E^*ab \leq 0.25$ (BCRA series II, average value of 12 color plates) | |
| Data port | USB, bluetooth | |
| Light source lifetime | 10 years, more than 1 million times measurements | |
| Battery | 3.7V/3000mAh, rechargeable 8000 times continuous tests | |
| Dimension | 95×129×231mm | |
| Weight | 750g | |



software (included), test can be controlled from the software, display test data, report

software

pure data report

graphic report

To be continued

Continued from previous page

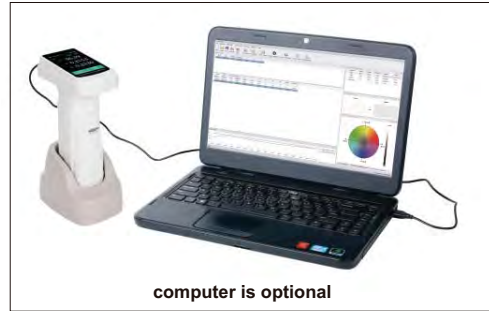
STANDARD DELIVERY

| | |
|--------------------------|-------|
| Main unit | 1 pc |
| White calibration cavity | 1 pc |
| Measuring aperture | 3 pcs |
| USB cable | 1 pc |
| USB disk | 1 pc |
| AC/DC adapter | 1 pc |



white calibration cavity (included)

connect to computer



computer is optional

COLORIMETER (BASIC TYPE) CODE 5700-LS35

- Conforms with CIE 15, CIE S 005, ISO 7724-1 and ISO 13655 standards
- 3.5-inch IPS display and capacity touch panel
- Contains multiple color cards and can match the closest color code quickly
- QC testing function, can set color difference threshold
- Able to store 1000 colors and 1000 color comparison
- 3.7V/4000mAh battery, 10000 continuous measurements



white calibration cavity (included)



SPECIFICATION

| | |
|---------------------------|---|
| Illumination geometry | D/8, specular component include (SCI) |
| Illumination light source | full spectrum LED light source |
| Measurement conditions | light source D65, field of view 10° |
| Measuring time | about 1s |
| Color space | CIE Lab, Luv, LCh, Yxy, CMYK, RGB, Hex |
| Color difference formula | ΔE^*ab , ΔE^*uv , ΔE^*94 , $\Delta E^*cmc(2:1)$, $\Delta E^*cmc(1:1)$, ΔE^*00 |
| Repeatability | standard deviation ΔE^*ab is within 0.03 (measurement condition: the average value of 30 measurements on the whiteboard at an interval of 3s after calibration) |
| Charging interface | USB (Type-C) |
| Dimension | 86×63×158mm |
| Weight | 245g |

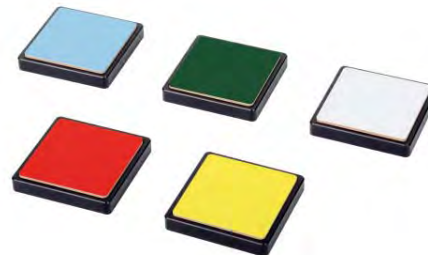
STANDARD DELIVERY

| | |
|--------------------------|------|
| Main unit | 1 pc |
| White calibration cavity | 1 pc |
| USB cable | 1 pc |
| AC/DC adapter | 1 pc |
| Cleaning cloth | 1 pc |
| Locating plate | 1 pc |

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STANDARD COLOR PLATES CODE 5704-CP01

- To calibrate color measuring instruments
- Made of ceramic
- Wear resistance, corrosion resistance, high optical stability
- Supplied with ISO17025 calibration certificate from National Institute of Metrology, China

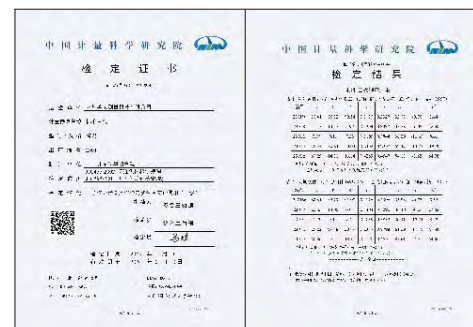


SPECIFICATION

| | |
|-----------------------------|---|
| Spectral reflectance factor | spectral reflectance factor in the wavelength range of 380nm to 780nm |
| Standard illuminant | A, D65, etc |
| Viewing angle | 2°, 10° |
| Color space | CIE-Lab, XYZ, etc |
| Annual variation | $\Delta x, \Delta y \leq 0.005$ |
| Dimension | 50×50mm |

STANDARD DELIVERY

| | |
|-------------------------|--------|
| Protective gloves | 1 pair |
| Calibration certificate | 1 pc |



calibration certificate (included)



- For flat coating surfaces
- Conform to ASTM D3363, ISO 15184, BS3900-E19 and ECCA-T4/1



PENCIL HARDNESS TESTER CODE PHT-C751

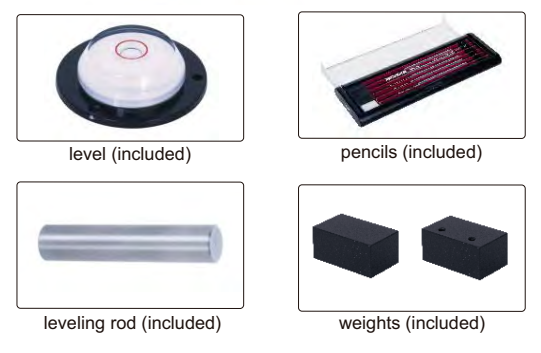
SPECIFICATION

| | |
|---|--|
| Pressure of pencil on coating | 500g, 750g, 1000g (main unit is 500g, one weight is 750g, two weights are 1000g) |
| Angle between pencil and measured surface | 45° |
| Dimension (L×W×H) | 95×80×110mm |
| Weight | 2kg |



STANDARD DELIVERY

| | |
|------------------|--|
| Main unit | 1 pc |
| Weights | 2 pcs |
| Leveling rod | 1 pc |
| Level | 1 pc |
| Pencil | 12 pcs (4B, 3B, 2B, B, HB, F, H, 2H, 3H, 4H, 5H, 6H) |
| Pencil sharpener | 1 pc |



OPTIONAL ACCESSORY

| | |
|--------------------------|------------|
| Pencil (12 pcs: 4B-6H) | PHT-C751-P |
| 400 grade abrasive paper | PHT-C751-S |



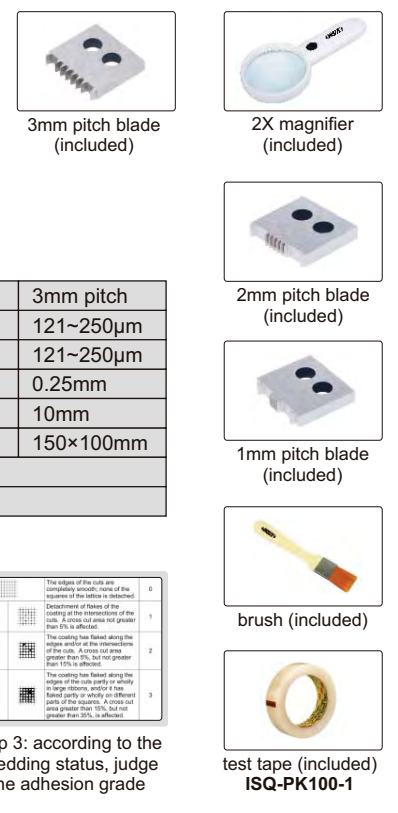
- To test the adhesion of paint coating on metal, wood, plastic, etc.
- According to ISO 2409, ASTM D3359, DIN53151



CROSS CUT ADHESION TESTER CODE ISQ-PK100

SPECIFICATION

| Blade | 1mm pitch | 2mm pitch | 3mm pitch | |
|-----------------------------|--|-----------|-----------|-----------|
| Applied paint thickness | on hard substrate (like metal) | 0~60µm | 61~120µm | 121~250µm |
| | on soft substrate (like wood, plaster) | — | 0~120µm | 121~250µm |
| Minimum substrate thickness | hard substrate (like metal) | 0.25mm | 0.25mm | 0.25mm |
| | soft substrate (like wood, plaster) | — | 10mm | 10mm |
| Minimum size of test sample | 150×100mm | 150×100mm | 150×100mm | |
| Dimension | 170×28×40mm | | | |
| Weight | 430g | | | |



STANDARD DELIVERY

| | |
|-------------------------|------|
| Handle | 1 pc |
| 1mm pitch blade | 1 pc |
| 2mm pitch blade | 1 pc |
| 3mm pitch blade | 1 pc |
| Test tape (ISQ-PK100-1) | 1 pc |
| 2X magnifier | 1 pc |
| Brush | 1 pc |



DIGITAL ADHESION TESTER CODE SPT-AD21



Ø20mm dolly (included)



glue gun and glue (included)



cutting tool (included) for Ø10mm, Ø14mm, Ø20mm dolly

- Pull-off test
- Built-in rechargeable lithium battery, no need external power source
- Portable design, can be used anywhere
- Standard USB interface, can directly transmit the stored data to computer, no need to install software
- Conforms to GB/T 5210, ASTM D4541/D7234, ISO 4624/16276-1
- Store all test results, includes maximum pull-off force, pull-off rate, dolly size and time
- Built in real-time clock, all saved data have corresponding date and time
- Selectable four different sizes dolly for different resolution and testing range
- No need conversion, the instrument can calculate pull-off force according to the dolly size
- Get the testing results from LCD directly
- Two units MPa and psi for selection and can be converted automatically

SPECIFICATION

| | |
|-------------------|---------------------------------------|
| Range | 0~20MPa |
| Dolly diameter | Ø20mm |
| Resolution | 0.01MPa (1psi) |
| Accuracy | ±1% full scale |
| Pull-off force | 0.7~20MPa |
| Power | built-in rechargeable lithium battery |
| Dimension (LxWxH) | 360x75x115mm |
| Weight | 3kg |

STANDARD DELIVERY

| | |
|--------------|--------|
| Main unit | 1 pc |
| Ø20mm dolly | 20 pcs |
| Cutting tool | 1 pc |
| Charger | 1 pc |
| USB cable | 1 pc |
| Glue gun | 1 pc |
| 3M glue | 1 pc |

OPTIONAL ACCESSORY

| | | |
|--------------|-------------------|--|
| Ø10mm dolly | SPT-AD21-10 | 10 pcs/package pull-off force: 2.8~80MPa |
| Ø14mm dolly | SPT-AD21-14 | 10 pcs/package pull-off force: 1.4~40MPa |
| Ø20mm dolly | SPT-AD21-20 | 10 pcs/package pull-off force: 0.7~20MPa |
| Ø50mm dolly | SPT-AD21-50* | 10 pcs/package pull-off force: 0.4~3.5MPa |
| Cutting tool | SPT-AD21-CUTTER1 | for Ø10mm, Ø14mm, Ø20mm dolly |
| Cutting tool | SPT-AD21-CUTTER2* | for Ø50mm dolly |
| Sleeve | SPT-AD21-SLEEVE* | for Ø50mm dolly |
| Glue | SPT-AD21-GLUE | 3M DP420 epoxy glue/50ml |

* Ø50mm dolly requires corresponding cutter and sleeve



ROTATIONAL ABRASION TESTER CODE QMY-AP32

- To test flat paint film
- Comply with ISO 7784-2, ISO 9352, GB/T1768, ASTM D3884, ASTM D1175 standards

SPECIFICATION

| | |
|-------------------------------------|--|
| Platform rotary speed | 60±2 r/min, 72±2 r/min (selectable) |
| Load weight | 500g, 750g, 1000g |
| Sample size | Ø100mm |
| Grinding wheel | external diameter (51.6±0.1)mm, thickness (12.7±0.1)mm |
| Counting range of platform rotation | 0~9999 times |
| Motor power | 25W |
| Power supply | 220V, 50Hz |
| Dimension | 260×410×280mm |
| Weight | 14kg |



STANDARD DELIVERY

| | |
|----------------------------|--------|
| Main unit | 1 pc |
| Vacuum cleaner | 1 pc |
| 1000g weight | 2 pcs |
| 750g weight | 2 pcs |
| 500g weight | 2 pcs |
| TABER CS-10 grinding wheel | 1 pair |
| Sandpaper | 10 pcs |
| Glass plate | 5 pcs |

OPTIONAL ACCESSORY

| | |
|---|---------------|
| TABER CS17 grinding wheel (1 pair) | QMY-AP32-CS17 |
| Glass plate (Ø100mm with a 9mm center hole, 100 pcs/box) | QMY-AP32-GP |
| Aluminum plate (Ø100mm with a 9mm center hole, 100 pcs/box) | QMY-AP32-AP |
| 180# emery cloth strip (100 pcs/box) | QMY-AP32-EC |

PAINT FILM FLEXIBILITY TESTER CODE PPF-BF62

27

- To test the flexibility of paint and varnish
- Bend the coated test plates on the shaft rods with different diameter, the minimum shaft rod diameter that does not cause damage to the film is the film flexibility



SPECIFICATION

| | |
|------------------|--|
| Shaft rod length | 35mm |
| Shaft rod 1 | Ø15mm |
| Shaft rod 2 | Ø10mm |
| Shaft rod 3 | Ø5mm |
| Shaft rod 4 | Ø4mm |
| Shaft rod 5 | cross section 3×10mm, radius of curved surface 1.5mm |
| Shaft rod 6 | cross section 2×10mm, radius of curved surface 1.0mm |
| Shaft rod 7 | cross section 1×10mm, radius of curved surface 0.5mm |
| Dimension | 450×75×100mm |
| Weight | 3.1kg |



STANDARD DELIVERY

| | |
|--------------|-----------------|
| Main unit | 1 pc |
| Test plate | 1 box (500 pcs) |
| 4X magnifier | 1 pc |

OPTIONAL ACCESSORY

| | |
|--|-------------|
| Test plate (dimension: 120×25×0.28mm, 500 pcs/box) | PPF-BF62-TP |
|--|-------------|

IMPACT TESTER CODE THD-PF34



300g main weight (included)



1000g main weight (included)



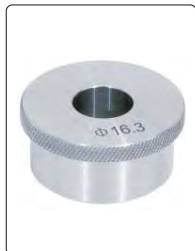
2lb main weight (included)



2lb additional weight (included)



1000g additional weight (included)



Ø16.3mm die base (included)



Ø12.7mm indenter (included)



Ø15.9mm indenter (included)



- For paint and varnish dry coating. To test the ability to resist cracking or peeling from the substrate when deformation is caused by weights impact under standard conditions
- Indenter, base and weight can be replaced quickly
- Conform to ISO 6272-2:2002, ASTM D 2794

SPCIFICATION

| | |
|---------------------|--|
| Impact height range | 0-100cm (0-40inch) |
| Graduation | 1cm |
| Impact depth | 2.5cm |
| Weight | 1000g (2 pcs), 300g (1 pc), 2lb (2 pcs) |
| Indenter diameter | Ø12.7mm (1/2 inch DIA), Ø15.9mm (5/8 inch DIA) |
| Die base diameter | Ø16.3mm |

OPTIONAL ACCESSORY

| | |
|--|------------|
| Base plate (120×70×0.5mm, 180 pcs/box) * | THD-PF34-T |
|--|------------|

*Can be customized according to the needs of different thickness, size and processing

STANDARD DELIVERY

| | |
|-------------------------|------|
| Main unit | 1 pc |
| 1000g main weight | 1 pc |
| 300g main weight | 1 pc |
| 2lb main weight | 1 pc |
| 1000g additional weight | 1 pc |
| 2lb additional weight | 1 pc |
| Ø12.7mm indenter | 1 pc |
| Ø15.9mm indenter | 1 pc |
| Ø16.3mm die base | 1 pc |



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Stroboscopes
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Light Transmittance Meters
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Digital Glass Thickness Meters
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ELECTROMAGNETIC ULTRASONIC THICKNESS GAGE CODE EMU-S340

- No surface polishing required, can penetrate anti-corrosion coating and rust (maximum 4mm), no coupling agent required
- Normal temperature permanent magnetic probe and high temperature permanent magnetic probe are using weak permanent magnet, to replace the strong permanent magnet commonly used nowadays. Completely solve the problem that EMAT transducer suction force is too large and difficult to move, so that the manual inspection is more simple, convenient and safe
- Temperature compensation function, can input the actual temperature of high-temperature components to automatically compensate the speed of sound, making the thickness measurement value more accurate
- Measurement of non verticality up to +25°, low verticality requirements for probe placement
- Scanning mode: A-scan format, B-scan image format display of thickness measurement values
- 50000 thickness values and 4000 A-scan or B-scan data can be stored
- Integrated high-brightness LEDs on the back for easy on-site illumination



SPECIFICATION

| | |
|--|--|
| Measuring range | 1.5~200mm (steel, stainless steel) |
| Resolution | 0.02mm |
| Accuracy | ±0.04mm+H/1000 (H≤50mm) ±0.2mm (50≥H≥100mm) ±0.3mm (100≥H≥200mm) |
| Working gap (the distance between the probe and the measured object) | normal temperature permanent magnetic probe≤4mm high temperature permanent magnetic probe≤2mm |
| Minimum required diameter | ≥8mm |
| Non-perpendicularity | ±25° |
| Excitation frequency | 3.0MHz~3.9MHz |
| Material velocity | 1000~9999m/s |
| Adjustment increments | 1m/s |
| Gate function | automatic gate, manual single gate, manual double gate |
| Display | color LCD, 3.5 inch/320×480 pixel |
| Interface | USB2.0 |
| Power supply | rechargeable lithium battery, working time≥8 hours |
| Dimension | 195×90×40mm |
| Weight | 820g |



normal temperature permanent magnetic probe sweep support
EMU-S52 (optional)



high temperature permanent magnetic probe
EMU-S51 (optional)

STANDARD DELIVERY

| | |
|--|------|
| Main unit | 1 pc |
| Transducer EMU-S50 | 1 pc |
| Calibration block (diameter Ø36×wall thickness 10mm) | 1 pc |
| 4G USB flash disk | 1 pc |
| USB cable | 1 pc |

OPTIONAL ACCESSORY

| | |
|---|---------|
| High temperature permanent magnetic probe | EMU-S51 |
| Normal temperature permanent magnetic probe sweep support | EMU-S52 |

SPECIFICATION OF TRANSDUCERS

| Code | Magnetism | Magnetic force | Diameter (Ød) | Applicable temperature | Application |
|--------------------|-----------------------|----------------|---------------|------------------------|----------------------|
| EMU-S50 (included) | weak permanent magnet | ≤15N | Ø30mm | -10~60°C | general use |
| EMU-S51 (optional) | weak permanent magnet | ≤20N | Ø45mm | -50~800°C | for high temperature |

ULTRASONIC THICKNESS GAGE (ADVANCED TYPE) CODE ISU-800D

PENETRATE COATING AND MEASURE
THE THICKNESS OF SUBSTRATE

BLUETOOTH

REAL-TIME TEMPERATURE
COMPENSATION

DATA
OUTPUT

- Real-time temperature compensation eliminates the error caused by temperature variation
- Support both single element transducers and dual element transducers
- Measure the thickness of substrate through coating
- Measuring mode: standard mode (dual element transducer: P-E mode, single element transducer: I-E mode), penetrate coating mode (dual element transducer: I-E mode, single element transducer: E-E mode or auto mode)
- Measure method: single point, scanning, deviation
- Set upper and lower limits for alarm when out-of-tolerance
- Single point and 2 points calibration
- Keyboard lock function avoids parameter setting change caused by unintended press during measurement
- Memory 1000 measurement values
- Data can be transferred to PC by Bluetooth connection or Mini-USB cable



transducer
ISU-S15-P06
(included)



transducer
ISU-S2M-P14
(optional)



transducer
ISU-G5M-P10
(optional)



transducer
ISU-G5M-P08
(optional)



transducer
ISU-G7M-P06
(optional)



transducer
ISU-G2M-P12
(optional)



transducer
ISU-H3M-P12
(optional)



delay block
ISU-S15-P06-CB
(optional)



delay block
ISU-S15-P06-CB1
(optional)



SPECIFICATION

| | |
|-----------------|---|
| Measuring range | refer to the specification of transducers |
| Resolution | 0.01mm/0.001mm |
| Accuracy | refer to the specification of transducers |
| Data output | bluetooth and USB |
| Velocity | 1~19999m/s |
| Power supply | 3.7V rechargeable lithium battery |
| Dimension | 157×78×37mm |
| Weight | 260g |

STANDARD DELIVERY

| | |
|------------------------|----------|
| Main unit | 1 pc |
| Transducer ISU-S15-P06 | 1 pc |
| Power adaptor | 1 pc |
| USB cable | 1 pc |
| Couplant | 1 bottle |

OPTIONAL ACCESSORY

| | |
|------------------------------|---|
| Transducer | refer to the specification of transducers |
| Couplant (for ISU-H3M-P12) | ISU-HT5-COUPPLANT |
| Thermal printer (with cable) | ISU-800D-PRINTER |

SPECIFICATION OF TRANSDUCERS (ON STEEL)

| Code | Type | Freq | Diameter (Ød) | Measuring range | Min. size of pipes (diameter x wall thickness) | Accuracy | Applicable temperature | Application |
|------------------------------|----------------|--------|---------------|----------------------------------|--|---|------------------------|--------------------------------------|
| ISU-S15-P06 (included) | single element | 15MHz | 8mm | I-E: 0.9~28mm E-E: 0.15~14mm | Ø10x1.5mm Ø15x0.35mm | ±0.02mm/0.3%H* (take the larger one) | -10~60°C | high precision or thin workpieces |
| ISU-S15-P06-CB (optional)** | - | - | 5mm | I-E: 0.9~10mm E-E: 0.15~5mm | Ø10x1.2mm Ø15x0.35mm | | | high precision or irregular surface |
| ISU-S15-P06-CB1 (optional)** | - | - | 8mm | I-E: 0.9~38mm E-E: 0.3~19mm | - | | | high precision or thick workpieces |
| ISU-S2M-P14 (optional) | single element | 2MHz | 19mm | I-E: 30~2000mm E-E: 30~1000mm | - | ±0.5%H* | -10~310°C | ultra-thick workpieces |
| ISU-G5M-P10 (optional) | dual element | 5MHz | 13mm | 0.8~300mm | Ø25x3mm | ±0.04mm (range: <10mm) | -10~60°C | normal workpieces |
| ISU-G5M-P08 (optional) | dual element | 5MHz | 11mm | 0.8~225mm | Ø20x1.2mm | | | curved surface and normal workpieces |
| ISU-G7M-P06 (optional) | dual element | 7.5MHz | 9mm | 0.8~50mm | Ø15x1.2mm | ±H/333mm* (range: ≥10mm) | -10~60°C | curved surface and small workpieces |
| ISU-G2M-P12 (optional) | dual element | 2MHz | 17mm | 3~700mm | Ø30x4mm | ±0.05mm/0.5%H* (take the larger one) | -10~310°C | castings and thick workpieces |
| ISU-H3M-P12 (optional) | dual element | 3MHz | 15mm | 2~200mm | Ø25x3mm | ±0.05mm/0.5%H* (take the larger one) | | workpieces with high temperature |

* H is the measured thickness in mm

** Delay blockers, suitable for transducer ISU-S15-P06

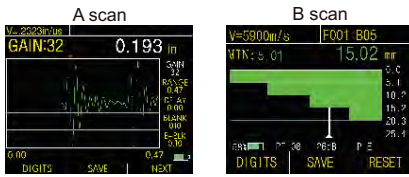


PENETRATE COATING AND MEASURE THE THICKNESS OF SUBSTRATES

WITH A AND B SCAN

DATA OUTPUT

ULTRASONIC THICKNESS GAGE CODE ISU-810D



- Measure the thickness of substrate through coating
- Measuring mode: standard mode (dual element transducer: P-E), penetrate coating mode (dual element transducer: E-E)
- Display mode: real-time color A-scan waveform mode, real-time color B-scan waveform mode, thickness value mode, Min/Max capture mode, difference or reduction rate mode
- Can measure gray cast iron, ductile iron, PE, PVC pipe, fiberglass, 3PE anticorrosive layer pipes, metal pipes, pressure vessels, shaped parts, wall thickness of small pipes etc
- Set the upper and lower limits, and the reading color will change when the limit is exceeded
- One-point calibration and two-point calibration
- Can compensate the non-linearity of the twin-crystal probe by automatic V path correction
- Can store 100000 thickness values and 1000 waveforms
- USB 2.0 port connected to computer for statistics
- Languages: Chinese, English, German, French, Japanese
- Power off: automatic/manual

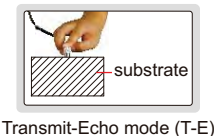
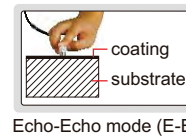


SPECIFICATION

| | |
|------------------------|---|
| Measuring range | refer to the specification of transducers |
| Resolution | 0.1/0.01mm |
| Accuracy | ±0.05mm (H<10mm) ±(0.05%H+0.01)mm (H≥100mm) H is the thickness to be measured in mm |
| Display | 320×240, color screen display |
| Measuring frequency | 4Hz, 8Hz, 16Hz |
| Velocity | 500~9999m/s |
| Applicable temperature | -20~50°C |
| Output | USB |
| Measuring unit | mm/inch |
| Power supply | 2×1.5V AA batteries |
| Dimension | 153×76×37mm |
| Weight | 280g (including batteries) |

STANDARD DELIVERY

| | |
|---------------------------|----------|
| Main unit | 1 pc |
| Transducer ISU-810D-TC510 | 1 pc |
| Battery (AA) | 2 pcs |
| Couplant | 1 bottle |
| USB cable | 1 pc |



OPTIONAL ACCESSORY

| | |
|------------------------------|---|
| Transducer | refer to the specification of transducers |
| Couplant (for ISU-810D-GT12) | ISU-HT5-COULPLANT |

SPECIFICATION OF TRANSDUCERS

| Code | Frequency | Diameter (Ød) | Measuring range | Applicable temperature | Application |
|---------------------------|-----------|---------------|-----------------|------------------------|---|
| ISU-810D-TC510 (included) | 5MHz | 13.5mm | 1.2~400mm | -10~70°C | normal workpieces |
| ISU-810D-TC550 (optional) | 5MHz | 13.5mm | 1~200mm | -10~70°C | fiberglass and organic material |
| ISU-810D-PT04 (optional) | 10MHz | 7mm | 0.7~12mm | -10~70°C | small diameter workpieces |
| ISU-810D-PT06 (optional) | 7.5MHz | 8.7mm | 0.8~30mm | -10~70°C | curved surface and small workpieces |
| ISU-810D-PT08 (optional) | 5MHz | 11mm | 0.8~100mm | -10~60°C | normal workpieces |
| ISU-810D-ZT12 (optional) | 2MHz | 17mm | 4~508mm | -10~70°C | cast iron (coarse grain) and thick workpieces |
| ISU-810D-GT12 (optional) | 3MHz | 15mm | 2~80mm | -20~480°C | workpieces with high temperature |

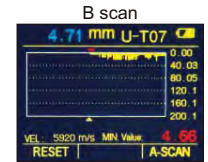
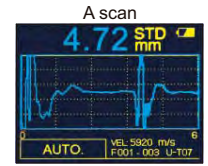
ULTRASONIC THICKNESS GAGE CODE ISU-720D

DATA
OUTPUT

WITH A AND B SCAN

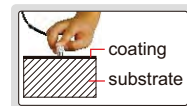
PENETRATE NON-METALLIC COATING AND
MEASURE THE THICKNESS OF METAL SUBSTRATES

- Two measuring modes, Echo-Echo (E-E) and Transmit-Echo (T-E):
 - E-E is applicable for non-metallic coating (such as paint, plastic resin, etc.) on metal substrates, can penetrate coating and measure the thickness of substrates
 - T-E is to measure the thickness of material without coating, such as metal, plastic, glass, nylon, resin, ceramics, ice, etc.
- A scan, through the waveform, judges whether there are impurities, pores, cracks and so on inside, in order to avoid wrong measurement
- B scan, measures continuously, displays the thickness change on the screen
- Transducers can be automatically identified and zeroed
- Memory 10000 measurement values
- Data can be input to Excel and Word as keyboard signal
- Automatic or manual measurement
- When transducers are removed from workpieces, the measurement data are held on screen for easy viewing
- Set upper and lower limits for alarm when out-of-tolerance
- Automatic power off

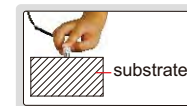


SPECIFICATION (ON STEEL)

| | |
|------------------------------------|--|
| Measuring range | refer to specification of transducers |
| Resolution | 0.1/0.01mm |
| Accuracy | ±0.04mm (H<10mm) ±(0.04+H/1000)mm (10≤H<100mm) ±H/333mm (H≥100mm) H is the thickness to be measured in mm |
| Frequency | refer to specification of transducers |
| Display | 320×240, color screen display |
| Velocity | 1000~9999m/s |
| Measuring frequency | 2 times/second and 10 times/second |
| Operation temperature of main unit | -20~50°C |
| Output | USB |
| Measuring unit | mm/inch |
| Power supply | 2×1.5V AA batteries |
| Dimension | 133×75×29mm |
| Weight | 260g (including batteries) |



Echo-Echo mode (E-E)



Transmit-Echo mode (T-E)



transducer ISU-T04 (optional)



transducer ISU-T06 (optional)



transducer ISU-T08 (optional)



transducer ISU-T12 (optional)



transducer ISU-T13 (optional)



transducer ISU-T25 (optional)



STANDARD DELIVERY

| | |
|------------------------------|----------|
| Main unit | 1 pc |
| Bicrystal transducer ISU-T07 | 1 pc |
| Battery (AA) | 2 pcs |
| Couplant | 1 bottle |
| USB cable | 1 pc |

OPTIONAL ACCESSORY

| | |
|------------------------|--|
| Transducer | ISU-T04, ISU-T06, ISU-T08, ISU-T12, ISU-T13, ISU-T25 |
| Couplant (for ISU-T13) | ISU-HT5-COULPLANT |

SPECIFICATION OF TRANSDUCERS (ON STEEL)

| Code | Mode | Frequency | Diameter (Ød) | Measuring range | Minimum size of pipes for measurement (diameter × wall thickness) | Applicable temperature | Application |
|--------------------|------------|-----------|---------------|---|---|------------------------|-------------------------------------|
| ISU-T07 (included) | T-E E-E | 5.0MHz | 13.2mm | T-E mode: 1.5~200mm E-E mode: 3~25mm | T-E mode: Ø25×3mm | -20~60°C | general use |
| ISU-T04 (optional) | T-E | 10.0MHz | 6mm | 0.7~20mm | Ø15×1mm | -20~60°C | for small tubes |
| ISU-T06 (optional) | T-E | 7.5MHz | 9mm | 0.7~50mm | Ø15×1.2mm | -20~60°C | for thin workpieces |
| ISU-T08 (optional) | T-E | 5.0MHz | 11mm | 0.8~300mm | Ø25×1.2mm | -20~60°C | general use |
| ISU-T12 (optional) | T-E | 2.0MHz | 17mm | 2~400mm | Ø40×3mm | -20~60°C | for casting iron |
| ISU-T13 (optional) | T-E | 5.0MHz | 15mm | 3~100mm | Ø25×2mm | 0~350°C | for high temperature |
| ISU-T25 (optional) | T-E | 1.0MHz | 26mm | 3~200mm | - | -20~60°C | for fiberglass and organic material |



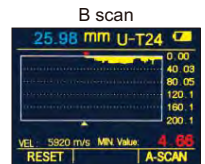
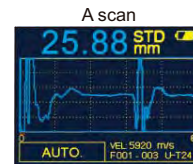
DATA
OUTPUT

WITH A AND B SCAN

ULTRASONIC THICKNESS GAGE (FOR THICK WORKPIECES MADE OF ORGANIC MATERIALS) CODE ISU-710D



- For thick workpieces made of organic materials
- A scan, through the waveform, judges whether there are impurities, pores, cracks and so on inside, in order to avoid wrong measurement
- B scan, measures continuously, displays the thickness change on the screen
- Transducers can be automatically identified and zeroed
- Memory 10000 measurement values
- Data can be input to Excel and Word as keyboard signal
- Automatic or manual measurement
- When transducers are removed from workpieces, the measurement data are held on screen for easy viewing
- Set upper and lower limits for alarm when out-of-tolerance
- Automatic power off



SPECIFICATION (ON STEEL)

| | | |
|-----------------------|---------------|---|
| Measuring range | | 20~590mm |
| Resolution | | 0.1/0.01mm |
| Accuracy | | ±(0.04+H/1000)mm (H<100mm) ±H/333mm (H≥100mm) H is the thickness to be measured in mm |
| Transducer | type | single element transducer |
| | frequency | 1.0MHz |
| | diameter (Ød) | 26mm |
| Display | | 320×240, color screen display |
| Velocity | | 1000~9999m/s |
| Measuring frequency | | 2 times/second and 10 times/second |
| Operation temperature | | main unit: -20~50°C transducer: -20~60°C |
| Output | | USB |
| Measuring unit | | mm/inch |
| Power supply | | 2×1.5V AA batteries |
| Dimension | | 133×75×29mm |
| Weight | | 260g (including batteries) |

STANDARD DELIVERY

| | |
|--------------|----------|
| Main unit | 1 pc |
| Transducer | 1 pc |
| Battery (AA) | 2 pcs |
| Couplant | 1 bottle |
| USB cable | 1 pc |

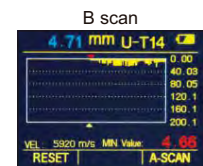
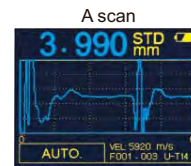
ULTRASONIC THICKNESS GAGE (FOR THIN WORKPIECES) CODE ISU-700D

DATA
OUTPUT

WITH A AND B SCAN



- For thin workpieces
- A scan, through the waveform, judges whether there are impurities, pores, cracks and so on inside, in order to avoid wrong measurement
- B scan, measures continuously, displays the thickness change on the screen
- Transducers can be automatically identified and zeroed
- Memory 10000 measurement values
- Data can be input to Excel and Word as keyboard signal
- Automatic or manual measurement
- When transducers are removed from workpieces, the measurement data are held on screen for easy viewing
- Set upper and lower limits for alarm when out-of-tolerance
- Automatic power off



transducer protective sleeve (included)



SPECIFICATION (ON STEEL)

| | | |
|------------------------------|----------------------|--|
| Measuring range | | Transmit-echo (T-E) mode: 1.5~20mm Echo-echo (E-E) mode: 0.2~10mm |
| Resolution | | 0.1/0.01/0.001mm |
| Accuracy | | ±0.04mm (H<10mm) ±(0.04+H/1000)mm (H≥10mm) H is the thickness to be measured in mm |
| Transducer | type | single element transducer |
| | frequency | 15.0MHz |
| | diameter (Ød) | 7.5mm |
| Display | | 320×240, color screen display |
| Velocity | | 1000~9999m/s |
| Measuring frequency | | 2 times/second and 10 times/second |
| Operation temperature | | main unit: -20~50°C transducer: -20~60°C |
| Output | | USB |
| Measuring unit | | mm/inch |
| Power supply | | 2×1.5V AA batteries |
| Dimension | | 133×75×29mm |
| Weight | | 260g (including batteries) |

STANDARD DELIVERY

| | |
|-------------------------------------|----------|
| Main unit | 1 pc |
| Transducer | 1 pc |
| Transducer protective sleeve | 1 pc |
| Battery (AA) | 2 pcs |
| Couplant | 1 bottle |
| USB cable | 1 pc |

PENETRATE NON-METALLIC COATING AND MEASURE THE THICKNESS OF METAL SUBSTRATE



DATA OUTPUT

INSPECTION CERTIFICATE

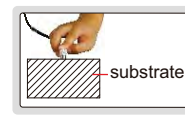
ULTRASONIC THICKNESS GAGE (THROUGH COATING) CODE ISU-300D

- Two measuring modes, Echo-Echo (E-E) and Transmit-Echo (T-E):
 - E-E is applicable for non-metallic coating (such as paint, plastic resin, etc.) on metal substrates, can penetrate coating and measure the thickness of substrates
 - T-E is to measure the thickness of material without coating, such as metal, plastic, glass, nylon, resin, ceramics, ice, etc.
- Tolerance measurement
- Average calculation of maximum 9 readings
- Data can be input to Excel and Word as keyboard signal



SPECIFICATION (ON STEEL)

| | |
|------------------------------------|--|
| Measuring range | refer to specification of transducers |
| Resolution | 0.1/0.01mm |
| Accuracy | ±0.04mm (H<10mm) ±(0.04+H/1000)mm (10≤H<100mm) ±H/333mm (H≥100mm) H is the thickness to be measured in mm |
| Velocity | 1000~9999m/s |
| Operation temperature of main unit | -20~50°C |
| Output | USB |
| Measuring unit | mm/inch |
| Power supply | 2×1.5V AAA batteries |
| Dimension | 116×64×27mm |
| Weight | 220g |



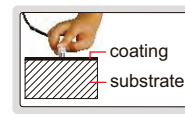
Transmit-Echo mode (T-E)



transducer ISU-T04 (optional)



transducer ISU-T06 (optional)



Echo-Echo mode (E-E)



transducer ISU-T12 (optional)



transducer ISU-T13 (optional)

STANDARD DELIVERY

| | |
|---|----------|
| Main unit | 1 pc |
| Transducer ISU-T07 | 1 pc |
| Battery (AAA) | 2 pcs |
| Couplant (for ISU-T04, ISU-T06, ISU-T07, ISU-T12) | 1 bottle |
| USB cable | 1 pc |

OPTIONAL ACCESSORY

| | |
|------------------------|------------------------------------|
| Transducer | ISU-T04, ISU-T06, ISU-T12, ISU-T13 |
| Couplant (for ISU-T13) | ISU-HT5-COUPPLANT |

SPECIFICATION OF TRANSDUCERS (ON STEEL)

| Code | Mode | Frequency | Diameter (Ød) | Measuring range | Minimum size of pipes for measurement (diameter × wall thickness) | Applicable temperature | Application |
|--------------------|------------|-----------|---------------|---|---|------------------------|----------------------|
| ISU-T07 (included) | T-E E-E | 5.0MHz | 13.2mm | T-E mode: 1.5~200mm E-E mode: 3~25mm | T-E mode: Ø25×3mm | -20~60°C | general use |
| ISU-T04 (optional) | T-E | 10.0MHz | 6mm | 0.7~20mm | Ø15×1mm | -20~60°C | for small tubes |
| ISU-T06 (optional) | T-E | 7.5MHz | 9mm | 0.7~50mm | Ø15×1.2mm | -20~60°C | for thin workpieces |
| ISU-T12 (optional) | T-E | 2.0MHz | 17mm | 2~400mm | Ø40×3mm | -20~60°C | for casting iron |
| ISU-T13 (optional) | T-E | 5.0MHz | 15mm | 3~100mm | Ø25×2mm | 0~350°C | for high temperature |

ULTRASONIC THICKNESS GAGE CODE ISU-250C



DATA
OUTPUT



- Measure the thickness from one side of objects, suitable for pipes, tanks, etc.
- Applicable material: metal, plastic, glass, nylon, resin, ceramic, ice
- Tolerance measurement
- Average calculation of 9 readings
- Data can be input to Excel and Word as keyboard signal



SPECIFICATION (ON STEEL)

| | |
|------------------------------------|--|
| Measuring range | refer to specification of transducers |
| Resolution | 0.1/0.01mm |
| Accuracy | ±0.04mm (H<10mm) ±(0.04+H/1000)mm (10≤H<100mm) ±H/333mm (H≥100mm) H is the thickness to be measured in mm |
| Velocity | 1000-9999m/s |
| Operation temperature of main unit | -20~50°C |
| Output | USB |
| Measuring unit | mm/inch |
| Power supply | 2×1.5V AAA batteries |
| Dimension | 64×116×27mm |
| Weight | 220g |



transducer ISU-T06
(optional)



transducer ISU-T13
(optional)



transducer ISU-T04
(optional)



transducer ISU-T12
(optional)

STANDARD DELIVERY

| | |
|---|----------|
| Main unit | 1 pc |
| Transducer ISU-T08 | 1 pc |
| Battery (AAA) | 2 pcs |
| Couplant (for ISU-T04, ISU-T06, ISU-T08, ISU-T12) | 1 bottle |
| USB cable | 1 pc |

OPTIONAL ACCESSORY

| | |
|------------------------|------------------------------------|
| Transducer | ISU-T04, ISU-T06, ISU-T12, ISU-T13 |
| Couplant (for ISU-T13) | ISU-HT5-COULPLANT |

SPECIFICATION OF TRANSDUCERS (ON STEEL)

| Code | Frequency | Diameter (Ød) | Measuring range | Minimum size of pipes for measurement (diameter × wall thickness) | Applicable temperature | Application |
|--------------------|-----------|---------------|-----------------|---|------------------------|----------------------|
| ISU-T08 (included) | 5.0MHz | 11mm | 0.8~300mm | Ø25×1.2mm | -20~60°C | general use |
| ISU-T04 (optional) | 10.0MHz | 6mm | 0.7~20mm | Ø15×1mm | -20~60°C | for small tubes |
| ISU-T06 (optional) | 7.5MHz | 9mm | 0.7~50mm | Ø15×1.2mm | -20~60°C | for thin workpieces |
| ISU-T12 (optional) | 2.0MHz | 17mm | 2~400mm | Ø40×3mm | -20~60°C | for casting iron |
| ISU-T13 (optional) | 5.0MHz | 15mm | 3~100mm | Ø25×2mm | 0~350°C | for high temperature |

ATTENTION: NOT SUITABLE FOR CASTINGS AND ALUMINUM WORKPIECES

ULTRASONIC THICKNESS GAGE (BASIC TYPE) CODE ISU-100D

INSPECTION
CERTIFICATE

POPULAR
MODEL



- Measure the thickness from one side of objects, suitable for pipes, tanks, etc.
- Applicable material: steel, stainless steel, glass, copper, brass, polystyrene, titanium, etc.



SPECIFICATION (ON STEEL)

| | | |
|-----------------------|---------------|--|
| Measuring range | | 0.8~300mm |
| Resolution | | 0.1/0.01mm |
| Accuracy | | ±0.05mm (H<10mm) ±(0.05+H/1000)mm (10≤H<100mm) ±H/333mm (H≥100mm) H is the thickness to be measured in mm |
| Transducer | frequency | 5MHz |
| | diameter (∅d) | 10.8mm |
| Minimum size of pipes | | 20×1.2mm (diameter×wall thickness) |
| Velocity | | 1000-9999m/s |
| Operation temperature | | main unit: -20~50°C transducer: -20~60°C |
| Measuring unit | | mm/inch |
| Power supply | | 2×AAA batteries |
| Dimension | | 114×64×28mm |
| Weight | | 200g |

STANDARD DELIVERY

| | |
|---------------|----------|
| Main unit | 1 pc |
| Transducer | 1 pc |
| Couplant | 1 bottle |
| Battery (AAA) | 2 pcs |

STANDARD TEST BLOCKS FOR ULTRASONIC THICKNESS GAGES

STEP WEDGE BLOCKS
CAN BE CUSTOMIZED



cylinder block

- Supplied with manufacturer inspection certificate
- Material of step wedge blocks can be customized

Cylinder block set (17 blocks are included) (mm)

| Code | Material | Diameter | Thickness | Accuracy | QTY |
|--------|----------|----------|-----------|----------|------|
| ISU-ST | 45# | 20 | 0.5 | ±0.01 | 1 pc |
| | 45# | 20 | 1 | | 1 pc |
| | 45# | 20 | 1.2 | | 1 pc |
| | 45# | 20 | 1.5 | | 1 pc |
| | 45# | 20 | 2 | | 1 pc |
| | 45# | 20 | 3.3 | | 1 pc |
| | 45# | 20 | 5.5 | | 1 pc |
| | 45# | 20 | 7.7 | | 1 pc |
| | 45# | 20 | 10 | | 1 pc |
| | 45# | 20 | 15 | | 1 pc |
| | 45# | 20 | 20 | ±0.02 | 1 pc |
| | 45# | 20 | 25 | | 1 pc |
| | 45# | 20 | 50 | | 1 pc |
| | 45# | 20 | 75 | | 1 pc |
| | 45# | 20 | 100 | ±0.05 | 1 pc |
| | 45# | 20 | 150 | | 1 pc |
| | 45# | 20 | 200 | | 1 pc |



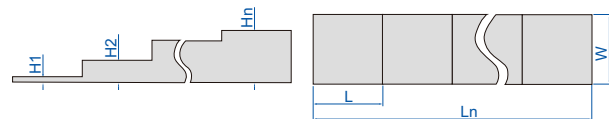
round tube block

Round tube block set (2 blocks are included) (mm)

| Code | Material | Outer diameter | Wall thickness | Accuracy | Length | QTY |
|---------|----------|----------------|----------------|----------|--------|------|
| ISU-SWT | 45# | 30 | 2 | ±0.02 | 40 | 1 pc |
| | 45# | 40 | 3 | ±0.02 | 40 | 1 pc |



step wedge block



Step wedge blocks (mm)

| Code | Material | QTY of steps (n) | Thickness | | | | | | | | Accuracy | Width (W) | Length of each step (L) | Total length (Ln) |
|---------|----------|------------------|-----------|------|-------|----|------|----|----|-------|----------|-----------|-------------------------|-------------------|
| | | | H1 | H2 | H3 | H4 | H5 | H6 | H7 | | | | | |
| ISU-S4A | 45# | 4 | 6.25 | 12.5 | 18.75 | 25 | - | - | - | ±0.02 | 20 | 20 | 80 | |
| ISU-S4B | 45# | 4 | 5 | 10 | 15 | 20 | - | - | - | ±0.02 | 20 | 20 | 80 | |
| ISU-S5A | 45# | 5 | 2.5 | 5 | 7.5 | 10 | 12.5 | - | - | ±0.02 | 20 | 20 | 100 | |
| ISU-S5B | 45# | 5 | 2 | 4 | 6 | 8 | 10 | - | - | ±0.02 | 20 | 20 | 100 | |
| ISU-S7A | 45# | 7 | 3 | 12.5 | 24 | 30 | 36 | 42 | 48 | ±0.02 | 40 | 40 | 280 | |
| ISU-S7B | 45# | 7 | 1 | 1.5 | 2 | 4 | 6 | 8 | 10 | ±0.02 | 40 | 40 | 280 | |



CONTACT/NON-CONTACT TACHOMETER CODE 9225-405

- 2 measuring method, contact and non-contact
- Can measure rotary speed and line speed
- Automatically save the maximum value, minimum value and the last value, 500 data can be stored during continuous measurement
- Automatic power off



cone head
(included)



cone cavity
head (included)



reflection sticker
(included)



wheel with 0.1m
perimeter (included)



small cone head
(included)



clamping sleeve
(included)



SPECIFICATION

| Measuring method | | Non-contact | Contact |
|-----------------------|--------------|---|---|
| Measuring range | rotary speed | 2.5~99999RPM | 0.5~19999RPM |
| | line speed | — | 0.05~500m/min |
| Resolution | rotary speed | 0.1RPM (range 2.5~999.9RPM) 1RPM (range 1000~99999RPM) | 0.1RPM (range 0.5~999.9RPM) 1RPM (range 1000~19999RPM) |
| | line speed | — | 0.01m/min (range 0.05~99.99m/min) 0.1m/min (range 100~500m/min) |
| Accuracy | rotary speed | $\pm(0.05\%n+1d)$ RPM n is rotary speed, d is resolution | $\pm(0.4\%n+1d)$ RPM (n<300RPM) $\pm(0.05\%n+1d)$ RPM (n≥300RPM) n is rotary speed, d is resolution |
| | line speed | — | $\pm(1\%+1d)$ m/min d is resolution |
| Laser power | | CLASS 3R, 3mW~4mW | — |
| Sampling time | | 0.6s (above 100RPM) | |
| Measuring distance | | 50~500mm | — |
| Operation temperature | | 0~40°C | |
| Power supply | | 3×AA batteries | |
| Dimension | | 206×71×36mm | |
| Weight | | 170g | |

STANDARD DELIVERY

| | |
|---------------------------|-------|
| Main unit | 1 pc |
| Reflection sticker | 3 pcs |
| Wheel with 0.1m perimeter | 1 pc |
| Clamping sleeve | 1 pc |
| Cone head | 1 pc |
| Small cone head | 1 pc |
| Cone cavity head | 1 pc |
| Battery (AA) | 3 pcs |

28

NON-CONTACT TACHOMETER CODE 9223-120

- Accurately measure the rotary speed without contact
- Automatically save the maximum value, minimum value and the last value, 500 data can be stored during continuous measurement

SPECIFICATION

| | |
|-----------------------|---|
| Measuring range | 2.5~99999RPM |
| Resolution | 0.1RPM (range 2.5~999.9RPM) 1RPM (range 1000~99999RPM) |
| Accuracy | $\pm(0.05\%n+1d)$ RPM n is rotary speed, d is resolution |
| Laser power | CLASS 3R, 3mW~4mW |
| Sampling time | 0.6 second (above 100RPM) |
| Measuring distance | 50~500mm |
| Operation temperature | 0~40°C |
| Power supply | 3×AA batteries |
| Dimension | 180×71×29.9mm |
| Weight | 145g |



reflection sticker
(included)



STANDARD DELIVERY

| | |
|--------------------|-------|
| Main unit | 1 pc |
| Reflection sticker | 3 pcs |
| Battery (AA) | 3 pcs |

CONTACT TACHOMETER CODE 9224-213

- Can measure rotary speed, line speed and line length
- Automatically save the maximum value, minimum value and the last value, 96 data can be stored during continuous measurement
- With backlight display

SPECIFICATION

| | | |
|-----------------------|--------------|---|
| Measuring range | rotary speed | 0.5~19999RPM |
| | line speed | 0.05~500m/min |
| | line length | 0.05~99999m |
| Resolution | rotary speed | 0.1RPM (range 0.5~999.9RPM) 1RPM (range 1000~19999RPM) |
| | line speed | 0.01m/min (range 0.05~99.99m/min) 0.1m/min (range 100~500m/min) |
| | line length | 0.02m |
| Accuracy | rotary speed | $\pm(0.4\%n+1d)$ RPM ($n<300$ RPM) $\pm(0.05\%n+1d)$ RPM ($n\geq 300$ RPM) n is rotary speed, d is resolution |
| | line speed | $\pm(1\%+1d)$ m/min d is resolution |
| | line length | $\pm(1\%+1d)$ m d is resolution |
| Sampling time | | 0.8s (above 60RPM) |
| Operation temperature | | 0~40°C |
| Power supply | | 3×AA batteries |
| Dimension | | 171×71×35mm |
| Weight | | 162g |



cone cavity head (included)



clamping sleeve (included)



cone head (included)



small cone head (included)

STANDARD DELIVERY

| | |
|---------------------------|-------|
| Main unit | 1 pc |
| Wheel with 0.1m perimeter | 1 pc |
| Clamping sleeve | 1 pc |
| Cone head | 1 pc |
| Small cone head | 1 pc |
| Cone cavity head | 1 pc |
| Battery (AA) | 3 pcs |



wheel with 0.1m perimeter (included)

DIGITAL LED TACHOMETER/STROBOSCOPE CODE ISQ-TS120K

- Make cyclical motion (rotation, vibration, etc.) objects to appear slow-moving or stationary
- On-line inspection or observation for moving objects
- Measure the rotation or vibration speed and frequency
- Can be triggered from outside by moving objects, make LED flash frequency same as the rotation or vibration

SPECIFICATION

| | | |
|---------------------------|-----|--|
| Flash frequency range | | 60~120000FPM (flash per minute), 1~2000Hz |
| Resolution | FPM | 0.1FPM (<100000FPM), 1FPM (≥ 100000 FPM) |
| | HZ | 0.01Hz (<200Hz), 0.1Hz (≥ 200 Hz) |
| Setting accuracy | | $\pm 0.01\%$ |
| Phase shift increment | | 3° |
| Flash pulse duration time | | 0.1~2.5° |
| LED light | | 3 pcs CREE 10W lamp |
| LED life | | 3~5 years |
| Trigger mode | | internal and external |
| Power supply | | built-in rechargeable battery or AC/DC adapter |
| Dimension | | 208×70×60mm |
| Weight | | 380g |

STANDARD DELIVERY

| | |
|-------------------|------|
| Main unit | 1 pc |
| AC/DC adapter | 1 pc |
| Proximity trigger | 1 pc |



VIDEO

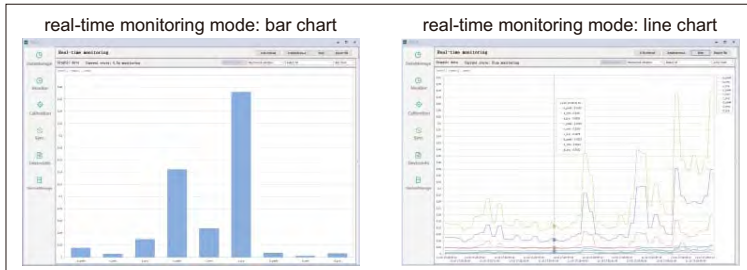
proximity trigger (included)



make LED flash frequency same as the rotation or vibration (power supply from AC/DC adapter when external trigger is used)



VIBRATION METER CODE 0022-VM20



software (included), monitor and collect data to PC software via USB cable,
data can sent to Excel



- Can measure vibration frequency
- Can measure virtual value/peak value/peak-peak value of acceleration, velocity and displacement
- Suitable for factory inspection, status monitoring and fault diagnosis of mechanical equipments such as motors, pumps, fans, household appliances, compressors, smoke machines, generators, gearboxes, etc
- Software is included: on-line monitoring, data storage

SPECIFICATION

| Measuring parameter | acceleration (virtual/peak/peak-peak value) $a_{RMS,1}$, $a_{Peak,1}$, $a_{P-P,1}$, a_{Peak} , a_{P-P} | velocity (virtual/peak/peak-peak value) $V_{RMS,1}$, $V_{Peak,1}$, $V_{P-P,1}$, V_{Peak} , V_{P-P} | displacement (virtual/peak/peak-peak value) $d_{RMS,1}$, $d_{Peak,1}$, $d_{P-P,1}$, d_{Peak} , d_{P-P} |
|---|--|---|---|
| Measuring range | 0.01~200m/s ² (peak value) | 0.1~200mm/s (virtual value) | 0.01~2mm (peak-peak value) |
| Frequency range | 10Hz~5kHz | 10Hz~1kHz | 10Hz~500Hz |
| Amplitude frequency reponse | ±5% | | |
| Amplitude linearity | ±5% | | |
| Frequency accuracy | ±0.5% | | |
| Cut-off frequency (second-order high-pass filtering) | 8kHz sampling frequency: 3.16Hz、10.00Hz、31.60Hz、N/A (adjustable) 32kHz sampling frequency: 12.64Hz、40.00Hz、126.4Hz、N/A (adjustable) | | |
| Display | 1.96" 128×64 dot matrix OLED screen | | |
| Language | Chinese, English, Portuguese | | |
| Power | <80mA/5V | | |
| Power supply | 4×AAA batteries: 6.0V/1000mAh; AC/DC adapter: 5V/2A | | |
| Operation condition | temperature: -10°C~50°C; humidity: 25%RH~90%RH, non-condensing; pressure: 65kPa~108kPa | | |
| Dimension | 172×69×26mm | | |
| Weight | 240g | | |

STANDARD DELIVERY

| | |
|---------------------------------|-------|
| Main unit | 1 pc |
| Software | 1 pc |
| Accelerometer (including cable) | 1 pc |
| Magnetic base | 1 pc |
| M5 screw | 1 pc |
| Battery (AAA) | 4 pcs |
| AC/DC adapter | 1 pc |

VIBRATION PEN (THREE PARAMETERS) CODE 0020-A199

SPECIFICATION

| Parameter | acceleration | velocity | displacement |
|------------------------------|--|-----------------------------------|------------------------------------|
| Measuring range | 0.01~199.9m/s ² (peak value) | 0.01~199.9mm/s (virtual value) | 0.001~1.999mm (peak~peak value) |
| Frequency | 10Hz~1kHz | 10Hz~1kHz | 10Hz~500Hz |
| Frequency response | ±5% (≥20Hz) -20%~+10% (<20Hz) | | |
| Linearity | ±(5%+2unit) | | |
| Indeterminacy of sensitivity | ≤3% | | |
| Operation temperature | 0°C~40°C/32°F~104°F | | |
| Operation humidity | <85% | | |
| Power supply | 2×LR44 battery (for 10 hours working) | | |
| Dimension | 150x22x18mm | | |
| Weight | 55g | | |



- Acceleration, velocity and displacement can be tested
- Automatic power off

STANDARD DELIVERY

| | |
|--------------|-------|
| Main unit | 1 pc |
| LR44 battery | 2 pcs |

VIBRATION PEN CODE 9720-199



STANDARD DELIVERY

| | |
|--------------|-------|
| Main unit | 1 pc |
| LR44 battery | 2 pcs |

SPECIFICATION

| | |
|-----------------------|--|
| Measured parameter | speed |
| Measuring range | 0.1~199.9mm/s |
| Frequency | 10Hz~1KHz |
| Accuracy | ±(5%±2)mm/s |
| Operation temperature | 0°C~40°C |
| Operation humidity | <85% |
| Power supply | 2×LR44 batteries (for 10 hours wroking) |
| Dimension | 150x22x18mm |
| Weight | 55g |



- Measure vibration of motors, fans, pumps, compressors and machine tools to prevent mechanical failure
- Small size, light weight, low energy consumption, easy operation, easy to carry
- One key control
- Automatic power off

PORTABLE VIBRATION CALIBRATOR CODE 0021-AS159

- Quick, easy calibration and checking of vibration measurement, monitoring and recording system

SPECIFICATION

| | |
|-----------------------|---|
| Frequency | 159.2Hz±1% |
| Acceleration | 10m/s ² ±3% (RMS) |
| Distortion | <5% |
| Transverse vibration | <5% |
| Warm-up time | <20s |
| Maximum load | 70g |
| Mounting thread | M5×0.8mm |
| Operation temperature | 0°C~40°C |
| Operation humidity | 10%RH~90%RH, non-condensing |
| Power supply | rechargeable lithium battery, working time≥5h |
| Dimension | Ø54.5×147mm |
| Weight | 620g |



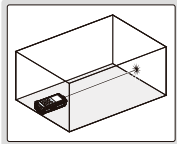
STANDARD DELIVERY

| | |
|---------------|------|
| Main unit | 1 pc |
| Power adapter | 1 pc |

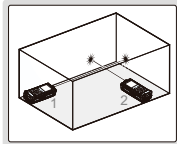


LASER DISTANCE METERS

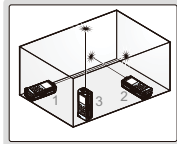
- High accuracy models: **9561-50B, 9561-70B**
Low accuracy models: **9561-50B-F, 9561-70B-F**
- Large display with backlight
- Unit: m, ft, in, ft+in
- Distance, area, volume and height measurement
- Continuous measuring mode to track maximum and minimum value
- Memory of 30 measurement values
- Automatic power off: laser 30s, main unit 180s



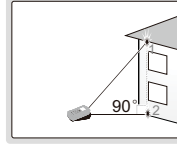
distance measurement



area measurement



volume measurement



height measurement



9561-50B

SPECIFICATION

| Code | 9561-50B | 9561-70B | 9561-50B-F | 9561-70B-F |
|-------------------|---|----------|---|------------|
| Measuring range | 0.2~50m | 0.2~70m | 0.2~50m | 0.2~70m |
| Resolution | 0.001m, .001ft, 1/16" | | | |
| Accuracy | $\pm(3+D/20)$ mm D: measured distance, unit: m | | $\pm(5+D/20)$ mm D: measured distance, unit: m | |
| Laser type | 630~670nm, class II, <1mW | | | |
| Power supply | 2×AAA batteries | | | |
| Dimension (L×W×H) | 115×50×28mm | | | |
| Weight | 95g | | | |

STANDARD DELIVERY

| | |
|---------------|-------|
| Main unit | 1 pc |
| Battery (AAA) | 2 pcs |

IP67
WATERPROOF

PEN-TYPE CONDUCTIVITY/TDS/SALINITY TESTER CODE 0412-EB32

- Can measure the conductivity, TDS and salinity
- Suitable for water quality testing, aquaculture, food processing, scientific research, etc.
- The same series of electrodes can be replaced with each other
- Automatic temperature compensation
- With the stabilizing and locking functions of the reading
- Can be used normally in any environment with the background light
- Auto power off
- Protection level: IP67
- Lightweight, easy to carry and operate

"platinum black needle" electrode (included)



IP67 waterproof



electrodes can be replaced

SPECIFICATION

| | |
|------------------|--|
| Measuring range | conductivity 0~200.0μS/cm, 0~2000μS/cm, 0~20.00mS/cm |
| | TDS 0~100.0ppm, 0~1000ppm, 0~10.00ppt |
| | salinity 0~10.00ppt |
| | temperature 0~50°C |
| Resolution | conductivity 0.1μS/cm, 1μS/cm, 0.01mS/cm |
| | TDS 0.1ppm, 1ppm, 0.01ppt |
| | salinity 0.01ppt |
| | temperature 0.1°C |
| Accuracy | conductivity $\pm 1\%$ FS |
| | temperature $\pm 0.5^\circ\text{C}$ |
| Calibration mode | 1~3 points |
| Power supply | 4×1.5V AAA batteries |
| Dimension | 178×40×40mm |
| Weight | 133g |



VIDEO

STANDARD DELIVERY

| | |
|-------------------|-----------|
| Main unit | 1 pc |
| Standard solution | 2 bottles |
| Test cup | 2 pcs |
| 1.5V AAA battery | 4 pcs |

PORTABLE CONDUCTIVITY/TDS METER

CODE 0411-0200

IP65
WATERPROOF



- Reading mode: auto-read and continuous-read
- Automatic/manual temperature compensation
- Auto-hold feature senses and locks the measurement endpoint
- Cell constant is settable
- 1 point calibration with standard recognition
- Data capacity up to 200 sets for each parameter
- IP65 dust/waterproof
- Auto power off



standard solution (included)



wristband (included)

SPECIFICATION

| | | |
|--------------|---|--|
| Conductivity | range | 0.00 μ S/cm~200mS/cm |
| | resolution | 0.01 μ S/cm minimum |
| | electronic unit accuracy | \pm 1.0%FS |
| | measurement accuracy | \pm 1.5%FS |
| | reference temperature | 25°C/77°F |
| | calibration point | 1 |
| | standard recognition | 84 μ S/cm, 1413 μ S/cm, 12.88mS/cm |
| TDS | range | 0.00mg/L~300g/L |
| | resolution | 0.01mg/L minimum |
| | accuracy | \pm 1.0%FS |
| Temperature | range | -5~110°C/23~230°F |
| | resolution | 0.1°C/0.2°F |
| | accuracy | \pm 0.4°C/ \pm 0.7°F |
| Input | electrode with 5-pin aviation connector | |
| Power supply | rechargeable battery | |
| Dimension | 80×225×35mm | |
| Weight | 400g | |

STANDARD DELIVERY

| | |
|----------------------------------|----------|
| Main unit | 1 pc |
| Electrode | 1 pc |
| Electrode holder | 2 pcs |
| Wristband | 1 pc |
| Silicone rubber case | 1 pc |
| AC/DC adapter and charging cable | 1 pc |
| Standard solution | 1 bottle |

IP67
WATERPROOF

PEN-TYPE pH TESTER
CODE 0432-HB22



pH "bulb type"
electrode (included)



ORP "platinum needle"
electrode (optional)

- 3 types of pH electrodes: bulb type, plane type and puncture type
- Suitable for water quality testing, sewage treatment, food and cosmetics testing, agriculture and scientific research, etc.
- Can measure the ORP, the same series of electrodes can be replaced with each other
- Automatic temperature compensation
- Alarm function: the red backlight displays alarm mode
- With the stabilizing and locking functions of the reading
- Protection level: IP67
- Can be used normally in any environment with three colors of backlight
- Auto power off
- Lightweight, easy to carry and operate



pH "plane type" electrode
(optional)



pH "puncture type"
electrode (optional)

SPECIFICATION

| | |
|-------------------|--|
| Measuring range | -2.00~16.00pH |
| | temperature 0~50°C |
| | ORP -1000mV~+1000mV |
| Resolution | 0.01pH |
| | temperature 0.1°C |
| | ORP 1mV |
| Accuracy | ±0.02pH |
| | temperature ±0.5°C |
| | ORP ±0.2%FS |
| Calibration mode | 1~3 points |
| Standard solution | USA (pH buffers: 4.00, 7.00, 10.01) NIST (pH buffers: 4.01, 6.86, 9.18) |
| Power supply | 4×1.5V AAA batteries |
| Dimension | 178×40×40mm |
| Weight | 133g |

STANDARD DELIVERY

| | |
|-------------------|-----------------|
| Main unit | 1 pc |
| Standard solution | 3 bottles (USA) |
| Test cup | 3 pcs |
| KCl powder | 1 bottle |
| 1.5V AAA battery | 4 pcs |

OPTIONAL ACCESSORY

| | |
|----------------------------|-----------|
| pH plane type electrode | 0432-HB-F |
| pH puncture type electrode | 0432-HB-P |
| ORP electrode | 0432-HB-O |

PORTABLE pH METER CODE 0431-0018



IP65
WATERPROOF



wristband
(included)



KCl powder
(included)



standard solution (included)

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- Reading mode: auto-read and continuous-read
- Automatic/manual temperature compensation
- Auto-hold feature senses and locks the measurement endpoint
- 1 or 2 points calibration with standard recognition
- Data capacity up to 200 sets for each parameter
- IP65 dust/waterproof
- Auto power off

SPECIFICATION

| | | |
|--------------|---|------------------------------------|
| pH | range | -2.00~18.00pH |
| | resolution | 0.01pH |
| | electronic unit accuracy | ±0.01pH |
| | measurement accuracy | ±0.02pH |
| | calibration point | 1 or 2 |
| | standard recognition | NIST pH buffers: 4.01, 7.00, 10.01 |
| Voltage | range | -1999~1999mV |
| | resolution | 1mV |
| | accuracy | ±0.1%FS |
| Temperature | range | -5~110°C/23~230°F |
| | resolution | 0.1°C/0.2°F |
| | accuracy | ±0.4°C/±0.7°F |
| Inputs | pH electrode: BNC (Q9) | |
| Power supply | temp. probe: 4-pin aviation connector rechargeable battery | |
| Dimension | 80×225×35mm | |
| Weight | 400g | |

STANDARD DELIVERY

| | |
|----------------------------------|-----------|
| Main unit | 1 pc |
| Electrode | 1 pc |
| Electrode holder | 2 pcs |
| Wristband | 1 pc |
| Silicone rubber case | 1 pc |
| AC/DC adapter and charging cable | 1 pc |
| Standard solution | 3 bottles |
| KCl powder | 1 bottle |



ONLINE REFRACTIVITY SENSORS

IP67
WATERPROOF

- Based on the principle of light refraction and total reflection, measure the concentration of coolant, sugar liquid and other liquids in real time
- High measuring accuracy and wide measuring range
- Automatic temperature compensation
- Screw thread, flange, chuck and other installation methods can be customized
- Use sapphire prism, high hardness and wear-resistant
- Resistance to dirty, easy to clean
- Protection level of probe part: IP67



SPECIFICATION

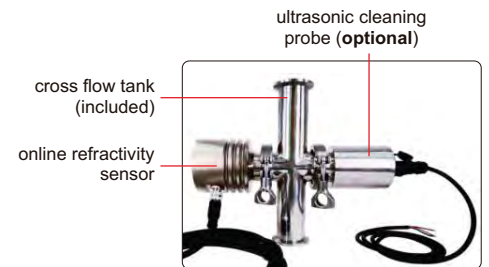
| Code | 5806-ZX10 | 5806-ZX20 |
|-----------------------|--|-----------|
| Type | flat-top | round-top |
| Measuring range | Brix 0.00~90.00% | |
| | refractivity 1.33299~1.51782 | |
| | temperature 0~60°C | |
| Accuracy | Brix ±0.20% | |
| | refractivity ±0.00030 | |
| | temperature ±0.5°C | |
| Resolution | Brix 0.01% | |
| | refractivity 0.00001 | |
| | temperature 0.1°C | |
| Measuring mode | immersion | |
| Pressure resistance | ≤1MPa | |
| Measuring speed | 1 time/5s | |
| Output (customizable) | analog output: (4~20)mA for Brix (0.00~90.00)% | |
| | digital output: RS485 | |
| Power supply | DC 24V±10%, working current <100mA | |
| Dimension | Ø88×109mm | Ø88×133mm |
| Weight | 827g | 882g |



5806-ZX10



5806-ZX20



STANDARD DELIVERY

| | |
|-----------------|-------|
| Main unit | 1 pc |
| Cross flow tank | 1 pc |
| Clamp | 4 pcs |
| Polytef gasket | 6 pcs |
| Connector | 2 pcs |
| Wall piece | 1 pc |

OPTIONAL ACCESSORY

| | |
|---|-------------|
| Ultrasonic cleaning probe | 5806-ZX-UCP |
| High pressure water/air cleaning device | 5806-ZX-HPC |
| Automatic brush cleaning system | 5806-ZX-AC |

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SUITABLE FOR WATER
BASED COOLANT

DIGITAL REFRACTOMETER CODE ISQ-DRM31

- Quickly measure the concentration of coolant, sugar solution, juice and drinks
- Two measurement modes: single measurement and automatic average multiple measurement
- Two units: brix and refractive index
- Refer to the refraction factor of coolant, for example: the refraction factor of grinding emulsion is 2.1, the reading value is 6%, so the actual concentration is $(2.1 \times 6\%) = 12.6\%$
- Automatic power off



SPECIFICATION

| | |
|-----------------|-------------------------|
| Measuring range | 0~50% (1.3330~1.4200RI) |
| Accuracy | ±0.2% (±0.0003RI) |
| Resolution | 0.1% (0.0001RI) |
| Power supply | 1×AAA battery |
| Dimension | 121×58×25mm |
| Weight | 90g |

STANDARD DELIVERY

| | |
|---------------|------|
| Main unit | 1 pc |
| Dropper | 1 pc |
| Battery (AAA) | 1 pc |

dropper (included)



MINI DIGITAL REFRACTOMETER CODE 5801-A55

- Quickly measure the concentration of coolant
- Automatic temperature compensation
- Brix and refractive index can be displayed
- Refer to the refraction coefficient of coolant, for example: the refraction coefficient of grinding emulsion is 2.1, the reading value is 6%, so the actual concentration is $(2.1 \times 6\%) = 12.6\%$
- Automatic power off

SPECIFICATION

| | |
|-----------------|--|
| Measuring range | 0~50% (1.3330~1.4200RI) |
| Accuracy | $\pm 0.2\%$ ($\pm 0.0003RI$) |
| Resolution | 0.1% (0.0001RI) |
| Power supply | built-in 3.7V rechargeable lithium battery |
| Dimension | 147×46×27mm |
| Weight | 115g (including battery) |

STANDARD DELIVERY

| | |
|-----------|------|
| Main unit | 1 pc |
| Dropper | 1 pc |



SUITABLE FOR WATER
BASED COOLANT

dropper (included)

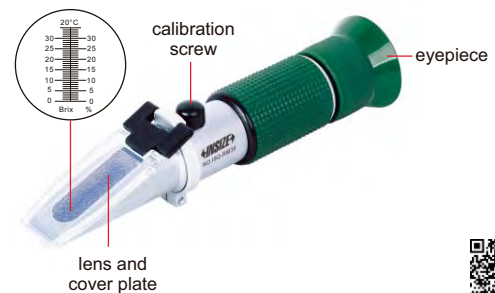


PORTABLE REFRACTOMETER CODE ISQ-RM30

- Quickly measure the concentration of coolant
- Refer to the refraction factor of coolant, for example: the refraction factor of grinding emulsion is 2.1, the reading value is 6%, so the actual concentration is $(2.1 \times 6\%) = 12.6\%$

SPECIFICATION

| | |
|-----------------|-------------|
| Measuring range | 0~32% |
| Graduation | 0.2% |
| Dimension | 27×40×160mm |
| Weight | 175g |



SUITABLE FOR WATER
BASED COOLANT



PORTABLE REFRACTOMETER FOR AUTOMOTIVE LIQUID CODE 5802-A510

- Measure the freezing point of the antifreeze and the concentration of urea in diesel exhaust fluid
- Measure the specific gravity of battery fluid



SPECIFICATION

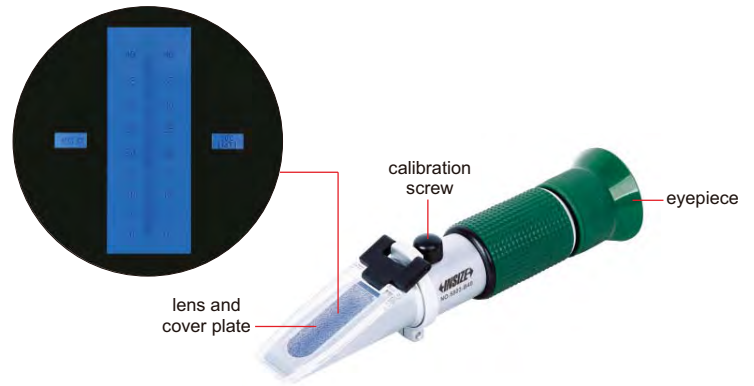
| Measuring object | ethylene glycol | propylene glycol | urea | battery fluid |
|------------------|-----------------|------------------|-----------|----------------|
| Measuring range | -50~0°C | -50~0°C | 30~35% | 1.10~1.40kg/l |
| Accuracy | $\pm 5^\circ C$ | $\pm 5^\circ C$ | $\pm 1\%$ | $\pm 0.02kg/l$ |
| Resolution | 1°C | 1°C | 1% | 0.01kg/l |
| Dimension | 27×40×160mm | | | |
| Weight | 172g | | | |

PORTABLE REFRACTOMETER FOR DIESEL EXHAUST FLUID CODE 5803-B40

- Measure the concentration of urea in diesel exhaust fluid
- Wide measuring range

SPECIFICATION

| | |
|-----------------|--------------|
| Measuring range | 0~40% |
| Accuracy | ±0.2% (20°C) |
| Resolution | 0.2% |
| Dimension | 27×40×160mm |
| Weight | 170g |



DIGITAL STOPWATCH CODE DSW-A010

- Split time, total time and continuous time can be displayed
- 10 groups of results can be read out from memory after resetting
- Scroll back and forth to read out the memory digits
- The fastest, slowest and average time can be displayed
- Able to record the split times (00-199)

SPECIFICATION

| | | |
|------------------|--------------------------------------|---|
| Measuring range | 0~9 hours, 59 minutes, 59.99 seconds | |
| Resolution | 0.01s | |
| Accuracy | ±0.5s | |
| Function | memory | 10 groups |
| | timer | up to 10 hours |
| | time | 12-hour or 24-hour time display, alarm can be set |
| Power supply | LR44 battery | |
| Screen dimension | 33.6×13.6mm | |
| Dimension | 76×63×16mm (metal case) | |



STANDARD DELIVERY

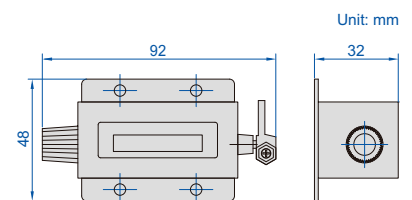
| | |
|-----------|------|
| Main unit | 1 pc |
| String | 1 pc |

- Accumulate and record the number of mechanical movements
- Rotate back to zero



SPECIFICATION

| Code | Number of digits | Range |
|--------|------------------|----------|
| 7600-6 | 6 | 0-999999 |



STROKE COUNTER CODE 7600-6

DIGITAL MOISTURE METER CODE 9341-50

- Suitable for wood, smooth cement, hard gypsum, mixed mortar, brick, etc.
- Measure moisture, temperature and relative humidity
- Temperature type: ambient, dew point, wet bulb
- Maximum and minimum modes
- Automatic power off

SPECIFICATION

| | | |
|-----------------|-------------------|---|
| Measuring depth | | 0~50mm |
| Measuring range | moisture | 0~60% |
| | temperature | -10~50°C/14~122°F |
| | relative humidity | 0~100%RH |
| Accuracy | moisture | ±2% |
| | temperature | ±2% |
| | relative humidity | ±5%RH |
| Resolution | moisture | 0.1% |
| | temperature | 0.1°C/0.1°F |
| | relative humidity | 0.1%RH |
| Sampling time | | 0.5s for moisture 1s for temperature and relative humidity |
| Power supply | | 2×AAA batteries |
| Dimension | | 130×56×29mm |
| Weight | | 206g |



STANDARD DELIVERY

| | |
|---------------|-------|
| Main unit | 1 pc |
| Battery (AAA) | 2 pcs |

INDUCTIVE MOISTURE METER CODE 0120-IM24

- Suitable for wood, gypsum and cement
- MAX/MIN/HOLD mode
- Alarm function
- Low battery indication
- Auto power off

SPECIFICATION

| | |
|-----------------|-------------|
| Measuring range | 0~100% |
| Resolution | 1% |
| Accuracy | ±4% |
| Detection depth | 20~40mm |
| Sampling time | 0.5s |
| Battery | 9V |
| Dimension | 185×55×38mm |
| Weight | 193g |

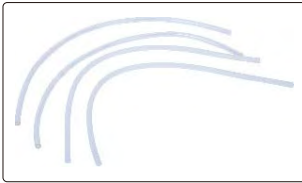
STANDARD DELIVERY

| | |
|-----------|------|
| Main unit | 1 pc |
| Battery | 1 pc |





DIFFERENTIAL PRESSURE MANOMETER CODE 0140-DP05



soft tubes (included)



- Offset and differential measurement
- Record maximum/minimum/average value with relative timestamp
- Built-in USB interface for data transmission
- Unit: psi, inH₂O, bar, mbar, kPa, inHg, mmHg, oz/in², ftH₂O, cmH₂O, kg/cm²
- Zero adjust
- Data hold
- Display with backlight
- Low battery indication
- Automatic power off
- Safety rating: CAT III 600V

SPECIFICATION

| | | | | | | | | | | | | |
|------------------------------|------------------------------------|--------------------|-------|-------|-------|-------|-------|--------------------|--------------------|--------------------|--------------------|--|
| Pressure range | -5~5psi | | | | | | | | | | | |
| Maximum pressure | 20psi | | | | | | | | | | | |
| Unit | psi | inH ₂ O | bar | mbar | kPa | inHg | mmHg | oz/in ² | ftH ₂ O | cmH ₂ O | kg/cm ² | |
| Range | 5 | 138.3 | 0.344 | 344.7 | 34.47 | 10.18 | 258.5 | 80 | 11.53 | 351.5 | 0.351 | |
| Resolution | 0.001 | 0.1 | 0.001 | 0.1 | 0.01 | 0.01 | 0.1 | 0.01 | 0.01 | 0.1 | 0.001 | |
| Accuracy | ±0.3%FSO (25°C) | | | | | | | | | | | |
| Repeatability | ±0.2% (Max. ±0.5%FSO) | | | | | | | | | | | |
| Linearity/hysteresis | ±0.29%FSO | | | | | | | | | | | |
| Response time | 0.5s typical | | | | | | | | | | | |
| Operation temperature | 0°C~50°C | | | | | | | | | | | |
| Power supply | 1×9V 6F22 battery or AC/DC adapter | | | | | | | | | | | |
| Dimension (LxWxH) | 165×90×40mm | | | | | | | | | | | |
| Weight | 350g | | | | | | | | | | | |

STANDARD DELIVERY

| | |
|----------------------------|-------|
| Main unit | 1 pc |
| AC/DC adapter | 1 pc |
| 9V battery | 1 pc |
| Software flash disk | 1 pc |
| USB cable | 1 pc |
| Soft tubes | 4 pcs |

software (included), connect to PC via USB cable

export data

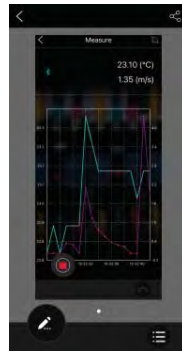
display realtime value and curve

export data to Excel

ANEMOMETER CODE 0110-1125

- Measure air velocity and temperature
- Min/Max, data hold function
- Bluetooth 4.0
- Auto power off
- Supplied with APP for Apple and Android

App measurement



App record

| NO. | Data Value (°C) | Data Value (m/s) |
|-----|-----------------|------------------|
| 1 | 23.10 | 0.22 |
| 2 | 23.10 | 0.00 |
| 3 | 23.00 | 0.00 |
| 4 | 23.10 | 4.39 |
| 5 | 23.10 | 1.85 |
| 6 | 23.00 | 1.06 |
| 7 | 23.00 | 0.72 |
| 8 | 23.00 | 0.44 |



SPECIFICATION

| | Unit | Measuring range | Resolution | Accuracy |
|-----------------------|--|-----------------|------------|-----------|
| Air velocity | m/s | 1.1~25.0 | 0.01 | ±(3%+0.3) |
| | km/h | 4~90 | 0.1 | ±(3%+1) |
| | ft/min | 220~4920 | 1 | ±(3%+40) |
| | MPH | 2.5~56.0 | 0.1 | ±(3%+0.4) |
| | knots | 2.2~48.0 | 0.1 | |
| Air temperature | °C | 0~50 | 0.1 | ±2 |
| | °F | 32~122 | 0.1 | ±4 |
| Sensors | air velocity sensor, NTC-type precision thermistor | | | |
| Sampling time | 0.5s | | | |
| Operation altitude | max 2000m | | | |
| Operation environment | 0~50°C, 0~80%RH | | | |
| Storage environment | -10~60°C, 0~80%RH | | | |
| Auto power off | 10 minutes | | | |
| Data port | bluetooth 4.0 | | | |
| Power supply | 9V | | | |
| Dimension | 213×54×36mm | | | |
| Weight | 172g | | | |

STANDARD DELIVERY

| | |
|-----------|------|
| Main unit | 1 pc |
| Battery | 1 pc |

BOURDON TUBE PRESSURE GAGES (LIQUID FILLED)

CAN BE CUSTOMIZED

- Stainless steel case and bezel, copper alloy internals
- Shock-proof and pulse-proof
- Suitable for pneumatic systems, hydraulic systems and compressed air systems



5201-63B2Y10

| Dial size | Ø63mm | | |
|--------------------------|--------------|--------------|--------------|
| Process connection | 1/4BSP | 1/4ZG | 1/4NPT |
| Connector location | bottom | bottom | bottom |
| Range (0~10bar/0~150psi) | 5201-63B2Y10 | 5201-63Z2Y10 | 5201-63N2Y10 |

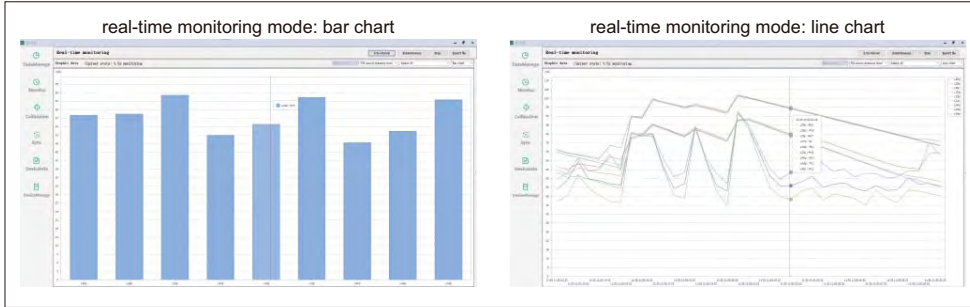
SPECIFICATION

| | |
|---------------------|----------|
| Accuracy class | 1.6 |
| Ambient temperature | -20~60°C |
| Medium temperature | ≤60°C |



SOUND LEVEL METER (PROFESSIONAL TYPE) CODE 0011-FA25

software (included), monitor and collect data to PC software via USB cable,
data can sent to Excel



- Integral function: 1s~24h (adjustable)
- Wide frequency range, large dynamic range, low background noise
- Parallel time weight and frequency weight
- Single range without shifting
- Software is included: on-line monitoring, data storage



SPECIFICATION

| | |
|---------------------------------|--|
| Accuracy | IEC 61672-1:2013 class 2 |
| Microphone | 1/2 inch prepolarized condenser microphone |
| Measuring range | 25dB (A)~141dB (A); 35dB (C)~141dB (C); 50dB (Z)~141dB (Z) other frequency linear ranges: 31.5Hz: 26dB (A)~101dB (A); 12.5kHz: 25dB (A)~136dB (A) |
| Frequency | 20Hz~12.5kHz |
| Self-generated electrical noise | <17dB (A), <23dB (C), <33dB (Z) |
| Frequency weighting | parallel A, C, Z weightings |
| Time weighting | parallel F (Fast), S (Slow), I (Impulse) weightings |
| Measuring function | Lp, Leq,t, Leq,T, Lmax, Lmin, Lpeak, SEL |
| Integral time | 1s-24h (adjustable) |
| Start mode | button/clock/limit/interval |
| Power setting | power on or off regularly |
| Data storage | 4MB FLash RAM 4 sets of parameter templates, 128 measurement point names; 64 calibration records |
| Language | Chinese, English, Portuguese |
| Power | <80mA/5V |
| Power supply | 4×AAA batteries (for 10 hours working) AC/DC adapter: 5V/2A |
| Operation condition | temperature: -10°C~50°C humidity: 25%RH~90%RH, non-condensing pressure: 65kPa~108kPa |
| Dimension | 230×69×26mm |
| Weight | 180g |

STANDARD DELIVERY

| | |
|---------------|-------|
| Main unit | 1 pc |
| Software | 1 pc |
| Windscreen | 1 pc |
| Battery (AAA) | 4 pcs |
| AC/DC adapter | 1 pc |

DIGITAL SOUND LEVEL METER (ADVANCED TYPE) CODE 9353-413

- Automatic range conversion
- Over range indicator
- Maximum mode
- Data hold
- AC signal output: 0.707Vrms, impedance approx.100Ω
- DC signal output: 20mV/dB, impedance approx.1kΩ



SPECIFICATION

| | |
|---------------------|---|
| Measuring range | 40dB~130dB (ref.20μPa) |
| Frequency | 20Hz~12.5kHz |
| Resolution | 0.1dB |
| Accuracy | IEC 61672-1:2013 class 2 |
| Frequency weighting | A weighting |
| Response time | fast (125ms), slow (1s) |
| Microphone | pre polarization condenser microphone |
| Refercner direction | axial direction of condenser microphone |
| Power supply | 4×1.5V AAA batteries |
| Dimension | 210×68×27mm |
| Weight | 240g |

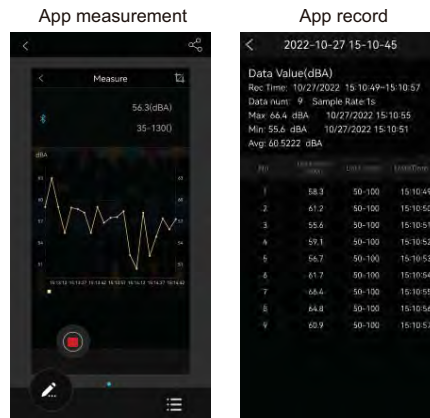
STANDARD DELIVERY

| | |
|-----------------------|-------|
| Main unit | 1 pc |
| Battery (AAA) | 4 pcs |
| Precision screwdriver | 1 pc |

SOUND LEVEL METER (BASIC TYPE) CODE 0010-A35

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- Auto range selection
- Over range indication
- Display backlight
- Min/Max, data hold function
- Bluetooth 4.0
- Auto power off
- Supplied with APP for Apple and Android



SPECIFICATION

| | |
|------------------------------------|--|
| Frequency | 31.5Hz~8KHz |
| Measuring range | 35dB~130dB |
| Accuracy | ±3.0dB (ref 94dB@1kHz) |
| Resolution | 0.1dB |
| Frequency weighting | A and C |
| Display update | 2 times/sec |
| Microphone | 1/2 inch electret condenser microphone |
| Power supply | 9V battery |
| Operation temperature and humidity | 0°C~40°C/32°F~104°F, 10%RH~90%RH |
| Dimension | 185×54×36mm |
| Weight | 184g |



STANDARD DELIVERY

| | |
|------------|------|
| Main unit | 1 pc |
| Battery | 1 pc |
| Windscreen | 1 pc |



DATA OUTPUT

**DIGITAL SOUND LEVEL METER
CODE 9351-130**

- Automatically select best range: 30~80dB, 40~90dB, 50~100dB, 60~110dB, 70~120dB, 80~130dB
- Over range indicator
- Real time, average, maximum modes
- Memory 16000 measurement values
- AC signal output: 0.707 Vrms at FS, impedance approx. 600Ω
- DC signal output: 10mV/dB, impedance approx. 100Ω
- Automatic power off

SPECIFICATION

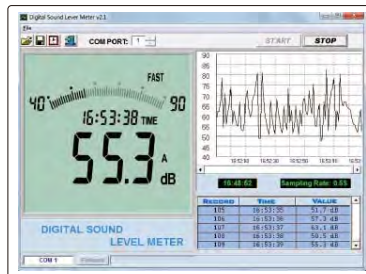
| | |
|---------------------|--------------------------------------|
| Measuring range | 30~130dB |
| Accuracy | ±2dB |
| Resolution | 0.1dB |
| Sampling time | 0.5s for digital, 0.05s for analogue |
| Response time | fast: 125ms, slow: 1s |
| Frequency | 30Hz~8KHz |
| Frequency weighting | A/C |
| Microphone | electret condenser type |
| Output | RS232, AC/DC |
| Power supply | 6×AAA batteries |
| Dimension | 265×80×69mm |
| Weight | 317g |

STANDARD DELIVERY

| | |
|--------------------------|-------|
| Main unit | 1 pc |
| Software and RS232 cable | 1 pc |
| Output connector | 1 pc |
| Battery (AAA) | 6 pcs |



software flash disk (included)



software (included), display measurement values and graph, save and output data



**LIGHT METER
CODE 0131-A120**

- Photosensor can rotate 90° clockwise and 180° counterclockwise
- Build-in calibration filters ensure the accuracy when working in different colors
- Data hold function
- Lux/FC unit switch
- Low battery alarm

SPECIFICATION

| | | | | |
|-----------------------|--|-------------|-------------|---------------|
| Measuring range | 0.1~199.9Lux | 1~1999Lux | 10~19990Lux | 100~199900Lux |
| Resolution | 0.1Lux | 1Lux | 10Lux | 100Lux |
| Measuring range | 0.01~19.99FC | 0.1~199.9FC | 1~1999FC | 10~19990FC |
| Resolution | 0.01FC | 0.1FC | 1FC | 10FC |
| Accuracy | ±(4%+10d), range<20000Lux/2000FC ±(5%+10d), range≥20000Lux/2000FC (d is resolution, calibrated with standard incandescent lamp at color temperature 2856K) | | | |
| Repeatability | ±2% | | | |
| Sampling time | 0.5s | | | |
| Operation environment | 0~40°C, 0~70%RH | | | |
| Storage environment | -10~50°C, 0~80%RH | | | |
| Battery | 9V | | | |
| Dimension | 185×68×38mm | | | |
| Weight | 130g | | | |

rotate 90° clockwise rotate 180° counterclockwise



STANDARD DELIVERY

| | |
|-----------|------|
| Main unit | 1 pc |
| Battery | 1 pc |

LIGHT METER (BASIC TYPE) CODE 0130-L110

- Suitable for measuring illuminance in various occasions
- Data hold function
- Fast switching of measuring range, easy to operate

SPECIFICATION

| | | | |
|-------------------------|--|-------------|---------------|
| Measuring range | 1~1999Lux | 10~19990Lux | 100~100000Lux |
| Resolution | 1Lux | 10Lux | 100Lux |
| Accuracy | ±(4%+10d), range<10000Lux ±(5%+10d), range≥10000Lux (d is resolution, calibrated with standard incandescent lamp at color temperature 2856K) | | |
| Repeatability | ±2% | | |
| Sampling time | 0.5s | | |
| Operation environment | 0~40°C, 0~70%RH | | |
| Storage environment | -10~50°C, 0~80%RH | | |
| Battery | 9V | | |
| Photodetector dimension | 105×58×28mm | | |
| Main unit dimension | 130×72×30mm | | |
| Weight | 170g | | |



STANDARD DELIVERY

| | |
|-----------|------|
| Main unit | 1 pc |
| Battery | 1 pc |

UV LIGHT METER CODE 0132-UV199

- Self-recognize probes
- Real-time value, maximum value, minimum value, average value, time, energy value are displayed at the same time



MAIN UNIT SPECIFICATION

| | |
|--------------|--------------------------|
| Display | 240×160 LCD |
| Power supply | 4 AAA alkaline batteries |
| Dimension | 148×76×26mm |
| Weight | 194g |

STANDARD DELIVERY

| | |
|-----------------|-------|
| Main unit | 1 pc |
| Probe 0132-UVA1 | 1 pc |
| Battery | 4 pcs |



PROBE SPECIFICATION

| Probe code | 0132-UVA1 (included) | 0132-UVC0 (optional) | 0132-UVCWP1 (optional) |
|------------------------|--|---|---|
| Application | general purpose low power UVA intensity and energy measurement | intensity and energy measurement of 254nm UV sterilization mercury lamp | intensity and energy measurement of 254nm UV sterilization mercury lamp |
| Spectral response | $\lambda_p=365\text{nm}$ 315nm-400nm | $\lambda_p=254\text{nm}$ 230nm-280nm | |
| Power measuring range | 0~200000 $\mu\text{W}/\text{cm}^2$ | | |
| Resolution | 0.1 $\mu\text{W}/\text{cm}^2$ | | |
| Energy measuring range | 0-9999999 $\mu\text{J}/\text{cm}^2$ | | |
| Measuring accuracy | ±10% | | |
| Record time | 0-99999s | | |
| Sampling speed | 6 times/second | | |
| Measuring unit | $\mu\text{W}/\text{cm}^2$ (default), mW/cm^2 , W/m^2 | | |
| Test hole diameter | Ø10mm | | |
| Probe size | 39×32×15mm | Ø39×15mm | Ø50×20mm |
| Waterproof depth | — | — | 1m |

To be continued

Continued from previous page

| Probe code | 0132-UVLED0 (optional) | 0132-UVB0 (optional) | 0132-UVA0 (optional) |
|------------------------|--|--|--|
| Application | measurement of 260nm-285nm UV LED sterilization lamp | general purpose UVB intensity and energy measurement | intensity and energy measurement of light source of high pressure mercury lamp in UV curing industry |
| Spectral response | 280nm-315nm * | $\lambda_p=310\text{nm}^{**}$ 280nm-315nm | $\lambda_p=365\text{nm}$ 315nm-400nm |
| Power measuring range | 0~200000 $\mu\text{W}/\text{cm}^2$ | | 0~2000 mW/cm^2 |
| Resolution | 0.1 $\mu\text{W}/\text{cm}^2$ | | 0.1 mW/cm^2 |
| Energy measuring range | 0-9999999 $\mu\text{J}/\text{cm}^2$ | | |
| Measuring accuracy | $\pm 10\%$ | | |
| Record time | 0-99999s | | |
| Sampling speed | 6 times/second | | 2048 times/second |
| Measuring unit | $\mu\text{W}/\text{cm}^2$ (default), mW/cm^2 , W/m^2 | | mW/cm^2 (default), W/m^2 |
| Test hole diameter | $\varnothing 10\text{mm}$ | | |
| Probe size | $\varnothing 39 \times 15\text{mm}$ | | $39 \times 32 \times 15\text{mm}$ |

*Wide spectral range, avoid using in strong light

**Suitable for measuring UVB light source with wavelength 297nm, 308nm, and 313nm

| Probe code | 0132-UVALED0 (optional) | 0132-UVALED1 (optional) | 0132-UVALED3 (optional) |
|------------------------|---|--|---|
| Application | intensity and energy measurement of area light source of UV LED in UV curing industry | intensity and energy measurement of point light source of UV LED in UV curing industry | general purpose UVA+UVV LED intensity and energy measurement, low power measuring range |
| Spectral response | calibrated with 395nm UV LED 340nm-420nm | | |
| Power measuring range | 0~20000 mW/cm^2 | | 0~200000 $\mu\text{W}/\text{cm}^2$ |
| Resolution | 1 mW/cm^2 | | 0.1 $\mu\text{W}/\text{cm}^2$ |
| Energy measuring range | 0-9999999 $\mu\text{J}/\text{cm}^2$ | | |
| Measuring accuracy | $\pm 10\%$ | | |
| Record time | 0-99999s | | |
| Sampling speed | 2048 times/second | | 6 times/second |
| Measuring unit | mW/cm^2 (default), W/cm^2 , W/m^2 | | $\mu\text{W}/\text{cm}^2$ (default), mW/cm^2 , W/m^2 |
| Test hole diameter | $\varnothing 10\text{mm}$ | $\varnothing 1\text{mm}$ | $\varnothing 10\text{mm}$ |
| Probe size | $39 \times 32 \times 15\text{mm}$ | | |

- Detect combustible gas (EX, including CH₄, C₃H₈, H₂, etc), O₂, CO or H₂S, support more than 30 types of gas sensors, customization for detecting toxic gases (such as NO, NH₃, PH₃, etc) available
- Adjustable alarm level, alarm mode: sound, light, vibration
- Adjustable calibration level
- Sampling method: natural diffusion
- High concentration protection for sensor
- Up to 500 alarm records storage capacity
- Self-test on startup
- Display with backlight
- Language: English, Chinese
- Low battery indication
- Explosion proof level: Ex ib IIB T3 Gb

IP65
WATERPROOF



calibration cap (included)

SINGLE GAS DETECTORS



0611-SG01

SPECIFICATION

| Code | 0611-SG01 | 0611-SG02 | 0611-SG03 | 0611-SG04 |
|-----------------------|--|----------------|-----------|------------------|
| Gas | combustible gas/EX | O ₂ | CO | H ₂ S |
| Range | 0-100%LEL | 0-30%vol | 0-1000ppm | 0-100ppm |
| Resolution | 1%LEL | 0.1%vol | 1ppm | 1ppm |
| Accuracy | $\pm 5\%FS$ | | | |
| Response time | T ₉₀ <60s | | | |
| Operation environment | temperature: -10°C~55°C; humidity: <95%RH, no condensation | | | |
| Sensor lifetime | 2 years (depending on working environment) | | | |
| Power supply | 3.7V rechargeable Li-ion battery, working time>8h | | | |
| Dimension (LxWxH) | 124×60×46mm | | | |
| Weight | 205g | | | |

STANDARD DELIVERY

| | |
|----------------------------------|------|
| Main unit | 1 pc |
| Calibration cap | 1 pc |
| AC/DC adapter and charging cable | 1 pc |

MULTI GAS DETECTOR CODE 0612-MG04

DATA
OUTPUT

IP66
WATERPROOF



software flash disk
(included)



charging cable (included)



calibration cap (included)



charging and data transmission
interface on the back

- Detect combustible gas (EX, including CH₄, C₃H₈, H₂, etc), oxygen (O₂), carbon monoxide (CO) and hydrogen sulfide (H₂S), optional configuration includes other toxic gases such as NO, NH₃, PH₃, etc; support more than 30 types of gas sensors, flexible sensor combination and customization available
- Adjustable alarm level, alarm mode: sound, light, vibration and screen display
- Adjustable calibration level
- Sampling method: natural diffusion
- High concentration protection for sensor
- Data transmission via charging interface
- Up to 1000 alarm records storage capacity
- Self-test on startup
- Display with backlight
- Language: English, Chinese and Spanish (Portuguese and Russian customizable)
- Low battery indication
- Explosion proof level: Ex ib IIC T4 Gb

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SPECIFICATION

| | | | | |
|-----------------------|--|----------------|-----------|------------------|
| Gas | combustible gas (EX) | O ₂ | CO | H ₂ S |
| Range | 0-100%LEL | 0-30%vol | 0-1000ppm | 0-100ppm |
| Resolution | 1%LEL | 0.1%vol | 1ppm | 1ppm |
| Accuracy | ±5%FS | | | |
| Response time | T ₉₀ <60s | | | |
| Operation environment | temperature: -10°C~50°C; humidity: <95%RH, no condensation | | | |
| Sensor lifetime | 2 years (depending on working environment) | | | |
| Power supply | 3.7V rechargeable Li-ion battery, working time>8h | | | |
| Dimension (LxWxH) | 150×72×48mm | | | |
| Weight | 310g | | | |

STANDARD DELIVERY

| | |
|------------------------|------|
| Main unit | 1 pc |
| Calibration cap | 1 pc |
| Software and USB cable | 1 pc |
| AC/DC adapter | 1 pc |

software (included), connect to PC via USB cable, display test data and export record

display real-time data and alarm record

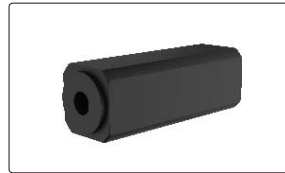
export history data and alarm record

DATA
OUTPUT



TESLAMETERS (GAUSSMETERS)

- Measure magnetic induction of DC magnetic field
- Directly display the N/S polarity of the measured magnetic field
- One-key zero function: eliminate the influence of zero drift before measurement
- Maximum value hold: record the maximum value of the changing magnetic field
- Unit switch between mT or G (1mT=10G)
- Auto ranging
- Built-in USB interface for data transmission
- Display with backlight
- Auto power off



magnetic shielding cavity
(optional)



axial probe (optional)



0501-MA01

SPECIFICATION

| Code | 0501-MA01 | 0501-MA05 |
|-------------------------|--|--|
| Range | 2000mT | |
| Resolution | 0.01mT (0~200mT) 0.1mT (200~2000mT) | |
| Accuracy | ±1.0% | ±2.0% (≤1000mT) ±5.0% (1000mT~2000mT) |
| Temperature coefficient | ±0.1%/K | |
| Zero drift | ±0.5mT/h | |
| Interface | USB | |
| Power supply | 3×1.5V AA batteries or USB | |
| Dimension (L×W×H) | 165×90×40mm | |
| Weight | 350g | |

STANDARD DELIVERY

| | |
|--------------|-------|
| Main unit | 1 pc |
| Radial probe | 1 pc |
| Battery (AA) | 3 pcs |

OPTIONAL ACCESSORY

| | |
|---------------------------|-------------|
| Axial probe | 0501-PA |
| Magnetic shielding cavity | 0501-SHIELD |

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- Laser sensor, direct measurement, easy to use
- Two sensors: internal and external, external sensor is suitable for measurement in narrow spaces
- Automatic power off

SPECIFICATION

| | | |
|-----------------------|--|-------------|
| Measuring range | 10~800Hz | |
| Input parameter range | maximum free belt length: 99.99m maximum belt weight: 9.999kg/m | |
| Accuracy | ±5% | |
| Unit | N, lbf | |
| Measuring distance | 3~20mm | |
| Operation temperature | 10~50°C | |
| Power supply | 4×1.5V AAA batteries | |
| Dimension | main unit | 178×72×34mm |
| | external sensor | 124×21×12mm |
| Weight | 180g | |

STANDARD DELIVERY

| | |
|-----------------|------|
| Main unit | 1 pc |
| External sensor | 1 pc |

LASER BELT TENSION METER CODE 5900-HZ18



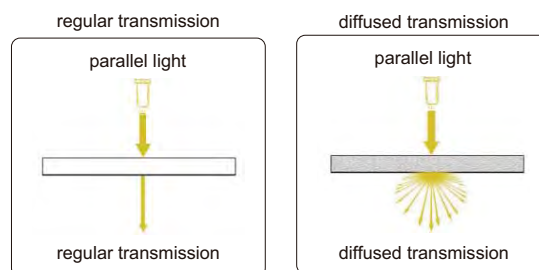
LIGHT TRANSMITTANCE METER CODE 5804-LT21



- Suitable for light transmittance testing of various “regular transmission materials”, such as building glasses, auto glasses, transparent films, plastic products, etc.
- With the design of parallel optical path of the light source and condensed light of the receiver, it can measure up to 100mm thickness
- Can measure the high transparent materials such as K9 glasses
- Two measuring modes, fixed base and handheld
- Conforming to CIE photopic luminosity function

SPECIFICATION

| | |
|--------------------------|---|
| Optical source | 380nm~760nm, conforming to CIE photopic luminosity function |
| Measuring range | 0.001%~99.8% |
| Accuracy | ±1% |
| Resolution | 0.001% (0%~10%) , 0.01% (10%~100%) |
| Thickness to be measured | <100mm |
| Diameter to be measured | >10mm |
| Power supply | 4×1.5V AAA batteries |
| Dimension | 75×140×25mm |
| Weight | 634g |



when the light penetrates a flat and evenly textured transparent material, the light does not change its direction

when the light penetrates a material with a rough surface or uneven texture, the light spreads out

STANDARD DELIVERY

| | |
|------------------|-----------------------------|
| Main unit | 1 pc |
| Transmitter | 1 pc (connect to main unit) |
| Receiver | 1 pc (connect to main unit) |
| Fixed base | 1 pc |
| 1.5V AAA battery | 4 pcs |

DIGITAL GLASS THICKNESS METER CODE 5805-GT22



- Laser reflection principle to measure the thickness of glass and internal air layer. Especially suitable for building laminated glasses, hollow glass windows, etc.
- To test the thickness of single layer glasses, multi-layer glasses, two glasses with one cavity, three glasses with two cavities, laminated glasses, laminated insulating glasses, etc.

SPECIFICATION

| | |
|-----------------|--|
| Measuring range | glass thickness (0~70mm), air layer (0~45mm) |
| Accuracy | ±0.1mm (measuring ranges≤63mm), ±0.2mm (measuring range>63mm) |
| Resolution | 0.01mm |
| Display | LCD |
| Power supply | 4×1.5V AAA batteries |
| Dimension | 130×72×33mm |
| Weight | 330g |



STANDARD DELIVERY

| | |
|-------------------|-------|
| Main unit | 1 pc |
| Cross screwdriver | 1 pc |
| 1.5V AAA battery | 4 pcs |



DC Resistance Testers
Page 738



DC Power Supplies
Page 739



Digital Multimeters
Page 739-743



Digital AC/DC Clamp Meters
Page 744



Voltage Testers
Page 745

DC RESISTANCE TESTER CODE 9651-RM20



- Maximum reading: 220000
- Basic accuracy: 0.05%
- 3.5 inch LCD screen
- Temperature compensation function
- Short-circuit zeroing calibration
- Bad contact detection
- Comparator: pass or fail judge
- Keyboard lock function



temperature probe (included)



test clip (included)



RS232 communication cable (included)

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SPECIFICATION

| Function | Range | Resolution | Accuracy ("d" is the least reading) |
|-------------------|---|--|-------------------------------------|
| Slow test | 20mΩ | 0.001mΩ | ±(0.1%+3d) |
| | 200mΩ/2Ω/20Ω/200Ω/ 2kΩ/20kΩ/200kΩ | 0.001mΩ/0.00001Ω/0.0001Ω/0.001Ω/ 0.00001kΩ/0.0001kΩ/0.001kΩ | ±(0.05%+2d) |
| | 2MΩ | 0.0001MΩ | ±(0.1%+5d) |
| Medium test | 20mΩ | 0.001mΩ | ±(0.2%+5d) |
| | 200mΩ/2Ω/20Ω/200Ω/ 2kΩ/20kΩ/200kΩ | 0.001mΩ/0.00001Ω/0.0001Ω/0.001Ω/ 0.00001kΩ/0.0001kΩ/0.001kΩ | ±(0.1%+3d) |
| | 2MΩ | 0.0001MΩ | ±(0.2%+5d) |
| Fast test | 20mΩ | 0.01mΩ | ±(0.8%+5d) |
| | 200mΩ/2Ω/20Ω/200Ω/ 2kΩ/20kΩ/200kΩ | 0.01mΩ/0.0001Ω/0.001Ω/0.01Ω/ 0.0001kΩ/0.001kΩ/0.01kΩ | ±(0.5%+5d) |
| | 2MΩ | 0.001MΩ | ±(0.8%+5d) |
| Range mode | auto range, manual range and nominal range | | |
| Test speed | slow: 3t/s, medium: 18t/s, fast: 60t/s | | |
| Trigger | internal trigger, manual trigger, external trigger | | |
| Interface | handler interface, RS232 interface, RS485 interface, USB interface and temperature compensation interface | | |
| Power supply | AC: 100V~240V, 50Hz/60Hz | | |
| Dimension (L×W×H) | 307×264×107mm | | |
| Weight | 2.5kg | | |

STANDARD DELIVERY

| | |
|---------------------------|------|
| Main unit | 1 pc |
| RS232 communication cable | 1 pc |
| Temperature probe | 1 pc |
| Test clip | 1 pc |



test leads (included)

DC POWER SUPPLY CODE 9911-PS305



SPECIFICATION

| | | |
|-------------------|--|----------------------------|
| Voltage | range | 30V |
| | setting resolution | 10mV |
| | setting accuracy | $\leq 0.1\% + 10\text{mV}$ |
| | readback resolution | 10mV |
| | readback accuracy | $\leq 0.1\% + 10\text{mV}$ |
| | load regulation | $\leq 0.1\% + 5\text{mV}$ |
| | line regulation | $\leq 0.01\% + 5\text{mV}$ |
| | ripple | 10mVrms |
| Current | range | 5A |
| | setting resolution | 1mA |
| | setting accuracy | $\leq 0.2\% + 3\text{mA}$ |
| | readback resolution | 1mA |
| | readback accuracy | $\leq 0.2\% + 3\text{mA}$ |
| | load regulation | $\leq 0.2\% + 3\text{mA}$ |
| | line regulation | $\leq 0.2\% + 3\text{mA}$ |
| | ripple | 8mArms |
| OVP | 0~33V | |
| OCP | 0~5.5A | |
| Work condition | temperature: 0~40°C, humidity: $\leq 80\%RH$ | |
| Storage condition | temperature: -20~60°C, humidity: $\leq 80\%RH$ | |
| Cool system | fan cool | |
| Power supply | AC 220V $\pm 10\%$, 50Hz/60Hz | |
| Dimension (L×W×H) | 230×80×150mm | |
| Weight | 1.45kg | |

- Four-digit LED display
- Output power display
- Output switch control
- 10mV/1mA high accuracy and resolution
- Panel locking function to prevent misoperation
- USB interface for power supply
- OVP/OCP protection
- 3 shortcut keys for presetting

STANDARD DELIVERY

| | |
|-----------|-------|
| Main unit | 1 pc |
| Test lead | 2 pcs |

- Auto/manual ranging
- Maximum mode
- Data hold
- NCV detection
- Low battery indication
- Auto power off
- Safety rating: CAT III 600V

STANDARD DELIVERY

| | |
|---------------|-------|
| Main unit | 1 pc |
| Test lead | 1 pc |
| Clip | 2 pcs |
| Battery (AAA) | 2 pcs |



clips (included)



test lead (included)

SPECIFICATION

| Function | Range | Resolution | Accuracy |
|-------------------|---|--|----------------|
| DC Voltage | 200mV/2V/20V/200V/600V | 0.1mV/1mV/10mV/0.1V/1V | $\pm(0.7\%+2)$ |
| | 200mV/2V/20V/200V | 0.1mV/1mV/10mV/0.1V | $\pm(0.8\%+3)$ |
| AC Voltage | 600V | 1V | $\pm(1.0\%+3)$ |
| | 20mA/200mA | 10 μ A/0.1mA | $\pm(1.5\%+3)$ |
| DC Current | 20mA/200mA | 10 μ A/0.1mA | $\pm(2.0\%+3)$ |
| | 200 Ω | 0.1 Ω | $\pm(1.0\%+3)$ |
| Resistance | 2k Ω /20k Ω /200k Ω /2M Ω | 1 Ω /10 Ω /0.1k Ω /1k Ω | $\pm(1.0\%+1)$ |
| | 20M Ω | 10k Ω | $\pm(1.0\%+5)$ |
| | Logic level test | <1.5V (green LED on); 1.5~3.5V (green & red LED off); >3.5V (red LED on) | |
| Diode | open circuit voltage 1.5V | | |
| Continuity buzzer | <50 Ω | | |
| Power supply | 2×1.5V AAA batteries | | |

PEN-TYPE DIGITAL MULTIMETER CODE 9241-ML200



DIGITAL MULTIMETER CODE 9216-F520



test leads (included)



temperature probe and adapter (included)

- 2000 counts digital display
- Auto ranging (except 200mV AC)
- Data hold
- Max hold
- Display with backlight
- Low battery indication
- Auto power off
- Safety rating: CAT III 600V

SPECIFICATION

| Function | Range | Resolution | Accuracy ("d" is the least reading) |
|----------------------|--|--|--|
| DC Voltage | 200mV | 0.1mV | $\pm(0.5\%+2d)$ |
| | 2V/20V/200V | 0.001V/0.01V/0.1V | $\pm(1.0\%+2d)$ |
| | 600V | 1V | $\pm(1.2\%+2d)$ |
| AC Voltage (50~60Hz) | 200mV | 0.1mV | $\pm(1.5\%+3d)$ |
| | 2V | 0.001V | $\pm(1.2\%+3d)$ |
| | 20V/200V | 0.01V/0.1V | $\pm(1.5\%+3d)$ |
| | 600V | 1V | $\pm(2.0\%+4d)$ |
| DC Current | 200 μ A | 0.1 μ A | $\pm(1.0\%+3d)$ |
| | 2000 μ A/20mA/200mA | 1 μ A/0.01mA/0.1mA | $\pm(1.5\%+3d)$ |
| | 10A | 0.01A | $\pm(2.5\%+5d)$ |
| AC Current (50~60Hz) | 200 μ A | 0.1 μ A | $\pm(1.5\%+5d)$ |
| | 2000 μ A/20mA/200mA | 1 μ A/0.01mA/0.1mA | $\pm(1.8\%+5d)$ |
| | 10A | 0.01A | $\pm(3.0\%+7d)$ |
| Resistance | 200 Ω | 0.1 Ω | $\pm(1.2\%+4d)$ |
| | 2k Ω | 0.001k Ω | $\pm(1.0\%+2d)$ |
| | 20k Ω /200k Ω /2M Ω | 0.01k Ω /0.1k Ω /0.001M Ω | $\pm(1.2\%+2d)$ |
| | 20M Ω | 0.01M Ω | $\pm(2.0\%+3d)$ |
| Temperature (type-K) | -50°C to 1000°C | 1°C | $\pm(3.0\%+5^\circ\text{C})$ |
| | -58°F to 1832°F | 1°F | $\pm(3.0\%+8^\circ\text{F})$ |
| Diode test | test current: 0.3mA typical | 1mV | $\pm(10\%+5d)$ |
| Continuity check | less than 100 Ω | | |
| Power supply | 9V battery | | |
| Dimension (L×W×H) | 150×70×48mm | | |
| Weight | 255g | | |

STANDARD DELIVERY

| | |
|----------------------|-------|
| Main unit | 1 pc |
| Thermocouple adapter | 1 pc |
| Temperature probe | 1 pc |
| 9V battery | 1 pc |
| Test lead | 2 pcs |

MINI DIGITAL MULTIMETER (BASIC TYPE) CODE 9242-ML100A

- Portable size with protective case
- 1999 counts digital display
- Data hold
- Display with backlight
- Low battery indication
- Auto power off
- Safety rating: CAT II 600V



test leads (included)

POPULAR
MODEL



SPECIFICATION

| Function | Range | Resolution | Accuracy ("d" is the least reading) |
|-----------------------|---|---|-------------------------------------|
| DC Voltage | 200.0mV | 0.1mV | $\pm(0.7\%+3d)$ |
| | 2000mV | 1mV | $\pm(0.5\%+2d)$ |
| | 20.00V/200.0V/600V | 0.01V/0.1V/1V | $\pm(0.7\%+3d)$ |
| AC Voltage (40~400Hz) | 200.0V/600V | 0.1V/1V | $\pm(1.2\%+3d)$ |
| DC Current | 200.0 μ A/200.0mA | 0.1 μ A/0.1mA | $\pm(1.0\%+2d)$ |
| | 10.00A | 0.01A | $\pm(1.2\%+5d)$ |
| Resistance | 200.0 Ω | 0.1 Ω | $\pm(1.0\%+2d)$ |
| | 2000 Ω /20.00k Ω /200.0k Ω | 1 Ω /0.01k Ω /0.1k Ω | $\pm(0.8\%+2d)$ |
| | 20.00M Ω | 0.01M Ω | $\pm(1.2\%+3d)$ |
| Battery test | 1.5V/9V/12V battery check | | |
| Diode test | open circuit voltage: 2.1V DC | | |
| Continuity test | <50 Ω | | |
| Power supply | 2 \times 1.5V AAA batteries | | |
| Dimension (LxWxH) | 134 \times 77 \times 47mm | | |
| Weight | 206g | | |

STANDARD DELIVERY

| | |
|---------------|-------|
| Main unit | 1 pc |
| Battery (AAA) | 2 pcs |
| Test lead | 2 pcs |

SMART DIGITAL MULTIMETER CODE 9247-190



test leads (included)



- Automatically identify test modes for AC voltage/DC voltage/resistance/continuity
- NCV detection and judge the strength by light and buzzer
- Self-calibration when power on to ensure accuracy
- LIVE firewire recognition
- Display with backlight
- True RMS measurement
- Data hold
- Low battery indication
- Auto power off
- Safety rating: CAT III 600V

STANDARD DELIVERY

| | |
|------------------|-------|
| Main unit | 1 pc |
| Test lead | 2 pcs |
| Battery (CR2032) | 2 pcs |

SPECIFICATION

| Function | Range | Resolution | Accuracy |
|------------------------|--|--|----------------|
| DC Voltage | 60mV/600mV/6V/60V/600V | 0.01mV/0.1mV/0.001V/0.01V/0.1V | $\pm(0.5\%+3)$ |
| AC Voltage | 60mV/600mV/6V/60V/600V | 0.01mV/0.1mV/0.001V/0.01V/0.1V | $\pm(1.0\%+3)$ |
| DC Current | 6000 μ A/60mA/600mA | 1 μ A/0.01mA/0.1mA | $\pm(1.2\%+5)$ |
| AC Current | 6000 μ A/60mA/600mA | 1 μ A/0.01mA/0.1mA | $\pm(1.5\%+5)$ |
| Resistance | 600 Ω /6k Ω /60k Ω /600k Ω | 0.1 Ω /0.001k Ω /0.01k Ω /0.1k Ω | $\pm(1.0\%+5)$ |
| | 6M Ω /60M Ω | 0.001M Ω /0.01M Ω | $\pm(1.5\%+3)$ |
| Capacitance | 6nF/60nF/600nF/6 μ F/60 μ F/600 μ F | 0.001nF/0.01nF/0.1nF/0.001 μ F/0.01 μ F/0.1 μ F | $\pm(4.0\%+5)$ |
| | 6mF/60mF | 0.001mF/0.01mF | $\pm(5.0\%+5)$ |
| Frequency | 10Hz/100Hz/1000Hz/10kHz/100kHz/1000kHz | 0.001Hz/0.01Hz/0.1Hz/0.001kHz/0.01kHz/0.1kHz | $\pm(1.0\%+5)$ |
| | 10MHz | 0.001MHz | $\pm(3.0\%+5)$ |
| Duty cycle | 1~99% | 0.1% | $\pm(3.0\%+5)$ |
| Diode measurement | open circuit voltage 2.0V | | |
| Continuity measurement | <50 Ω | | |
| Power | 2 \times 3V CR2032 batteries | | |
| Dimension (LxWxH) | 133 \times 68 \times 18mm | | |
| Weight | 178g | | |

DIGITAL MULTIMETER (WITH JACK INDICATOR LIGHT) CODE 9246-180



- Jack indicator light: jacks flash green to indicate the corresponding jacks for test leads
- NCV detection and judge the strength by light and buzzer
- Self-calibration when power on to ensure accuracy
- LIVE firewire recognition
- Double color backlight (orange backlight prompts high voltage or current: the orange backlight automatically lights up when voltage is higher than 80V or the current is higher than 1A)
- Large range capacitance meter 100mF
- True RMS measurement
- Battery test function
- Max/Min mode
- Data hold
- Low battery indication
- Auto power off
- Safety rating: CAT III 1000V, CAT IV 600V



test leads (included)

STANDARD DELIVERY

| | |
|--------------|-------|
| Main unit | 1 pc |
| Test lead | 2 pcs |
| Battery (AA) | 2 pcs |

SPECIFICATION

| Function | Range | Resolution | Accuracy |
|------------------------|---|--|-----------|
| DC Voltage | 600mV/6V/60V/600V/1000V | 0.1mV/0.001V/0.01V/0.1V/1V | ±(0.5%+3) |
| AC Voltage | 6V/60V/600V/750V | 0.001V/0.01V/0.1V/1V | ±(0.8%+5) |
| DC Current | 60μA/60mA/600mA/10A | 0.01μA/0.01mA/0.1mA/0.01A | ±(1.2%+3) |
| AC Current | 60mA/600mA/10A | 0.01mA/0.1mA/0.01A | ±(1.5%+3) |
| Resistance | 600Ω/6kΩ/60kΩ/600kΩ | 0.1Ω/0.001kΩ/0.01kΩ/0.1kΩ | ±(1.0%+3) |
| | 6MΩ/60MΩ | 0.001MΩ/0.01MΩ | ±(1.5%+3) |
| Capacitance | 10nF/100nF/1000nF/10μF/100μF/1000μF | 0.001nF/0.01nF/0.1nF/0.001μF/0.01μF/0.1μF | ±(4.0%+5) |
| | 10mF/100mF | 0.001mF/0.01mF | ±(5.0%+5) |
| Frequency | 10Hz/100Hz/1000Hz/10kHz/100kHz/1000kHz | 0.001Hz/0.01Hz/0.1Hz/0.001kHz/0.01kHz/0.1kHz | ±(1.0%+3) |
| | 10MHz | 0.001MHz | ±(3.0%+3) |
| Duty cycle | 1~99% | 0.1% | ±(3.0%+3) |
| Diode measurement | forward DC current 2.5mA, reverse DC voltage 3.0V | | |
| Continuity measurement | <30Ω | | |
| Power | 2x1.5V AA batteries | | |
| Dimension (L×W×H) | 188×88×50mm | | |
| Weight | 424g | | |

DATA
OUTPUT

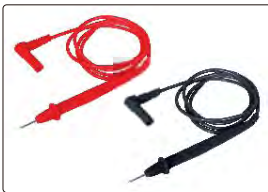


BLUETOOTH DIGITAL MULTIMETER CODE 9219-KV220

data acquisition app
(included)



- Built-in bluetooth
- Mobile app included
- 9999 counts digital display
- True RMS measurement
- Display with backlight
- Relative measurement mode
- Auto/manual ranging
- Auto power off
- Data hold
- NCV detection
- Low battery indication
- Safety rating: CAT III 600V, CAT II 1000V



test leads (included)



temperature probe (included)

STANDARD DELIVERY

| | |
|-------------------|-------|
| Main unit | 1 pc |
| Test lead | 2 pcs |
| Temperature probe | 1 pc |
| Battery (AAA) | 3 pcs |

SPECIFICATION

| Function | Range | Resolution | Accuracy ("d" is the resolution) | |
|-----------------------|---|---|-------------------------------------|------------|
| DC Voltage | 9.999mV/99.99mV | 0.001mV/0.01mV | ±(0.7%+8d) | |
| | 999.9mV/9.999V/99.99V/999.9V | 0.1mV/0.001V/0.01V/0.1V | ±(0.5%+3d) | |
| AC Voltage (40~400Hz) | 9.999mV/99.99mV | 0.001mV/0.01mV | ±(1.0%+3d) | |
| | 999.9mV/9.999V/99.99V/999.9V | 0.1mV/0.001V/0.01V/0.1V | ±(0.8%+3d) | |
| DC Current | 999.9µA | 0.1µA | ±(0.8%+3d) | |
| | 999.9mA/9.999A | 0.1mA/0.001A | ±(1.0%+3d) | |
| AC Current (40~400Hz) | 999.9µA | 0.1µA | ±(1.0%+3d) | |
| | 999.9mA/9.999A | 0.1mA/0.001A | ±(1.2%+3d) | |
| Resistance | 999.9Ω/9.999kΩ/99.99kΩ/999.9kΩ | 0.1Ω/0.001kΩ/0.01kΩ/0.1kΩ | ±(0.8%+2d) | |
| | 9.999MΩ | 0.001MΩ | ±(1.5%+3d) | |
| | 99.99MΩ | 0.01MΩ | ±(2.0%+5d) | |
| Capacitance | 9.999nF/99.99nF/999.9nF/9.999µF /99.99µF/999.9µF | 0.001nF/0.01nF/0.1nF/0.001µF /0.01µF/0.1µF | ±(4.0%+5d) | |
| | 9.999mF | 0.001mF | ±(10.0%) | |
| Frequency | 99.99Hz~9.999MHz | 0.01Hz~0.001MHz | ±(0.1%+5d) | |
| Temperature | -40~1000°C | -40~0°C | 1°C | ±4°C |
| | | >0~100°C | 1°C | ±(1.0%+5d) |
| | | >100~1000°C | 1°C | ±(2.0%+5d) |
| | -40~1832°F | -40~32°F | 1°F | ±5°F |
| | | >32~212°F | 1°F | ±(1.5%+5d) |
| | | >212~1832°F | 1°F | ±(2.5%+5d) |
| Duty cycle | 0.1%~99.9% | 0.1% | ±(3%+5d) | |
| Diode test | open circuit voltage 3.3V, test current 1.5mA | | | |
| Continuity check | <30Ω | | | |
| Power supply | 3x1.5V AAA batteries | | | |
| Dimension (L×W×H) | 187×88×56mm | | | |
| Weight | 400g | | | |

DIGITAL AC/DC CLAMP METER

CODE 9315-CF210



test leads (included)

- 4000 counts display
- 28mm jaw opening
- NCV detection with light and sound alarm
- True RMS measurement
- Auto ranging
- REL (zero) function
- Data hold
- Polarity indication
- LCD screen with backlight
- Low battery indication
- Auto power off
- Safety rating: CAT III 300V/CAT II 600V

STANDARD DELIVERY

| | |
|---------------|-------|
| Main unit | 1 pc |
| Battery (AAA) | 2 pcs |
| Test lead | 2 pcs |

SPECIFICATION

| Function | Range | Resolution | Accuracy ("d" is the least reading) |
|----------------------|---|---------------------------------------|--|
| DC Current | 40.00A/400.0A | 0.01A/0.1A | ±(2.0%+5d) |
| AC Current * | 40.00A/400.0A | 0.01A/0.1A | ±(2.0%+5d) |
| DC Voltage | 400.0mV | 0.1mV | ±(0.7%+3d) |
| | 4.000V/40.00V/400.0V/600V | 0.001V/0.01V/0.1V/1V | ±(0.5%+2d) |
| AC Voltage * | 4.000V | 0.001V | ±(1.0%+5d) |
| | 40.00V/400.0V/600V | 0.01V/0.1V/1V | ±(0.8%+5d) |
| AC Voltage frequency | 10Hz~60kHz | 0.01Hz~0.01kHz | ±(0.5%+2d) |
| Resistance | 400.0Ω | 0.1Ω | ±(1.0%+2d) |
| | 4.000kΩ/40.00kΩ/400.0kΩ | 0.001kΩ/0.01kΩ/0.1kΩ | ±(0.8%+2d) |
| | 4MΩ/40MΩ | 0.001MΩ/0.01MΩ | ±(2.5%+5d) |
| Capacitance | 40.00nF/400.0nF/4.000μF/ 40.00μF/400.0μF | 0.01nF/0.1nF/0.001μF/ 0.01μF/0.1μF | ±(4.0%+5d) |
| | 4.000mF/40.00mF | 0.001mF/0.01mF | ±10.0% |
| Frequency | 10Hz~10MHz | 0.01Hz~0.01MHz | ±(0.1%+4d) |
| Duty cycle | 0.1%~99.0% | 0.1% | ±(3.0%+5d) |
| Diode test | open circuit voltage: 4V | | |
| Continuity check | <30Ω | | |
| Power supply | 2×1.5V AAA batteries | | |
| Dimension (L×W×H) | 215×75×37mm | | |
| Weight | 235g | | |

* AC voltage/current frequency response: 45Hz~400Hz, true RMS display

AC PHASE AND VOLTAGE DETECTOR CODE 9723-400

- Non-contact detection of phase sequence, high and low voltage, wire distinction
- Low battery indication
- Auto power off
- Flashlight

SPECIFICATION

| | |
|--------------------------------|---|
| Phase sequence detection | screen shows clockwise or counterclockwise |
| High and low voltage detection | beep: slow~fast backlight: green~red analog bar: low~high |
| Wire distinction | green backlight indicates neutral wire red backlight indicates live wire |
| Power supply | 2×1.5V AAA batteries |
| Dimension | 157×27×23mm |
| Weight | 32g |



DIGITAL VOLTAGE TESTER CODE 9721-250

- Direct AC test (contact): 12-250V
two way display: voltage displays on LCD screen and neon lamp lights up (when voltage>80V)
- Induction AC test (non-contact): 12-250V
to detect power source or recognize the phase line, ground line and break point
- Direct DC test (contact): 6-36V
instant sense and display
- Work without battery
- Tester tip: CRV material

SPECIFICATION

| | |
|----------------|------------------------|
| Range | AC: 12-250V; DC: 6-36V |
| Neon lamp life | 30000 times |
| Dimension | 133×21×19mm |
| Weight | 22g |



VOLTAGE TESTER CODE 9722-250

- Tester tip: CRV material

SPECIFICATION

| | |
|----------------|--------------|
| Range | AC: 100-250V |
| Neon lamp life | 30000 times |
| Dimension | 145×Ø15mm |
| Weight | 21g |





Infrared Thermal Imaging Cameras
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Infrared Thermometers
Page 749-750



Dual-Cavity Blackbody Radiation Sources
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Infrared And Penetration Thermometers
Page 751



Data Loggers For Temperature And Humidity
Page 752



Thermohygrometers
Page 753-755



Large Screen Temperature And Humidity Meters
Page 755



Temperature And Humidity Data Loggers
Page 756-757



Portable Medium Temperature Dry Block Calibrators
Page 757

NON-CONTACT
TEMPERATURE MEASUREMENT

DATA
OUTPUT

IP54
WATERPROOF

INFRARED THERMAL IMAGING CAMERA (BASIC TYPE) CODE 9132-T400

- IR/visible/laser indicator
- Trigger button for photo taking
- 2-meter drop test, IP54 protection

STANDARD DELIVERY

| | |
|----------------------|------|
| Main unit | 1 pc |
| Power supply adapter | 1 pc |
| TYPE-C cable | 1 pc |
| 16G TF card | 1 pc |



SPECIFICATION

| | | |
|------------------------------|------------------------------|---|
| IR image | IR resolution | 120×90@17μm |
| | detector type | VOx/7.5~14μm |
| | frame rate | 25Hz/9Hz |
| | thermal sensitivity/NETD | 60mk |
| | focal length | 2.28mm/F1.13 |
| | field of view (FOV) | 50°×38° |
| | spatial resolution (IFOV) | 7.6mrad |
| | focus | focus-free |
| Visible camera | visible camera resolution | 320×240, focus-free |
| | flashlight | yes |
| Image display | display | 2.4 inch IPS technology TFT display |
| | display resolution | 320×240 |
| | image model | IR/visible/picture-in-picture |
| | color palettes | 6: white hot, iron red, hot iron, arctic, rainbow 1, rainbow 2 |
| Temperature measurement | temperature range | -20~150°C, 100~400°C (auto switching) |
| | accuracy | ±2°C or ±3%, whichever is greater (target temp ≥0°C, ambient temp is 15~30°C) |
| | measurement spot | center spot |
| | measurement area | 3 (incl. max & min temp) |
| | auto max & min spot tracking | yes |
| | alarm | full screen max & min spot alarm |
| Image storage | storage media | TF card (16G) |
| | IR image format | full radiometric (JPG) (120 x 90) |
| | visible image | yes, 320x240 |
| Connections & communications | USB | TYPE-C, TF card slot |
| | tripod interface | yes |
| | mobile APP | yes |
| | PC IR analysis software | yes |
| Power system | battery type | rechargeable li ion battery |
| | battery operation time | >5 hours |
| | charging time | internal charge, ≤2.5 hours |
| Environmental parameters | operation temperature | -10~50°C |
| | storage temperature | -40~70°C |
| | protection | IP54, 2-meter drop test |
| | certification | CE/ROHS/FCC |
| | dimension (LxWxH) | 194×61.5×76mm |
| weight | 350g | |

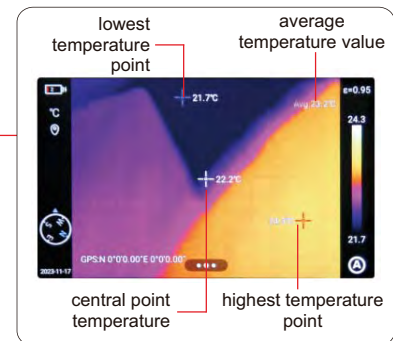
front view



INFRARED THERMAL IMAGING CAMERA CODE 0231-IC650

DATA
OUTPUT

IP54
WATERPROOF



30

- Suitable for electric power, metallurgy, petrochemical, scientific research and teaching, manufacturing, rail transit, building testing, electronic equipment overhaul, mechanical equipment maintenance, etc.
- Four image presentation: IR, VIS, MIF, PIP
- Real-time image can be photographed and video recorded
- Software is included: image browsing, image parameter editing, infrared image analysis, batch report generation, video editing, etc.
- WIFI real-time sharing, one-click connection to mobile device

STANDARD DELIVERY

| | |
|---------------------|-------|
| Main unit | 1 pc |
| 64G SD card | 1 pc |
| Lithium-ion battery | 2 pcs |
| Desktop charger | 1 pc |
| Power adapter | 1 pc |
| Software | 1 pc |

SPECIFICATION

| | | |
|---------------------------------|---|---|
| Imaging and optics | detector type | unrefrigerated vanadium oxide/7.5μm~14μm |
| | infrared resolution | 256×192@12μm |
| | super resolution | upgrade to 512×384 |
| | thermal sensitivity/NETD | <45mK |
| | infrared frame rate | 30Hz/9Hz |
| | focal length | 10.5mm |
| | field of view | 25°×19° |
| | spatial resolution (IFOV) | 1.7mrad |
| | minimum object distance | 0.1m |
| | distance to spot size (D:S) | 588:1 |
| | focusing mode | manual/automatic/continuous autofocus |
| | digital zoom | 1.1X~8X |
| | shot recognition | auto |
| Measurement and analysis | laser ranging | indication/ranging: 0.1m~40m |
| | measurement range | support auto-switching: -40°C~150°C, 0°C~650°C |
| | measurement accuracy | ±2°C or ±2%, whichever is greater |
| | analyzed target | spot×5, line×5, area×5 |
| | tracking/alarm | full screen maximum, minimum and average temperature tracking; the maximum, minimum and average temperature tracking of analyzed target; full screen temperature threshold alarm (image, voice and flash) |
| temperature measuring parameter | emissivity, reflected temperature, target distance, humidity, atmospheric transmittance, optical transmittance, dew point | |
| other | isothermals, smart stroke, intelligently calculate the area | |

To be continued



Continued from previous page

| | | |
|--------------------------|-----------------------|---|
| Image display | display screen | 4.3", 800×480 pixel touch screen LCD |
| | digital camera | 5MP |
| | image mode | IR, VIS, MIF, PIP |
| | image adjustment | level span mode: automatic, semi-automatic, manual |
| | color palettes | white hot, iron red, arctic, rainbow 2, hot iron, rainbow 1, fulgurite, medical, tint, black hot, blue hot, sepia, green hot, ice and fire, amber, customized |
| Function | recording function | photo and video (infrared & visible light) |
| | cloud service | available |
| | other | customized physical button, intelligent diagnosis, OTA update |
| Storage and transmission | storage | local storage (64GB) and external 64GB SD |
| | image storage | JPG with temperature information |
| | video storage | MP4 (without temperature information), can be used to record audio synchronously; irgd (with temperature information), up to 30Hz for temperature analysis |
| | external interface | TYPE-C, SD card slot |
| | WIFI | can be connected to the mobile terminal for image and real-time video transmission |
| | bluetooth | bluetooth 5.0, support image transmission (only for Android) |
| Power system | battery type | lithium-ion rechargeable battery, working time≥5 hours |
| | charging mode | TYPE-C charging; PC/portable charger; capable of charging while using |
| | charging time | 90% of full charge in 2.5 hours |
| Environmental parameter | operation temperature | -20°C~50°C |
| | storage temperature | -40°C~60°C |
| | protection | IP54, 2-meter drop test |
| | certification | CE, FCC, ROHS |
| Physical parameter | hardware | illuminator, microphone, speaker, electronic compass, GPS |
| | dimension | 292×125×125mm |
| | weight | 1.15kg |

30

INFRARED THERMOMETER (BASIC TYPE) CODE 0222-C520

- Unit: °C, °F
- Automatic data hold
- MAX/MIN/AVG/DIF mode
- High and low alarm
- Adjustable emissivity
- Low battery display
- Over range indicator
- Automatic power off

SPECIFICATION

| | |
|-----------------------------|--|
| Temperature range | -50°C~500°C/-58°F~932°F |
| Temperature accuracy | ±3.0°C (at -50°C~0°C), ±2.0°C or ±2% (at 0°C~500°C) ±5.4°F (at -58°F~32°F), ±4.0°F or ±2% (at 32°F~932°F) |
| Temperature resolution | 0.1°C/0.2°F |
| Distance to spot size (D:S) | 12:1 |
| Emissivity | 0.10~1.00 (adjustable) |
| Repeatability | ±0.5°C or ±0.5%; ±1.0°F or ±0.5% |
| Response time | ≤500ms (95% of reading) |
| Spectral response | 8μm~14μm |
| Diode laser | output<1mW, wavelength 630nm~670nm, class 2 laser product |
| Power supply | 2×AAA batteries, working time≥6h |
| Automatic power off | about in 15 seconds |
| Operation environment | temperature: 0°C~50°C/32°F~122°F; humidity: <90%RH (non-condensing) |
| Storage environment | temperature: -20°C~60°C/-4°F~140°F; humidity: <90%RH (non-condensing) |
| Dimension | 148×85×46mm |
| Weight | 160g |



STANDARD DELIVERY

| | |
|---------------|-------|
| Main unit | 1 pc |
| Battery (AAA) | 2 pcs |

INFRARED THERMOMETER (STANDARD TYPE) CODE 0213-A500

- Unit: °C, °F
- Dual laser sighting
- Negativity display
- Automatic power off
- Automatic data hold
- Over range indicator
- Max/Min display

SPECIFICATION

| | |
|-----------------------------|---|
| Temperature range | -20°C~380°C/-4°F~716°F |
| Temperature accuracy | ±2.5°C (at -20°C~20°C), ±2% or ±2.0°C (at 20°C~380°C) ±4.5°F (at -4°F~68°F), ±2% or ±3.6°F (at 68°F~716°F) |
| Temperature resolution | 0.1°C/0.1°F |
| Distance to spot size (D:S) | 12:1 |
| Emissivity | 0.95 (fixed) |
| Repeatability | ±1°C/1.8°F |
| Response time | 150ms |
| Spectral response | 8~14μm |
| Diode laser | output<1mW, wavelength 630~670nm class 2 laser product |
| Operation temperature | 0°C~50°C/32°F~122°F |
| Operation humidity | 10%RH~90%RH |
| Storage temperature | -10°C~60°C/14°F~140°F |
| Storage humidity | <80%RH |
| Power supply | 1×9V battery |
| Dimension | 137×73×38mm |
| Weight | 135g |



STANDARD DELIVERY

| | |
|-----------|------|
| Main unit | 1 pc |
| Battery | 1 pc |

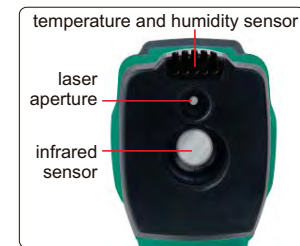
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INFRARED THERMOMETER (ADVANCED TYPE) CODE 0215-A900

- Ambient temperature, dew point temperature and humidity detection
- Unit: °C, °F
- Circular laser sighting
- Display backlight
- Automatic power off
- Automatic data hold
- Adjustable emissivity
- High and low alarm

SPECIFICATION

| | | |
|---------------------------------|---|---|
| Infrared sensor | temperature range | -30°C~800°C/-22°F~1472°F |
| | temperature resolution | 0.1°C 0.1°F (-22°F~1000°F), other range 1°F |
| | temperature accuracy | ±3.0°C (at -30°C~20°C) ±(1% of reading +1)°C (at 20°C~450°C) ±(2% of reading)°C (at 450°C~800°C) |
| | distance to spot size (D:S) | 20:1 |
| | emissivity | adjustable 0.10~1.00 |
| | response time | <150ms |
| | spectral response | 8~14μm |
| | diode laser | output<1mW, wavelength 630~670nm class 2 laser product |
| Temperature and humidity sensor | ambient temperature range | 0°C~50°C/32°F~122°F |
| | dew point temperature range | 0°C~50°C/32°F~122°F |
| | temperature resolution | 0.1°C/0.1°F |
| | temperature accuracy | ±1.0°C/±1.8°F |
| | humidity range | 0%RH~100%RH |
| | humidity resolution | 0.1%RH |
| humidity accuracy | ±5%RH (20%RH~80%RH), other range ±7%RH | |
| Automatic power off | about in 10 seconds | |
| Power supply | 1×9V battery | |
| Dimension | 170×45×85mm | |
| Weight | 196g | |



STANDARD DELIVERY

| | |
|-----------|------|
| Main unit | 1 pc |
| Battery | 1 pc |

DUAL-CAVITY BLACKBODY RADIATION SOURCE CODE PIC-D155



SPECIFICATION

| | |
|-------------------|--|
| Temperature range | low range: -15°C~100°C; high range: 50°C~500°C |
| Resolution | 0.01°C (at -15°C~100°C), 0.1°C (at 100°C~500°C) |
| Stability | ≤(0.1°C or 0.1% t , whichever is greater)/10min* |
| Uniformity | ≤(0.15°C or 0.15% t , whichever is greater)* |
| Emissivity | >0.995 |
| Cavity size | low range: Ø65mm; high range: Ø50mm |
| Cavity depth | low range: 110mm; high range: 160mm |
| Cool down time | 30 minutes from ambient to -15°C |
| Heat up time | 60 minutes from ambient to 500°C |
| Power supply | 220V/50Hz |
| Power | 850W |
| Dimension | 380×295×320mm |
| Weight | 17.1kg |

- Large target sizes of 50mm and 65mm for calibrating of infrared thermometers and infrared thermal imagers
- Contain two independent blackbody cavities
- The emissivity of blackbody radiation is better than 0.995
- 0.1 level temperature control meter with high accuracy
- Multi-point temperature correction function

STANDARD DELIVERY

| | |
|-----------|------|
| Main unit | 1 pc |
|-----------|------|

*|t| is the absolute temperature value of blackbody radiation source

30

INFRARED AND PENETRATION THERMOMETER CODE 0321-IT42

- Can measure the surface and inside temperature of objects
- Low battery display
- Display backlight
- High and low alarm
- Automatic data hold (infrared system)
- Automatic power off (infrared system)
- Unit: °C/°F



IP65
WATERPROOF

SPECIFICATION

| | | |
|---------------------------|-----------------------------|---|
| Infrared system | temperature range | -15°C~280°C/5°F~536°F |
| | temperature resolution | 0.1°C/0.1°F |
| | temperature accuracy | ±3.0°C (at -15°C~20°C), other range ±(1%+1.0)°C ±5.4°F (at 5°F~68°F), other range ±(1%+1.8)°F |
| | distance to spot size (D:S) | 4:1 |
| | emissivity | 0.95 (fixed) |
| | spectral response | 8~14μm |
| Penetration system | temperature range | -40°C~200°C/-40°F~392°F |
| | temperature resolution | 0.1°C/0.1°F |
| | temperature accuracy | ±2.0°C (at -40°C~0°C), other range ±(1%+1.0)°C ±3.6°F (at -40°F~32°F), other range ±(1%+1.8)°F |
| Repeatability | <1.0°C | |
| Measurement response time | <500ms | |
| Power supply | 2×1.5V AAA batteries | |
| Dimension | 140×39×24mm | |
| Weight | 140g | |



STANDARD DELIVERY

| | |
|---------------|-------|
| Main unit | 1 pc |
| Battery (AAA) | 2 pcs |

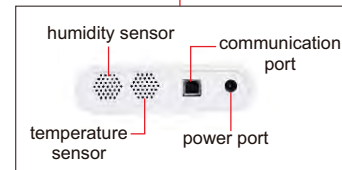
DATA LOGGER FOR TEMPERATURE AND HUMIDITY (BUILT-IN SENSOR) CODE 0311-3070

IP54
WATERPROOF

DATA
OUTPUT



stand (included)



- Signal acquisition, display, storage, analysis function
- Low power consumption
- Built-in high-precision temperature and humidity sensor
- Software is included

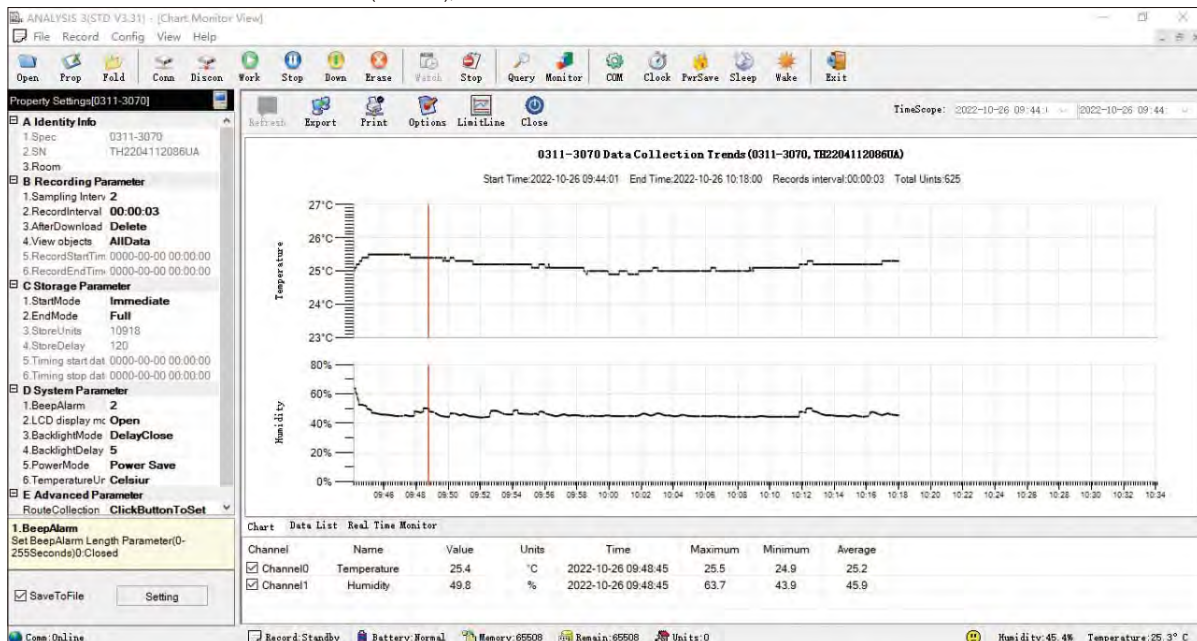
SPECIFICATION

| | |
|------------------------|--|
| Temperature range | -30°C~70°C/-22°F~158°F |
| Temperature accuracy | ±0.3°C (at 23°C±2°C), other range ±0.5°C ±0.6°F (at 73.4°F±3.6°F), other range ±0.9°F |
| Temperature resolution | 0.1°C/0.2°F |
| Humidity range | 0%RH~100%RH |
| Humidity accuracy | ±3%RH (at 10%RH~85%RH), other range ±5%RH |
| Humidity resolution | 0.1%RH |
| Memory capacity | 10918 |
| Alarm | function: alarm when over high or low limit method: display+buzz+backlight |
| Sampling interval | 2s, 5s, 10s, 30s, 60s, 255s (adjustable) |
| Logging interval | 2 seconds~24 hours (adjustable) |
| Start with delay | 1~120 seconds (adjustable) |
| Start mode | start immediately/delay start/timing start |
| End mode | Full/FIFO/preset/timing end |
| Timing start/end | random start/end with format YYMMDD HHMMSS |
| Interface | USB |
| Time battery | CR2032 |
| Power supply | 3.6V lithium battery (ER14505) or 5~24V DC |
| Dimension | 123×117×33mm |
| Weight | 260g |

STANDARD DELIVERY

| | |
|------------------------|------|
| Main unit | 1 pc |
| Software and USB cable | 1 pc |
| Power adapter | 1 pc |
| Time battery | 1 pc |
| Lithium battery | 1 pc |

software (included), record and download data to PC software via USB cable





IP50
DUSTPROOF

DIGITAL THERMOHYGROMETER (PROFESSIONAL TYPE) CODE 9362-TH27

- Measure humidity, ambient temperature and dew-point temperature
- Max/Min/Average mode
- Alarm function
- IP50 protection grade



SPECIFICATION

| | |
|------------------------|--|
| Sensor model | NTC thermistor/humidity capacitance/digital sensor |
| Temperature range | -20°C~70°C/-4°F~158°F |
| Temperature accuracy | ±0.5°C/±0.9°F |
| Temperature resolution | 0.1°C/0.2°F (minimum adjustable unit is 0.2°F in setting mode) |
| Humidity range | 0~100%RH |
| Humidity accuracy | ±5%RH |
| Humidity resolution | 0.1%RH |
| Sampling interval | 5s |
| Battery | 1.5V AAA |
| Dimension | 95×107×18mm |
| Weight | 105g |

STANDARD DELIVERY

| | |
|---------------|------|
| Main unit | 1 pc |
| Battery (AAA) | 1 pc |

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THERMOHYGROMETER (EXTERNAL SENSOR) CODE 0313-TH48

- External sensor, 3m cable
- Time/temperature/humidity display
- Temperature and humidity upper and lower limit alarm function
- Unit: °C/°F
- Low battery alarm



SPECIFICATION

| | |
|-------------------------------|--|
| Temperature range | -40°C~80°C/-40°F~176°F |
| Temperature accuracy | ±0.5°C (at -20°C~60°C), ±1.0°C (at 60°C~80°C), ±2°C (at -40°C~-20°C), ±2°F (at -20°F~176°F), ±3°F (at -40°F~-20°F) |
| Temperature resolution | 0.1°C (at -20°C~80°C), other range 1°C 0.1°F (at -20°F~100°F), other range 1°F |
| Humidity range | 0%RH~99.9%RH |
| Humidity accuracy | ±5%RH (at 10°C~60°C), other range ±7% ±5%RH (at 50°F~140°F), other range ±7% |
| Humidity resolution | 0.1%RH |
| Sensitivity attenuation value | temperature: <0.1°C/year (<0.2°F/year) humidity: <1%RH/year |
| Sampling interval | 5 seconds |
| Power supply | built-in rechargeable lithium battery (USB 5V charging) working time at least one month |
| Dimension | 88×88×21mm |
| Weight | 174g |

STANDARD DELIVERY

| | |
|--------------------|------|
| Main unit | 1 pc |
| USB charging cable | 1 pc |

K-TYPE THERMOCOUPLE THERMOMETER (ECONOMIC TYPE) CODE 0320-K230

- Contact K-type thermocouple
- Unit: °C/°F
- Data hold function
- Low battery display
- Display backlight

SPECIFICATION

| | |
|------------------------|--|
| Temperature range | -50°C~200°C/-58°F~392°F |
| Temperature accuracy | ±2.0°C/±3.6°F |
| Temperature resolution | 0.1°C (at -50°C~199.9°C), 1°C (at -50°C~200°C) 0.1°F (at -58°F~199.9°F), 1°F (at -58°F~392°F) |
| Sampling rate | 2.5 times/sec |
| Power supply | 3×3V CR2450 batteries (for 300 hours working) |
| Operation voltage | 6.8V~10V |
| Dimension | 149×76×34mm |
| Weight | 220g |



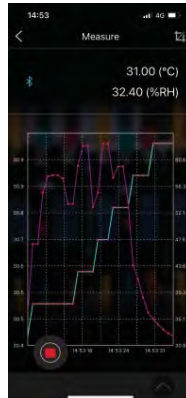
STANDARD DELIVERY

| | |
|-----------------------|-------|
| Main unit | 1 pc |
| Thermocouple (K-type) | 1 pc |
| CR2450 battery | 3 pcs |

THERMOHYGROMETER CODE 0310-H26

- Measure humidity, ambient temperature, dew point temperature and wet bulb temperature
- Min/Max, data hold function
- Bluetooth 4.0
- Auto power off
- Supplied with APP for Apple and Android

App measurement



App record

| No. | Data Value (°C) | Data Value (%RH) |
|-----|-----------------|------------------|
| 1 | 30.90 | 41.40 |
| 2 | 30.90 | 38.50 |
| 3 | 30.90 | 36.10 |
| 4 | 31.00 | 35.10 |
| 5 | 31.00 | 34.20 |
| 6 | 31.00 | 33.40 |
| 7 | 31.00 | 32.80 |
| 8 | 31.00 | 32.40 |
| 9 | 31.00 | 32.10 |
| 10 | 31.00 | 32.00 |
| 11 | 31.00 | 31.70 |



SPECIFICATION

| Function | Measuring range | Resolution | Accuracy |
|-----------------------|------------------------|-------------|---------------|
| Ambient temperature | 0°C~50°C 32°F~122°F | 0.1°C/0.1°F | ±1.0°C/±1.8°F |
| Wet bulb temperature | 0°C~50°C 32°F~122°F | | |
| Dew point temperature | 0°C~50°C 32°F~122°F | | |
| Humidity | 0%RH~80%RH | 0.1%RH | ±5.0%RH |
| Auto power off | 30 minutes | | |
| Data port | Bluetooth 4.0 | | |
| Power supply | 9V battery | | |
| Dimension | 204×54×36mm | | |
| Weight | 172g | | |

STANDARD DELIVERY

| | |
|-----------|------|
| Main unit | 1 pc |
| Battery | 1 pc |



- Environment comfort display: COMFORT, WET, DRY
- Time/temperature/humidity display
- Highest/lowest temperature and humidity memory function
- Alarm clock function
- Unit: °C, °F

THERMOHYGROMETER (ECONOMIC TYPE) CODE 0312-TH50



SPECIFICATION

| | |
|------------------------|--|
| Temperature range | 0°C~50°C/32°F~122°F |
| Temperature accuracy | ±1.0°C (at 5°C~40°C), other range ±1.5°C ±1.8°F (at 41°F~104°F), other range ±2.7°F |
| Temperature resolution | 0.1°C/0.1°F |
| Humidity range | 10%RH~90%RH |
| Humidity accuracy | ±5%RH (at 40%RH~80%RH), other range ±8%RH |
| Humidity resolution | 1%RH |
| Power supply | 1×AAA 1.5V battery |
| Dimension | 108×60×15mm |
| Weight | 74g |

STANDARD DELIVERY

| | |
|-----------|------|
| Main unit | 1 pc |
| Battery | 1 pc |

LARGE SCREEN TEMPERATURES AND HUMIDITY METERS



0314-H533A



0314-H533B

- High definition LED large screen display: temperature, humidity, time
- Exceeding limit alarm: buzzer alarm, digit/light flash alarm
- Installation method: wall mounted or ring type

STANDARD DELIVERY

| | |
|------------------------------|------|
| Main unit (including sensor) | 1 pc |
|------------------------------|------|

SPECIFICATION

| Code | 0314-H323A | 0314-H323B | 0314-H423A | 0314-H423B | 0314-H533A | 0314-H533B | 0314-H643A | 0314-H643B |
|------------------------|--|------------|--------------|------------|--------------|------------|--------------|------------|
| Dimension | 300×200×36mm | | 400×265×36mm | | 500×300×36mm | | 600×400×36mm | |
| Sensor type | integrated | separated | integrated | separated | integrated | separated | integrated | separated |
| Power consumption | 5W | | 5W | | 9W | | 10W | |
| Weight | 1.3kg | | 2kg | | 3kg | | 4kg | |
| Sensor | integrated: plastic probe case (not dustproof, not waterproof) separated: metal probe case (dustproof, waterproof), cable length 1m (can be customized, within 20m) | | | | | | | |
| Temperature range | integrated: -20°C~60°C; separated: -40°C~85°C | | | | | | | |
| Temperature resolution | integrated: 0.1°C (at 0°C~60°C), other range 1°C separated: 0.1°C (at 0°C~85°C), other range 1°C | | | | | | | |
| Temperature accuracy | integrated: ±0.5°C (at 0°C~60°C), other range ±2°C separated: ±0.5°C (at 0°C~85°C), other range ±2°C | | | | | | | |
| Humidity range | 5%RH~95%RH | | | | | | | |
| Humidity resolution | 0.1%RH | | | | | | | |
| Humidity accuracy | ±3%RH (@25°C) | | | | | | | |
| Long-term stability | temperature≤0.1°C/year; humidity≤1%RH/year | | | | | | | |
| Repeatability | temperature≤0.1°C; humidity≤0.5%RH | | | | | | | |
| Sampling speed | 1s | | | | | | | |
| Response time | 3 minutes to reach 90% of the final value | | | | | | | |
| Time accuracy | ±15s/month (@25°C±2°C) | | | | | | | |
| Power supply | AC100~240V (50/60Hz) | | | | | | | |
| Power cable length | 1m (can be customized, 2m/5m) | | | | | | | |
| Operation condition | temperature: -20°C~60°C; humidity: 5%~95% (non-condensing) | | | | | | | |

TEMPERATURE AND HUMIDITY DATA LOGGER CODE THL-A01



- Suitable for testing the temperature field, humidity field, uniformity and volatility of various temperature (humidity) environment experimental equipment, industrial furnaces and verification furnaces
- 24 channels can be independently configured as thermocouple, platinum resistance, humidity sensor and analog input mode
- Each channel provides an accuracy advantage over 0.15°C thermocouple for cold-end compensation
- Support voltage, resistance, temperature, humidity and other data formats display, storage and output
- Support Wireless Network, RS232 communication mode: Wireless Network can remotely browse real-time data and download stored data, RS232 communication protocol based on RSCII code for encoding and reading data
- Built-in 8G large capacity memory, data can be exported via USB port

SPECIFICATION OF TEMPERATURE AND HUMIDITY DATA LOGGER

| | Type (electrical signal) | Range | Resolution | Accuracy |
|-----------------------|---------------------------------------|---------------|------------|---|
| Temperature | PT100 | -200 ~950°C | 0.001°C | 0.05°C at 0°C 0.08°C at 300°C 0.12°C at 600°C |
| | K | -200°C~1300°C | 0.01°C | 0.5°C |
| | J | -200°C~900°C | | 0.5°C |
| | T | -200°C~400°C | | 0.5°C |
| | E | -200°C~1000°C | | 0.5°C |
| | N | -200°C~1300°C | | 0.5°C |
| | B | 250°C~1820°C | | 0.8°C at 1000°C |
| | R | 0°C~1768°C | | 0.7°C at 1000°C |
| | S | 0°C~1768°C | | 0.9°C at 1000°C |
| Humidity | - | 0%RH~100%RH | 0.01%RH | 0.1%RH |
| Voltage | range: 100mV | -10mV~100mV | 0.1μV | 0.01% of reading+0.008% of full scall |
| | range: 1V | 0V~1V | 0.1mV | 0.01% of reading+0.008% of full scall |
| Resistance | range: 400Ω | 0Ω~400Ω | 0.1mΩ | 0.004% of reading+0.004% of full scall |
| Sampling mode | 24-channel synchronous sampling | | | |
| Sampling speed | 0.2s/24 channel | | | |
| Memory | 8G | | | |
| Output | USB, wireless, RS232 | | | |
| Operation environment | temperature: 5°C~35°C | | | |
| | humidity: 0%RH~85%RH (non-condensing) | | | |
| Storage environment | temperature: 5°C~35°C | | | |
| | humidity: 0%RH~85%RH (non-condensing) | | | |
| Power supply | power adapter | | | |
| Dimension | 250×180×75mm | | | |
| Weight | 1.7kg | | | |

To be continued

Continued from previous page



K-type thermocouple (optional)



humidity sensor (optional)



platinum resistance PT100 (optional)

STANDARD DELIVERY

| | |
|--------------------|------|
| Main unit | 1 pc |
| Power adapter | 1 pc |
| 16G USB flash disk | 1 pc |

OPTIONAL ACCESSORY

| | |
|---------------------------|---------------|
| Platinum resistance PT100 | THL-A01-PT100 |
| K-type thermocouple | THL-A01-K |
| Humidity sensor | THL-A01-H |

SPECIFICATION OF SENSOR (OPTIONAL)

| Product | Code | Range | Accuracy |
|---------------------------|---------------|-------------|---|
| platinum resistance PT100 | THL-A01-PT100 | -80~300°C | class A: $\pm(0.150^{\circ}\text{C}+0.002\cdot t)$ |
| K-type thermocouple | THL-A01-K | 300~1000°C | class 1: $\pm 1.5^{\circ}\text{C}$ (at 300°C~375°C), $\pm 0.004\cdot t$ (at 375°C~1000°C) |
| humidity sensor | THL-A01-H | 0%RH~100%RH | 0.8%RH (at 23°C) |



PORTABLE MEDIUM TEMPERATURE DRY BLOCK CALIBRATOR CODE DBC-M660

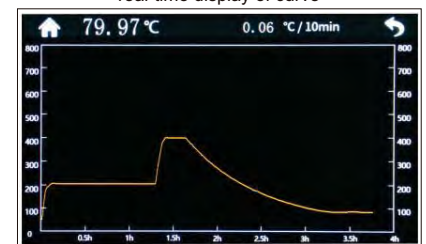
- Used for temperature calibration in industrial or laboratory
- Unit: °C, °F
- Language: English, Chinese
- Overheat protection
- Multi-point temperature correction function
- Automatic tuning of temperature control parameters
- Segmented PID control, one-button heating, full-automatic temperature control



SPECIFICATION

| | | |
|------------------------------|--|---|
| Temperature range | 50°C~660°C | |
| Horizontal temperature field | $\leq 0.2^{\circ}\text{C}$ | |
| Vertical temperature field | within 40mm from the bottom of the well | $\leq 0.5^{\circ}\text{C}$ (at 50°C~300°C) $\leq 1.0^{\circ}\text{C}$ (at 300°C~660°C) |
| Temperature fluctuation | $\pm 0.15^{\circ}\text{C}$ | |
| Temperature resolution | 0.01°C | |
| Control method | touch screen | |
| Soaking block | insertion aperture: $\varnothing 4.5\text{mm}$, $\varnothing 6.5\text{mm}$, $\varnothing 8\text{mm}$, $\varnothing 10\text{mm}$ (can be customized) | |
| Well depth | 170mm | |
| Power | 600W | |
| Power supply | 220V/50Hz | |
| Dimension | 285×170×335mm | |
| Weight | 9.4kg | |

real-time display of curve



STANDARD DELIVERY

| | |
|---------------|------|
| Main unit | 1 pc |
| Soaking block | 1 pc |



Roundness/Cylindricity Testers
Page 759-760



Roundness Measuring Machines
Page 761-762



Precision Air Floating Rotary Tables
Page 763



Surface Profile Measuring Machines
Page 764-771



Roughness Measuring Machines
Page 772-773



Roughness Testers
Page 774-784



Surface Roughness Specimens
Page 784-785



**Surface Roughness Reference
Specimens**
Page 786



ROUNDNESS/CYLINDRICITY TESTER CODE RCT-300



- Automatic centering and leveling
- Evaluation items
 - Cylindricity module: cylindricity, radial full run, coaxiality, taper, radius
 - Roundness module: roundness, concentricity, radial single jump, wall thickness difference
 - Straightness module: straightness, parallelism, squareness
 - Single section flatness module: single section flatness, axial single hop, perpendicularity, parallelism
 - Multi-section flatness module: multi-section flatness, parallelism, axial full runout, perpendicularity
 - Commutator module: monolithic bounce, immediate bounce, interval difference
- Analytical ability
 - Cylindricity function: 2-10 sections, 3 evaluation methods
 - Reference benchmarks for cylindricity evaluation: LSCY, MZCY, MICY, MCCY, OSCY
 - Reference circle for roundness evaluation: LSC, MZC, MIC, MCC
 - Measurement band: 1-15upr, 1-50upr, 1-150upr, 1-250upr, 1-500upr, 15-100upr, 15-500upr, 2-15upr, 1-1500upr, custom
 - Notched measurement

SPECIFICATION

| | | |
|----------------------------|---|---|
| Probe | measuring range | ±500μm |
| | resolution | 1:262144 |
| | linear accuracy | 0.1% |
| Ruby stylus | size | Ø2x10mm |
| | direction | two directions |
| | adjustable angle | ±45° |
| X axis | travel | 165mm |
| | excess range | 25mm |
| | drive mode | motor |
| | moving speed | 0.1~50mm/s |
| Z axis | measuring range | 480mm |
| | straightness | 0.3μm/100mm |
| | movement speed | 0.1~10mm/s |
| | movement mode | motor |
| Detector | acquisition device | circular grating |
| | circumferential sampling points | 14400 |
| Granite stage | | 900×500mm |
| Rotary stage | rotation accuracy | (0.025+6H/10000)μm, H is the measuring height in mm |
| | rotation speed | 6rpm, 8rpm, 10rpm |
| | max. measuring diameter | 300mm |
| | max. workpiece diameter (rotation diameter) | 450mm |
| Automatic adjustment stage | workbench diameter | 280mm |
| | adjustment range of center | ±3mm |
| | adjustment range of level | ±1° |
| | weight capacity | 30kg |
| Precision chuck | external grip diameter | Ø1~Ø81mm |
| | internal grip diameter | Ø31~Ø70mm |
| Air filter | pressure range | 0~0.8MPa |
| | oil mist removal accuracy | 0.01μm |
| | export oil mist concentration | 0.5mg/m ³ |
| Dimension (LxWxH) | | 1680×862×1685mm |
| Power supply | | 220±10%V, 50Hz |
| Power | | 500W |
| Weight | | 350kg |

To be continued

Continued from previous page



air filter (included)



standard block (included)



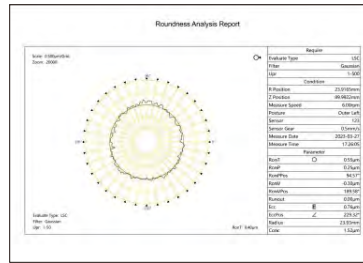
column adjusting rod (included)



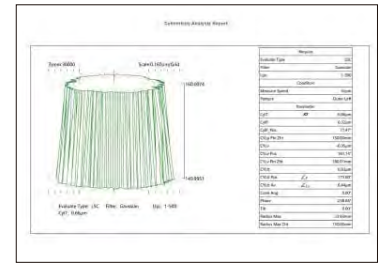
precision chuck (included)

STANDARD DELIVERY

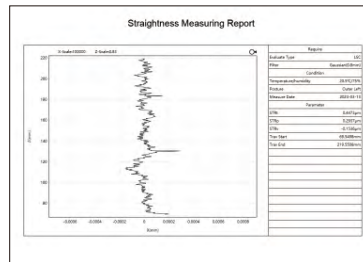
| | |
|--|-----------|
| Main unit | 1 pc |
| Probe (with ruby stylus) | 1 pc each |
| Standard block | 1 pc |
| Column adjusting rod | 1 set |
| Precision chuck | 1 pc |
| Automatic adjustment stage | 1 pc |
| Roundness cylindricity acquisition and analysis system | 1 set |
| Air filter | 1 set |
| Computer | 1 pc |
| Printer | 1 pc |
| Installation tools | 1 set |



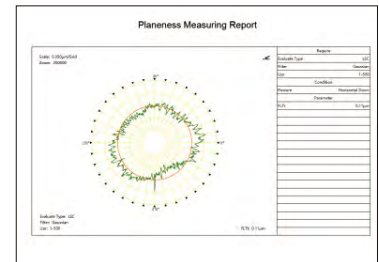
roundness analysis



cylindricity analysis



straightness analysis

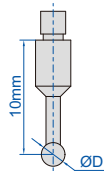


planeness analysis

OPTIONAL ACCESSORY

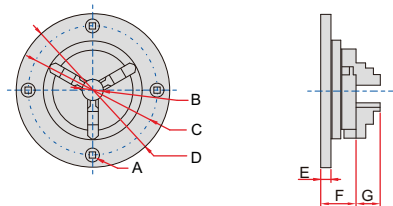
| | |
|------------------|-------------------|
| Probes | see below details |
| Precision chucks | see below details |
| Dryer | ISC-DRY |

SPECIFICATION OF PROBES



| Code | Diameter (ØD) | Remark |
|--------------|---------------|----------|
| RCT-RA260-T1 | 2mm | included |
| RCT-RA260-T2 | 0.5mm | optional |
| RCT-RA260-T3 | 1mm | optional |
| RCT-RA260-T4 | 4mm | optional |
| RCT-RA260-T5 | 8mm | optional |

SPECIFICATION OF PRECISION CHUCKS



(mm)

| Code | A | B | C | D | E | F | G | Clamping range | | Remark |
|--------------|--------|----|-----|-----|------|----|----|--------------------|--------------------|----------|
| | | | | | | | | external grip dia. | internal grip dia. | |
| RCT-RA260-C1 | M5x0.8 | 16 | 100 | 118 | 8 | 28 | 13 | Ø0.8~63 | Ø23~58 | optional |
| RCT-RA260-C2 | M6x1.0 | 20 | 116 | 143 | 10.5 | 37 | 15 | Ø1~81 | Ø31~70 | included |
| RCT-RA260-C3 | M6x1.0 | 26 | 140 | 168 | 10 | 39 | 19 | Ø1~100 | Ø36~90 | optional |

ROUNDNESS MEASURING MACHINE CODE RCT-RA260



- Air-floating spindle
- Can measure roundness, coaxiality, concentricity, flatness, radial runout, axial runout, parallelism and perpendicularity
- Spectrum analysis, automatic gap/burr removal, waveform analysis
- 4 roundness evaluation methods: smallest area method, least square method, smallest circumscribed circle method, largest inscribed circle method
- Measuring filer: 1-15 μ r, 1-50 μ r, 1-150 μ r, 1-250 μ r, 1-500 μ r, 15-100 μ r, 15-500 μ r, 2-15 μ r
- Filter form: gauss (ISO standard)
- Software is included, for measurement, analysis, data output, etc.

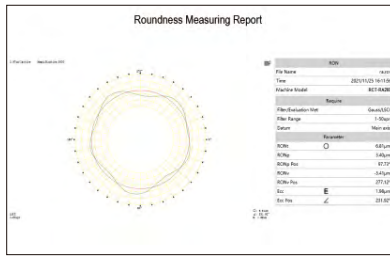
31

SPECIFICATION

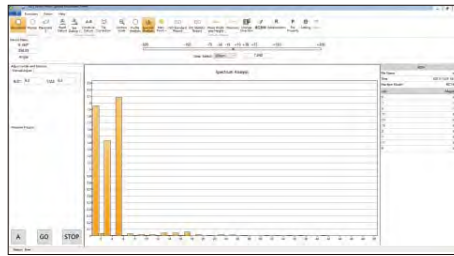
| | | |
|---------------------|---|---|
| Probe | measuring range | $\pm 300\mu\text{m}$ |
| | resolution | $0.001\mu\text{m}$ |
| | linear accuracy | 0.25% |
| Ruby stylus | size | $\text{Ø}2 \times 10\text{mm}$ |
| | direction | two directions |
| | adjustable angle | $\pm 45^\circ$ |
| X axis | travel | 165mm |
| | excess range | 25mm |
| | drive mode | by hand |
| Z axis | drive mode | motor |
| | travel | 320mm |
| | movement speed | 0.5~10mm/s |
| Rotary stage | rotation accuracy | $(0.025+6H/10000)\mu\text{m}$ for $H \leq 20\text{mm}$, H is the measuring height in mm |
| | rotation speed | 6rpm |
| | max. measuring diameter | 260mm |
| | max. workpiece diameter (rotation diameter) | 400mm |
| Rotary axis | radial rotation accuracy | $\pm 0.0125\mu\text{m}$ |
| | axial runout accuracy | $\pm 0.05\mu\text{m}$ |
| | diameter | 180mm |
| Adjustable 3D stage | adjustment range of center | $\pm 3\text{mm}$ |
| | adjustment range of level | $\pm 2^\circ$ |
| | weight capacity | 20kg |
| | Granite stage | 700×500mm |
| Precision chuck | external grip diameter | $\text{Ø}1 \sim \text{Ø}81\text{mm}$ |
| | internal grip diameter | $\text{Ø}31 \sim \text{Ø}70\text{mm}$ |
| Air filter | pressure range | 0~0.8MPa |
| | oil mist removal accuracy | 0.01 μm |
| | export oil mist concentration | 0.5mg/m ³ |
| Dimension (LxWxH) | 1300×795×1715mm | |
| Power supply | 220±10%V, 50Hz | |
| Power | 500W | |
| Weight | 320kg | |

To be continued

Continued from previous page



measurement



STANDARD DELIVERY

| | |
|--------------------------|-----------|
| Main unit | 1 pc |
| Probe (with ruby stylus) | 1 pc each |
| Standard block | 1 pc |
| Precision chuck | 1 pc |
| Adjustable 3D stage | 1 pc |
| Rotary stage | 1 pc |
| Computer | 1 pc |
| Software | 1 set |
| Printer | 1 pc |
| Air filter | 1 set |
| Installation tools | 1 set |

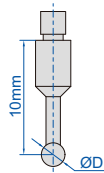


standard block (included)

OPTIONAL ACCESSORY

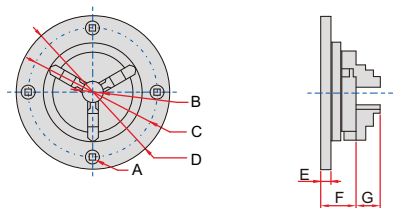
| | |
|------------------|------------------|
| Probes | refer to details |
| Precision chucks | refer to details |
| Dryer | ISC-DRY |

SPECIFICATION OF PROBES



| Code | Diameter (ØD) | Remark |
|--------------|---------------|----------|
| RCT-RA260-T1 | 2mm | included |
| RCT-RA260-T2 | 0.5mm | optional |
| RCT-RA260-T3 | 1mm | optional |
| RCT-RA260-T4 | 4mm | optional |
| RCT-RA260-T5 | 8mm | optional |

SPECIFICATION OF PRECISION CHUCKS



(mm)

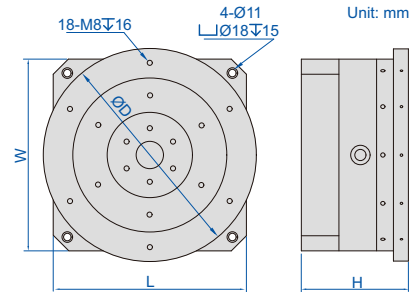
| Code | A | B | C | D | E | F | G | Clamping range | | Remark |
|--------------|--------|----|-----|-----|------|----|----|--------------------|--------------------|----------|
| | | | | | | | | external grip dia. | internal grip dia. | |
| RCT-RA260-C1 | M5x0.8 | 16 | 100 | 118 | 8 | 28 | 13 | Ø0.8~63 | Ø23~58 | optional |
| RCT-RA260-C2 | M6x1.0 | 20 | 116 | 143 | 10.5 | 37 | 15 | Ø1~81 | Ø31~70 | included |
| RCT-RA260-C3 | M6x1.0 | 26 | 140 | 168 | 10 | 39 | 19 | Ø1~100 | Ø36~90 | optional |



PRECISION AIR FLOATING ROTARY TABLES



6875-320



- Manual rotation
- Optional accessory:
high precision digital indicators (code **2133** series),
hydraulic universal magnetic stands (code **6274** series)



| Code | Stage size ØD | Max. RPM | Air supply pressure | Max. load | Radial stiffness | Axial stiffness | Radial runout | Axial runout | L×W×H |
|----------|---------------|----------|---------------------|-----------|------------------|-----------------|---------------|--------------|---------------|
| 6875-320 | 320mm | 500rpm | 5-6bar | 100kg | 250N/μm | 500N/μm | <0.3μm | <0.3μm | 272x272x161mm |
| 6875-400 | 400mm | 500rpm | 5-6bar | 100kg | 250N/μm | 500N/μm | <0.3μm | <0.3μm | 272x272x161mm |
| 6875-500 | 500mm | 500rpm | 5-6bar | 100kg | 250N/μm | 500N/μm | <0.3μm | <0.3μm | 272x272x191mm |

Standard glass hemisphere (optional)

| Code | Roundness |
|------------|-----------|
| 6875-BALL* | 0.05μm |

*To check the accuracy of rotary table



6875-BALL



6875-CLAMP

Clamp for glass hemisphere (optional)

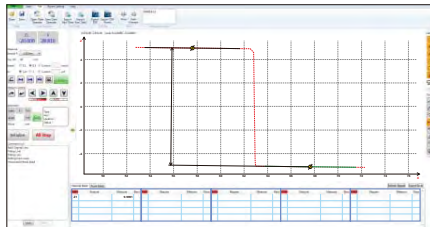
| Code |
|------------|
| 6875-CLAMP |



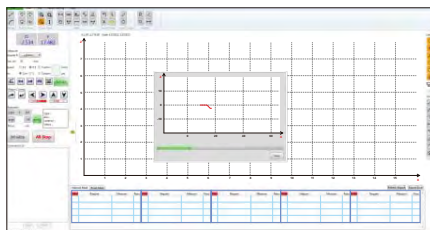
SURFACE PROFILE MEASURING MACHINE

CODE SPM-1000

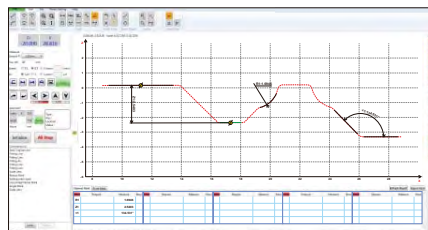
- Software is included, for surface profile measurement and data output
- Probe compensation
- Output as format txt, csv, etc.
- Large range design, the leverage ratio is 1:2.2, maintain the original accuracy of the sensor
- The overall structure of the Z-axis sensor does not have any elastic components, ensuring the measuring force is constant regardless the position of probe



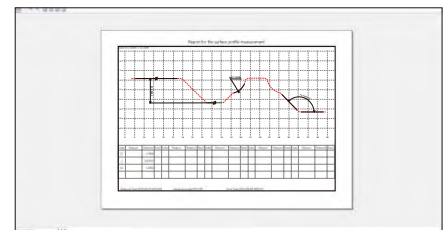
calibration



contour scanning



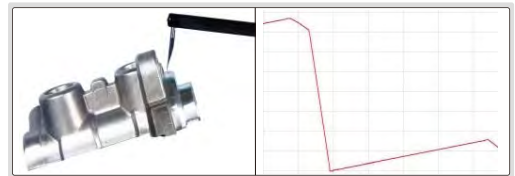
dimension measurement



data output

SPECIFICATION

| | |
|----------------------------|--|
| X axis measuring range | 140mm |
| X axis resolution | 0.2μm |
| X axis straightness | 0.8μm/100mm |
| X axis moving speed | 0.1~10mm/s |
| Z axis measuring range | ±20mm |
| Z axis resolution | 0.05μm |
| Z axis moving speed | 0.5~10mm/s |
| Linear accuracy | ±(1.5+ 0.2H)μm, H is measuring height in mm |
| Angular measuring accuracy | ±2' |
| Arc measuring accuracy | ±(2+R/8)μm, R is 2~10mm standard ball |
| Radius of probe tip | 25μm |
| Moving direction | backward |
| Measuring force | 6.86~9.8mN |
| Measuring unit | mm/inch |
| Traceable angle | 72° (upward), 87° (downward) |
| Drive mode | motor |
| Travel of Z axis | 430mm |
| Dimension (L×W×H) | 1200×700×1780mm |
| Power supply | 220±5%V, 50Hz |
| Weight | 320kg |



standard balls (included)



standard blocks (included)



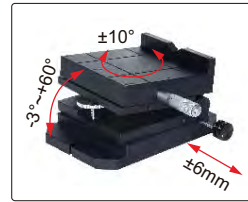
standard shaft (included)

To be continued

Continued from previous page

STANDARD DELIVERY

| | |
|------------------------|--------------|
| Main unit | 1 pc |
| Standard probe and arm | 1 pc of each |
| Standard block | 2 pcs |
| Standard ball | 2 pcs |
| Standard shaft | 1 pc |
| Stage | 1 pc |
| Vise | 1 pc |
| Measuring arm | 1 pc |
| Computer | 1 pc |
| Measurement software | 1 pc |
| Printer | 1 pc |
| Installation tools | 1 set |



stage (included)



vise (included)

OPTIONAL ACCESSORY

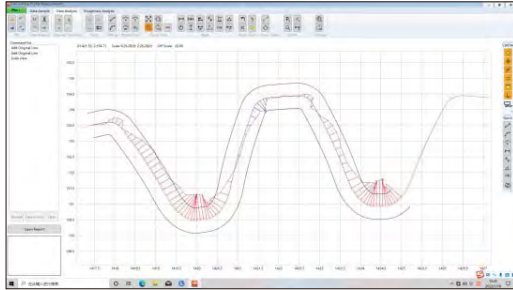
| | |
|-------|------------------|
| Probe | refer to details |
|-------|------------------|

SPECIFICATION OF PROFILE PROBES

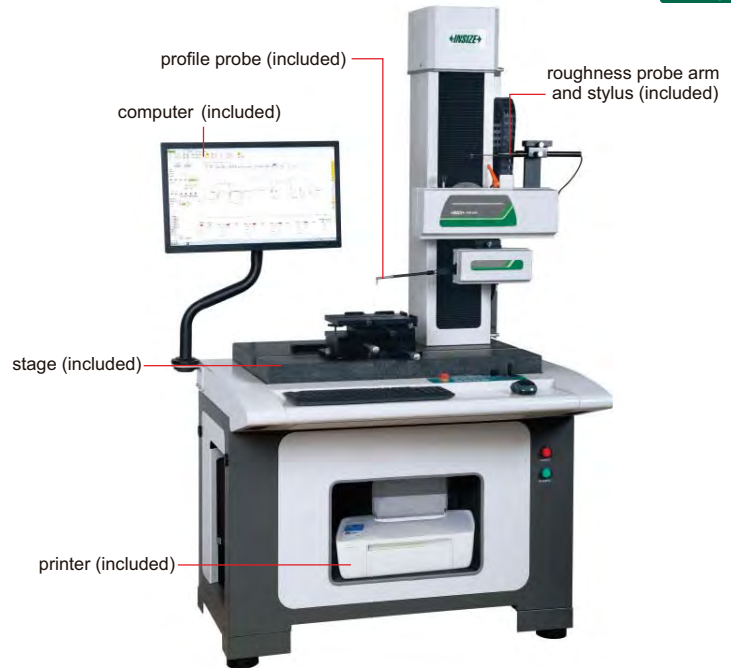
Unit: mm

| | | |
|--|--|--|
| <p>chisel stylus</p> <p>code SPM-1000-T01 (H=32mm, included) code SPM-1000-T02 (H=48mm, optional) code SPM-1000-T03 (H=68mm, optional)</p> | <p>cone stylus</p> <p>code SPM-1000-Z01 (H=32mm, optional) code SPM-1000-Z02 (H=48mm, optional) code SPM-1000-Z03 (H=68mm, optional)</p> | <p>ball stylus</p> <p>code SPM-1000-R01 (H=32mm, optional) code SPM-1000-R02 (H=48mm, optional) code SPM-1000-R03 (H=68mm, optional)</p> |
| <p>standard arm, code SPM-1000-SP (included), stylus is not included</p> | <p>probe for small holes, code SPM-1000-SBP (optional), stylus is included</p> <p>measure the contour of holes with diameter > Ø8mm</p> | |
| <p>transverse probe, code SPM-1000-LP (optional), stylus is included</p> <p>measure the contour of holes in radial direction</p> | | |

ROUGHNESS AND PROFILE MEASURING MACHINE CODE SPM-2000



CAD profile comparison

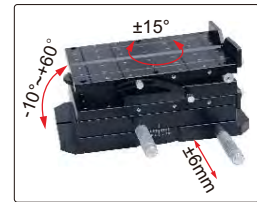


31

- Software is included, for measurement and data output
- Profile sensor with low noise
- Wide range roughness sensor without skid
- Meet ISO1997, ISO1984, BS1988, DIN1990, ASME1995, JIS1982, JIS1994 standards
- 65 roughness parameters

PROFILE MEASUREMENT SPECIFICATION

| | |
|----------------------------|---|
| X axis measuring range | 140mm |
| X axis resolution | 0.2μm |
| X axis traverse speed | 0.05~15mm/s |
| Z axis measuring range | 50mm |
| Z axis resolution | 0.05μm |
| Z axis traverse speed | 0.2~15mm/s |
| Straightness | 0.5μm/100mm |
| Linear accuracy | ±(0.8+ 0.15H)μm, H is measuring height in mm |
| Angular measuring accuracy | ±1' |
| Arc measuring accuracy | ±(1.5+R/12)μm, R is 2~10mm standard ball |
| Measuring unit | μm/μin |
| Measuring speed | 0.05~1mm/s |
| Traceable angle | 72° (upward), 88° (downward) |
| Travel of Z axis | 430mm |
| Power supply | 220±5%V, 50Hz |
| Dimension (L×W×H) | 1400×850×1780mm |
| Weight | 350kg |



stage (included)



vise (included)



standard shaft (included)



standard blocks (included)



standard balls (included)

ROUGHNESS MEASUREMENT SPECIFICATION

| | |
|----------------------------|---|
| Roughness parameters | Ra, Rp, Rv, Rz, Rz (JIS), R3z, Rz (DIN), Rzj, Rmax, Rc, Rt, Rq, Rsk, Rku, Rsm, Rs, PΔq, Rk, Rpk, Rvk, Mr1, Mr2, Rmr |
| Waviness parameters | Wa, Wt, Wp, Wv, Wz, Wq, Wsm, Wsk, Wku, Wmr |
| Primary profile parameters | Pa, Pt, Pp, Pv, Pz, Pq, Psm, Psk, Pku, Pmr |
| Measuring range | ±420μm |
| Resolution | 0.001μm |
| Linear accuracy | ≤±(5nm+2.8%) |
| Probe radius/angle | 5μm/90° |
| Cut off | 0.025/0.08/0.25/0.8/2.5/8mm |
| Number of cut-offs | 2~7 |
| Measuring unit | μm |
| Measuring speed | 0.05~0.25mm/s |

To be continued

Continued from previous page

STANDARD DELIVERY

| | |
|-----------------------|-------|
| Main unit | 1 pc |
| Calibration block | 1 set |
| Roughness probe arm | 1 pc |
| Roughness stylus | 1 pc |
| Profile probe arm | 1 pc |
| Profile chisel stylus | 1 pc |
| Stage | 1 set |
| Vise | 1 set |
| Computer | 1 pc |
| Software | 1 set |
| Printer | 1 pc |
| Installation tools | 1 set |

OPTIONAL ACCESSORY

| | |
|-------|------------------|
| Probe | refer to details |
|-------|------------------|

SPECIFICATION OF ROUGHNESS PROBE

standard probe, code SPM-2000-P (included), stylus is included

Unit: mm

small roughness probe, code SPM-2000-P1 (optional), stylus is included

Unit: mm

SPECIFICATION OF PROFILE PROBES

Unit: mm

| | | |
|--|--|--|
| <p>chisel stylus</p> <p>code SPM-1000-T01 (H=32mm, included) code SPM-1000-T02 (H=48mm, optional) code SPM-1000-T03 (H=68mm, optional)</p> | <p>cone stylus</p> <p>code SPM-1000-Z01 (H=32mm, optional) code SPM-1000-Z02 (H=48mm, optional) code SPM-1000-Z03 (H=68mm, optional)</p> | <p>ball stylus</p> <p>code SPM-1000-R01 (H=32mm, optional) code SPM-1000-R02 (H=48mm, optional) code SPM-1000-R03 (H=68mm, optional)</p> |
| <p>standard arm, code SPM-1000-SP (included), stylus is not included</p> | | <p>probe for small holes, code SPM-1000-SBP (optional), stylus is included</p> <p>measure the contour of holes with diameter >Ø8mm</p> |
| <p>transverse probe, code SPM-1000-LP (optional), stylus is included</p> <p>measure the contour of holes in radial direction</p> | | |

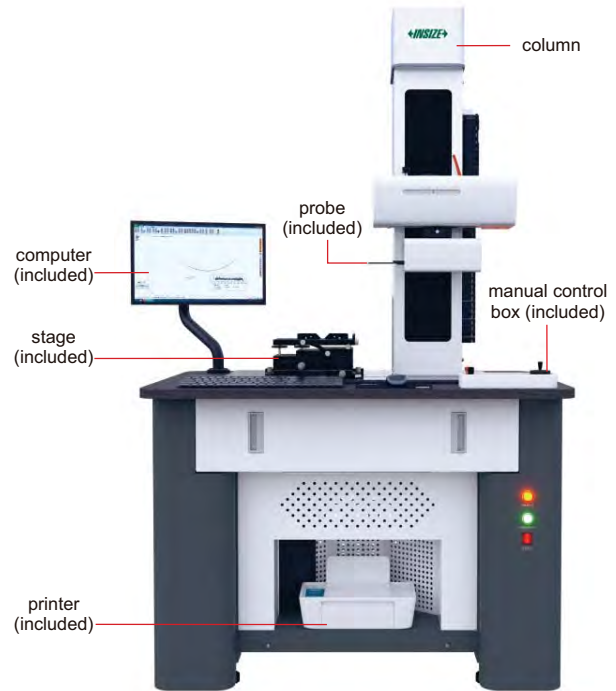
ROUGHNESS AND PROFILE MEASURING MACHINE (ONE PROBE TYPE) CODE SPM-5000



- Roughness, waviness, and profile analysis can be achieved with just one measurement
- Can measure all roughness and waviness parameters
- Can be used for automatic measurement system
- Air flotation and shockproof system to reduce measurement deviation
- Free to edit measurement reports

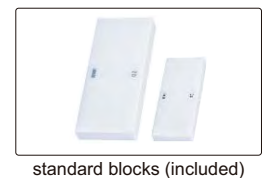
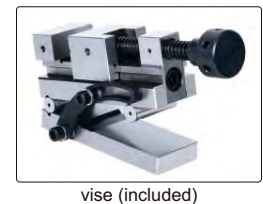
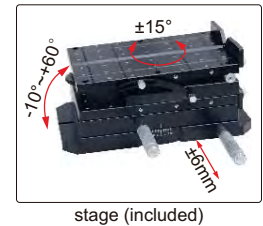
PROFILE MEASUREMENT SPECIFICATION

| | |
|----------------------------|---|
| X axis measuring range | 100mm |
| X axis resolution | 0.2μm |
| X axis traverse speed | 0.05~50mm/s |
| X axis linear accuracy | ±(0.8+ 0.015L)μm, L is measuring length in mm |
| Z axis measuring range | ±10mm |
| Z axis resolution | 0.01μm |
| Z axis traverse speed | 0.2~50mm/s |
| Z axis linear accuracy | ±(0.5+ 0.08H)μm, H is measuring height in mm |
| Angular measuring accuracy | ±1' |
| Arc measuring accuracy | ±(1+R/12)μm, R is 2~10mm standard ball |
| Straightness | 0.3μm/100mm, |
| Measuring unit | mm/inch |
| Travel of Z axis | 320mm |
| Power supply | 220±5%V, 50Hz |
| Dimension (L×W×H) | 1700×820×1900mm |
| Weight | 500kg |



ROUGHNESS MEASUREMENT SPECIFICATION

| | |
|------------------------------------|---|
| Roughness parameters | Ra, Ramax, Ramin, Rasd, Rp, Rpm, Rpsd, Rv, Rvmax, Rvmin, Rvsd, Rz, Rzmax, Rzmin, Rzs, R3z, Rc, Rcm, Rcsd, Rt, Rq, Rqmax, Rqmin, Rds, Rsk, Rskmax, Rskmin, Rksd, Rku, Rkumax, Rkumin, Rkds, Rsm, Rsmmax, Rsmmin, Rmsd, Rs, RΔa, RΔamax, RΔamin, RΔasd, RΔq, RΔqmax, RΔqmin, RΔqsd, Rk, Rpk, Rvk, Mr1, Mr2, Rλα, Rλamax, Rλamin, Rλasd, Rλq, Rλqmax, Rλqmin, Rλqsd, Rδc, Rpc, Rmr |
| Waviness parameters | Wa, Wamax, Wamin, Wasd, Wsa, Wca, Wa08, Wc, Wcmax, Wcmin, Wcsd, Wt, Wz, Wzmax, Wzmin, Wzsd, Wp, Wpmax, Wv, Wvmax, Wvmin, Wvsd, Wq, Wqmax, Wqmin, Wqsd, Wsm, Wsmmax, Wsmmin, Wmsd, Wsk, Wskmax, Wskmin, Wksd, Wku, Wkumax, Wkumin, Wkds, WΔq, WΔqmax, WΔqmin, WΔqsd, Wδc, Wmr, Wpsd, Wpmin |
| Original profile parameters | Pa, Pt, Pp, Pc, Pv, Pz, Pq, Psm, Psk, Pku, RzJ, Rpq, Rvq, Rmq, Pmr, PΔq, Avh, Hmax, Hmin, Area, Pδc, Tilt |
| Motif parameters | Ncrx, R, Rx, AR, Nr, Cpm, Sr, Sar, W, Wx, Aw, Wte, Nw, Sw, Saw |
| Measuring range | ±10mm |
| Resolution | 0.01μm |
| Linear accuracy | ±(4nm+2.5%) |
| Probe radius/angle | 5μm/90° |
| Cut off | 0.025/0.08/0.25/0.8/2.5/8mm |
| Number of cut-offs | 2~7 |
| Measuring unit | μm |
| Measuring speed | 0.1~2mm/s |



To be continued

Continued from previous page

STANDARD DELIVERY

| | |
|---|-------|
| Main unit (including workbench, controller, driver, sensor) | 1 pc |
| Calibration block | 1 set |
| Probe arm | 1 pc |
| Stylus | 1 pc |
| Air flotation and shockproof system | 1 set |
| Stage | 1 set |
| Vise | 1 set |
| Computer | 1 pc |
| Software | 1 set |
| Printer | 1 pc |
| Installation tools | 1 set |

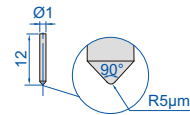
OPTIONAL ACCESSORY

| | |
|-------|------------------|
| Probe | refer to details |
|-------|------------------|

SPECIFICATION OF STANDARD PROBE

Unit: mm

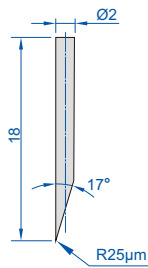
standard stylus , code SPM-5000-R1 (included)



SPECIFICATION OF PROFILE PROBES

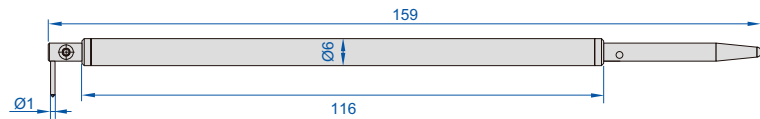
Unit: mm

chisel stylus

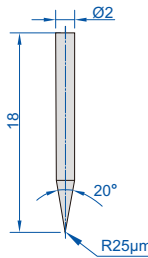


code **SPM-5000-T01** (optional)

standard arm, code SPM-5000-P1 (included), stylus is not included

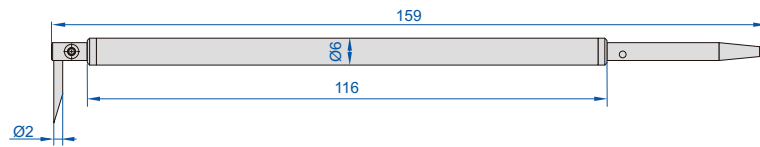


cone stylus

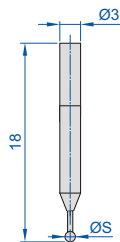


code **SPM-5000-Z01** (optional)

profile arm, code SPM-5000-P2 (optional), stylus is not included

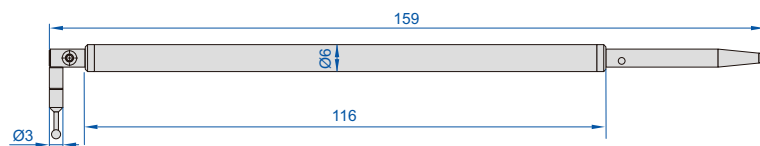


ball stylus



code **SPM-5000-S01** (ØS=1mm, optional)
code **SPM-5000-S02** (ØS=2mm, optional)

profile arm, code SPM-5000-P3 (optional), stylus is not included



BIDIRECTIONAL ROUGHNESS AND PROFILE MEASURING MACHINE CODE SPM-6000



- Intelligent tracking control system, real-time scanning measurement
- Bidirectional probe measurement
- Constant measuring force
- Can be used to measure absolute diameters
- Real time variable speed measurement, high-speed measurement can also ensure accuracy
- The trajectory of the probe is vertical, with more realistic Z-axis coordinate point and large range
- The profile data point cloud spacing is consistent, enabling high accuracy measurement



PROFILE MEASUREMENT SPECIFICATION

| | |
|----------------------------|---|
| X axis measuring range | 325mm |
| X axis resolution | 0.01μm |
| X axis traverse speed | 0.1~10mm/s |
| X axis straightness | 0.5μm/100mm |
| X axis linear accuracy | ±(1.5+ 0.15L)μm, L is measuring length in mm |
| X axis measuring speed | 0.1~2mm/s |
| Z axis measuring range | 325mm |
| Z axis resolution | 0.05μm |
| Z axis traverse speed | 0.1~10mm/s |
| Z axis straightness | 0.5μm/100mm |
| Z axis linear accuracy | ±(1.5+ 0.15H)μm, H is measuring height in mm |
| Z axis measuring speed | 0.1~2mm/s |
| Angular measuring accuracy | ±2' |
| Arc measuring accuracy | ±(2+R/8)μm |
| Measuring unit | mm/inch |
| Traceable angle | 72° (upward), 89° (downward) |
| Power supply | 220±5%V, 50Hz |
| Dimension (L×W×H) | 1700×820×1900mm |
| Weight | 500kg |

ROUGHNESS MEASUREMENT SPECIFICATION

| | |
|-----------------------------|---|
| Roughness parameters | Ra, Ramax, Ramin, Rasd, Rp, Rpmax, Rpmin, Rpsd, Rv, Rvmax, Rvmin, Rvsd, Rz, Rzmax, Rzmin, Rzsd, R3z, Rc, Rcmx, Rcmn, Rcsd, Rt, Rq, Rqmax, Rqmin, Rdsd, Rsk, Rskmax, Rskmin, Rsksd, Rku, Rkumax, Rkumin, Rkusd, Rsm, Rsmmax, Rsmmin, Rmsd, Rs, RΔa, RΔamax, RΔamin, RΔasd, RΔq, RΔqmax, RΔqmin, RΔqsd, Rk, Rpk, Rvk, Mr1, Mr2, RLa, Rlamax, Rlamin, Rlasd, Rlq, Rlqmax, Rlqmin, Rlqsd, Rδc, Rpc, Rmr |
| Waviness parameters | Wa, Wamax, Wamin, Wasd, Wsa, Wca, Wa08, Wc, Wcmx, Wcmin, Wcsd, Wt, Wz, Wzmax, Wzmin, Wzsd, Wp, Wpmax, Wv, Wvmax, Wvmin, Wvsd, Wq, Wqmax, Wqmin, Wqsd, Wsm, Wsmmax, Wsmmin, Wmsd, Wsk, Wskmax, Wskmin, Wksd, Wku, Wkumax, Wkumin, Wkusd, WΔq, WΔqmax, WΔqmin, WΔqsd, Wδc, Wmr, Wpsd, Wpmin |
| Original profile parameters | Pa, Pt, Pp, Pc, Pv, Pz, Pq, Psm, Psk, Pku, RzJ, Rpq, Rmq, Pmr, PΔq, Avh, Hmax, Hmin, Area, Pδc, Tilt |
| Motif parameters | Ncrx, R, Rx, AR, Nr, Cpm, Sr, Sar, W, Wx, Aw, Wte, Nw, Sw, Saw |
| Resolution | 0.01μm |
| Linear accuracy | ±(20nm+5%) |
| Probe radius/angle | 5μm/90° |
| Cut off | 0.025/0.08/0.25/0.8/2.5/8mm |
| Number of cut-offs | 2~7 |
| Measuring unit | μm |
| Measuring speed | 0.1~2mm/s |

To be continued

Continued from previous page

STANDARD DELIVERY

| | |
|---|-------|
| Main unit (including workbench, controller, driver, sensor) | 1 set |
| Calibration block | 1 set |
| Profile arm | 1 pc |
| Bidirectional profile stylus | 1 pc |
| Roughness arm | 1 pc |
| Unidirectional roughness stylus | 1 pc |
| Stage | 1 pc |
| Vise | 1 pc |
| Computer | 1 pc |
| Software | 1 set |
| Printer | 1 pc |
| Installation tools | 1 set |



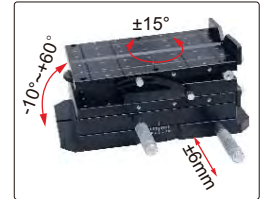
standard balls (included)



standard shaft (included)



vise (included)

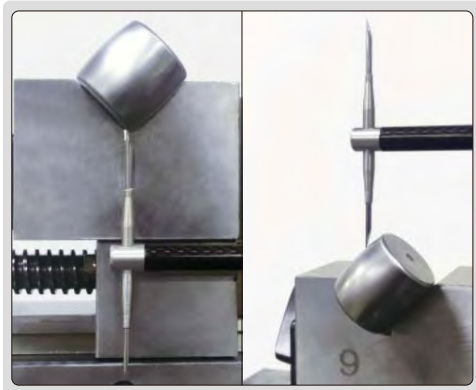


stage (included)

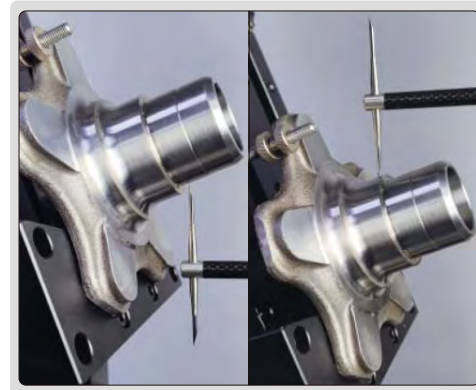


standard blocks (included)

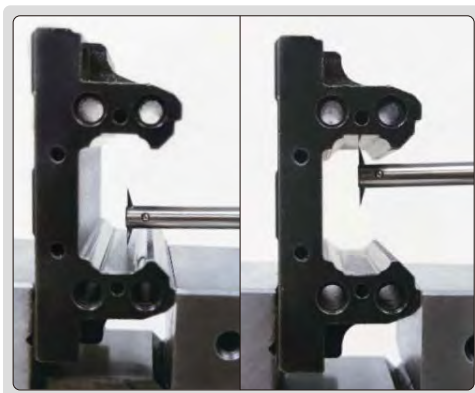
APPLICATION EXAMPLES



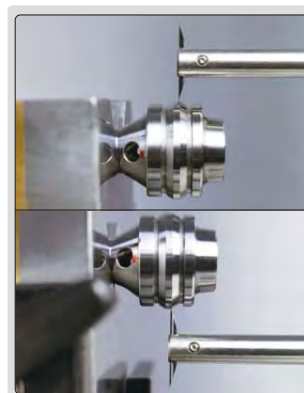
roller bearing



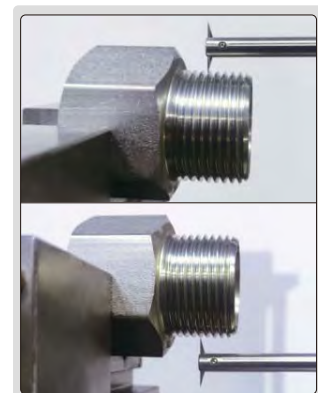
hub bearing



slider



valve spool



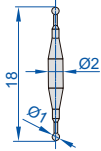
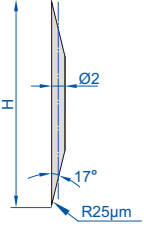
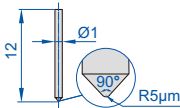
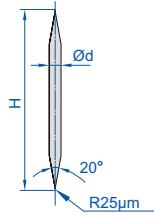
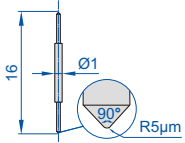
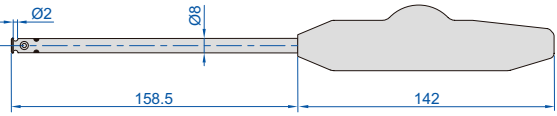
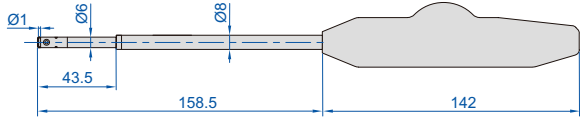
thread

To be continued

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SPECIFICATION OF PROBES

Unit: mm

| | |
|---|---|
| <p>bidirectional spherical stylus code SPM-6000-R01 (optional)</p>  | <p>bidirectional chisel stylus code SPM-6000-T01 (H=16mm, included) code SPM-6000-T02 (H=24mm, optional) code SPM-6000-T03 (H=30mm, optional)</p>  |
| <p>unidirectional roughness stylus code SPM-6000-S01 (included)</p>  | <p>bidirectional cone stylus code SPM-6000-Z01 (H=12mm, Ød=2mm, optional) code SPM-6000-Z02 (H=24mm, Ød=2mm, optional) code SPM-6000-Z03 (H=10mm, Ød=1mm, optional)</p>  |
| <p>bidirectional roughness stylus code SPM-6000-S02 (optional)</p>  | <p>profile arm, code SPM-6000-ARM1 (included)</p>  |
| | <p>roughness arm, code SPM-6000-ARM2 (included)</p>  |

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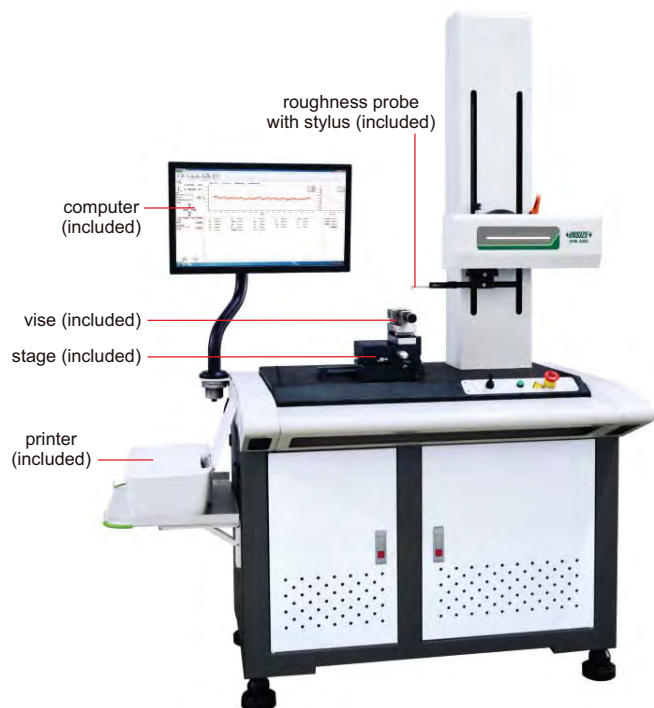
**ROUGHNESS MEASURING MACHINE
CODE SPM-4000**



- Skidless probe
- Hundreds of parameters can be evaluated, such as roughness profile, waviness profile, primary profile, etc.
- Software is included, for measurement and data output

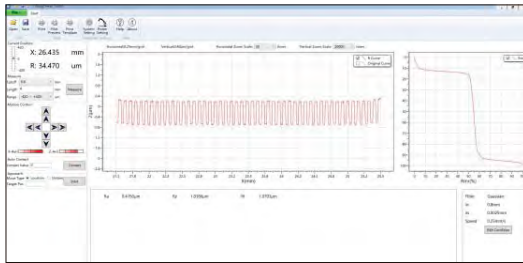
STANDARD DELIVERY

| | |
|-------------------------------|-------|
| Main unit | 1 pc |
| Roughness probe (with stylus) | 1 pc |
| Calibration block | 1 pc |
| Stage | 1 pc |
| Vise | 1 pc |
| Computer | 1 pc |
| Software | 1 set |
| Printer | 1 pc |
| Installation tools | 1 set |

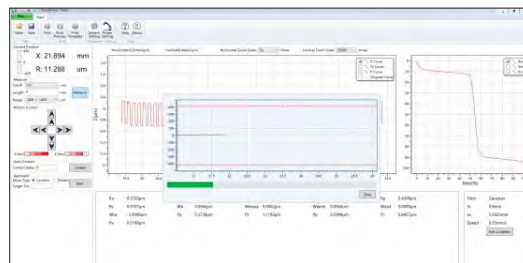


To be continued

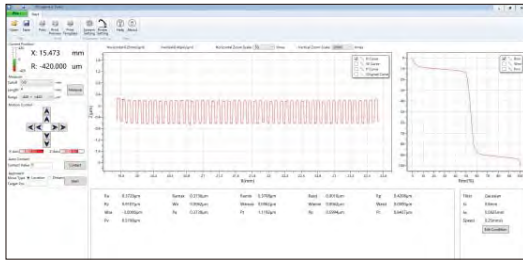
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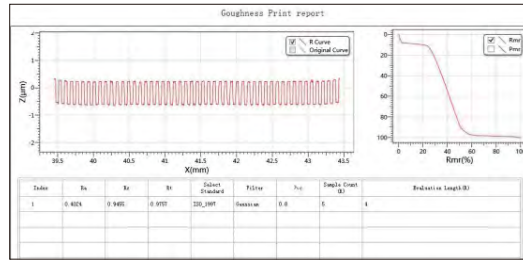
calibration



measurement



parameter measurement



data output

SPECIFICATION

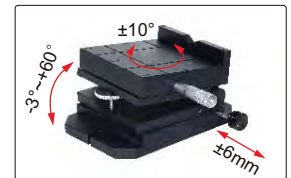
| | |
|----------------------------|---|
| Roughness parameters | Ra, Rp, Rv, Rz, Rz (JIS), R3z, Rz (DIN), Rzj, Rmax, Rc, Rt, Rq, Rsk, Rku, Rsm, Rs, RΔq, Rk, Rpk, Rvk, Mr1, Mr2, Rmr |
| Waviness parameters | Wa, Wt, Wp, Wv, Wz, Wq, Wsm, Wsk, Wku, Wmr |
| Primary profile parameters | Pa, Pt, Pp, Pv, Pz, Pq, Psm, Psk, Pku, Pmr |
| X axis measuring range | 100mm |
| X axis resolution | 0.2μm |
| X axis straightness | 0.5μm/100mm |
| X axis moving speed | 0.1~10mm/s |
| Z axis measuring range | ±420μm |
| Z axis resolution | 0.001μm |
| Z axis linear accuracy | ±(7nm+3.5%) |
| Z axis moving speed | 0.5~10mm/s |
| Z axis repeatability | 1δ≤2nm |
| Radius/angle of stylus | 5μm/90° |
| Cut off length | 0.025/0.08/0.25/0.8/2.5/8mm |
| Number of cut-offs | 2~7 |
| Measuring unit | μm |
| Drive mode | motor |
| Travel of Z axis | 320mm |
| Dimension (LxWxH) | 1200×700×1780mm |
| Power supply | 220±5%V, 50Hz |
| Weight | 320kg |



calibration block (included)



vise (included)



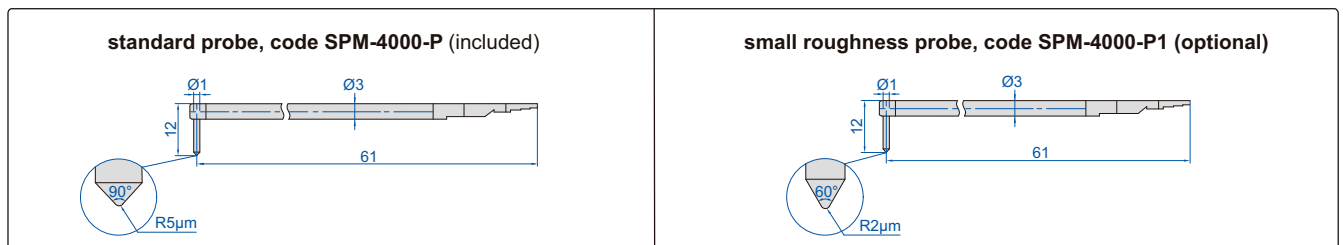
stage (included)

OPTIONAL ACCESSORY

| | |
|-----------------------|------------------|
| Small roughness probe | refer to details |
|-----------------------|------------------|

SPECIFICATION OF ROUGHNESS PROBE

Unit: mm



ROUGHNESS TESTER (COMPACT TYPE) CODE ISR-C200

INSIZE PLUS
MADE IN EUROPE

BLUETOOTH

DATA
OUTPUT

PROBE CAN BE CHANGED



- The product is light, reliable and durable
- 13 roughness parameters
- Can be operated by mobile phones (only Android system) or computers
- Measurement results can be exported in Excel and PDF format
- Memory of 18000 measurements with only parameters or 30 measurements with graph
- Automatic power off

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probe can be set at 90°, for transverse measurement



probe cover (included)



adjustable stand (included)

The software interface displays measurement settings and results. The main screen shows 'Connected with ISR-C200' and a 'START' button. Below the start button, the following settings are visible:

- ISO 4287 Standard
- 0 s Delay
- 0.8 mm Cutoff length
- Automatic Return
- 5 Cutoff number

The 'Export' screen shows fields for:

- Logo
- Description
- Notes
- Operator
- Customer
- Drawing number
- Lot
- Data to print (P, R, RK)
- Charts and tables

The results screen displays a table of parameters and their values:

| Parameter | Value | Tol. |
|-----------|-----------|------|
| Ra | 3.423 μm | |
| Rq | 3.932 μm | |
| Rt | 13.277 μm | |
| Rz | 13.090 μm | |
| Rc | 12.463 μm | |
| Rmax | 13.277 μm | |
| RSm | 95.4 μm | |
| RPX 1mm | 105 /cm | |

Below the table, there are three graphs: a main 'Roughness' graph, an 'Autumn' graph, and a 'Density' graph.

measuring software (included), connect to mobile phones via bluetooth (only Android system) to control roughness tester, or connect to computers via USB cable or bluetooth to control roughness tester, display roughness values and curve, results can be exported in Excel and PDF format

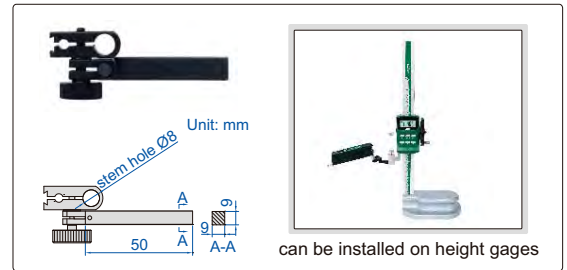
To be continued

Continued from previous page

magnetic stand adapter (included)



dial test indicator holder (optional)



SPECIFICATION

| | | |
|--------------------------|---------------------|---|
| Parameters | | Ra, Rq, Rt, Rz, Rc, Rmax, RSm, Rpc, Pt, R, AR, Rx, Ppc |
| Range | X axis | 17.5mm |
| | Z axis | 250µm |
| Accuracy | | ±(5%+0.025)µm |
| Resolution (Ra) | | 0.001µm |
| Probe | type | inductive |
| | stylus radius/angle | 2µm/90° |
| | stylus material | diamond |
| Measuring unit | | µm/µin |
| Cut off | | 0.25/0.8/2.5mm |
| Number of cut-off | | 1~5 |
| Moving speed | | 0.5mm/s, 1mm/s |
| Memory | | 18000 measurements with only parameters, 30 measurements with graph |
| Power | | built-in rechargeable battery |
| Dimension (L×W×H) | | 160×34×33.5mm |
| Weight | | 200g |

STANDARD DELIVERY

| | |
|------------------------|------|
| Main unit | 1 pc |
| Standard probe | 1 pc |
| Calibration block | 1 pc |
| Adjustable stand | 1 pc |
| Probe cover | 1 pc |
| Magnetic stand adapter | 1 pc |
| Software and USB cable | 1 pc |
| AC/DC adapter | 1 pc |

OPTIONAL ACCESSORY

| | |
|----------------------------|----------------|
| Dial test indicator holder | 6293-6 |
| Groove probe | ISR-C200-SB21 |
| Small hole probe | ISR-C200-SB31 |
| Deep groove probe | ISR-C200-SB121 |
| Extension rod | ISR-C200-ER50 |
| Extension rod | ISR-C200-ER100 |

SPECIFICATION OF PROBES

Unit: mm

| | |
|--|---|
| <p>standard probe (included)</p> <p>measurement for plane surfaces, also transverse measurement for plane surfaces, cylinders and grooves</p> | <p>groove probe (optional), code ISR-C200-SB21</p> <p>measure plane surfaces and grooves</p> |
| <p>small hole probe (optional), code ISR-C200-SB31</p> <p>measure holes with diameter > Ø4mm and depth < 20mm</p> | <p>deep groove probe (optional), code ISR-C200-SB121</p> <p>measure grooves with depth < 20mm</p> |
| <p>extension rod (optional), code ISR-C200-ER50</p> <p>for long holes</p> | <p>extension rod (optional), code ISR-C200-ER100</p> <p>for long holes</p> |

ROUGHNESS TESTER CODE ISR-C002

BLUETOOTH

DATA
OUTPUT

CAN BE OPERATED BY
MOBILE PHONES OR COMPUTERS



- Roughness tester can be operated by mobile phones (only Android system) or computers
- Data can be sent to Excel by connecting to computers via bluetooth or SPC cable
- Support bluetooth printer
- 21 roughness parameters
- Display roughness value, profile and curve
- Memory of maximum 100 results
- Automatic power off



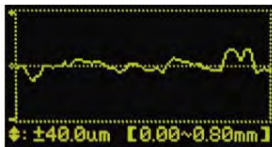
software flash disk (included)

31

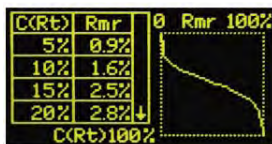
screen display



measurement result



roughness profile



Rmr analysis

probe cover (included)



put the small workpieces directly under the probe for measurement



adjustable stand (included)



operate roughness tester by mobile phones



connect to mobile phones via bluetooth (only Android system), display roughness values, profile and curve

operate roughness tester by computers



connect to computers via USB cable (software is included), display roughness values, profile and curve

data can be sent to Excel by connecting to computer via bluetooth or SPC cable

via bluetooth

receiver (optional)



SPC cable (optional)



receiver (optional)



via SPC cable



bluetooth printer (optional)



To be continued

Continued from previous page

Unit: mm

light duty test stand (optional)



heavy duty test stand (optional)



| | |
|--|---|
| <p>extension rod (optional), code ISR-C002-ER</p> | <p>transverse rod (optional), code ISR-C002-TR</p> |
| <p>tiny hole probe (optional), code ISR-C002-SBP</p> | <p>deep groove probe (optional), code ISR-C002-DGP</p> |
| <p>deep groove probe (optional), code ISR-C002-DGP1</p> | |

SPECIFICATION

| | | |
|--------------------------|--|-----------|
| Parameters | Ra, Rz, Rq, Rv, Rp, RS, R3z, R3y, Rt, Rz (JIS), Rk, Rku, Rsm, Rpc, Rpk, Rvk, Rsk, Mr1, Mr2, Ry (JIS), Rmax | |
| Range | 320µm (-160µm~160µm) | |
| Accuracy | ±10% | |
| Resolution (Ra) | 0.001µm | |
| Probe | type | inductive |
| | stylus radius/angle | 5µm/90° |
| | stylus material | diamond |
| Measuring force | 4mN | |
| Measuring unit | µm/µin | |
| Cut off | 0.25/0.8/2.5mm | |
| Number of cut-off | 1 to 5 | |
| Moving speed | 0.5mm/s, 1mm/s | |
| Memory | 100 measurement results | |
| Output | bluetooth and USB | |
| Power | built-in rechargeable battery | |
| Dimension (L×W×H) | 141×55×40mm | |
| Weight | 400g | |

STANDARD DELIVERY

| | |
|-------------------------------|--------------|
| Main unit | 1 pc |
| Standard probe | 1 pc |
| Calibration block and support | 1 pc of each |
| Adjustable stand | 1 pc |
| Probe cover | 1 pc |
| Software and USB cable | 1 pc |
| AC/DC adapter | 1 pc |

OPTIONAL ACCESSORY

| | |
|-----------------------|-------------------|
| Extension rod | ISR-C002-ER |
| Transverse rod | ISR-C002-TR |
| Tiny hole probe | ISR-C002-SBP |
| Deep groove probe | ISR-C002-DGP |
| Deep groove probe | ISR-C002-DGP1* |
| Light duty test stand | ISR-C002-STAND1 |
| Heavy duty test stand | ISR-C002-STAND |
| Bluetooth printer | ISR-C002-PRINTER |
| Receiver | ISR-C300-RECEIVER |
| SPC cable | ISR-C300-SPC |

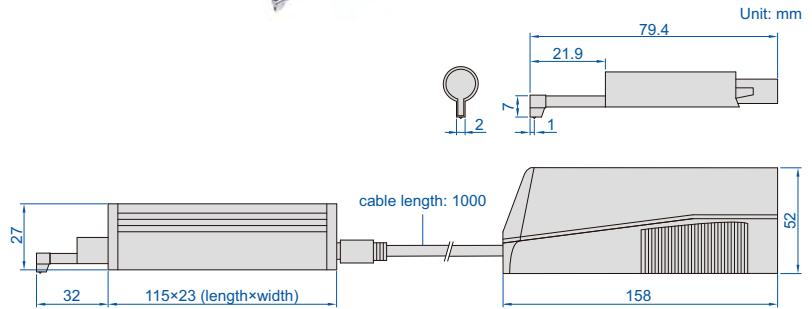
*Need to be delivered with roughness tester ISR-C002

ROUGHNESS TESTER (SEPARABLE TYPE) CODE ISR-C300

- BLUETOOTH
- TOUCH SCREEN
- CAN BE OPERATED BY
COMPUTERS OR MOBILE PHONES
- DATA
OUTPUT

**POPULAR
MODEL**

- Roughness tester can be operated by mobile phones (only Android system) or computers
- Data can be sent to Excel by connecting to computers via bluetooth or SPC cable
- Support bluetooth printer
- 22 roughness parameters
- Meet ISO, DIN, ANSI, JIS standards
- Display roughness values, profile and curve
- Memory of maximum 100 data and waveform
- Built-in lithium battery, working time more than 50 hours
- Touch screen
- Automatic power off



roughness tester screen display

measurement result

| | |
|--------------|--------------|
| Ra= 0.001 μm | Rz= 0.023 μm |
| Rq= 0.004 μm | Rt= 0.023 μm |
| Rp= 0.000 μm | Rv= 0.023 μm |
| R3z= 0.00 μm | R3y= 0.00 μm |

roughness profile

Ra= 1.854 μm
Rmax= 13.59 μm

Rmr analysis

| C(Rt) | Rmr | C(Rt) |
|-------|-------|-------|
| 5% | 96.7% | |
| 10% | 96.7% | |
| 15% | 96.7% | |
| 20% | 96.7% | |



software flash disk (included)

probe and main unit can be combined together



operate roughness tester by mobile phones

connect to mobile phones via bluetooth (only Android system), display roughness values, profile and curve

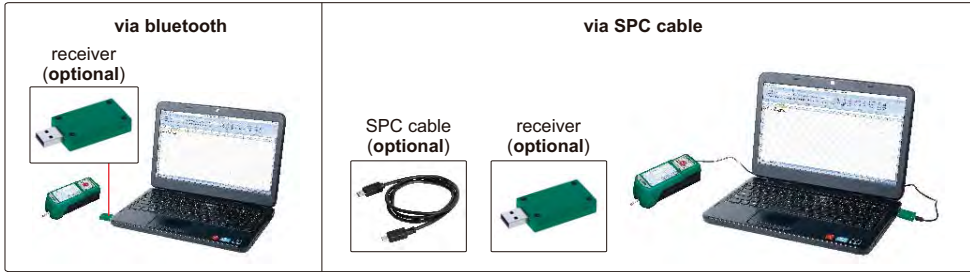
operate roughness tester by computers

connect to computers via USB cable (software is included), display roughness values, profile and curve

To be continued

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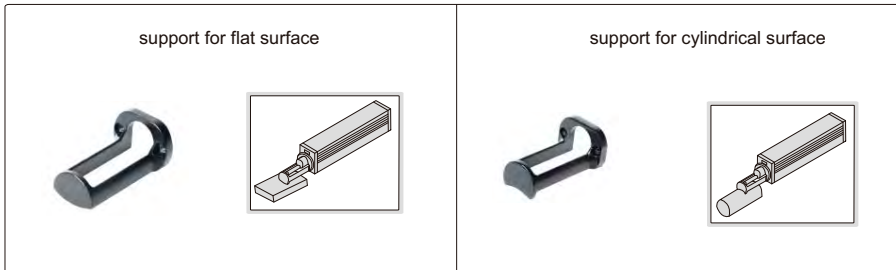
data can be sent to Excel by connecting to computer via bluetooth or SPC cable



bluetooth printer (optional)



probe support (optional)



adjustable stand (included)



magnetic stand adapter (included)



height gage adapter (optional)



NOTE: Please check whether the adapter can fit your height gages. When using **INSIZE** height gages, please use the dial test indicator holder of height gages

light duty test stand (optional)



heavy duty test stand (optional)

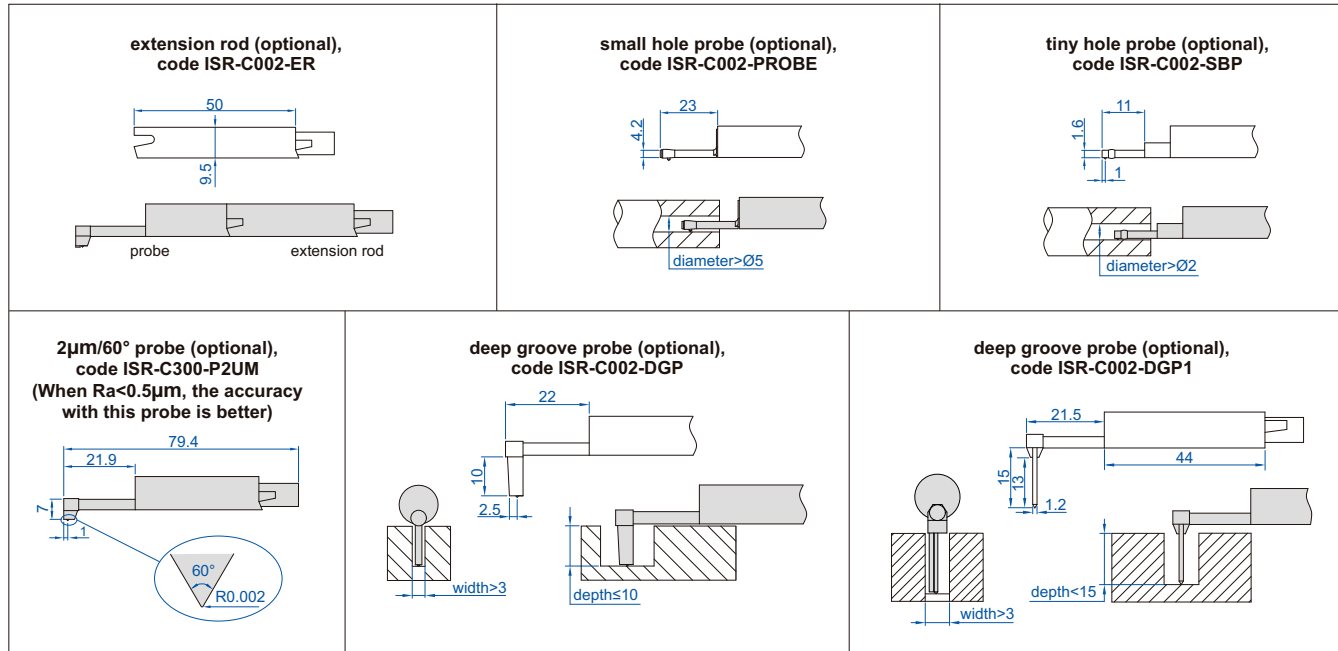


To be continued

Continued from previous page

optional probes

Unit: mm



31

SPECIFICATION

| | | |
|---------------------------|---------------------|--|
| Parameters | | Ra, Rz, Rq, Rv, Rp, Rs, R3z, R3y, Rt, Rc, Rz (JIS), Rk, Rku, Rsm, Rpc, Rpk, Rvk, Rsk, Mr1, Mr2, Ry, Rmax |
| Range | X axis | 17.5mm |
| | Z axis | 320µm (-160µm~160µm) |
| Accuracy | | ±10% |
| Resolution (Ra) | | 0.001µm |
| Probe | type | inductive |
| | stylus radius/angle | 5µm/90° |
| | stylus material | diamond |
| Measuring force | | 4mN |
| Measuring unit | | µm/µin |
| Cut off | | 0.25/0.8/2.5mm |
| Number of cut-offs | | 1~5 |
| Moving speed | | 0.135mm/s, 0.5mm/s, 1mm/s |
| Memory | | 100 measurement results |
| Output | | USB and bluetooth |
| Power | | built-in rechargeable battery |
| Dimension (L×W×H) | | 158×64×52mm |
| Weight | | 400g |

STANDARD DELIVERY

| | |
|-----------------------------------|--------------|
| Main unit | 1 pc |
| Standard probe | 1 pc |
| Calibration block and support | 1 pc of each |
| Connecting cable (long and short) | 1 pc of each |
| Magnetic stand adapter | 1 pc |
| Adjustable stand | 1 pc |
| Touch pen | 1 pc |
| Software and USB cable | 1 pc |
| AC/DC adapter | 1 pc |

OPTIONAL ACCESSORY

| | |
|---------------------------------|-------------------|
| Extension rod | ISR-C002-ER |
| Small hole probe | ISR-C002-PROBE |
| Tiny hole probe | ISR-C002-SBP |
| Deep groove probe | ISR-C002-DGP |
| Deep groove probe | ISR-C002-DGP1* |
| 2µm/60° probe | ISR-C300-P2UM |
| Bluetooth printer | ISR-C002-PRINTER |
| Height gage adapter | ISR-C300-LB1 |
| Receiver | ISR-C300-RECEIVER |
| SPC cable | ISR-C300-SPC |
| Support for flat surface | ISR-C300-COVER1 |
| Support for cylindrical surface | ISR-C300-COVER2 |
| Light duty test stand | ISR-C002-STAND1 |
| Heavy duty test stand | ISR-C002-STAND |

* Need to be delivered with roughness tester ISR-C300



DATA OUTPUT

BLUETOOTH

TOUCH SCREEN

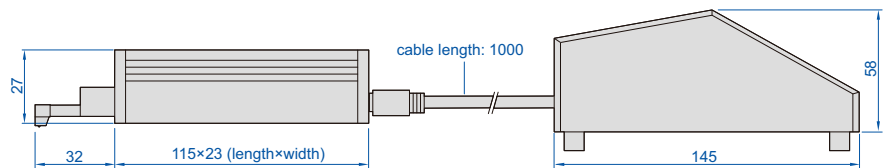
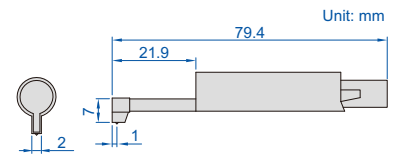
CAN BE OPERATED BY MOBILE PHONES OR COMPUTERS

ROUGHNESS TESTER CODE ISR-T120



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- Roughness tester can be operated by mobile phones (only Android system) or computers
- Data can be sent to Excel by connecting to computers via bluetooth or SPC cable
- Built-in printer can print measurement results and graphics
- 22 roughness parameters
- Meet ISO, DIN, ANSI, JIS standards
- Display roughness values, profile and curve
- Memory of maximum 100 data and waveform
- Built-in lithium battery, working time more than 50 hours
- Automatic power off



roughness tester screen display

| | |
|------------------------------------|--------------|
| 18-10-11 10:07:59 0.80mm x 5 GAUSS | |
| Ra= 0.001 μm | Rz= 0.023 μm |
| Rq= 0.004 μm | Rt= 0.023 μm |
| Rp= 0.000 μm | Rv= 0.023 μm |
| R3z= 0.00 μm | R3y= 0.00 μm |

measurement result

roughness profile

| | | | | |
|-------|-------|---|-----|-----|
| C(Rt) | Rmr | 0 | Rmr | 100 |
| 5% | 96.7% | | | |
| 10% | 96.7% | | | |
| 15% | 96.7% | | | |
| 20% | 96.7% | | | |

Rmr analysis

operate roughness tester by mobile phones

connect to mobile phones via bluetooth (only Android system), display roughness values, profile and curve

operate roughness tester by computers

connect to computers via USB cable (software is included), display roughness values, profile and curve

To be continued

Continued from previous page

data can be sent to Excel by connecting to computer via bluetooth or SPC cable

| | |
|--|--|
| <p>via bluetooth</p> <p>receiver (optional)</p> | <p>via SPC cable</p> <p>SPC cable (optional)</p> <p>receiver (optional)</p> |
|--|--|

probe support (optional)

support for cylindrical surface

support for flat surface

height gage adapter (optional)

9x9mm

can be installed on height gages

magnetic stand adapter (included)

Ø8mm

can be installed on magnetic stands

NOTE: Please check whether the adapter can fit your height gages. When using **INSIZE** height gages, please use the dial test indicator holder of height gages

optional probes

Unit: mm

| | | |
|---|---|---|
| <p>extension rod (optional), code ISR-C002-ER</p> <p>probe extension rod</p> | <p>small hole probe (optional), code ISR-C002-PROBE</p> <p>diameter > Ø5</p> | <p>tiny hole probe (optional), code ISR-C002-SBP</p> <p>diameter > Ø2</p> |
| <p>2µm/60° probe (optional), code ISR-C300-P2UM (When Ra < 0.5µm, the accuracy with this probe is better)</p> | <p>deep groove probe (optional), code ISR-C002-DGP</p> <p>width > 3 depth ≤ 10</p> | <p>deep groove probe (optional), code ISR-C002-DGP1</p> <p>depth < 15 width > 3</p> |

To be continued

Continued from previous page

light duty test stand (optional)



heavy duty test stand (optional)



SPECIFICATION

| | | |
|--------------------|---------------------|--|
| Parameters | | Ra, Rz, Rq, Rv, Rp, Rs, R3z, R3y, Rt, Rc, Rz (JIS), Rk, Rku, Rsm, Rpc, Rpk, Rvk, Rsk, Mr1, Mr2, Ry, Rmax |
| Range | X axis | 17.5mm |
| | Z axis | 640 μ m (-320 μ m~320 μ m) |
| Accuracy | | \pm 10% |
| Resolution (Ra) | | 0.001 μ m |
| Probe | type | inductive |
| | stylus radius/angle | 5 μ m/90° |
| | stylus material | diamond |
| Measuring force | | 4mN |
| Measuring unit | | μ m/ μ in |
| Cut off | | 0.25/0.8/2.5mm |
| Number of cut-offs | | 1~5 |
| Traverse speed | | 0.135mm/s, 0.5mm/s, 1mm/s |
| Memory | | 100 measurement results |
| Output | | bluetooth and USB |
| Power | | built-in rechargeable battery |
| Dimension (L×W×H) | | 155×145×58mm |
| Weight | | 1000g |

STANDARD DELIVERY

| | |
|-------------------------------|--------------|
| Main unit | 1 pc |
| Standard probe | 1 pc |
| Calibration block and support | 1 pc of each |
| Magnetic stand adapter | 1 pc |
| Adjustable stand | 1 pc |
| Touch pen | 1 pc |
| Software and USB cable | 1 pc |
| AC/DC adapter | 1 pc |

OPTIONAL ACCESSORY

| | |
|---------------------------------|-------------------|
| Extension rod | ISR-C002-ER |
| Small hole probe | ISR-C002-PROBE |
| Tiny hole probe | ISR-C002-SBP |
| 2 μ m/60° probe | ISR-C300-P2UM |
| Deep groove probe | ISR-C002-DGP |
| Deep groove probe | ISR-C002-DGP1* |
| Height gage adapter | ISR-C300-LB1 |
| Receiver | ISR-C300-RECEIVER |
| SPC cable | ISR-C300-SPC |
| Support for flat surface | ISR-C300-COVER1 |
| Support for cylindrical surface | ISR-C300-COVER2 |
| Light duty test stand | ISR-C002-STAND1 |
| Heavy duty test stand | ISR-C002-STAND |

*Need to be delivered with roughness tester ISR-T120

ROUGHNESS TESTER (BASIC TYPE) CODE ISR-C003

ATTENTION: THIS ROUGHNESS TESTER IS NOT SUITABLE FOR ROUGH TURNING, MILLING AND PLANING WORKPIECES

- Unit: μm , μin
- Automatic power off

SPECIFICATION

| | | |
|-------------------|---------------------|---|
| Parameters | | Ra, Rz, Rq, Rt |
| Range | | Ra, Rq: 0.05~15 μm Rz, Rt: 0.1~50 μm |
| Accuracy | | $\pm 10\%$ |
| Resolution (Ra) | | 0.01 μm |
| Probe | type | piezoelectric |
| | stylus radius/angle | 10 $\mu\text{m}/90^\circ$ |
| | stylus material | diamond |
| Measuring force | | 5mN |
| Measuring unit | | $\mu\text{m}/\mu\text{in}$ |
| Cut off | | 0.25/0.8/2.5mm |
| Evaluation length | | 1.25mm for cut off 0.25mm 4mm for cut off 0.8mm 5mm for cut off 2.5mm |
| Moving speed | | 0.75mm/s |
| Power | | built-in rechargeable battery |
| Dimension (L×W×H) | | 106×70×24mm |
| Weight | | 200g |



fixture for small shafts (optional)



application



calibration block (included)

STANDARD DELIVERY

| | |
|-------------------|------|
| Main unit | 1 pc |
| Calibration block | 1 pc |
| AC/DC adapter | 1 pc |

OPTIONAL ACCESSORY

| | |
|--------------------------|------------------|
| Fixture for small shafts | ISR-C003-FIXTURE |
|--------------------------|------------------|

SURFACE ROUGHNESS SPECIMEN SET CODE ISR-CS130-W

INSIZE PLUS
MADE IN EUROPE

- For checking, identifying and specifying the roughness by symbol
- Rust-proof, made of pure Nickel



| Machining method | Roughness (Ra) * | Roughness (Rz) * | Quantity |
|--------------------|---|--------------------------------------|----------|
| Flat lapping | 0.05, 0.1, 0.2 μm | 0.55, 1, 1.6 μm | 3 pcs |
| | 2, 4, 8 μin | | |
| Reaming | 0.4, 0.8, 1.6 μm | 3, 6, 10 μm | 3 pcs |
| | 16, 32, 63 μin | | |
| Plain grinding | 0.05, 0.1, 0.2, 0.4, 0.8, 1.6 μm | 0.55, 1, 1.6, 3, 6, 10 μm | 6 pcs |
| | 2, 4, 8, 16, 32, 63 μin | | |
| Horizontal milling | 0.4, 0.8, 1.6, 3.2, 6.3, 12.5 μm | 2.5, 4, 8, 16, 32, 50 μm | 6 pcs |
| | 16, 32, 63, 125, 250, 500 μin | | |
| Vertical milling | 0.4, 0.8, 1.6, 3.2, 6.3, 12.5 μm | 2.5, 4, 8, 16, 32, 50 μm | 6 pcs |
| | 16, 32, 63, 125, 250, 500 μin | | |
| Turning | 0.4, 0.8, 1.6, 3.2, 6.3, 12.5 μm | 2.5, 4, 8, 16, 32, 50 μm | 6 pcs |
| | 16, 32, 63, 125, 250, 500 μin | | |

* The actual value is the value to be calibrated

SURFACE ROUGHNESS SPECIMENS

INSIZE PLUS
MADE IN EUROPE



- For checking, identifying and specifying the roughness by symbol
- Rust-proof, made of pure Nickel

ISR-CS315

| Code | Machining method | Roughness (Ra) * | Roughness (Rz) * | Quantity |
|-----------|--------------------------|---|---|-------------------------|
| ISR-CS315 | surface grinding | 0.025, 0.05, 0.1, 0.2, 0.4, 0.8, 1.6, 3.2µm | 0.29, 0.55, 0.91, 1.74, 2.6, 4.65, 7.87, 15.6µm | 8 pcs |
| ISR-CS316 | cylindrical grinding | 0.025, 0.05, 0.1, 0.2, 0.4, 0.8, 1.6, 3.2µm | 0.3, 0.53, 0.88, 1.56, 2.64, 4.4, 7.71, 15.3µm | 8 pcs |
| ISR-CS317 | flat lapping | criss-cross | 0.025, 0.05, 0.1, 0.2µm | 0.4, 0.6, 0.74, 1.26µm |
| | | parallel | 0.025, 0.05, 0.1, 0.2µm | 0.34, 0.56, 1.12, 1.5µm |
| ISR-CS318 | cylindrical lapping | 0.025, 0.05, 0.1, 0.2µm | 0.46, 0.54, 0.63, 1.23µm | 4 pcs |
| | superfinishing | 0.025, 0.05, 0.1, 0.2µm | 0.36, 0.7, 1, 1.4µm | 4 pcs |
| ISR-CS319 | face turning | 0.4, 0.8, 1.6, 3.2, 6.3, 12.5, 25, 50µm | 1.92, 3.2, 6.15, 12.5, 23.7, 48.7, 102, 185µm | 8 pcs |
| ISR-CS320 | cylindrical turning | 0.4, 0.8, 1.6, 3.2, 6.3, 12.5, 25, 50µm | 1.7, 3.2, 6.1, 12.2, 23.7, 47.5, 95, 190µm | 8 pcs |
| ISR-CS321 | end milling | 0.4, 0.8, 1.6, 3.2, 6.3, 12.5, 25, 50µm | 1.92, 3.82, 6.45, 12.2, 25.2, 49.8, 92.6, 191µm | 8 pcs |
| ISR-CS322 | reaming | 0.4, 0.8, 1.6, 3.2µm | 1.7, 3.2, 6.4, 12.8µm | 4 pcs |
| | drilling | 1.6, 3.2, 6.3, 12.5µm | 7.5, 15.5, 31, 60µm | 4 pcs |
| ISR-CS323 | horizontal milling | 0.4, 0.8, 1.6, 3.2, 6.3, 12.5, 25, 50µm | 1.8, 3.68, 6.63, 12.8, 25.6, 53, 97.5, 197µm | 8 pcs |
| ISR-CS325 | shaping (planing) | 0.8, 1.6, 3.2, 6.3, 12.5, 25, 50, 100µm | 3.84, 6.7, 12.2, 25.2, 48.7, 99.9, 190, 361µm | 8 pcs |
| ISR-CS326 | linishing (belt sanding) | 0.1, 0.2, 0.4, 0.8, 1.6, 3.2µm | 0.9, 1.55, 3.37, 7.42, 18.5, 31µm | 6 pcs |
| ISR-CS328 | vertical grinding | 0.2, 0.4, 0.8, 1.6, 3.2, 6.3µm | 1.1, 3.5, 6.15, 8.78, 22.19, 40.8µm | 6 pcs |
| ISR-CS329 | grit blasting | 3.2, 10.5, 18, 25µm | 19.2, 63, 108, 150µm | 4 pcs |
| | shot blasting | 3.2, 8, 13, 18µm | 19.2, 48, 78, 108µm | 4 pcs |
| ISR-CS331 | spark erosion (EDM) | 0.4, 0.8, 1.6, 3.2, 6.3, 12.5, 25, 50µm | 2.5, 4.5, 7.2, 14.2, 24.7, 51.2, 105, 196µm | 8 pcs |
| ISR-CS333 | hand filing | 0.4, 0.8, 1.6, 3.2, 6.3µm | 3, 5.6, 12.4, 22.5, 61µm | 5 pcs |
| ISR-CS334 | castings | 0.8, 1.6, 3.2, 6.3, 12.5, 25, 50µm | 3.2, 8, 16, 32, 56, 112, 225µm | 7 pcs |
| ISR-CS335 | honoring | 0.05, 0.1, 0.2, 0.4, 0.8, 1.6µm | 0.31, 0.56, 1, 2, 4.2, 9µm | 6 pcs |
| ISR-CS336 | polishing | 0.0125, 0.025, 0.05, 0.1, 0.2µm | 0.29, 0.35, 0.67, 0.72, 1.52µm | 5 pcs |

* The actual value is the value to be calibrated

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SHOT AND GRIT BLASTING SURFACE ROUGHNESS SPECIMENS

INSIZE PLUS
MADE IN EUROPE



ISR-CS017

- To check the roughness of steel surfaces which have been blast cleaned before painting
- Meets ISO 8503/1
- Rust-proof, made of pure Nickel
- Each piece contains 4 parts

| Code | Machining method | Roughness (Ra) * | Roughness (Rz) * |
|-----------|------------------|---------------------|----------------------|
| ISR-CS017 | shot blasting | 3.2, 8, 13, 18µm | 19.2, 48, 78, 108µm |
| ISR-CS018 | grit blasting | 3.2, 10.5, 18, 25µm | 19.2, 63, 108, 150µm |

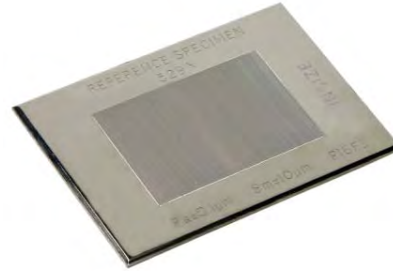
* The actual value is the value to be calibrated

SURFACE ROUGHNESS REFERENCE SPECIMENS

INSIZE PLUS
MADE IN EUROPE

MEASURING ACCURACY OF ROUGHNESS TESTERS CAN BE IMPROVED, IF THE CALIBRATION IS MADE ON A REFERENCE SPECIMEN WITH THE ROUGHNESS VALUE CLOSE TO THE WORKPIECE TO BE MEASURED

- To calibrate roughness testers
- Meets ISO 5436-1: 2000
- Rust proof, made of pure Nickel



ISR-RS529X

| Code | Roughness (Ra) |
|------------|----------------------|
| ISR-RS525X | 6.25 μm * |
| ISR-RS526X | 3.15 μm * |
| ISR-RS527X | 3.0 μm * |
| ISR-RS528X | 0.5 μm * |
| ISR-RS529X | 0.1 μm * |
| ISR-RS530X | 1.0 μm * |
| ISR-RS531X | 0.3 μm * |

*The actual value may be slightly different

SURFACE ROUGHNESS REFERENCE SPECIMENS

MEASURING ACCURACY OF ROUGHNESS TESTERS CAN BE IMPROVED, IF THE CALIBRATION IS MADE ON A REFERENCE SPECIMEN WITH THE ROUGHNESS VALUE CLOSE TO THE WORKPIECE TO BE MEASURED

- To calibrate roughness testers
- Made of glass



ISR-LS603

| Code | Roughness (Ra) | Deviation * | Uniformity |
|-----------|-------------------|-------------|------------|
| ISR-LS601 | 0.1 μm | -20% ~ +10% | 3% |
| ISR-LS602 | 0.2 μm | $\pm 10\%$ | 3% |
| ISR-LS603 | 0.4 μm | $\pm 10\%$ | 3% |
| ISR-LS604 | 0.8 μm | $\pm 10\%$ | 3% |
| ISR-LS605 | 1.6 μm | $\pm 10\%$ | 3% |
| ISR-LS606 | 3.2 μm | $\pm 10\%$ | 2% |
| ISR-LS607 | 6.4 μm | $\pm 10\%$ | 2% |

*Deviation between the actual value when supply and the nominal value



Rockwell Hardness Testers
Page 789-803



Micro-Vickers Hardness Testers
Page 804-809



Vickers Hardness Testers
Page 810-813



Brinell Hardness Testers
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Brinell Indentation Measuring Systems
Page 816



Brinell/Rockwell/Vickers Hardness Testers
Page 817



Brackets
Page 818



Leeb Hardness Testers
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Magnetic Rockwell Hardness Testers
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Magnetic Brinell/Rockwell Hardness Testers
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Portable Rockwell Hardness Testers
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Pin Brinell Hardness Testers
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Hydraulic Brinell Hardness Testers
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Chain Type Hydraulic Brinell
Hardness Testers
Page 833



Aluminum Hardness Testers
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Aluminum Hardness Testers
Page 835



Shore Durometers
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Fruit Hardness Testers
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Hardness Test Blocks
Page 840-841



Concrete Strength Testers
Page 842



AUTOMATIC DIGITAL ROCKWELL/SUPERFICIAL ROCKWELL HARDNESS TESTERS CODE HDT-CRS200

BUILT-IN
BLUETOOTH

AUTOMATIC
OPERATION

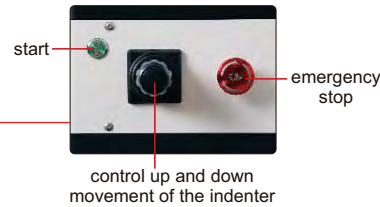
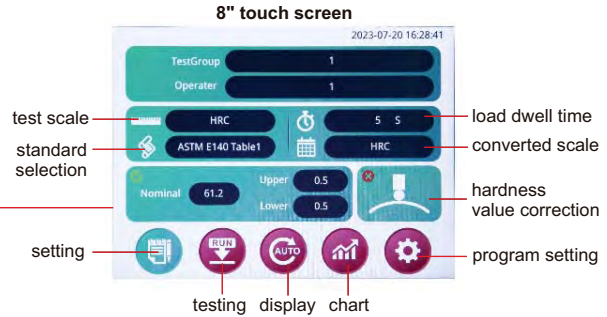
FORCE LOADING BY ELECTRIC
MOTOR (WITHOUT WEIGHTS)

TOUCH
SCREEN

HIGH
ACCURACY

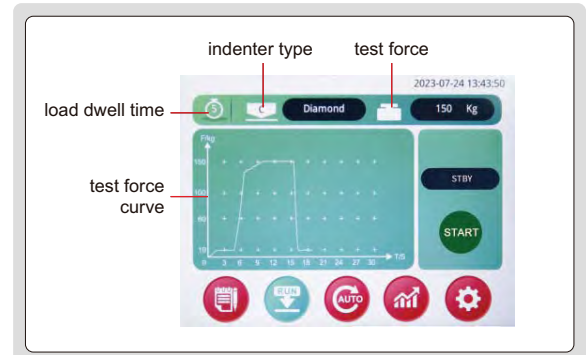
HIGH
EFFICIENCY

INSIZE
CERTIFICATE



- One click operation can obtain hardness measurement results, enabling large-scale hardness measurement of workpieces
- CNC system, close-loop electronic control system applies test force
- Touch screen operation and display
- Cantilevered structure, achieving full automation of hardness measurement
- The big flat stage is convenient for testing and can work in conjunction with robotic arms and automation equipment to step up online hardness testing and achieve completely unmanned testing
- Bluetooth, RS232 data transmission to computer, data management using hardness management software
- According to ISO 6508, ASTM E18, JIS Z2245

test interface



test result display interface

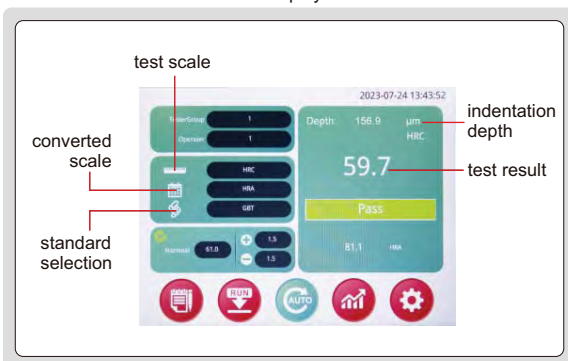
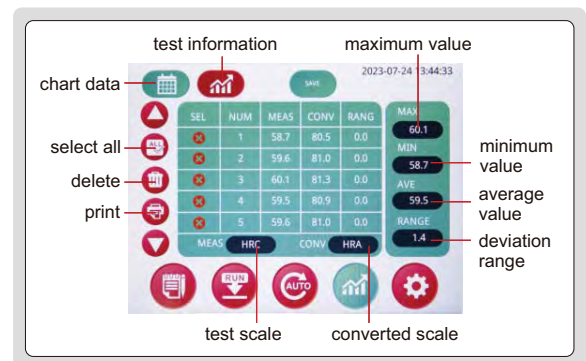


chart interface



To be continued

Continued from previous page



Ø58mm flat anvil
(included)



V-type anvil
(included)



bluetooth printer
(included)

SPECIFICATION

| | | |
|-------------------------------|------------------------|---|
| Measurement range | | Rockwell: 20~88HRA, 20~100HRB, 20~70HRC Superficial RockWell: 70~91HR15N, 42~80HR30N, 42~70HR45N, 73~93HR15T, 43~82HR30T, 12~72HR45T |
| Hardness scale | with indenter included | HRA, HRB, HRC, HRD, HRF, HRG, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T |
| | with optional indenter | HRE, HRH, HRK, HRL, HRM, HRP,HRR, HRS, HRV, HR15W, HR30W, HR45W, HR15X, HR30X, HR45X, HR15Y, HR30Y, HR45Y |
| Preliminary test force | | Superficial Rockwell: 29.4N (3kgf) Rockwell: 98N (10kgf) |
| Test force | | Superficial Rockwell: 147N (15kg), 294N (30kg),441N (45kg) Rockwell: 588N (60kg), 980N (100kg),1471N (150kg) |
| Test force accuracy | | ±1% |
| Operational mode | | automatic |
| Load control | | automatic (load/dwell/unload) |
| Resolution | | 0.05HR |
| Load dwell time | | 0~99 second |
| Max. workpiece height | | 300mm |
| Max. testing width | | 200mm (from the center of indenter to the wall of main body) |
| Output | | bluetooth printer, RS232 |
| Power supply | | 220V, 50/60HZ |
| Dimension | | 555×400×1250mm |
| Weight | | 130kg |

STANDARD DELIVERY

| | |
|---------------------------------|------|
| Main unit | 1 pc |
| Diamond indenter | 1 pc |
| Ø1.588mm carbide ball indenter | 1 pc |
| Ø58mm flat anvil | 1 pc |
| V-type anvil | 1 pc |
| Hardness test block HRB20~30 | 1 pc |
| Hardness test block HRC60~70 | 1 pc |
| Hardness test block HRBW80~100 | 1 pc |
| Hardness test block HR30N60~85 | 1 pc |
| Hardness test block HR30TW70~85 | 1 pc |
| Bluetooth printer | 1 pc |
| Hardness analysis software | 1 pc |

OPTIONAL ACCESSORY

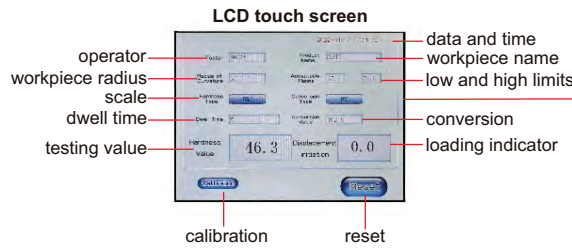
| | |
|--------------------------------|--------------|
| Hardness test block HRC20~30 | HDT-B-HRC1 |
| Hardness test block HRC60~70 | HDT-B-HRC3 |
| Hardness test block HRB80~100 | HDT-B-HRB |
| Hardness test block HR15N78~88 | HDT-B-HR15N2 |
| Hardness test block HR30N55~73 | HDT-B-HR30N2 |
| Hardness test block HR30T73~82 | HDT-B-HR30T |
| Desk | HDT-DESK1 |

DATA OUTPUT

FORCE LOADING BY ELECTRIC MOTOR (WITHOUT WEIGHTS)

MOTORIZED DIGITAL ROCKWELL HARDNESS TESTERS (DOLPHIN-NOSE TYPE)

INSPECTION CERTIFICATE



ISHR-T100



Ø63mm flat anvil (included)



Ø150mm flat anvil (included)



level (included)



touch pen (included)



V-type anvil (included) for cylinders with diameter Ø4~60mm

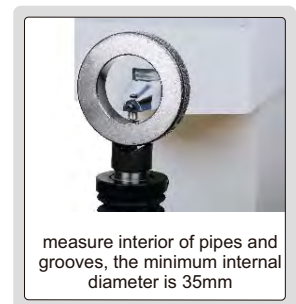


desk (optional)



small V-type anvil (optional) for cylinders with diameter Ø2~4mm

- Dolphin-nose indenter to reach interior of pipe and groove
- Automatic testing after preliminary test force is loaded by hand
- LCD touch screen, easy operation
- Convert to other Rockwell scales, HV or HB automatically
- Tolerance testing
- Insert USB disk, save the testing results as Excel
- Self-compensation of the hardness value for curved workpiece
- Force loading by electric motor (without weights)
- The test force is selected automatically according to hardness scale
- According to ISO 6508



To be continued

Continued from previous page

SPECIFICATION

| Code | | ISHR-T100 | ISHR-T200 | ISHR-T300 |
|------------------------|------------------------|--|---|--|
| Type | | Rockwell | Superficial Rockwell | Rockwell and Superficial Rockwell |
| Hardness scale | with standard indenter | HRA, HRB, HRC, HRD, HRF, HRG | HR15N, HR30N, HR45N, HR15T, HR30T, HR45T | HRA, HRB, HRC, HRD, HRF, HRG, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T |
| | with optional indenter | HRE, HRH, HRK, HRL, HRM, HRP, HRR, HRS, HRV | HR15W, HR30W, HR45W, HR15X, HR30X, HR45X, HR15Y, HR30Y, HR45Y | HRE, HRH, HRK, HRL, HRM, HRP, HRR, HRS, HRV, HR15W, HR30W, HR45W, HR15X, HR30X, HR45X, HR15Y, HR30Y, HR45Y |
| Preliminary test force | | 98N/10kgf for Rockwell | 29.4N/3kgf for Superficial Rockwell | 98N/10kgf for Rockwell 29.4N/3kgf for Superficial Rockwell |
| Test force | | 588N (60kg), 980N (100kg), 1471N (150kg) | 147.1N (15kg), 294.2N (30kg), 441.3N (45kg) | 147.1N (15kg), 294.2N (30kg), 441.3N (45kg), 588N (60kg), 980N (100kg), 1471N (150kg) |
| Stage elevation | | manual | | |
| Load control | | automatic (load/dwell/unload) | | |
| Load dwell time | | 0~99 second | | |
| Resolution | | 0.1HR | | |
| Output | | USB | | |
| Max. workpiece height | | 300mm | | |
| Max. testing width | | 250mm (from the center of indenter to the wall of main body) | | |
| Power supply | | 220V, 50/60Hz | | |
| Dimension | | 720×260×840mm | | |
| Weight | | 80kg | | |

STANDARD DELIVERY

| Code | ISHR-T100 | ISHR-T200 | ISHR-T300 |
|---------------------------------|-----------|-----------|-----------|
| Main unit | 1 pc | 1 pc | 1 pc |
| Ø63mm flat anvil | 1 pc | 1 pc | 1 pc |
| Ø150mm flat anvil | 1 pc | 1 pc | 1 pc |
| V-type anvil | 1 pc | 1 pc | 1 pc |
| Diamond indenter | 1 pc | 1 pc | 1 pc |
| Ø1.5875mm carbide ball indenter | 1 pc | 1 pc | 1 pc |
| Hardness test block HRB88~95 | 1 pc | — | 1 pc |
| Hardness test block HRC60~65 | 1 pc | — | 1 pc |
| Hardness test block HRC20~30 | 1 pc | — | 1 pc |
| Hardness test block 78~88HR15N | — | 1 pc | 1 pc |
| Hardness test block 55~73HR30N | — | 1 pc | 1 pc |
| Hardness test block 57~69HR30T | — | 1 pc | 1 pc |
| USB disk | 1 pc | 1 pc | 1 pc |
| Level | 1 pc | 1 pc | 1 pc |
| Touch pen | 1 pc | 1 pc | 1 pc |
| Anti-dust cover | 1 pc | 1 pc | 1 pc |

OPTIONAL ACCESSORY

| | |
|--------------------------------|----------------|
| Hardness test block HRB88~100 | HDT-B-HRB |
| Hardness test block HRC60~70 | HDT-B-HRC3 |
| Hardness test block HRC20~30 | HDT-B-HRC1 |
| Hardness test block 78~88HR15N | HDT-B-HR15N2 |
| Hardness test block 55~73HR30N | HDT-B-HR30N2 |
| Hardness test block 73~82HR30T | HDT-B-HR30T |
| Small V-type anvil | ISH-SMALLANVIL |
| Desk | HDT-DESK |



MOTORIZED DIGITAL ROCKWELL/SUPERFICIAL ROCKWELL HARDNESS TESTERS

POPULAR MODEL

INSPECTION CERTIFICATE

FORCE LOADING BY ELECTRIC MOTOR (WITHOUT WEIGHTS)

TOUCH SCREEN

BUILT-IN BLUETOOTH



Ø58mm flat anvil (included)



Ø150mm flat anvil (included)



V-type anvil (included)



bluetooth printer (included)

8" touch screen

test scales
standard selection
setting
testing
display
chart

load dwell time
converted scales
hardness value correction
program setting

the back

power
RS232 interface



HDT-RT151

- Electronic loading test force, high accuracy of force value, and stable measurement value
- Touch screen operation and display, simple operation interface
- 15 types of Rockwell hardness scales can be tested
- Convertible to various hardness standards such as HB and HV
- 500 sets of storage
- With correction function, the hardness value can be corrected based on the size of the cylinders
- According to ISO 6508

test interface

indenter type
test force
load dwell time
test force curve

chart interface

test information
maximum value
chart data
select all
delete
print
test scale
converted scale

minimum value
average value
deviation range

test result display interface

test scale
converted scale
standard selection
test result
converted scale

To be continued

Continued from previous page

SPECIFICATION

| Code | | HDT-RT151 | HDT-RT152 | HDT-RT153 |
|------------------------|------------------------|---|--|---|
| Type | | Rockwell | Superficial Rockwell | Rockwell and Superficial Rockwell |
| Measurement range | | 20~88HRA, 20~100HRB, 20~70HRC | 70~91HR15N, 42~80HR30N, 42~70HR45N, 73~93HR15T, 43~82HR30T, 12~72HR45T | Rockwell: 20~88HRA, 20~100HRB, 20~70HRC; Superficial Rockwell: 70~91HR15N, 42~80HR30N, 42~70HR45N, 73~93HR15T, 43~82HR30T, 12~72HR45T |
| Hardness scale | with indenter included | HRA, HRB, HRC, HRD, HRF, HRG | HR15N, HR30N, HR45N, HR15T, HR30T, HR45T | HRA, HRB, HRC, HRD, HRF, HRG, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T |
| | with optional indenter | HRE, HRH, HRK, HRL, HRM, HRP, HRR, HRS, HRV | HR15W, HR30W, HR45W, HR15X, HR30X, HR45X, HR15Y, HR30Y, HR45Y | HRE, HRH, HRK, HRL, HRM, HRP, HRR, HRS, HRV, HR15W, HR30W, HR45W, HR15X, HR30X, HR45X, HR15Y, HR30Y, HR45Y |
| Preliminary test force | | 98N/10kgf for Rockwell | 29.4N/3kgf for Superficial Rockwell | 98N/10kgf for Rockwell 29.4N/3kgf for Superficial Rockwell |
| Test force | | 588N (60kg), 980N (100kg), 1471N (150kg) | 147N (15kg), 294N (30kg), 441N (45kg) | 147N (15kg), 294N (30kg), 441N (45kg), 588N (60kg), 980N (100kg), 1471N (150kg) |
| Stage elevation | | manual | | |
| Load control | | automatic (load/dwell/unload) | | |
| Load dwell time | | 2~60 second | | |
| Resolution | | 0.1HR | | |
| Max. workpiece height | | 230mm | | |
| Max. testing width | | 170mm | | |
| Power supply | | 100~240V, 50/60Hz | | |
| Dimension | | 475×200×700mm | | |
| Weight | | 70kg | | |

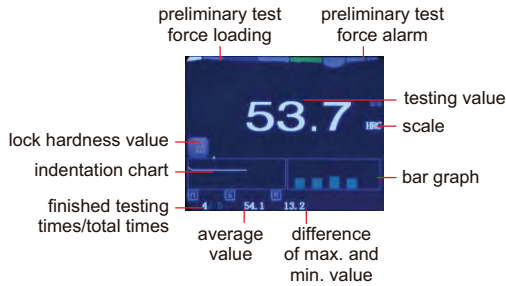
STANDARD DELIVERY

| Code | HDT-RT151 | HDT-RT152 | HDT-RT153 |
|---------------------------------|-----------|-----------|-----------|
| Main unit | 1 pc | 1 pc | 1 pc |
| Diamond indenter | 1 pc | 1 pc | 1 pc |
| Ø1.5875mm carbide ball indenter | 1 pc | 1 pc | 1 pc |
| Ø58mm flat anvil | 1 pc | 1 pc | 1 pc |
| Ø150mm flat anvil | 1 pc | 1 pc | 1 pc |
| V-type anvil | 1 pc | 1 pc | 1 pc |
| Hardness test block HRC20~30 | 1 pc | — | 1 pc |
| Hardness test block HRC40~50 | 1 pc | — | — |
| Hardness test block HRC60~70 | 1 pc | — | 1 pc |
| Hardness test block HRBW80~100 | 1 pc | — | 1 pc |
| Hardness test block HRA80~90 | 1 pc | — | — |
| Hardness test block HR15N80~90 | — | 1 pc | — |
| Hardness test block HR30N60~85 | — | 1 pc | 1 pc |
| Hardness test block HR30TW70~85 | — | 1 pc | 1 pc |
| Bluetooth printer | 1 pc | 1 pc | 1 pc |
| Anti-dust cover | 1 pc | 1 pc | 1 pc |

OPTIONAL ACCESSORY

| | |
|--------------------------------|--------------|
| Hardness test block HRC20~30 | HDT-B-HRC1 |
| Hardness test block HRC60~70 | HDT-B-HRC3 |
| Hardness test block HRB80~100 | HDT-B-HRB |
| Hardness test block HR15N78~88 | HDT-B-HR15N2 |
| Hardness test block HR30N55~73 | HDT-B-HR30N2 |
| Hardness test block HR30T73~82 | HDT-B-HR30T |

MOTORIZED DIGITAL ROCKWELL HARDNESS TESTER CODE ISH-MRD200



software flash disk (included)

- Tolerance testing
- Set testing times (2~10) to have average value and the difference of max. and min. value
- Convert to other Rockwell scales, HV or HB
- Memory of 500 testing values for browsing and output
- Testing value can be sent to wireless printer automatically
- Calibration function compensates the testing value for high accuracy
- The hardness value of soft materials like plastic is not stable, the lock function can obtain the value automatically
- Display unit is automatic power off
- According to ISO 6508
- Keyboard signal, can be transmitted to Excel



Ø60mm flat anvil (included)



Ø150mm flat anvil (included)



V-type anvil (included) for cylinders with diameter Ø4~60mm



small V-type anvil (optional) for cylinders with diameter Ø2~4mm



wireless printer (optional)



desk (optional)

SPECIFICATION

| | |
|----------------------------------|--|
| Hardness scale | HRA, HRB, HRC, HRD HRF, HRG (with standard indenters) HRE, HRH, HRK (with optional indenter) |
| Preliminary test force | 98N |
| Test force | 588N, 980N, 1471N |
| Stage elevation | manual |
| Load control | automatic (load/dwell/unload) |
| Load dwell time | 1~99 second |
| Resolution | 0.1HR |
| Output | wireless and USB |
| Memory | 500 |
| Max. workpiece height | 170mm |
| Max. testing width | 165mm (from the center of indenter to the wall of main body) |
| Power supply of the display unit | built-in rechargeable battery |
| Power supply | 220V, 50/60Hz |
| Dimension | 520×160×700mm |
| Weight | 60kg |

STANDARD DELIVERY

| | |
|---------------------------------|------|
| Main unit | 1 pc |
| Ø60mm flat anvil | 1 pc |
| Ø150mm flat anvil | 1 pc |
| V-type anvil | 1 pc |
| Diamond indenter | 1 pc |
| Ø1.5875mm carbide ball indenter | 1 pc |
| Hardness test block HRB88~95 | 1 pc |
| Hardness test block HRC60~65 | 1 pc |
| Hardness test block HRC20~30 | 1 pc |
| Anti-dust cover | 1 pc |
| Software and USB cable | 1 pc |
| AC/DC adapter | 1 pc |

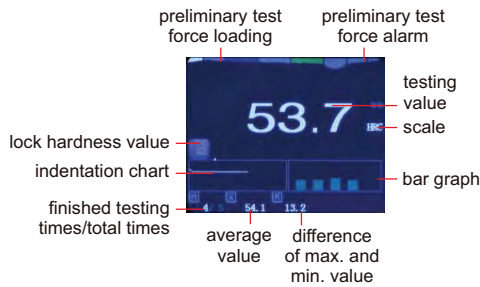
OPTIONAL ACCESSORY

| | |
|--------------------------------|------------------|
| Wireless printer | ISH-DS-PRINTER |
| Ø3.175mm carbide ball indenter | ISH-EHK-INDENTER |
| Hardness test block HRB88~100 | HDT-B-HRB |
| Hardness test block HRC60~70 | HDT-B-HRC3 |
| Hardness test block HRC20~30 | HDT-B-HRC1 |
| Small V-type anvil | ISH-SMALLANVIL |
| Desk | HDT-DESK |

MANUAL DIGITAL ROCKWELL HARDNESS TESTER CODE ISH-RD200

DATA
OUTPUT

INSPECTION
CERTIFICATE



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- Tolerance testing
- Set testing times (2~10) to have average value and the difference of max. and min. value
- Convert to other Rockwell scales, HV or HB
- Memory of 500 testing values for browsing and output
- Testing value can be sent to wireless printer automatically
- Calibration function compensates the testing value for high accuracy
- The hardness value of soft materials like plastic is not stable, the lock function can obtain the value automatically
- Automatic power off
- According to ISO 6508
- Keyboard signal, can be transmitted to Excel



software flash disk (included)



Ø60mm flat anvil (included)



Ø150mm flat anvil (included)



V-type anvil (included) for cylinders with diameter Ø4~60mm



small V-type anvil (optional) for cylinders with diameter Ø2~4mm



wireless printer (optional)



desk (optional)

SPECIFICATION

| | |
|------------------------|--|
| Hardness scale | HRA, HRB, HRC, HRD HRF, HRG (with standard indenters) HRE, HRH, HRK (with optional indenter) |
| Preliminary test force | 98N |
| Test force | 588N, 980N, 1471N |
| Stage elevation | manual |
| Load control | manual |
| Resolution | 0.1HR |
| Output | wireless and USB |
| Memory | 500 |
| Max. workpiece height | 170mm |
| Max. testing width | 165mm (from the center of indenter to the wall of main body) |
| Power supply | built-in rechargeable battery |
| Dimension | 520×160×700mm |
| Weight | 60kg |

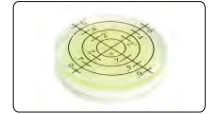
STANDARD DELIVERY

| | |
|---------------------------------|------|
| Main unit | 1 pc |
| Ø60mm flat anvil | 1 pc |
| Ø150mm flat anvil | 1 pc |
| V-type anvil | 1 pc |
| Diamond indenter | 1 pc |
| Ø1.5875mm carbide ball indenter | 1 pc |
| Hardness test block HRB88~95 | 1 pc |
| Hardness test block HRC60~65 | 1 pc |
| Hardness test block HRC20~30 | 1 pc |
| Anti-dust cover | 1 pc |
| Software and USB cable | 1 pc |
| AC/DC adapter | 1 pc |

OPTIONAL ACCESSORY

| | |
|--------------------------------|------------------|
| Wireless printer | ISH-DS-PRINTER |
| Ø3.175mm carbide ball indenter | ISH-EHK-INDENTER |
| Hardness test block HRB88~100 | HDT-B-HRB |
| Hardness test block HRC60~70 | HDT-B-HRC3 |
| Hardness test block HRC20~30 | HDT-B-HRC1 |
| Small V-type anvil | ISH-SMALLANVIL |
| Desk | HDT-DESK |

MOTORIZED HIGH ROCKWELL HARDNESS TESTER CODE HDT-RM421



level (included)



V-type anvil (included)
for cylinders with
diameter Ø4~60mm



Ø150mm flat anvil
(included)



Ø58mm flat anvil
(included)



small V-type anvil
(optional) for
cylinders with
diameter Ø2~4mm

■ According to ISO 6508

SPECIFICATION

| | |
|------------------------|--|
| Hardness scale | HRA, HRB, HRC, HRD, HRF, HRG |
| Preliminary test force | 98N (10kg) |
| Test force | 588N (60kg), 980N (100kg), 1471N (150kg) |
| Display | analogue |
| Stage elevation | manual |
| Load control | automatic (load/dwell/unload) |
| Load dwell time | 1~60 second |
| Min. reading | 0.5HR |
| Max. workpiece height | 400mm |
| Max. testing width | 160mm (form the center of indenter to the wall of main body) |
| Power supply | 220V, 50/60Hz |
| Dimension | 540×300×1030mm |
| Weight | 140kg |

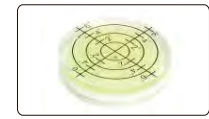
STANDARD DELIVERY

| | |
|-------------------------------|-------|
| Main unit | 1 pc |
| Ø58mm flat anvil | 1 pc |
| Ø150mm flat anvil | 1 pc |
| V-type anvil | 1 pc |
| Diamond indenter | 1 pc |
| Ø1.5875mm steel ball indenter | 1 pc |
| Ø1.5875mm steel ball | 5 pcs |
| Level | 1 pc |
| Hardness test block HRA80~84 | 1 pc |
| Hardness test block HRB88~100 | 1 pc |
| Hardness test block HRC20~30 | 1 pc |
| Hardness test block HRC35~55 | 1 pc |
| Hardness test block HRC60~70 | 1 pc |
| Anti-dust cover | 1 pc |

OPTIONAL ACCESSORY

| | |
|-------------------------------|--------------|
| Hardness test block HRA80~84 | HDT-B-HRA |
| Hardness test block HRB88~100 | HDT-B-HRB |
| Hardness test block HRC20~30 | HDT-B-HRC1 |
| Hardness test block HRC35~55 | HDT-B-HRC2 |
| Hardness test block HRC60~70 | HDT-B-HRC3 |
| Small V-type anvil | HDT-RW160-SV |

MANUAL HIGH ROCKWELL HARDNESS TESTER CODE HDT-RH411



level (included)



V-type anvil (included)
for cylinders with
diameter Ø4~60mm



Ø150mm flat anvil
(included)



Ø58mm flat anvil
(included)



small V-type anvil
(optional) for
cylinders with
diameter Ø2~4mm

■ According to ISO 6508

SPECIFICATION

| | |
|------------------------|--|
| Hardness scale | HRA, HRB, HRC, HRD, HRF, HRG |
| Preliminary test force | 98N (10kg) |
| Test force | 588N (60kg), 980N (100kg), 1471N (150kg) |
| Display | analogue |
| Stage elevation | manual |
| Load control | manual |
| Min. reading | 0.5HR |
| Max. workpiece height | 400mm |
| Max. testing width | 160mm (form the center of indenter to the wall of main body) |
| Dimension | 540×300×1030mm |
| Weight | 140kg |

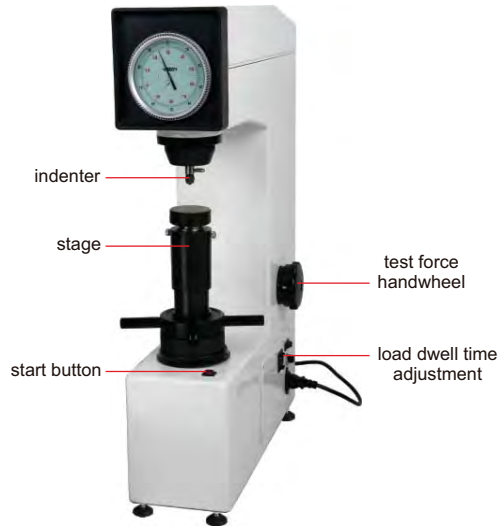
STANDARD DELIVERY

| | |
|-------------------------------|-------|
| Main unit | 1 pc |
| Ø58mm flat anvil | 1 pc |
| Ø150mm flat anvil | 1 pc |
| V-type anvil | 1 pc |
| Diamond indenter | 1 pc |
| Ø1.5875mm steel ball indenter | 1 pc |
| Ø1.5875mm steel ball | 5 pcs |
| Level | 1 pc |
| Hardness test block HRA80~84 | 1 pc |
| Hardness test block HRB88~100 | 1 pc |
| Hardness test block HRC20~30 | 1 pc |
| Hardness test block HRC35~55 | 1 pc |
| Hardness test block HRC60~70 | 1 pc |
| Anti-dust cover | 1 pc |

OPTIONAL ACCESSORY

| | |
|-------------------------------|--------------|
| Hardness test block HRA80~84 | HDT-B-HRA |
| Hardness test block HRB88~100 | HDT-B-HRB |
| Hardness test block HRC20~30 | HDT-B-HRC1 |
| Hardness test block HRC35~55 | HDT-B-HRC2 |
| Hardness test block HRC60~70 | HDT-B-HRC3 |
| Small V-type anvil | HDT-RW160-SV |

MOTORIZED ROCKWELL HARDNESS TESTER CODE ISH-MR150



■ According to ISO 6508



Ø60mm flat anvil
(included)



Ø150mm flat anvil
(included)



V-type anvil (included)
for cylinders with
diameter Ø4~60mm



small V-type anvil
(optional)
for cylinders with
diameter Ø2~4mm



desk (optional)

SPECIFICATION

| | |
|------------------------|--|
| Hardness scale | HRA, HRB, HRC, HRD, HRF, HRG |
| Preliminary test force | 98N |
| Test force | 588N, 980N, 1471N |
| Display | analogue |
| Stage elevation | manual |
| Load control | automatic (load/dwell/unload) |
| Load dwell time | 1~99 second |
| Min. reading | 0.5HR |
| Max. workpiece height | 170mm |
| Max. testing width | 165mm (from the center of indenter to the wall of main body) |
| Power supply | 220V, 50/60Hz |
| Dimension | 520×160×700mm |
| Weight | 60kg |

STANDARD DELIVERY

| | |
|---------------------------------|------|
| Main unit | 1 pc |
| Ø60mm flat anvil | 1 pc |
| Ø150mm flat anvil | 1 pc |
| V-type anvil | 1 pc |
| Diamond indenter | 1 pc |
| Ø1.5875mm carbide ball indenter | 1 pc |
| Hardness test block HRB88~95 | 1 pc |
| Hardness test block HRC60~65 | 1 pc |
| Hardness test block HRC20~30 | 1 pc |
| Anti-dust cover | 1 pc |

OPTIONAL ACCESSORY

| | |
|-------------------------------|----------------|
| Hardness test block HRB88~100 | HDT-B-HRB |
| Hardness test block HRC60~70 | HDT-B-HRC3 |
| Hardness test block HRC20~30 | HDT-B-HRC1 |
| Small V-type anvil | ISH-SMALLANVIL |
| Desk | HDT-DESK |

MOTORIZED ROCKWELL HARDNESS TESTER (BASIC TYPE) CODE HDT-RA151



32

■ According to ISO 6508



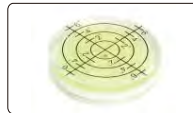
Ø58mm flat anvil (included)



Ø150mm flat anvil (included)



V-type anvil (included) for cylinders with diameter Ø4~60mm



level (included)



small V-type anvil (optional) for cylinders with diameter Ø2~4mm



desk (optional)

SPECIFICATION

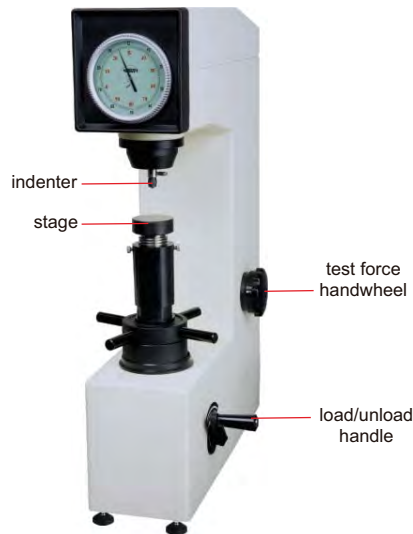
| | |
|------------------------|--|
| Hardness scale | HRA, HRB, HRC, HRD, HRF, HRG |
| Preliminary test force | 98N |
| Test force | 588N, 980N, 1471N |
| Display | analogue |
| Stage elevation | manual |
| Load control | automatic (load/dwell/unload) |
| Load dwell time | 1~60 second |
| Min. reading | 0.5HR |
| Max. workpiece height | 170mm |
| Max. testing width | 128mm (from the center of indenter to the wall of main body) |
| Power supply | 220V, 50/60Hz |
| Dimension | 500×225×640mm |
| Weight | 65kg |

STANDARD DELIVERY

| | |
|-------------------------------|------|
| Main unit | 1 pc |
| Ø58mm flat anvil | 1 pc |
| Ø150mm flat anvil | 1 pc |
| V-type anvil | 1 pc |
| Diamond indenter | 1 pc |
| Ø1.5875mm steel ball indenter | 1 pc |
| Level | 1 pc |
| Hardness test block HRA80~88 | 1 pc |
| Hardness test block HRB85~95 | 1 pc |
| Hardness test block HRC20~30 | 1 pc |
| Hardness test block HRC35~55 | 1 pc |
| Hardness test block HRC60~70 | 1 pc |
| Anti-dust cover | 1 pc |

OPTIONAL ACCESSORY

| | |
|-------------------------------|--------------|
| Hardness test block HRA80~84 | HDT-B-HRA |
| Hardness test block HRB88~100 | HDT-B-HRB |
| Hardness test block HRC20~30 | HDT-B-HRC1 |
| Hardness test block HRC35~55 | HDT-B-HRC2 |
| Hardness test block HRC60~70 | HDT-B-HRC3 |
| Small V-type anvil | HDT-RW160-SV |
| Desk | HDT-DESK |



■ According to ISO 6508



Ø60mm flat anvil (included)



Ø150mm flat anvil (included)



V-type anvil (included) for cylinders with diameter Ø4~60mm



small V-type anvil (optional) for cylinders with diameter Ø2~4mm



desk (optional)

SPECIFICATION

| | |
|------------------------|--|
| Hardness scale | HRA, HRB, HRC, HRD, HRF, HRG |
| Preliminary test force | 98N |
| Test force | 588N, 980N, 1471N |
| Display | analogue |
| Stage elevation | manual |
| Load control | manual |
| Min. reading | 0.5HR |
| Max. workpiece height | 170mm |
| Max. testing width | 165mm (from the center of indenter to the wall of main body) |
| Dimension | 520×160×700mm |
| Weight | 60kg |

STANDARD DELIVERY

| | |
|---------------------------------|------|
| Main unit | 1 pc |
| Ø60mm flat anvil | 1 pc |
| Ø150mm flat anvil | 1 pc |
| V-type anvil | 1 pc |
| Diamond indenter | 1 pc |
| Ø1.5875mm carbide ball indenter | 1 pc |
| Hardness test block HRB88~95 | 1 pc |
| Hardness test block HRC60~65 | 1 pc |
| Hardness test block HRC20~30 | 1 pc |
| Anti-dust cover | 1 pc |

OPTIONAL ACCESSORY

| | |
|-------------------------------|----------------|
| Hardness test block HRB88~100 | HDT-B-HRB |
| Hardness test block HRC60~70 | HDT-B-HRC3 |
| Hardness test block HRC20~30 | HDT-B-HRC1 |
| Small V-type anvil | ISH-SMALLANVIL |
| Desk | HDT-DESK |

MANUAL ROCKWELL HARDNESS TESTER (BASIC TYPE) CODE HDT-RW160



POPULAR MODEL



■ According to ISO 6508



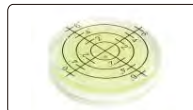
Ø58mm flat anvil (included)



Ø150mm flat anvil (included)



V-type anvil (included) for cylinders with diameter Ø4~60mm



level (included)



small V-type anvil (optional) for cylinders with diameter Ø2~4mm



desk (optional)

SPECIFICATION

| | |
|------------------------|--|
| Hardness scale | HRA, HRB, HRC, HRD, HRF, HRG |
| Preliminary test force | 98N (10kg) |
| Test force | 588N (60kg), 980N (100kg), 1471N (150kg) |
| Display | analogue |
| Stage elevation | manual |
| Load control | manual |
| Min. reading | 0.5HR |
| Max. workpiece height | 170mm |
| Max. testing width | 135mm (from the center of indenter to the wall of main body) |
| Dimension | 466×238×630mm |
| Weight | 70kg |

STANDARD DELIVERY

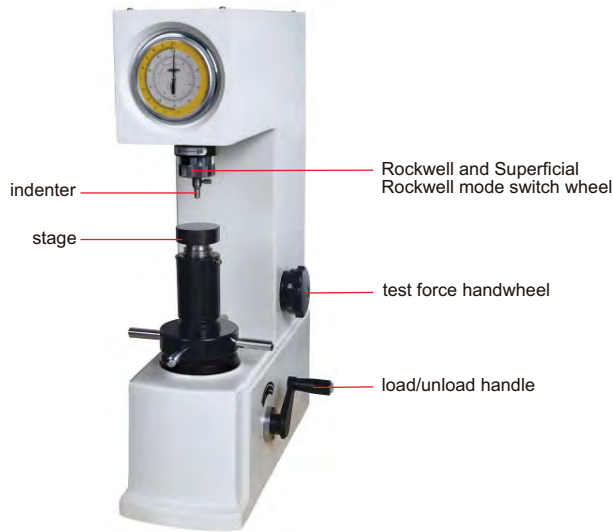
| | |
|-------------------------------|-------|
| Main unit | 1 pc |
| Ø58mm flat anvil | 1 pc |
| Ø150mm flat anvil | 1 pc |
| V-type anvil | 1 pc |
| Diamond indenter | 1 pc |
| Ø1.5875mm steel ball indenter | 1 pc |
| Ø1.5875mm steel ball | 5 pcs |
| Level | 1 pc |
| Hardness test block HRA80~88 | 1 pc |
| Hardness test block HRB85~95 | 1 pc |
| Hardness test block HRC20~30 | 1 pc |
| Hardness test block HRC35~55 | 1 pc |
| Hardness test block HRC60~70 | 1 pc |
| Anti-dust cover | 1 pc |

OPTIONAL ACCESSORY

| | |
|-------------------------------|--------------|
| Hardness test block HRA80~84 | HDT-B-HRA |
| Hardness test block HRB88~100 | HDT-B-HRB |
| Hardness test block HRC20~30 | HDT-B-HRC1 |
| Hardness test block HRC35~55 | HDT-B-HRC2 |
| Hardness test block HRC60~70 | HDT-B-HRC3 |
| Small V-type anvil | HDT-RW160-SV |
| Desk | HDT-DESK |



MANUAL ROCKWELL AND SUPERFICIAL ROCKWELL HARDNESS TESTER CODE HDT-RSR100



Ø60mm flat anvil (included)



Ø150mm flat anvil (included)



V-type anvil (included) for cylinders with diameter Ø4~60mm



small V-type anvil (optional) for cylinders with diameter Ø2~4mm



desk (optional)

■ According to ISO 6508

SPECIFICATION

| | |
|------------------------|---|
| Hardness scale | HRA, HRB, HRC, HRD, HRF, HRG, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T |
| Preliminary test force | 29.4N/3kgf for Superficial Rockwell 98N/10kgf for Rockwell |
| Test force | 147N/15kgf, 294N/30kgf, 441N/45kgf, 588N/60kgf, 980N/100kgf, 1471N/150kgf |
| Display | analogue |
| Stage elevation | manual |
| Load control | manual |
| Min. reading | 0.5HR |
| Max. workpiece height | 160mm |
| Max. testing width | 140mm (from the center of indenter to the wall of main body) |
| Dimension | 460×240×660mm |
| Weight | 75kg |

STANDARD DELIVERY

| | |
|---------------------------------|------|
| Main unit | 1 pc |
| Ø60mm flat anvil | 1 pc |
| Ø150mm flat anvil | 1 pc |
| V-type anvil | 1 pc |
| Diamond indenter | 1 pc |
| Ø1.5875mm carbide ball indenter | 1 pc |
| Hardness test block HRB88~95 | 1 pc |
| Hardness test block HRC60~65 | 1 pc |
| Hardness test block HRC20~30 | 1 pc |
| Hardness test block HR15N | 1 pc |
| Hardness test block HR30N | 1 pc |
| Hardness test block HR30T | 1 pc |
| Anti-dust cover | 1 pc |

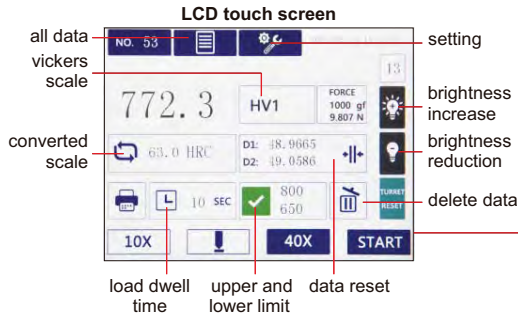
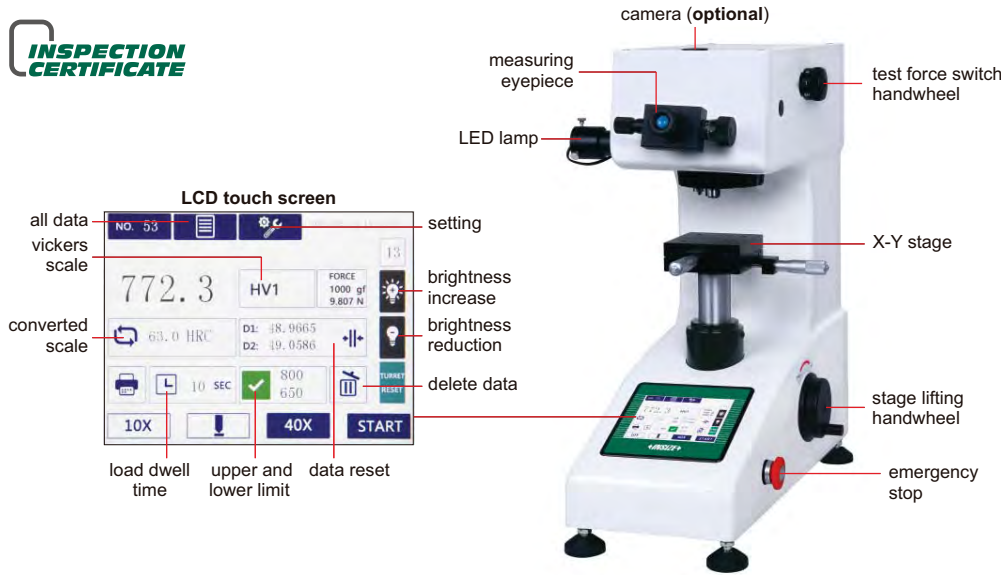
OPTIONAL ACCESSORY

| | |
|--------------------------------|----------------|
| Hardness test block HRB88~100 | HDT-B-HRB |
| Hardness test block HRC60~70 | HDT-B-HRC3 |
| Hardness test block HRC20~30 | HDT-B-HRC1 |
| Hardness test block 78~88HR15N | HDT-B-HR15N2 |
| Hardness test block 55~73HR30N | HDT-B-HR30N2 |
| Hardness test block 57~69HR30T | HDT-B-HR30T |
| Small V-type anvil | ISH-SMALLANVIL |
| Desk | HDT-DESK |

DIGITAL MICRO-VICKERS HARDNESS TESTER (BASIC TYPE) CODE HDT-MVE1300

MOTOR DRIVEN
TURRET

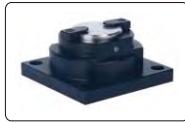
TOUCH
SCREEN



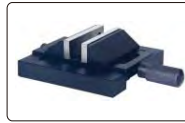
- Touch screen color LCD display
- Data storage and average value calculation
- Automatic switch between the indenter and objective lens
- According to ISO 6507



cylinder holder (included)



slice holder (included)



vice (included)



desk (optional)



camera (optional)

camera and measuring system (optional)



SPECIFICATION

| | |
|-------------------------------|--|
| Test force | 0.098N (10gf), 0.245N (25gf), 0.49N (50gf), 0.98N (100gf), 1.96N (200gf), 2.94N (300gf), 4.9N (500gf), 9.8N (1kgf) |
| Vickers scales | HV0.01, HV0.025, HV0.05, HV0.1, HV0.2, HV0.3, HV0.5, HV1 |
| Converted scales | HRA, HRB, HRC, HRD, HRF, HV, HK, HBW, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T |
| Range | 5~3000HV |
| Length measurement resolution | 0.5µm |
| Objective/indenter switch | motor driven turret |
| Stage lifting | manual |
| Load control | automatic (load/dwell/unload) |
| Load dwell time | 1~60 second |
| Objective | 10X, 40X |
| Eyepiece | 10X |
| Total magnification | 100X (for measurement or observation), 400X (for measurement) |
| Max. workpiece height | 90mm |
| Max. testing width | 95mm (from the center of indenter to the wall of main body) |
| X-Y stage | dimension: 100×100mm, travel range: 25×25mm |
| Power supply | 220V, 50/60Hz |
| Dimension | 510×290×570mm |
| Weight | 40kg |



STANDARD DELIVERY

| | |
|----------------------------------|--------------|
| Main unit | 1 pc |
| 10X, 40X objective | 1 pc of each |
| Micro vickers indenter | 1 pc |
| Hardness test block 400~500HV0.2 | 1 pc |
| Hardness test block 700~750HV1 | 1 pc |
| Slice holder | 1 pc |
| Vice | 1 pc |
| Cylinder holder | 1 pc |
| Anti-dust cover | 1 pc |

OPTIONAL ACCESSORY

| | |
|----------------------------------|-------------|
| Hardness test block 400~500HV0.2 | HDT-B-HV02C |
| Hardness test block 700~750HV1 | HDT-B-HV1F |
| Camera | HDT-MVH-CM |
| Measuring system (manual) | HDT-MVH-SW |
| Measuring system (automatic) | HDT-MVH-AW |
| Desk | HDT-DESK |

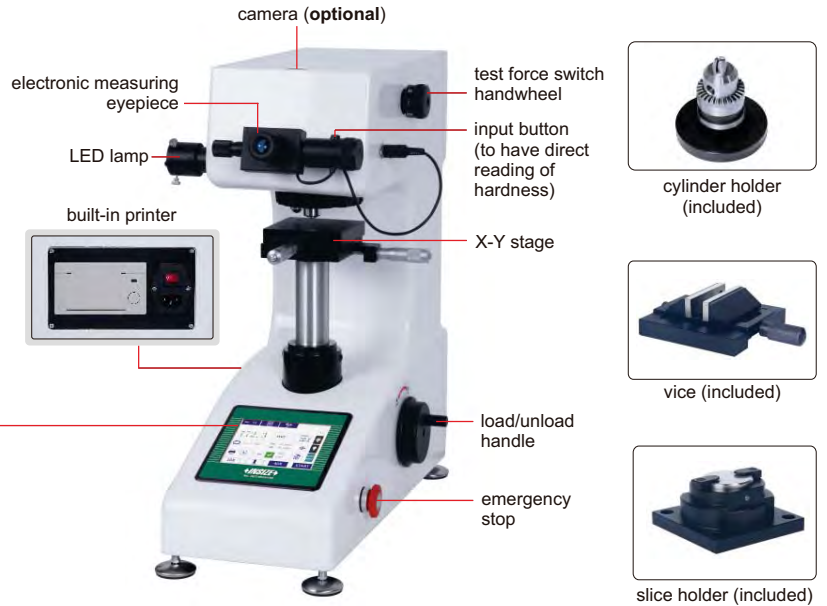
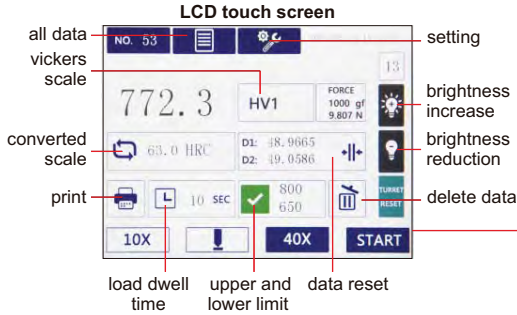


DIGITAL MICRO-VICKERS HARDNESS TESTER (STANDARD TYPE) CODE HDT-MVH1100

PRESS INPUT BUTTON TO HAVE DIRECT READING OF HARDNESS

TOUCH SCREEN

MOTOR DRIVEN TURRET



- Touch screen color LCD display
- Data storage and average value calculation
- Automatic switch between the indenter and objective lens
- According to ISO 6507



camera and measuring system (optional)



SPECIFICATION

| | |
|-------------------------------|--|
| Test force | 0.098N (10gf), 0.245N (25gf), 0.49N (50gf), 0.98N (100gf), 1.96N (200gf), 2.94N (300gf), 4.9N (500gf), 9.8N (1kgf) |
| Vickers scales | HV0.01, HV0.025, HV0.05, HV0.1, HV0.2, HV0.3, HV0.5, HV1 |
| Converted scales | HRA, HRB, HRC, HRD, HRF, HV, HK, HBW, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T |
| Range | 5~3000HV |
| Length measurement resolution | 0.025µm |
| Objective/indenter switch | motor driven turret |
| Stage lifting | manual |
| Load control | automatic (load/dwell/unload) |
| Load dwell time | 1~60 second |
| Objective | 10X, 40X |
| Eyepiece | 10X |
| Total magnification | 10X (for measurement or observation), 400X (for measurement) |
| Max. workpiece height | 90mm |
| Max. testing width | 95mm (from the center of indenter to the wall of main body) |
| X-Y stage | dimension: 100×100mm, travel range: 25×25mm |
| Data output | built-in printer |
| Power supply | 220V, 50/60Hz |
| Dimension | 510×290×570mm |
| Weight | 40kg |

STANDARD DELIVERY

| | |
|----------------------------------|--------------|
| Main unit | 1 pc |
| 10X, 40X objective | 1 pc of each |
| Micro vickers indenter | 1 pc |
| Hardness test block 400~500HV0.2 | 1 pc |
| Hardness test block 700~750HV1 | 1 pc |
| Slice holder | 1 pc |
| Vice | 1 pc |
| Cylinder holder | 1 pc |
| Anti-dust cover | 1 pc |

OPTIONAL ACCESSORY

| | |
|----------------------------------|-------------|
| Hardness test block 400~500HV0.2 | HDT-B-HV02C |
| Hardness test block 700~750HV1 | HDT-B-HV1F |
| Camera | HDT-MVH-CM |
| Measuring system (manual) | HDT-MVH-SW |
| Measuring system (automatic) | HDT-MVH-AW |

DUAL TOUCH SCREEN DIGITAL MICRO-VICKERS HARDNESS TESTER (ADVANCED TYPE) CODE HDT-DMV90

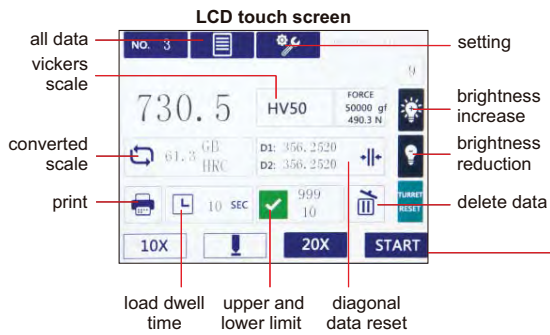
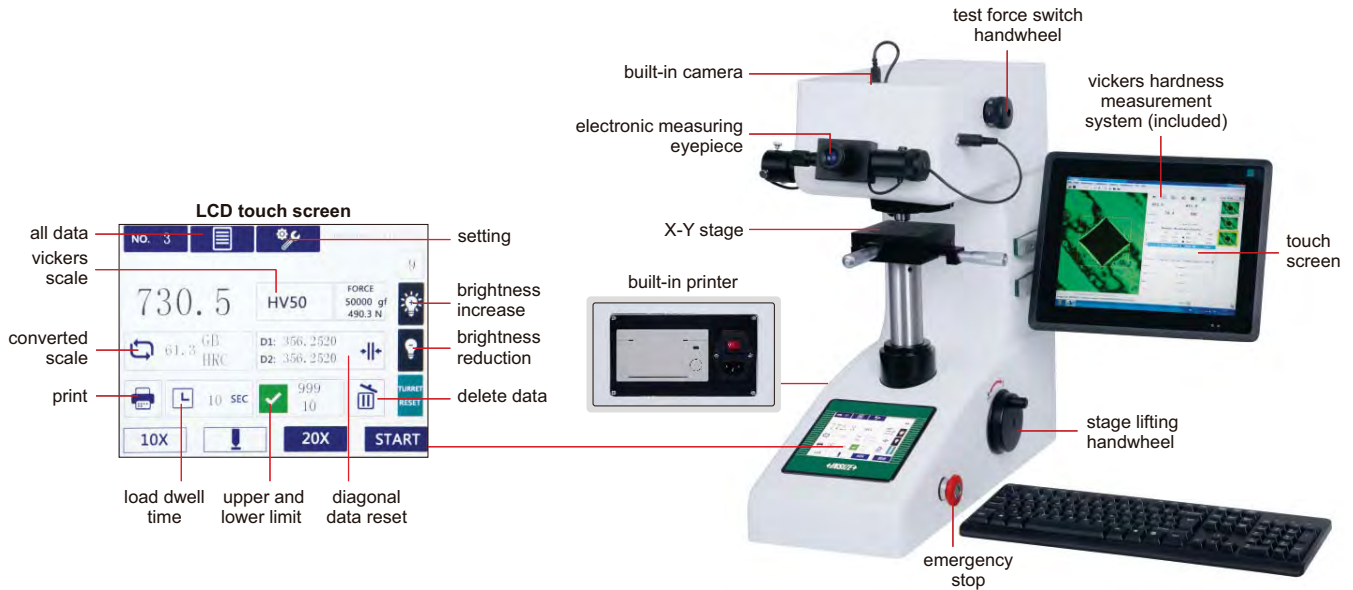


MOTOR DRIVEN TURRET

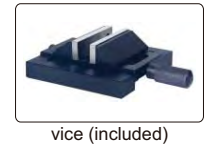
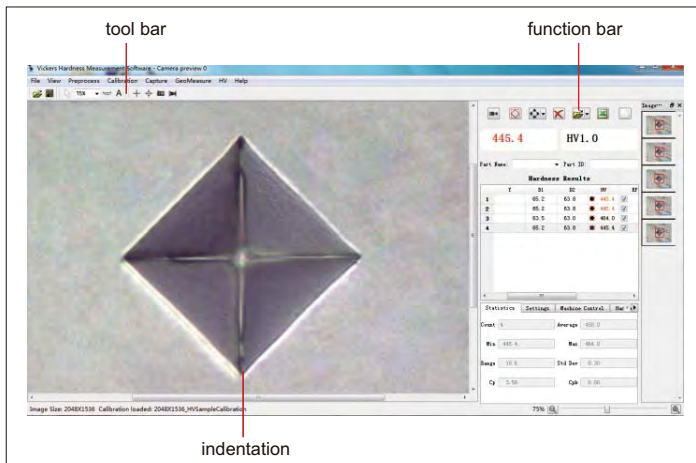
AUTOMATIC MEASUREMENT



32



vickers hardness measurement system (included)



- Dual touch screen control, high-definition image measurement and analysis
- One click start, automatic pressing and automatic measurement
- The host and vickers hardness measurement system can be operated independently
- Automatic switch between the indenter and objective lens
- Data storage and average value calculation
- Can connect with wired and wireless networks to transmit data
- According to ISO 6507

To be continued



Continued from previous page

SPECIFICATION

| | |
|-------------------------------|--|
| Test force | 0.098N (10gf), 0.245N (25gf), 0.49N (50gf), 0.98N (100gf), 1.96N (200gf), 2.94N (300gf), 4.9N (500gf), 9.8N (1kgf) |
| Vickers scales | HV0.01, HV0.025, HV0.05, HV0.1, HV0.2, HV0.3, HV0.5, HV1 |
| Converted scales | HRA, HRB, HRC, HRD, HRF, HV, HK, HBW, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T |
| Range | 5~3000HV |
| Length measurement resolution | 0.01μm |
| Objective/indenter switch | motor driven turret |
| Stage lifting | manual |
| Load control | automatic (load/dwell/unload) |
| Load dwell time | 1~60 second |
| Objective | 10X, 40X |
| Eyepiece | 10X |
| Total magnification | 100X (for measurement or observation), 400X (for measurement) |
| Max. workpiece height | 90mm |
| Max. testing width | 95mm (from the center of indenter to the wall of main body) |
| X-Y stage | dimensions: 100×100mm, travel range: 25×25mm |
| Data output | built-in printer, USB |
| Power supply | 220V, 50/60HZ |
| Dimension | 500×420×480mm |
| Weight | 42kg |

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STANDARD DELIVERY

| | |
|-------------------------------------|--------------|
| Main unit | 1 pc |
| Vickers hardness measurement system | 1 pc |
| 10X, 40X objective | 1 pc of each |
| Micro vickers indenter | 1 pc |
| Hardness test block 400~500HV0.2 | 1 pc |
| Hardness test block 700~750HV1 | 1 pc |
| Wireless keyboard | 1 pc |
| Wireless mouse | 1 pc |
| Vice | 1 pc |
| Slice holder | 1 pc |
| Cylinder holder | 1 pc |
| Anti-dust cover | 1 pc |

OPTIONAL ACCESSORY

| | |
|----------------------------------|-------------|
| Hardness test block 400~500HV0.2 | HDT-B-HV02C |
| Hardness test block 700~750HV1 | HDT-B-HV1F |
| Desk | HDT-DESK |
| OFFICE software | 7313-OFFICE |

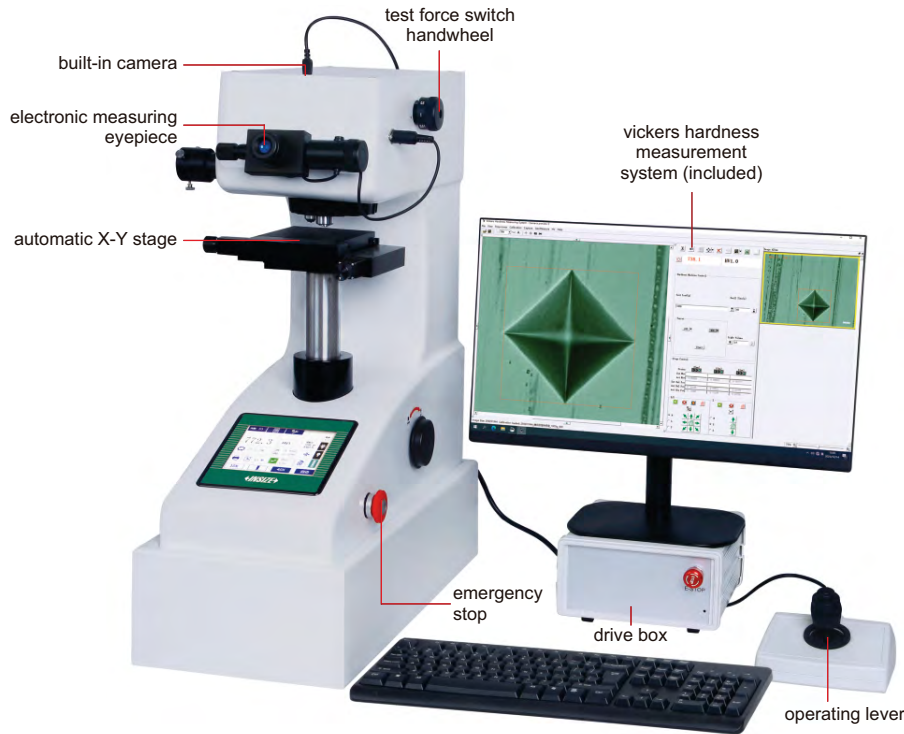
AUTOMATIC MICRO-VICKERS HARDNESS TESTER CODE HDT-AMV338

MOTOR DRIVEN
TURRET

AUTOMATIC
MEASUREMENT

Z-AXIS
AUTOFOCUS

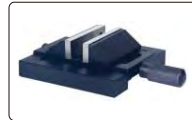
INSPECTION
CERTIFICATE



automatic X-Y stage



cylinder holder (included)



vice (included)



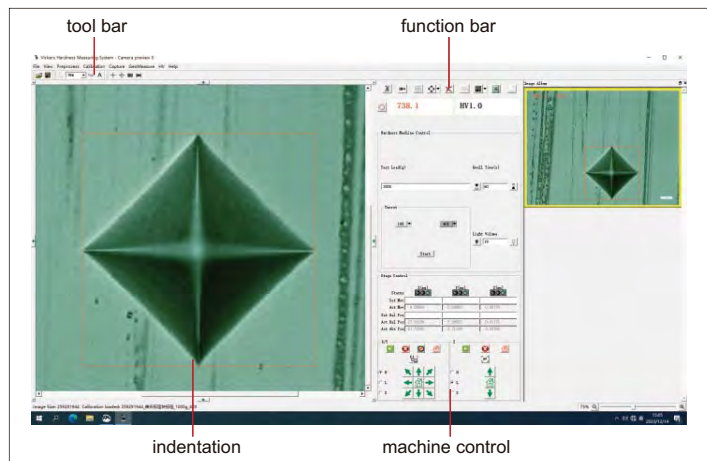
slice holder (included)



desk (optional)

- Suitable for micro-hardness determination of various metals and non-metal materials, effective depth and heat affected area measurement, especially suitable for measuring workpieces hardness gradient distribution curve and surface hardness after heat treatment, effective hardening layer depth
- Automatic switch between the indenter and objective lens
- Z-axis automatic focus, X, Y axis automatic movement, can be for multi-point continuous measurement
- Automatic moving table by built-in step motor, high positioning accuracy, good repeatability, fast moving speed, high efficiency
- Automatic moving table bidirectional movement, equipped with safety devices to avoid misoperation
- The software can control the hardness tester hardware operation, two-way communication with each other
- The image acquisition device has fast reaction speed, high automatic measurement accuracy and good repeatability
- The system can automatically generate Word or Excel test report, and the report template can be modified
- According to ISO 6507

vickers hardness measurement system (included)



To be continued



Continued from previous page

AUTOMATIC MEASUREMENT, CONTROL SYSTEM

| | |
|---|--|
| Hardness tester control | 1. automatic turret, automatic loading, automatic measurement 2. automatic display of test force, load dwell time, illumination brightness |
| Control automatic X-Y stage | software system controls automatic X-Y stage movement |
| Measurement mode | 1. automatic mode: automatic loading, automatic measurement, automatic display of measurement results 2. manual measurement mode can be selected |
| Automatic measurement | about 0.3sec of one indentation |
| Measurement repeatability | ±1% (700HV/500gf) |
| The smallest indentation that can be measured | about 5µm (automatic measurement) |
| Data output format/edit functions | 1. inspection reports can be customized according to customer requirements 2. the depth of hardened layer is shown in table form 3. output various measurement data, hardness table, hardening layer depth, maximum value, average value, minimum value, image with hardness value |

AUTOMATIC X-Y STAGE

| | |
|----------------------------------|---|
| Drive motor | step motor |
| Drive control | movement control by software, speed is adjustable |
| Dimension | 110×110mm |
| Maximum travel distance | 50×50mm |
| Minimum travel distance | 1µm |
| Movement speed | 1~10mm/sec, speed can be adjusted |
| Displacement repetition accuracy | within 1µm |

SPECIFICATION

| | |
|-------------------------------|--|
| Test force | 0.098N (10gf), 0.245N (25gf), 0.49N (50gf), 0.98N (100gf), 1.96N (200gf), 2.94N (300gf), 4.9N (500gf), 9.8N (1kgf) |
| Vickers scales | HV0.01, HV0.025, HV0.05, HV0.1, HV0.2, HV0.3, HV0.5, HV1 |
| Converted scales | HRA, HRB, HRC, HRD, HRF, HV, HK, HBW, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T |
| Range | 5~3000HV |
| Length measurement resolution | 0.01µm |
| Objective/indenter switch | motor driven turret |
| Stage lifting | manual |
| Focus mode | Z-axis autofocus |
| Load control | automatic (load/dwell/unload) |
| Load dwell time | 1~60 second |
| Objective | 10X, 40X |
| Eyepiece | 10X |
| Total magnification | 100X (for measurement or observation), 400X (for measurement) |
| Max. workpiece height | 80mm |
| Max. testing width | 110mm (from the center of indenter to the wall of main body) |
| Pixel | 5M |
| Communication interface | RS232 |
| Power supply | 220V, 50/60HZ |
| Dimension | 520×290×680mm |
| Weight | 42kg |

STANDARD DELIVERY

| | |
|-------------------------------------|--------------|
| Main unit | 1 pc |
| 10X, 40X objective | 1 pc of each |
| Micro vickers indenter | 1 pc |
| Hardness test block 400~500HV0.2 | 1 pc |
| Hardness test block 700~750HV1 | 1 pc |
| Automatic X-Y stage drive box | 1 pc |
| Vickers hardness measurement system | 1 pc |
| Computer | 1 pc |
| Vice | 1 pc |
| Slice holder | 1 pc |
| Cylinder holder | 1 pc |
| Anti-dust cover | 1 pc |

OPTIONAL ACCESSORY

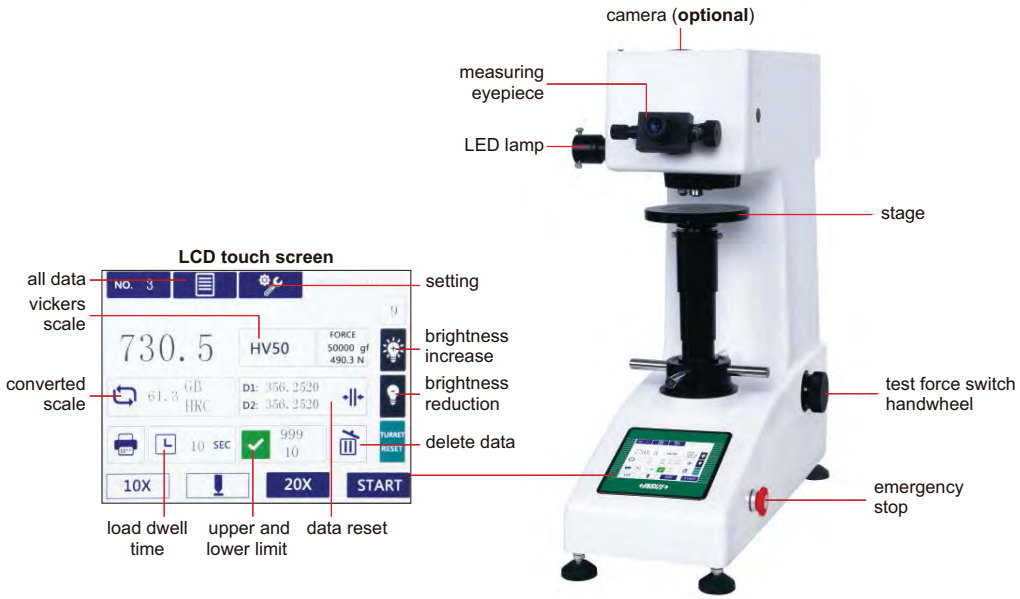
| | |
|----------------------------------|-------------|
| Hardness test block 400~500HV0.2 | HDT-B-HV02C |
| Hardness test block 700~750HV1 | HDT-B-HV1F |
| Desk | HDT-DESK |
| OFFICE software | 7313-OFFICE |

DIGITAL VICKERS HARDNESS TESTERS (BASIC TYPE)



MOTOR DRIVEN TURRET

TOUCH SCREEN



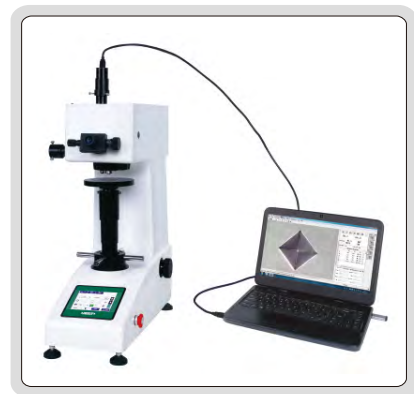
HDT-VE56

32

- Touch screen color LCD display
- Data storage and average value calculation
- Automatic switch between the indenter and objective lens
- According to ISO 6507

| | |
|--|---|
| <p>step: 1</p> <p>measure indentation diagonal lengths by measuring microscope</p> | <p>step: 2</p> <p>input the indentation diagonal lengths, the hardness value is shown on screen automatically</p> |
|--|---|

camera and measuring system (optional)



Ø58mm flat anvil (included)



Ø150mm flat anvil (included)



V-type anvil (included)



desk (optional)

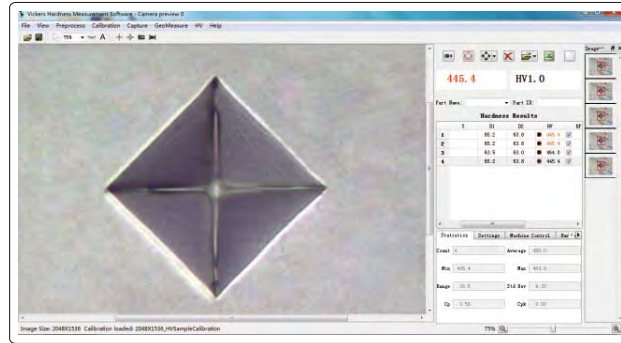


camera (optional)

To be continued

Continued from previous page

vickers hardness measurement system (optional)



SPECIFICATION

| Code | HDT-VE03 | HDT-VE14 | HDT-VE35 | HDT-VE56 |
|-------------------------------|--|---|---------------------------------------|--|
| Test force | 0.3kgf, 0.5kgf, 1kgf, 2kgf, 3kgf, 5kgf | 0.3kgf, 0.5kgf, 1kgf, 3kgf, 5kgf, 10kgf | 1kgf, 3kgf, 5kgf, 10kgf, 20kgf, 30kgf | 1kgf, 5kgf, 10kgf, 20kgf, 30kgf, 50kgf |
| Vickers scales | HV0.3, HV0.5, HV1, HV2, HV3, HV5 | HV0.3, HV0.5, HV1, HV3, HV5, HV10 | HV1, HV3, HV5, HV10, HV20, HV30 | HV1, HV5, HV10, HV20, HV30, HV50 |
| Converted scales | HRA, HRB, HRC, HRD, HRF, HV, HK, HBW, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T | | | |
| Range | 8~3000HV | | | |
| Length measurement resolution | 0.5μm | | | |
| Objective/indenter switch | motor driven turret | | | |
| Stage lifting | manual | | | |
| Load control | automatic (load/dwell/unload) | | | |
| Load dwell time | 1~60 second | | | |
| Objective | 10X, 20X | | | |
| Eyepiece | 10X | | | |
| Total magnification | 100X (for measurement or observation), 200X (for measurement) | | | |
| Max. workpiece height | 175mm | | | |
| Max. testing width | 135mm (form the center of indenter to the wall of main body) | | | |
| Power supply | 220V, 50/60HZ | | | |
| Dimension | 580×320×660mm | | | |
| Weight | 55kg | | | |

STANDARD DELIVERY

| | |
|---------------------------------|--------------|
| Main unit | 1 pc |
| 10X, 20X objective | 1 pc of each |
| Vickers indenter | 1 pc |
| Hardness test block 400~500HV10 | 1 pc |
| Hardness test block 700~750HV50 | 1 pc |
| Ø58mm flat anvil | 1 pc |
| Ø150mm flat anvil | 1 pc |
| V-type anvil | 1 pc |
| Anti-dust cover | 1 pc |

OPTIONAL ACCESSORY

| | |
|---------------------------------|-------------|
| Hardness test block 400~500HV10 | HDT-B-HV10D |
| Hardness test block 700~750HV50 | HDT-B-HV50G |
| Desk | HDT-DESK |
| Vickers hardness tester camera | HDT-MVH-CM1 |
| Measuring system (manual) | HDT-MVH-SW |
| Measuring system (automatic) | HDT-MVH-AW |

DIGITAL VICKERS HARDNESS TESTERS (STANDARD TYPE)



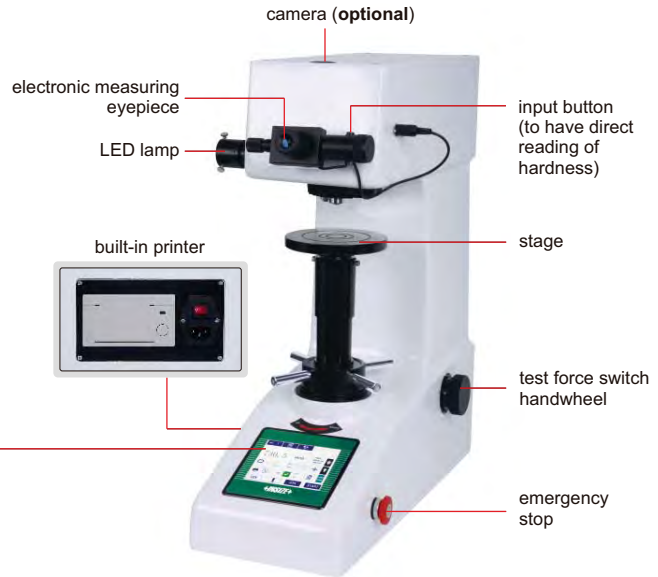
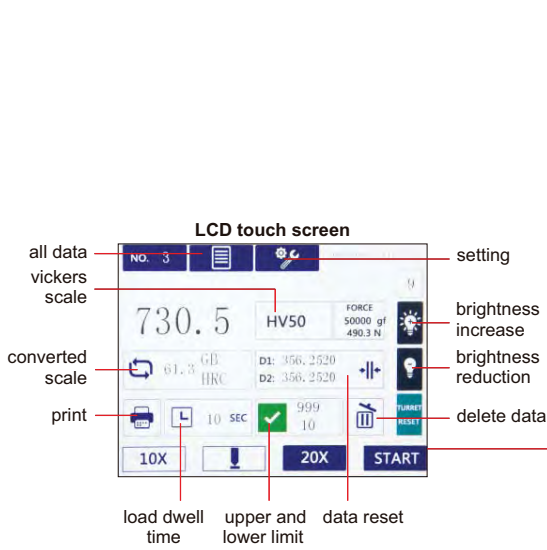
MOTOR DRIVEN
TURRET

PRESS INPUT BUTTON TO HAVE
DIRECT READING OF HARDNESS

TOUCH
SCREEN



32



HDT-VH51

- Touch screen color LCD display
- Data storage and average value calculation
- Automatic switch between the indenter and objective lens
- According to ISO 6507



Ø58mm flat anvil (included)



Ø150mm flat anvil (included)



V-type anvil (included)



desk (optional)



camera (optional)

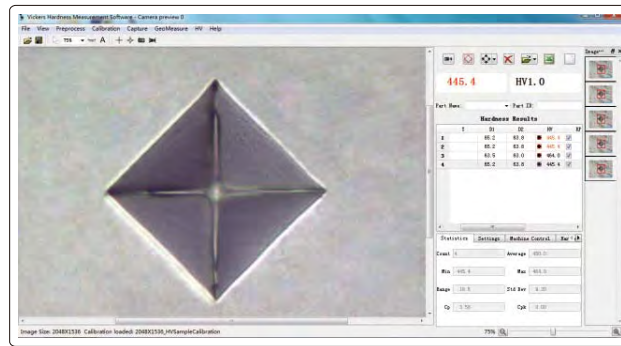
camera and measuring system (optional)



To be continued

Continued from previous page

vickers hardness measurement system (optional)



SPECIFICATION

| Code | HDT-VH05 | HDT-VH11 | HDT-VH31 | HDT-VH51 |
|-------------------------------|--|---|---------------------------------------|--|
| Test force | 0.3kgf, 0.5kgf, 1kgf, 2kgf, 3kgf, 5kgf | 0.3kgf, 0.5kgf, 1kgf, 3kgf, 5kgf, 10kgf | 1kgf, 3kgf, 5kgf, 10kgf, 20kgf, 30kgf | 1kgf, 5kgf, 10kgf, 20kgf, 30kgf, 50kgf |
| Vickers scales | HV0.3, HV0.5, HV1, HV2, HV3, HV5 | HV0.3, HV0.5, HV1, HV3, HV5, HV10 | Hv1, HV3, HV5, HV10, HV20, Hv30 | Hv1, HV5, HV10, HV20, HV30, Hv50 |
| Converted scales | HRA, HRB, HRC, HRD, HRF, HV, HK, HBW, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T | | | |
| Range | 8~3000HV | | | |
| Length measurement resolution | 0.125µm | | | |
| Objective/indenter switch | motor driven turret | | | |
| Stage lifting | manual | | | |
| Load control | automatic (load/dwell/unload) | | | |
| Load dwell time | 1~60 second | | | |
| Objective | 10X, 20X | | | |
| Eyepiece | 10X | | | |
| Total magnification | 100X (for measurement or observation), 200X (for measurement) | | | |
| Max. workpiece height | 175mm | | | |
| Max. testing width | 135mm (form the center of indenter to the wall of main body) | | | |
| Output | built-in printer | | | |
| Power supply | 220V, 50/60HZ | | | |
| Dimension | 580×320×660mm | | | |
| Weight | 55kg | | | |

STANDARD DELIVERY

| | |
|---------------------|--------------|
| Main unit | 1 pc |
| 10X, 20X objective | 1 pc of each |
| Vickers indenter | 1 pc |
| Hardness test block | 2 pcs |
| Ø58mm flat anvil | 1 pc |
| Ø150mm flat anvil | 1 pc |
| V-type anvil | 1 pc |
| Anti-dust cover | 1 pc |

OPTIONAL ACCESSORY

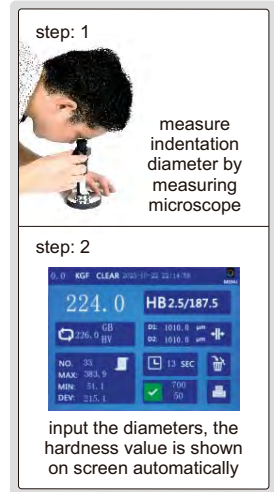
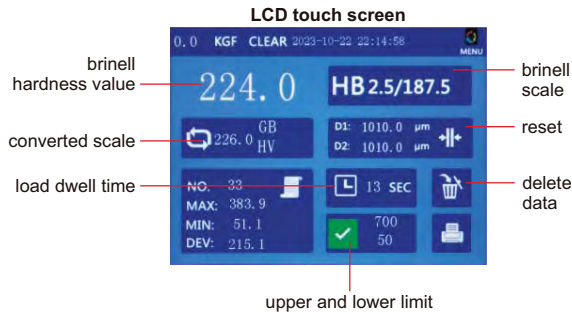
| | |
|--------------------------------|--------------|
| Hardness test block | page 840~841 |
| Desk | HDT-DESK |
| Vickers hardness tester camera | HDT-MVH-CM1 |
| Measuring system (manual) | HDT-MVH-SW |
| Measuring system (automatic) | HDT-MVH-AW |

MOTORIZED DIGITAL BRINELL HARDNESS TESTER (BASIC TYPE) CODE HDT-MBE320



TOUCH SCREEN

FORCE LOADING BY ELECTRIC MOTOR (WITHUOT WEIGHT)



- Touch screen color LCD display
- Measure indentation diameter by measuring microscope, then input the diameters, the hardness value is shown on screen automatically
- Electric loading test force, without weights
- Casting case, structurally stable and not deformed
- According to ISO 6506



SPECIFICATION

| | | |
|-----------------------|---|--------|
| Test force | 62.5kgf, 100kgf, 125kgf, 187.5kgf, 250kgf, 500kgf, 750kgf, 1000kgf, 1500kgf, 3000kgf | |
| Brinell scale | HBW2.5/62.5, HBW2.5/187.5, HBW5/62.5, HBW5/125, HBW5/250, HBW5/750, HBW10/100, HBW10/250, HBW10/500, HBW10/1000, HBW10/1500, HBW10/3000 | |
| Range | 8~650HBW | |
| Hardness resolution | 0.1HBW | |
| Stage elevation | manual | |
| Load control | automatic (load/dwell/unload) | |
| Load dwell time | 0~60 second | |
| Measuring microscope | magnification | 20X |
| | resolution | 0.01mm |
| Max. workpiece height | 230mm | |
| Max. testing width | 140mm (form the center of indenter to the wall of main body) | |
| Power supply | 220V, 50/60Hz | |
| Dimension | 510×210×750mm | |
| Weight | 130kg | |

STANDARD DELIVERY

| | |
|---|------|
| Main unit | 1 pc |
| Ø78mm flat anvil | 1 pc |
| Ø200mm flat anvil | 1 pc |
| V-type anvil | 1 pc |
| Ø2.5mm carbide ball indenter | 1 pc |
| Ø5mm carbide ball indenter | 1 pc |
| Ø10mm carbide ball indenter | 1 pc |
| Hardness test block 100~200HBW2.5/187.5 | 1 pc |
| Hardness test block 90~200HBW10/1000 | 1 pc |
| Hardness test block 100~200HBW10/3000 | 1 pc |
| Measuring microscope | 1 pc |

OPTIONAL ACCESSORY

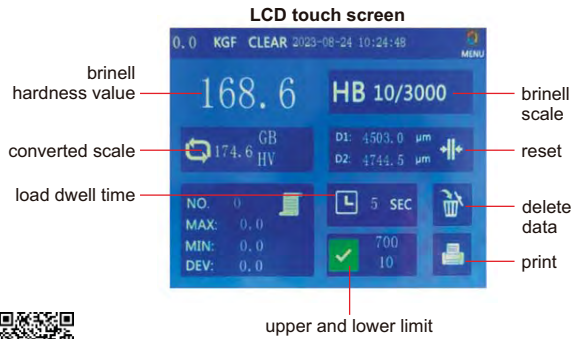
| | |
|---|--------------|
| Hardness test block 100~200HBW2.5/187.5 | HDT-B-HB25A1 |
| Hardness test block 90~200HBW10/1000 | HDT-B-HB10C1 |
| Hardness test block 100~200HBW10/3000 | HDT-B-HB10A1 |
| Desk | HDT-DESK |

TOUCH SCREEN

FORCE LOADING BY ELECTRIC MOTOR (WITHOUT WEIGHT)

MOTORIZED DIGITAL BRINELL HARDNESS TESTERS (STANDARD TYPE)

INSPECTION CERTIFICATE



- Touch screen color LCD display
- Measure the indentation with microscope, automatically calculate the hardness value and display it on the screen
- Electric loading test force, without weights
- Casting case, structurally stable and not deformed
- According to ISO 6506



Ø78mm flat anvil (included)



Ø200mm flat anvil (included)



V-type anvil (included)



desk (optional)

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SPECIFICATION

| Code | HDT-MB610 | HDT-MB710 |
|-----------------------|--|-----------|
| Turret rotation | manual | automatic |
| Test force | 62.5kgf, 100kgf, 125kgf, 187.5kgf, 250kgf, 500kgf, 750kgf, 1000kgf, 1500kgf, 3000kgf | |
| Brinell scale | HBW2.5/62.5, HBW2.5/187.5, HBW5/125, HBW5/750, HBW10/100, HBW10/250, HBW10/500, HBW10/1000, HBW10/1500, HBW10/3000 | |
| Range | 8~650HBW | |
| Hardness resolution | 0.1HBW | |
| Stage elevation | manual | |
| Load control | automatic (load/dwell/unload) | |
| Load dwell time | 0~60 second | |
| Measuring microscope | magnification | 20X |
| | resolution | 0.1µm |
| Max. workpiece height | 200mm | |
| Max. testing width | 135mm (form the center of indenter to the wall of main body) | |
| Data output | built-in printer, RS232 | |
| Power supply | 220V, 50/60Hz | |
| Dimension | 510×210×750mm | |
| Weight | 130kg | |

STANDARD DELIVERY

| | |
|---|------|
| Main unit | 1 pc |
| Ø78mm flat anvil | 1 pc |
| Ø200mm flat anvil | 1 pc |
| V-type anvil | 1 pc |
| Ø2.5mm carbide ball indenter | 1 pc |
| Ø5mm carbide ball indenter | 1 pc |
| Ø10mm carbide ball indenter | 1 pc |
| Hardness test block 100~200HBW2.5/187.5 | 1 pc |
| Hardness test block 90~200HBW10/1000 | 1 pc |
| Hardness test block 100~200HBW10/3000 | 1 pc |

OPTIONAL ACCESSORY

| | |
|---|--------------|
| Hardness test block 100~200HBW2.5/187.5 | HDT-B-HB25A1 |
| Hardness test block 90~200HBW10/1000 | HDT-B-HB10C1 |
| Hardness test block 100~200HBW10/3000 | HDT-B-HB10A1 |
| Desk | HDT-DESK |

BRINELL INDENTATION MEASURING SYSTEM CODE ISHB-MSA

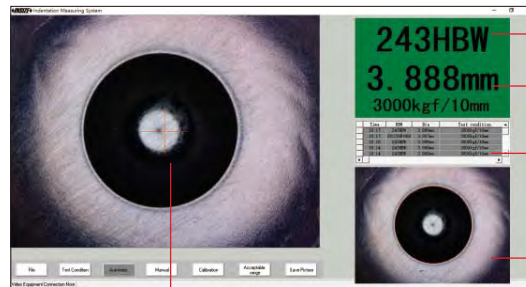


application



software flash disk (included)

software (included)



- result and scale
- diameter of indentation
- result list
- picture

- Connected to computer USB port
- Automatically measure the indentation
- Result saved to Excel automatically
- Tolerance testing
- Calibration with standard hardness blocks or standard indentation blocks

indentation

SPECIFICATION

| | | |
|-------------------------------|----------------------|---|
| Applicable Brinell indenter | | Ø10mm, Ø7.26mm, Ø5mm, Ø4mm, Ø2.5mm |
| Hardness range | | 16~650HB |
| Range of indentation diameter | | Ø0.6~6mm |
| Test force | | 62.5, 100, 125, 187.5, 250, 500, 750, 1000, 1500, 3000kgf |
| Hardness resolution | | 1HB |
| Diameter measuring resolution | | 0.001mm |
| Diameter measuring accuracy | Ø10mm ball indneter | ±0.4% (indentation diameter) |
| | Ø5mm ball indneter | ±0.8% (indentation diameter) |
| | Ø2.5mm ball indneter | ±1.2% (indentation diameter) |
| Camera | sensor | 1/3.2" CMOS |
| | pixel | 2M (resolution 1600×1200) |
| | view filed | 8×6mm |
| Dimension | | 170×54×54mm |
| Weight | | 385g |



standard blocks for Ø5mm and Ø10mm indenters (included)

STANDARD DELIVERY

| | |
|----------------------------------|------|
| Main unit | 1 pc |
| Software | 1 pc |
| Ø5mm standard indentation block | 1 pc |
| Ø10mm standard indentation block | 1 pc |

OPTIONAL ACCESSORY

| | |
|-----------------------------------|------------------|
| Ø2.5mm standard indentation block | ISHB-MSA-BLOCK25 |
|-----------------------------------|------------------|



BRINELL/ROCKWELL/VICKERS HARDNESS TESTER CODE ISH-BRV



Ø60mm flat anvil for Rockwell (included)



Ø150mm flat anvil for Rockwell (included)



Ø60mm flat anvil for Vickers and Brinell (included)



V-type anvil for Rockwell (included), for cylinders with diameter Ø4~60mm



V-type anvil for Vickers and Brinell (included)



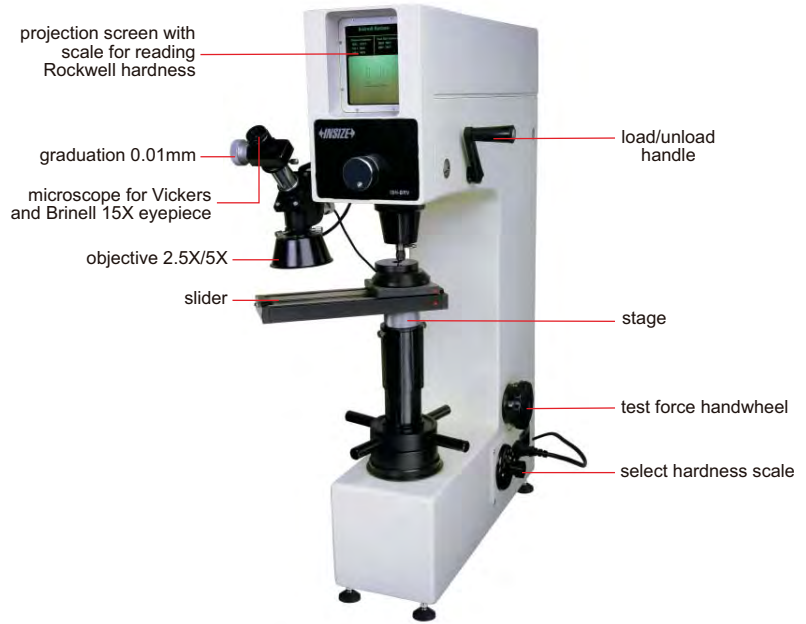
small V-type anvil for Rockwell (optional), for cylinders with diameter Ø2~4mm



desk (optional)



VIDEO



■ According to ISO 6506, ISO 6507, ISO 6508

SPECIFICATION

| | |
|-----------------------------|--|
| Rockwell test load | 98N preload, 588, 980, 1471N total load |
| Min. Rockwell reading | 0.5HR |
| Brinell test load | 306, 613, 1839N |
| Vickers test load | 294N |
| Stage elevation | manual |
| Load control | manual |
| Magnification of microscope | 37.5X/75X |
| Max. workpiece height | 180mm |
| Max. testing width | 200mm (from the center of indenter to the wall of main body) |
| Power supply | 220V, 50/60Hz |
| Dimension | 546×300×767mm |
| Weight | 90kg |

STANDARD DELIVERY

| | |
|--|------|
| Main unit | 1 pc |
| Ø1.5875mm carbide ball indenter | 1 pc |
| Diamond Rockwell indenter | 1 pc |
| Ø5mm Brinell indenter | 1 pc |
| Ø2.5mm Brinell indenter | 1 pc |
| Vickers indenter | 1 pc |
| Ø60mm flat anvil for Rockwell | 1 pc |
| Ø150mm flat anvil for Rockwell | 1 pc |
| V-type anvil for Rockwell | 1 pc |
| Ø60mm flat anvil for Vickers and Brinell | 1 pc |
| V-type anvil for Vickers and Brinell | 1 pc |
| Hardness test block HRB88~95 | 1 pc |
| Hardness test block HRC60~65 | 1 pc |
| Hardness test block HRC20~30 | 1 pc |
| Hardness test block 400~500HV30 | 1 pc |
| Hardness test block 180~300HBW2.5/187.5 | 1 pc |
| Anti-dust cover | 1 pc |

OPTIONAL ACCESSORY

| | |
|--|----------------|
| Hardness test block HRB88~100 | HDT-B-HRB |
| Hardness test block HRC60~70 | HDT-B-HRC3 |
| Hardness test block HRC20~30 | HDT-B-HRC1 |
| Hardness test block 400-500HV30 | HDT-B-HV30D |
| Hardness test block 200-3000HBW2.5/187.5 | HDT-B-HB25A2 |
| Small V-type anvil for Rockwell | ISH-SMALLANVIL |
| Desk | HDT-DESK |

BALANCING BRACKET CODE ISH-BL01



- Suitable for hardness measurement of long strip specimens
- By adjusting the counterweight, to ensure that the indenter is perpendicular to the specimen

SPECIFICATION

| | |
|-----------------|---------------|
| Sample diameter | <50mm |
| Test bench type | V-type anvil |
| Dimension | 600×100×100mm |
| Weight | 5kg |

application example



JACK LIFTING BRACKET CODE ISH-ST02



- No need to hold the sample, fixing the sample can reduce measurement error

SPECIFICATION

| | |
|----------------------|----------------------|
| Sample diameter | <50mm |
| Test bench type | V-type anvil |
| Adjusting the height | 200mm (customizable) |
| Dimension | 250×250×400mm |
| Weight | 11kg |

application example



PORTABLE LEEB HARDNESS TESTER APPLICABLE MATERIAL AND HARDNESS RANGE OF IMPACT DEVICE D

| Material | HLD | HV | HB | HRC | HRB | HS | Tensile strength (MPa) |
|---------------------|---------|--------|--------|-------|--------|--------|------------------------|
| Steel & cast steel | 300-900 | 81-955 | 81-654 | 20-68 | 38-100 | 32-100 | 375-2639 |
| Tool steel | 300-840 | 80-898 | | 20-67 | | | |
| Stainless steel | 300-800 | 85-802 | 85-655 | | 46-101 | | |
| Cast iron | 360-650 | | 93-334 | | | | |
| Cast aluminum alloy | 170-570 | | 19-164 | | 23-84 | | |
| Brass | 200-550 | | 40-173 | | 13-95 | | |
| Bronze | 300-700 | | 60-290 | | | | |
| Copper | 200-690 | | 45-315 | | | | |

BLUETOOTH

DATA
OUTPUT

PORTABLE LEEB HARDNESS TESTERS

32

**INSPECTION
CERTIFICATE**



HDT-CB320
(wired probe is included)



HDT-WL320
(wireless probe is included)

- Can use wired probes or wireless probes
- Dual-coil probe for high accuracy
- Universal testing angle, no need to set impact direction
- Based on Leeb (HLD), converted to Vickers (HV), Brinell (HB), Rockwell (HRC, HRA and HRB), Shore (HS) and tensile strength (σb)
- Dual value display, shows both Leeb and converted hardness
- Large 2.4" LCD display with backlight
- With a magnet on the back, the main unit can be attached on steel surfaces
- According to ASTM A956 and DIN 50156



hardness test
block D (included)



small support ring
(included)

connect to PC, upload the data to PC, print and send to Excel (software is included)



connect to
bluetooth printer (optional)



To be continued

Continued from previous page

SPECIFICATION

| | | |
|-----------------------------|---|------------------|
| Code | HDT-CB320 | HDT-WL320 |
| Probe included | wired probe D | wireless probe D |
| Optional probes | wired (DC/C/D/D+15/DL/E/G), wireless (DC/C/D/DL/G) | |
| Resolution | 1HLD/1HV/1HB/0.1HRC/0.1HRB/0.1HRA/0.1HS/1MPa | |
| Accuracy | ±6HLD (when HLD=800) | |
| Output | USB | |
| Measuring range | HL 170-960/HRC 1.3-74.7/HRB 1.2-139.7/HB 28-1027/HV 45-1221 HS 4.0-112.1/HRA 1.3-88.5/MPa 118-3315N/mm ² | |
| Applicable materials | 1. steel/cast steel 2. alloy steel 3. stainless steel 4. gray pig iron 5. nodular cast iron 6. cast aluminum 7. brass 8. bronze 9. copper 10. forging steel 11. rolling steel | |
| Statistics | average/max./min./s.value | |
| Memory | 999 data | |
| Working environment | -10°C~45°C | |
| Power supply | 2xAA battery | |
| Dimension | 145×68×28mm | |
| Weight | 158g | |

STANDARD DELIVERY

| | | |
|------------------------------|------------------|------------------|
| Code | HDT-CB320 | HDT-WL320 |
| Main unit | 1 pc | 1 pc |
| Wired probe D | 1 pc | — |
| Wireless probe D | — | 1 pc |
| Hardness test block D | 1 pc | 1 pc |
| Small support ring | 1 pc | 1 pc |
| Cleaning brush | 1 pc | 1 pc |

OPTIONAL ACCESSORY

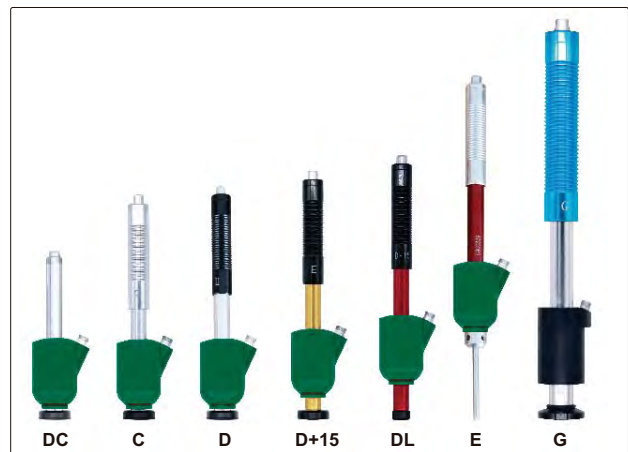
| | | |
|--------------------------------|--------------------------|----------------------|
| Wired probe | DC | HDT-CB320-DC |
| | C | HDT-CB320-C |
| | D | HDT-CB320-D |
| | D+15 | HDT-CB320-D15 |
| | DL | HDT-CB320-DL |
| | E | HDT-CB320-E |
| | G | HDT-CB320-G |
| Wireless probe | DC | HDT-WL320-DCW |
| | C | HDT-WL320-CW |
| | D | HDT-WL320-DW |
| | DL | HDT-WL320-DLW |
| | G | HDT-WL320-GW |
| Hardness test block D** | HDT-B-HLD3 | |
| Hardness test block G* | HDT-B-HLG2 | |
| Printer | ISH-LP200-PRINTER | |
| Support rings | page 829 | |

* Hardness test block G (HDT-B-HLG2) is for probe G (HDT-CB320-G or HDT-WL320-GW)
** Hardness test block D (HDT-B-HLD3) is for all other probes

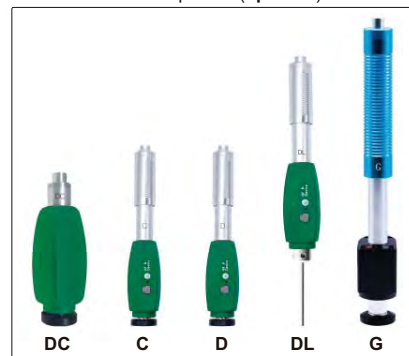
APPLICABLE WORKPIECE

| | | | | | | | |
|--|---------------------------|--|-------------|-------------|---------------------------|--------------------|------------------------------|
| Probes | DC | C | D | D+15 | DL | E | G |
| Application | inner wall of small space | small or thin workpiece, coating layer | general use | deep groove | narrow slot or small hole | very hard material | casting or forging workpiece |
| Maximum roughness of workpiece (Ra) | 2µm | 0.4µm | 2µm | 2µm | 2µm | 2µm | 7µm |
| Minimum weight of workpiece | direct measurement | 5kg | 1.5kg | 5kg | 5kg | 5kg | 15kg |
| | on solid support | 2.5kg | 0.5kg | 2kg | 2kg | 2kg | 5kg |
| | coupled on plate | 0.05-2kg | 0.02kg | 0.05-2kg | 0.1kg | 0.1kg | 0.1-2kg |
| Minimum thickness of workpiece | 3mm | 1mm | 3mm | 3mm | 3mm | 3mm | 10mm |

wired probes (optional)



wireless probes (optional)



PORTABLE LEEB HARDNESS TESTER CODE ISH-PHB



- Based on Leeb (HLD), converted to Vickers (HV), Brinell (HB), Rockwell (HRC and HRB), Shore (HS) and tensile strength (MPa)
- Memory of 99 measurement values for browsing
- Set measurement times (1~9) to have average value
- Connected with printer via bluetooth
- Automatic power off, according to ASTM A 956



hardness test block D (included)



small support ring (included)



wireless printer (optional)

SPECIFICATION

| | | |
|--|---|--------------------------|
| Min. reading | 1HLD, 1HV, 1HB, 0.1HRC, 0.1HRB, 1HS, 1MPa | |
| Accuracy | ±6HLD (when HLD=800) | |
| Display | Leeb (HLD), converted hardness, material, impact direction, test times, average value, date | |
| Output | bluetooth | |
| Applicable workpiece | minimum weight | 5kg |
| | | 2kg (on solid support) |
| | | 0.1kg (coupled on plate) |
| | minimum thickness: 5mm | |
| minimum radius of curved surface: 30mm | | |
| maximum roughness (Ra): 1.6µm | | |
| Power supply | 3×AAA batteries | |
| Dimension | 150×84×28mm | |
| Weight | 200g | |

STANDARD DELIVERY

| | |
|------------------------------|------|
| Main unit | 1 pc |
| Impact device D | 1 pc |
| Hardness test block D | 1 pc |
| Small support ring | 1 pc |
| Cleaning brush | 1 pc |

OPTIONAL ACCESSORY

| | |
|------------------------------|----------------|
| Wireless printer | ISH-DS-PRINTER |
| Couplant | ISH-COULPLANT |
| Support rings | page 829 |
| Hardness test block D | HDT-B-HLD3 |

PORTABLE LEEB HARDNESS TESTER (BUILT-IN BLUETOOTH) CODE ISH-PHB-B

BUILT-IN BLUETOOTH

DATA OUTPUT



- Based on Leeb (HLD), converted to Vickers (HV), Brinell (HB), Rockwell (HRC and HRB), Shore (HS) and tensile strength (MPa)
- Memory of 99 measurement values for browsing
- Set measurement times (1~9) to have average value
- Connected with printer via wireless module
- Automatic power off
- According to ASTM A 956
- Wired data transmission (keyboard signal):
USB cable connect to computer, press transmission button to send data
- Wireless data transmission (keyboard signal):
built-in Bluetooth module connect to computer or mobile phone, press transmission button to send data



transmission button



hardness test block D (included)



small support ring (included)



wireless printer (optional)



VIDEO

32

SPECIFICATION

| | | |
|--|---|--------------------------|
| Min. reading | 1HLD, 1HV, 1HB, 0.1HRC, 0.1HRB, 1HS, 1MPa | |
| Accuracy | ±6HLD (when HLD=800) | |
| Display | Leeb (HLD), converted hardness, material, impact direction, test times, average value, date | |
| Output | bluetooth, USB | |
| Applicable workpiece | minimum weight | 5kg |
| | | 2kg (on solid support) |
| | | 0.1kg (coupled on plate) |
| | minimum thickness: 5mm | |
| minimum radius of curved surface: 30mm | | |
| maximum roughness (Ra): 1.6µm | | |
| Power supply | 3×AAA batteries | |
| Dimension | 150×84×28mm | |
| Weight | 200g | |

STANDARD DELIVERY

| | |
|-----------------------|------|
| Main unit | 1 pc |
| Impact device D | 1 pc |
| Hardness test block D | 1 pc |
| USB cable | 1 pc |
| Small support ring | 1 pc |
| Cleaning brush | 1 pc |

OPTIONAL ACCESSORY

| | |
|-----------------------|----------------|
| Wireless printer | ISH-DS-PRINTER |
| Couplant | ISH-COUPPLANT |
| Support rings | page 829 |
| Hardness test block D | HDT-B-HLD3 |

connected to computer by USB cable,
upload the data in real time



connected to computer by bluetooth module,
upload the data in real time





DATA
OUTPUT

INSPECTION
CERTIFICATE

PORTABLE LEEB HARDNESS TESTER CODE ISH-SPHA

- Based on Leeb (HL), converted to Vickers (HV), Brinell (HB), Rockwell (HRC and HRB), Shore (HS) and tensile strength (MPa)
- Connected with printer via bluetooth
- Connected with computer via USB port
- Up to 800 test results can be saved
- Tolerance testing
- Touch screen operation, large display with backlight
- Language: English, Chinese, Italian, German, French and Portuguese
- Automatic power off
- According to ASTM A 956



software flash disk
(included)



hardness test
block D (included)



small support ring
(included)



printer (included)

SPECIFICATION

| | |
|--------------|---|
| Min. reading | 1HL, 1HV, 1HB, 0.1HRC, 0.1HRB, 1HS, 1MPa |
| Accuracy | ±6HL (when HL=800) |
| Display | Leeb (HL), converted hardness, material, impact direction, test times, average value, deviation, time |
| Output | bluetooth and USB |
| Power supply | built-in rechargeable battery |
| Dimension | 135×83×24mm |
| Weight | 350g |

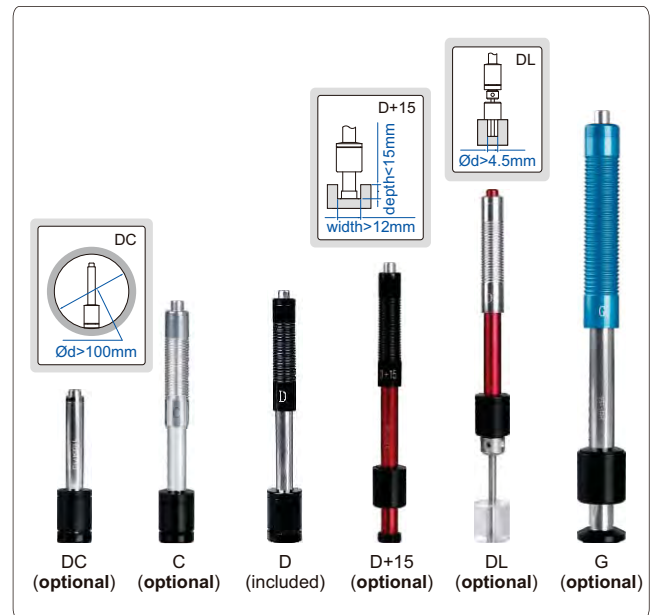
STANDARD DELIVERY

| | |
|-----------------------------------|------|
| Main unit | 1 pc |
| Impact device D | 1 pc |
| Printer | 1 pc |
| Hardness test block D | 1 pc |
| Small support ring | 1 pc |
| Cleaning brush | 1 pc |
| AC/DC adapter | 1 pc |
| Software flash disk and USB cable | 1 pc |
| Pen for touch screen | 1 pc |

OPTIONAL ACCESSORY

| | |
|------------------------|---------------|
| Impact device DC | ISH-SPHA-DC |
| Impact device C | ISH-SPHA-C |
| Impact device D+15 | ISH-SPHA-D15 |
| Impact device DL | ISH-SPHA-DL |
| Impact device G | ISH-SPHA-G |
| Hardness test block D* | HDT-B-HLD3 |
| Hardness test block G* | HDT-B-HLG2 |
| Couplant | ISH-COUPPLANT |
| Support rings | page 829 |

* Hardness test block G (HDT-B-HLG2) is for impact device G (ISH-SPHA-G).
Hardness test block D (HDT-B-HLD3) is for all other impact devices.



APPLICABLE WORKPIECE

| Impact device | DC | C | D | D+15 | DL | G |
|-------------------------------------|---------------------------|--|-------------|-------------|---------------------------|------------------------------|
| Application | inner wall of small space | small or thin workpiece, coating layer | general use | deep groove | narrow slot or small hole | casting or forging workpiece |
| Maximum roughness of workpiece (Ra) | 1.6µm | 0.4µm | 1.6µm | 1.6µm | 1.6µm | 7µm |
| Minimum weight of workpiece | direct measurement | 5kg | 1.5kg | 5kg | 5kg | 15kg |
| | coupled on plate | 2kg | 0.5kg | 2kg | 2kg | 5kg |
| Minimum thickness of workpiece | 0.1kg | 0.02kg | 0.1kg | 0.1kg | 0.1kg | 0.5kg |
| | 5mm | 1mm | 5mm | 5mm | 5mm | 10mm |

PORTABLE LEEB HARDNESS TESTERS (BASIC TYPE)

INSPECTION
CERTIFICATE

POPULAR
MODEL

- Can change probes
- Dual-coil probe for high accuracy
- Universal testing angle, no need to set impact direction
- Based on Leeb (HLD), converted to Vickers (HV), Brinell (HB), Rockwell (HRC, HRB), Shore (HSD) and tensile strength (σ)
- Dual value display, shows both Leeb and converted hardness
- Large LCD display with backlight
- Can choose large font display and statistics display
- Automatically calculate maximum, minimum and average value
- Save 300 data
- Operation temperature: $-10^{\circ}\text{C}\sim 45^{\circ}\text{C}$
- According to ASTM A956, GB/T 17394



HDT-LP200



SPECIFICATION

| Code | HDT-LP200 | HDT-LP200B |
|-----------------|--|------------|
| Printer | not included | included |
| Resolution | 1HLD/1HV/1HB/0.1HRC/0.1HRB/0.1HSD/1 σ | |
| Accuracy | ± 6 HLD (when HLD=800) | |
| Measuring range | HL 170-960/HRC 17-70/HRB 13-109/ HB 20-655/HV 80-940/HSD 32-99.5/ σ (m) 255-2639N/ mm^2 | |
| Power supply | 2xAA battery | |
| Dimension | 135 \times 77 \times 32mm | |
| Weight | 240g | |

STANDARD DELIVERY

| | |
|--|------|
| Main unit | 1 pc |
| Hardness test block D | 1 pc |
| Small support ring | 1 pc |
| Cleaning brush | 1 pc |
| Impact device D | 1 pc |
| Bluetooth printer (included in HDT-LP200B) | 1 pc |

OPTIONAL ACCESSORY

| | |
|--------------------------|---------------|
| Impact device DC | HDT-LP200-DC |
| Impact device C | HDT-LP200-C |
| Impact device D+15 | HDT-LP200-D15 |
| Impact device DL | HDT-LP200-DL |
| Impact device G | HDT-LP200-G |
| Hardness test block D ** | HDT-B-HLD3 |
| Hardness test block G * | HDT-B-HLG2 |
| Support rings | page 829 |

* Hardness test block G (HDT-B-HLG2) is for impact device G (HDT-LP200-G)

** Hardness test block D (HDT-B-HLD3) is for all other impact devices



APPLICABLE WORKPIECE

| Impact device | DC | C | D | D+15 | DL | G |
|-------------------------------------|---------------------------|--|-----------------|-----------------|---------------------------|------------------------------|
| Application | inner wall of small space | small or thin workpiece, coating layer | general use | deep groove | narrow slot or small hole | casting or forging workpiece |
| Maximum roughness of workpiece (Ra) | 2 μm | 0.4 μm | 2 μm | 2 μm | 2 μm | 7 μm |
| Minimum weight of workpiece | direct measurement | 5kg | 1.5kg | 5kg | 5kg | 15kg |
| | on solid support | 2kg | 0.5kg | 2kg | 2kg | 5kg |
| | coupled on plate | 0.05kg | 0.02kg | 0.05kg | 0.1kg | 0.05kg |
| Minimum thickness of workpiece | 3mm | 1mm | 3mm | 3mm | 3mm | 10mm |

PORTABLE LEEB HARDNESS TESTER (WITH WIRELESS PROBE) CODE HDT-WP201

- Bluetooth digital probe
- Universal testing angle, no need to set impact direction
- Based on Leeb (HLD), converted to Vickers (HV), Brinell (HB), Rockwell (HRC, HRB), Shore (HSD) and tensile strength (σ_b)
- Dual value display, shows both Leeb and converted hardness
- Large LCD display with backlight
- Can choose large font display and statistics display
- Automatically calculate maximum, minimum and average value
- Save 300 data
- Operation temperature: -10°C~45°C
- According to ASTM A956, DIN 50156 GB/T 17394



SPECIFICATION

| | |
|-----------------|--|
| Resolution | 1HLD/1HV/1HB/0.1HRC/0.1HRB/0.1HSD/1 σ_b |
| Accuracy | ± 6 HLD (when HLD=800) |
| Measuring range | HL 170-960/HRC 17-69/HRB 13-101.7/HB 20-655/HV 80-940/HSD 32-99.5/ σ_b (rm) 255-2180N/mm ² |
| Power supply | 2xAA battery |
| Dimension | 135×77×32mm |
| Weight | 240g |

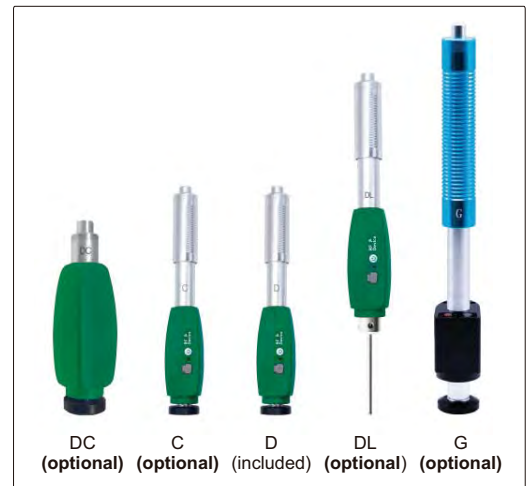


STANDARD DELIVERY

| | |
|-----------------------|------|
| Main unit | 1 pc |
| Hardness test block D | 1 pc |
| Small support ring | 1 pc |
| Cleaning brush | 1 pc |
| Impact device D | 1 pc |

OPTIONAL ACCESSORY

| | |
|-----------------------|-------------------|
| Impact device DC | HDT-WL320-DCW |
| Impact device C | HDT-WL320-CW |
| Impact device DL | HDT-WL320-DLW |
| Impact device G | HDT-WL320-GW |
| Hardness test block D | HDT-B-HLD3 |
| Bluetooth printer | ISH-LP200-PRINTER |
| Support rings | page 829 |



APPLICABLE WORKPIECE

| Impact device | DC | C | D | DL | G |
|-------------------------------------|---------------------------|--|-------------|---------------------------|------------------------------|
| Application | inner wall of small space | small or thin workpiece, coating layer | general use | narrow slot or small hole | casting or forging workpiece |
| Maximum roughness of workpiece (Ra) | 2 μ m | 0.4 μ m | 2 μ m | 2 μ m | 7 μ m |
| Minimum weight of workpiece | direct measurement | 5kg | 1.5kg | 5kg | 15kg |
| | on solid support | 2kg | 0.5kg | 2kg | 5kg |
| | coupled on plate | 0.05kg | 0.02kg | 0.05kg | 0.5kg |
| Minimum thickness of workpiece | 3mm | 1mm | 3mm | 3mm | 10mm |

PEN-TYPE LEEB HARDNESS TESTER (ADVANCED TYPE) CODE HDT-L410

DATA
OUTPUT

HIGH
ACCURACY

DL PROBE IS
OPTIONAL



software flash disk (included)



hardness test block D (included)



wireless printer (optional)



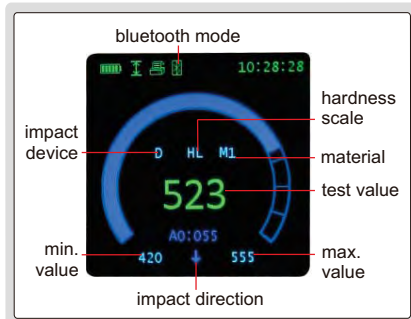
small support ring (included)

- Metal housing
- HD TFT 320×320 display
- Impact device D
- Based on Leeb (HLD), converted to Vickers (HV), Brinell (HB), Rockwell (HRC, HRA and HRB), Shore (HS) and tensile strength (SGM)
- Four display modes
- Automatic direction correction
- Tolerance testing
- Automatic power off, automatic calculation of statistics
- Dual value display, shows both Leeb and other conversion values
- 31 files can be saved, each containing 100 measurement data
- Connected to PC software via USB or Bluetooth 2.0
- Connected with printer via Bluetooth
- Operation temperature: -20°C~70°C
- According to ASTM A956, DIN 50156, GB/T 17394

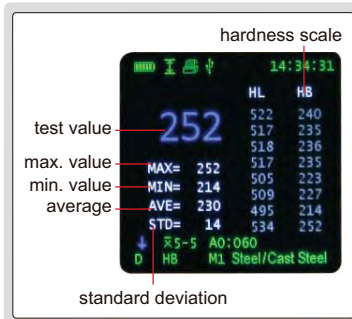
DL probe can be installed (optional)



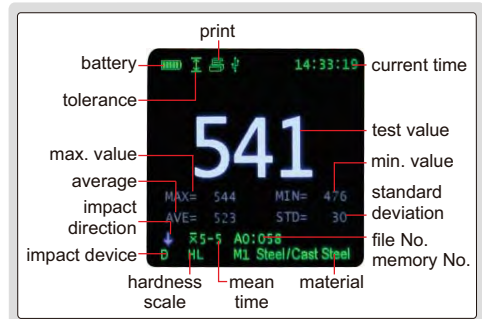
dynamic ring display



statistic display

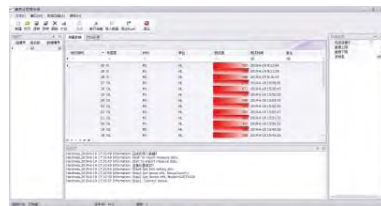


can choose large font display

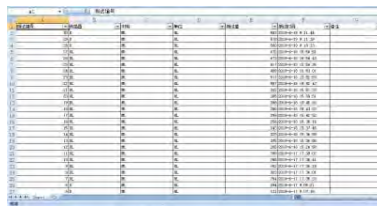


software (included), upload the memory to PC, print and send to EXCEL

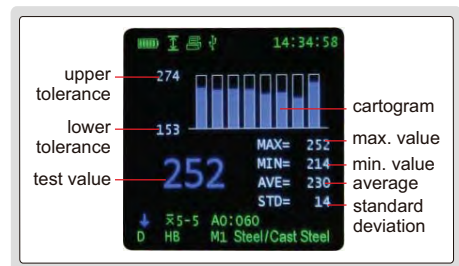
upload the memory to PC software via USB cable or Bluetooth



send the stored data to EXCEL



histogram display



SPECIFICATION

| | | |
|----------------------|---|---|
| Resolution | 1HLD, 1HV, 1HB, 0.1HRC, 0.1HRB, 0.1HRA, 0.1HS, 1SGM | |
| Accuracy | ±4HLD (when HLD=800) | |
| Output | USB and bluetooth | |
| Applicable workpiece | minimum weight | 5kg (direct measurement) 2kg (on solid support) 0.05kg (coupled on plate) |
| | minimum thickness: | 5mm |
| | minimum radius of curved surface: | 30mm |
| | maximum roughness (Ra): | 2µm |
| Power supply | built-in 3.7V rechargeable battery | |
| Dimension | 148×44×22mm | |
| Weight | 115g | |

STANDARD DELIVERY

| | |
|-----------------------------------|------|
| Main unit | 1 pc |
| Hardness test block D | 1 pc |
| Small support ring | 1 pc |
| Cleaning brush | 1 pc |
| AC/DC adapter | 1 pc |
| Software flash disk and USB cable | 1 pc |

OPTIONAL ACCESSORY

| | |
|-----------------------|------------------|
| Printer | HDT-L410-PRINTER |
| Support rings | page 829 |
| Hardness test block D | HDT-B-HLD3 |
| DL probe | HDT-L410-DL |

DATA OUTPUT

DL PROBE IS OPTIONAL

INSPECTION CERTIFICATE

PEN-TYPE LEEB HARDNESS TESTER (STANDARD TYPE) CODE HDT-B430



software flash disk (included)



hardness test block D (included)



small support ring (included)



wireless printer (optional)



VIDEO

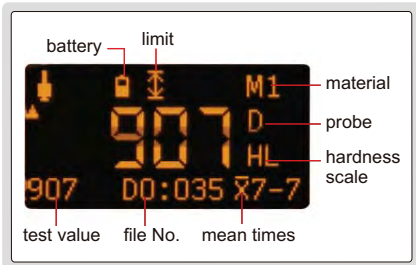
DL probe can be installed (optional)



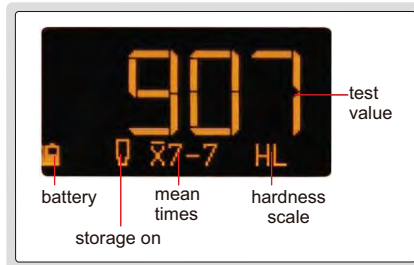
- Impact device D is included
- High contrast OLED display
- Based on Leeb (HLD), converted to Vickers (HV), Brinell (HB), Rockwell (HRC, HRA and HRB), Shore (HS) and tensile strength (σ_b)
- Dual value display, shows both Leeb and other conversion values
- No need to set the testing direction
- 31 files can be saved, each containing 100 measurement data
- Automatically calculate maximum, minimum, average value
- Connected to PC software via USB or Bluetooth
- Connected with printer via Bluetooth
- Operation temperature: -20°C~45°C
- According to ASTM A956, DIN 50156 GB/T, 17394



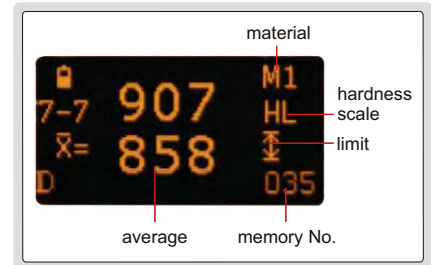
standard display



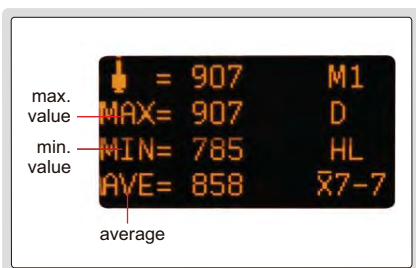
big character display



average display

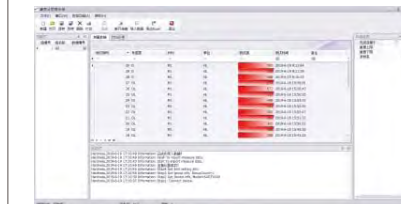


statistical parameter display

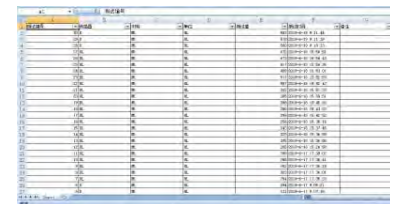


software (included), upload the memory to PC, print and send to EXCEL

upload the memory to PC software via USB cable or Bluetooth



send the stored data to EXCEL



SPECIFICATION

| | | |
|--|--|---------------------------|
| Resolution | 1HLD, 1HV, 1HB, 0.1HRC, 0.1HRB, 0.1HRA, 0.1HSD, 16b | |
| Accuracy | ±6HLD (when HLD=800) | |
| Measuring range | HLD170-960, HRC17-70, HRB13-109, HB20-655, HV80-940 HSD32-99.5, HRA30-88, σ_b (rm) 255-2180N/mm ² | |
| Applicable workpiece | minimum weight | 5kg (direct measurement) |
| | | 2kg (on solid support) |
| | | 0.05kg (coupled on plate) |
| | minimum thickness: 5mm | |
| minimum radius of curved surface: 30mm | | |
| maximum roughness (Ra): 2 μ m | | |
| Output | USB and bluetooth | |
| Power supply | built-in 3.7V rechargeable battery | |
| Dimension | 148×44×28mm | |
| Weight | 110g | |

STANDARD DELIVERY

| | |
|-----------------------------------|------|
| Main unit | 1 pc |
| Hardness test block D | 1 pc |
| Small support ring | 1 pc |
| Cleaning brush | 1 pc |
| AC/DC adapter | 1 pc |
| Software flash disk and USB cable | 1 pc |

OPTIONAL ACCESSORY

| | |
|-----------------------|-------------------|
| Printer | ISH-LP200-PRINTER |
| Support rings | page 829 |
| Hardness test block D | HDT-B-HLD3 |
| DL probe | HDT-L410-DL |

PEN-TYPE LEEB HARDNESS TESTER (BASIC TYPE) CODE HDT-L411

DATA
OUTPUT

INSPECTION
CERTIFICATE



software flash disk
(included)



hardness test
block D (included)

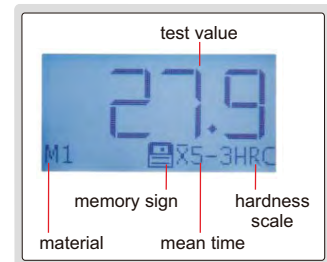


small support ring
(included)

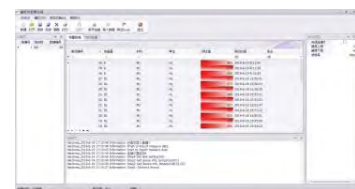


- Impact device D
- Universal testing angle, no need to set impact direction
- Dual-coil probe, high accuracy
- Based on Leeb (HLD), converted to Vickers (HV), Brinell (HB), Rockwell (HRC, HRA and HRB), Shore (HS) and tensile strength (SGM)
- Dual value display, shows both Leeb and converted hardness
- High contrast digital LCD display
- Can choose large font display
- Automatically calculate maximum, minimum, average value
- Connected to PC via USB
- Save 999 data
- Operation temperature: -20°C~45°C
- According to ASTM A956, DIN 50156, GB/T 17394

can choose large font display

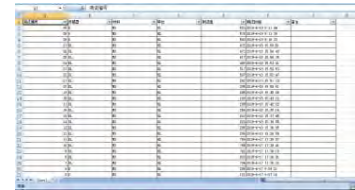


software (included), upload the memory
to PC, print and send to EXCEL



upload the memory to PC
software via USB cable

send the stored data to EXCEL



SPECIFICATION

| | | |
|--|--|---------------------------|
| Resolution | 1HLD, 1HV, 1HB, 0.1HRC, 0.1HRB, 0.1HRA, 0.1HS, 1SGM | |
| Accuracy | ±6HLD (when HLD=800) | |
| Output | USB | |
| Measuring range | HL100-960, HRC1-74.7, HRB1.2-140, HB28-1027, HV45-1230, HS4-112, HRA7-88.5, SGM (rm) 118-3315N/mm ² | |
| Applicable workpiece | minimum weight | 5kg (direct measurement) |
| | | 2kg (on solid support) |
| | | 0.05kg (coupled on plate) |
| | minimum thickness: 5mm | |
| minimum radius of curved surface: 30mm | | |
| maximum roughness (Ra): 2µm | | |
| Power supply | 1xAAA battery | |
| Dimension | 148×45×21mm | |
| Weight | 105g | |

STANDARD DELIVERY

| | |
|--|------|
| Main unit | 1 pc |
| Hardness test block D | 1 pc |
| Cleaning brush | 1 pc |
| AAA battery | 1 pc |
| Small support ring | 1 pc |
| Software flash disk and USB cable | 1 pc |

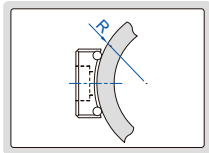
OPTIONAL ACCESSORY

| | |
|------------------------------|-------------------|
| Support rings | page 829 |
| Hardness test block D | HDT-B-HLD3 |

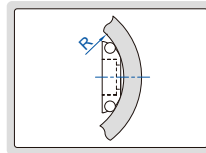


SUPPORT RING SET FOR PORTABLE LEEB HARDNESS TESTER CODE ISH-PH-SP9

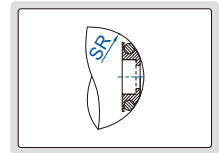
type A



type B



type C



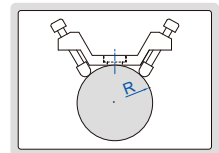
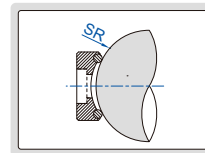
SPECIFICATION

| Type | Applicable workpieces | Range (mm) | Quantity |
|------|-----------------------------|------------|----------|
| A | cylindrical outside surface | R10-15 | 3 pcs |
| | | R14.5-30 | |
| | | R25-50 | |
| B | cylindrical inside surface | R11-13 | 3 pcs |
| | | R12.5-17 | |
| | | R16.5-30 | |
| C | spherical inside surface | SR11-13 | 3 pcs |
| | | SR12.5-17 | |
| | | SR16.5-30 | |
| D | spherical outside surface | SR10-15 | 2 pcs |
| | | SR14.5-30 | |
| E | cylindrical outside surface | R>10 | 1 pc |

type D



type E



DIGITAL MAGNETIC ROCKWELL HARDNESS TESTER CODE ISHR-D121



flat anvil for test block
(included)



- Apply to large and heavy steel or iron workpieces
- With statistic function, display average, maximum and minimum values
- Convert to HV, HB and tensile strength
- According to ISO 6508, ASTM E18



SPECIFICATION

| | |
|--|--|
| Hardness scale | HRA, HRB, HRC |
| Preliminary test force | 10kg |
| Test force | 60kg, 100kg, 150kg |
| Load control | manual |
| Min. reading | 0.1HR |
| Flat workpiece requirement | length>190mm, width>60mm, thickness>5mm |
| Cylinder or tube workpiece requirement | length>200mm, diameter>Ø50mm, wall thickness>8mm |
| Power supply | 3×AA batteries |
| Dimension | 245×105×230mm |
| Weight | 5.3kg |

STANDARD DELIVERY

| | |
|---------------------------------|------|
| Main unit | 1 pc |
| Flat anvil | 1 pc |
| Diamond indenter | 1 pc |
| Ø1.5875mm carbide ball indenter | 1 pc |
| Hardness test block HRB85~95 | 1 pc |
| Hardness test block HRC60~70 | 1 pc |
| Hardness test block HRC20~30 | 1 pc |

MAGNETIC ROCKWELL HARDNESS TESTER CODE ISHR-M111

- Apply to large and heavy steel or iron workpieces
- According to ISO 6508, ASTM E18



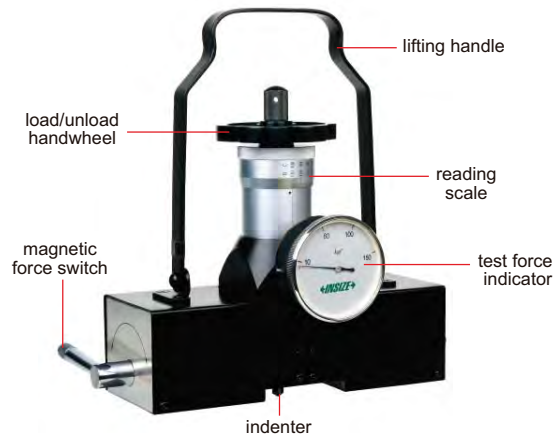
flat anvil for test block
(included)



supports for cylinder or
tube workpieces (included)



magnifier with LED
(included)



32

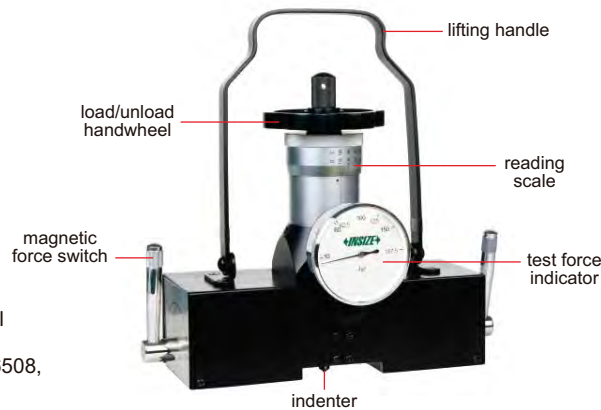
SPECIFICATION

| | |
|--|--|
| Hardness scale | HRA, HRB, HRC, HRD, HRF, HRG |
| Preliminary test force | 10kg |
| Test force | 60kg, 100kg, 150kg |
| Load control | manual |
| Min. reading | 1HR |
| Flat workpiece requirement | length>180mm, width>60mm, thickness>5mm |
| Cylinder or tube workpiece requirement | length>180mm, diameter>Ø50mm, wall thickness>8mm |
| Dimension | 220×70×220mm |
| Weight | 4.7kg |

STANDARD DELIVERY

| | |
|---------------------------------|-------|
| Main unit | 1 pc |
| Diamond indenter | 1 pc |
| Ø1.5875mm carbide ball indenter | 2 pcs |
| Hardness test block HRB85~95 | 1 pc |
| Hardness test block HRC60~70 | 1 pc |
| Hardness test block HRC20~30 | 1 pc |
| Flat anvil | 1 pc |
| Support | 4 pcs |
| Magnifier with LED | 1 pc |

MAGNETIC BRINELL/ROCKWELL HARDNESS TESTER CODE ISHR-B141



- Apply to large steel or iron workpieces
- According to ISO 6508, ASTM E18



flat anvil for test block
(included)



supports for cylinder or
tube workpieces (included)



magnifier with LED
(included)



measuring microscope
(included)

SPECIFICATION

| | |
|---|---|
| Rockwell scale | HRA, HRB, HRC, HRD, HRF, HRG |
| Brinell measuring range | 20~650HBW |
| Rockwell test force | 10kg preload, 60kg, 100kg, 150kg total load |
| Brinell test force | 62.5kg, 125kg, 187.5kg |
| Load control | manual |
| Min. Rockwell reading | 1HR |
| Measuring microscope | 40X, graduation 0.01mm |
| Flat workpiece requirement | length>180mm, width>60mm, thickness>5mm |
| Cylinder and tube workpiece requirement | length>180mm, diameter>Ø50mm, thickness>8mm |
| Dimension | 220×70×220mm |
| Weight | 4.7kg |

STANDARD DELIVERY

| | |
|---------------------------------|-------|
| Main unit | 1 pc |
| Flat anvil | 1 pc |
| Support | 4 pcs |
| Diamond Rockwell indenter | 1 pc |
| Ø1.5875mm carbide ball indenter | 1 pc |
| Ø2.5mm Brinell indenter | 1 pc |
| Hardness test block HRB85~95 | 1 pc |
| Hardness test block HRC60~70 | 1 pc |
| Hardness test block HRC20~30 | 1 pc |
| Brinell test block | 1 pc |
| Measuring microscope | 1 pc |
| Magnifier with LED | 1 pc |



PORTABLE BRINELL AND ROCKWELL HARDNESS TESTER CODE ISBR-H181

- Apply to huge or medium-size workpieces
- According to ISO 6506, ISO 6508, ASTM E10, ASTM E18



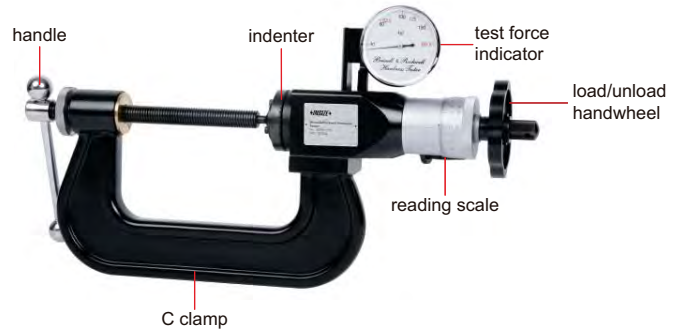
flat anvil
(included)



V-type anvil
(included)



measuring microscope
(included)



SPECIFICATION

| | |
|---------------------------------|--|
| Rockwell hardness scale | HRA, HRB, HRC |
| Brinell test range | 16~650HBW |
| Rockwell preliminary test force | 10kgf |
| Rockwell total test force | 60kgf, 100kgf, 150kgf |
| Brinell test force | 62.5kgf, 125kgf, 187.5kgf |
| Load control | manual |
| Min. reading | rockwell 0.5HR brinell 0.005mm (indentation diameter) |
| Max. workpiece thickness | 75mm |
| Max. testing width | 100mm (from the center of indenter to the main body) |
| Dimension | 510×380×180mm |
| Weight | 2.3kg |

STANDARD DELIVERY

| | |
|---|------|
| Main unit | 1 pc |
| Diamond indenter | 1 pc |
| Ø1.5875mm carbide ball indenter | 1 pc |
| Ø2.5mm carbide ball indenter | 1 pc |
| Ø5mm carbide ball indenter | 1 pc |
| Hardness test block HRB88~95 | 1 pc |
| Hardness test block HRC20~30 | 1 pc |
| Hardness test block HRC60~65 | 1 pc |
| Hardness test block 200~300HBW2.5/187.5 | 1 pc |
| Flat anvil | 1 pc |
| V-type anvil | 1 pc |
| Measuring microscope | 1 pc |

PORTABLE ROCKWELL HARDNESS TESTER CODE ISHR-P151



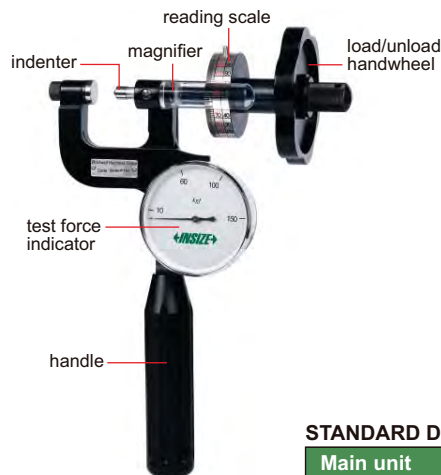
anvil extension for thin workpieces (included)



flat anvil (included)



V-type anvil (included)



base (included)

- According to ISO 6508, ASTM E18

SPECIFICATION

| | |
|--------------------------|---|
| Hardness scale | HRA, HRB, HRC, HRD, HRF, HRG |
| Preliminary test force | 10kg |
| Test force | 60kg, 100kg, 150kg |
| Load control | manual |
| Min. reading | 1HR |
| Max. workpiece thickness | 25mm |
| Max. testing width | 25mm (from the center of indenter to the main body) |
| Dimension | 240×70×160mm |
| Weight (with base) | 2.5kg |

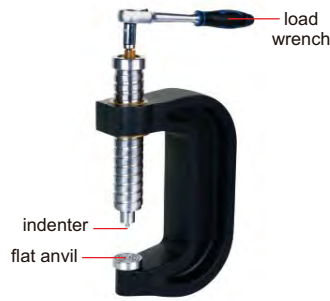
STANDARD DELIVERY

| | |
|---------------------------------|-------|
| Main unit | 1 pc |
| Diamond indenter | 1 pc |
| Ø1.5875mm carbide ball indenter | 2 pcs |
| Hardness test block HRB88~95 | 1 pc |
| Hardness test block HRC60~65 | 1 pc |
| Hardness test block HRC20~30 | 1 pc |
| Flat anvil | 1 pc |
| V-type anvil | 1 pc |
| Base | 1 pc |
| Anvil extension | 1 pc |
| Magnifier | 2 pcs |

PIN BRINELL HARDNESS TESTER CODE ISHB-P101



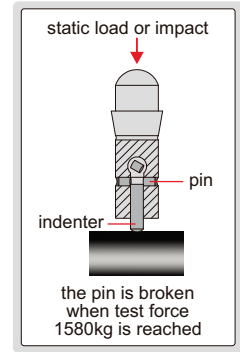
- Measure Brinell hardness of large and heavy workpieces
- 1580kg test force and Ø7.26mm ball indenter, equal to 3000kg test force and Ø10mm ball indenter
- Static and impact test modes
- According to ISO and ASTM standard



static test clamp



impact test handle



measuring microscope (included)



pins (included)



V-type anvil (included)

SPECIFICATION

| | |
|--------------------------------------|---|
| Measuring range | 100~350HBW (with Ø7.26mm indenter, included) 350~650HBW (with Ø4mm indenter, optional) |
| Test force | 1580kg |
| Accuracy | static test: ±3% impact test: ±5% |
| Measuring microscope | 20X, graduation 0.01mm |
| Max. workpiece height of static test | 150mm |
| Max. testing width of static test | 80mm (from the center of indenter to the clamp) |
| Dimension | 195×60×350mm |
| Weight | 4.2kg |

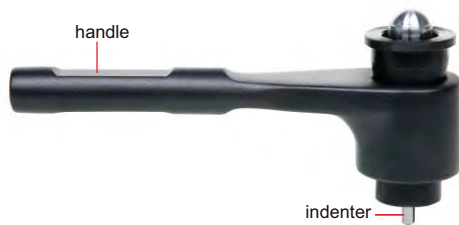
STANDARD DELIVERY

| | |
|----------------------|---------|
| Static test clamp | 1 pc |
| Impact test handle | 1 pc |
| Flat anvil | 1 pc |
| V-type anvil | 1 pc |
| Ø7.26mm indenter | 1 pc |
| Hardness test block | 1 pc |
| Pin | 250 pcs |
| Measuring microscope | 1 pc |

OPTIONAL ACCESSORY

| | |
|---------------|--------------------|
| Ø4mm indenter | ISHB-P101-INDENTER |
| Pin (250 pcs) | ISHB-P101-PIN |

HAMMER IMPACT BRINELL HARDNESS TESTER CODE HDT-PB350



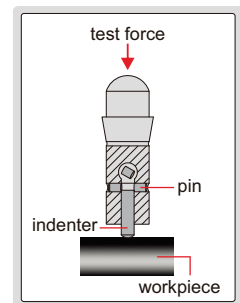
hammer impact to apply test force



pins (included)



measuring microscope (included)



- Measure Brinell hardness of large and heavy workpieces
- 1580kg test force and Ø7.26mm ball indenter, equal to 3000kg test force and Ø10mm ball indenter



SPECIFICATION

| | |
|----------------------|---|
| Measuring range | 100~350HBW (with Ø7.26mm indenter, included) 350~650HBW (with Ø4mm indenter, optional) |
| Test force | 1580kg |
| Accuracy | ±5%HBW |
| Repeatability | ±5%HBW |
| Measuring microscope | 20X, graduation 0.01mm |
| Dimension | 200×50×100mm |
| Weight | 0.8kg |

STANDARD DELIVERY

| | |
|----------------------|---------|
| Main unit | 1 pc |
| Ø7.26mm indenter | 1 pc |
| Hardness test block | 1 pc |
| Pin | 250 pcs |
| Pin removal tool | 1 pc |
| Measuring microscope | 1 pc |

OPTIONAL ACCESSORY

| | |
|---------------|--------------------|
| Ø4mm indenter | ISHB-P101-INDENTER |
| Pin (250 pcs) | ISHB-P101-PIN |

HYDRAULIC BRINELL HARDNESS TESTER CODE ISHB-H131



V-type anvil
(included)



spherical anvil
(included)



measuring microscope
(included)



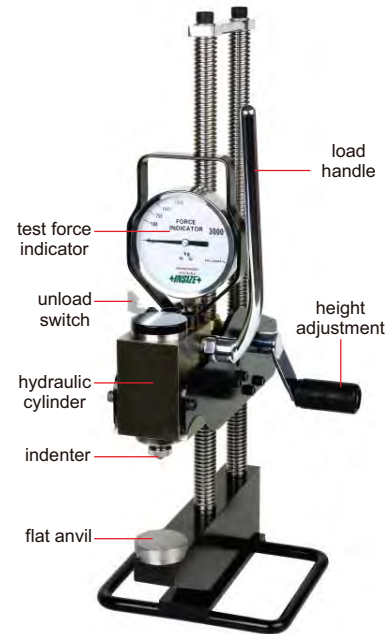
- According to ISO 6506, ASTM E10

SPECIFICATION

| | |
|-----------------------|--|
| Measuring range | 16~650HBW |
| Test force | 3000kg |
| Indenter | Ø10mm carbide ball |
| Measuring microscope | 20X, graduation 0.01mm |
| Max. workpiece height | 350mm |
| Max. testing width | 90mm (from the center of indenter to the column) |
| Dimension | 270×225×570mm |
| Weight | 13.8kg |

STANDARD DELIVERY

| | |
|----------------------|-------|
| Main unit | 1 pc |
| Flat anvil | 1 pc |
| V-type anvil | 1 pc |
| Spherical anvil | 1 pc |
| Ø10mm carbide ball | 2 pcs |
| Brinell test block | 2 pcs |
| Measuring microscope | 1 pc |



CHAIN TYPE HYDRAULIC BRINELL HARDNESS TESTER CODE ISHB-C161

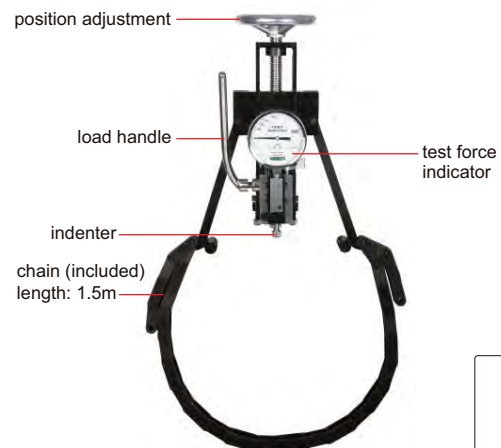
- To measure the hardness of cylinders or tubes
- According to ISO 6506, ASTM E10

SPECIFICATION

| | |
|--------------------------|------------------------|
| Measuring range | 32~650HBW |
| Workpiece diameter range | Ø150~Ø500mm |
| Test force | 3000kg |
| Indenter | Ø10mm carbide ball |
| Measuring microscope | 20X, graduation 0.01mm |
| Dimension | 270×225×570mm |
| Weight | 14.5kg |

STANDARD DELIVERY

| | |
|----------------------|-------|
| Main unit | 1 pc |
| 1.5m chain | 1 pc |
| Ø10mm carbide ball | 2 pcs |
| Brinell test block | 2 pcs |
| Measuring microscope | 1 pc |



measuring microscope
(included)

ALUMINUM HARDNESS TESTERS



- To measure the hardness of soft metal such as aluminum alloy, copper, brass, soft steel, etc.
- According to ASTM B647-84 (2000)

SPECIFICATION

| Code | ISHW-L20 | ISHW-L20A | ISHW-L20B | ISHW-B70 | ISHW-B75 | ISHW-B92 |
|---|--------------------------------|---|-------------------------------|--|---------------------------|--------------------------------------|
| Application | for aluminum alloy general use | for aluminum alloy thick workpiece | for aluminum alloy small tube | for hard aluminum alloy and hard brass | for soft brass and copper | for soft steel and cold-rolled steel |
| Thickness requirement of flat workpiece | 0.6~6mm | 0.6~13mm | 0.6~8mm | 0.6~6mm | 0.6~6mm | 0.6~6mm |
| Internal diameter requirement of tube workpiece | >Ø10mm | >Ø10mm | >Ø6mm | >Ø10mm | >Ø10mm | >Ø10mm |
| Wall thickness requirement of tube workpiece | 0.6~6mm | 6~13mm (internal diameter Ø10~23.3mm) 0.6~6mm (internal diameter >Ø23.3mm) | 0.6~8mm | 0.6~6mm | 0.6~6mm | 0.6~6mm |
| Hardness range | 0~20HW | | | | | |
| Min. reading | 1HW | | | | | |
| Accuracy | ±0.5HW (at 5~17HW) | | | | | |
| Dimension | 205×30×85mm | | | | | |
| Weight | 500g | | | | | |

STANDARD DELIVERY

| | |
|---------------------|------|
| Main unit | 1 pc |
| Spare indenter | 1 pc |
| Hardness test block | 1 pc |
| Wrench | 1 pc |

ALUMINUM HARDNESS TESTERS (BASIC TYPE)

- To measure the hardness of soft metal such as aluminum alloy, copper, brass, soft steel, etc.
- According to ASTM B647-10 (2016)



STANDARD DELIVERY

| | |
|---------------------|------|
| Main unit | 1 pc |
| Spare indenter | 1 pc |
| Hardness test block | 1 pc |
| Wrench | 1 pc |



ISHW-H10

SPECIFICATION

| Code | ISHW-H10 | ISHW-H11 | ISHW-H12 | ISHW-H13 | ISHW-H14 | ISHW-H15 |
|---|--------------------------------|---|-------------------------------|--|---------------------------|--------------------------------------|
| Application | for aluminum alloy general use | for aluminum alloy thick workpiece | for aluminum alloy small tube | for hard aluminum alloy and hard brass | for soft brass and copper | for soft steel and cold-rolled steel |
| Thickness requirement of flat workpiece | 0.6~6mm | 0.6~13mm | 0.6~8mm | 0.6~6mm | 0.6~6mm | 0.6~6mm |
| Internal diameter requirement of tube workpiece | >Ø10mm | >Ø10mm | >Ø6mm | >Ø10mm | >Ø10mm | >Ø10mm |
| Wall thickness requirement of tube workpiece | 0.6~6mm | 6~13mm (internal diameter Ø10~23.3mm) 0.6~6mm (internal diameter >Ø23.3mm) | 0.6~8mm | 0.6~6mm | 0.6~6mm | 0.6~6mm |
| Hardness range | 0~20HW | | | | | |
| Min. reading | 1HW | | | | | |
| Accuracy | ±0.5HW (at 5~17HW) | | | | | |
| Dimension | 205×30×95mm | | | | | |
| Weight | 500g | | | | | |

ALUMINUM HARDNESS TESTER CODE ISHB-B300

- To measure the hardness of workpieces made of pure aluminum, aluminum alloy, fiber reinforced plastic, hard plastic, etc.
- According to ASTM B648-00, ASTM D2853-07

SPECIFICATION

| | |
|--------------------------|--|
| Hardness range | 0~100HBa (equal to 25~150HBW) |
| Min. reading | 1HBa |
| Accuracy | ±2HBa (at 42~52HBa) ±1HBa (at 84~88HBa) |
| Min. workpiece thickness | 0.8mm |
| Dimension | 142×65×90mm |
| Weight | 500g |

STANDARD DELIVERY

| | |
|---------------------|-------|
| Main unit | 1 pc |
| Spare indenter | 2 pcs |
| Hardness test block | 2 pcs |
| Wrench | 1 pc |



DIGITAL SHORE DUROMETERS



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- According to ISO868, ISO7619, ASTM D 2240
- Average and peak (max.) mode
- Dwell time is adjustable
- Tolerance testing
- 500 memories
- Wireless connection to printer
- Handhold use or work with test stand (code **ISH-DS-STANDA**)
- Automatic power off



software flash disk
(included)



calibration block
(included)



printer (optional)

SPECIFICATION

| Code | ISH-DSA | ISH-DSD | ISH-DSOO |
|---------------------|---------------------------------|---------------------------------|--|
| Unit | Shore A | Shore D | Shore OO |
| Test material | soft plastic, soft rubber, etc. | hard plastic, hard rubber, etc. | very soft plastic, rubber, sponge, textile, etc. |
| Measuring range | 0~100HA * | 0~100HD * | 0~100HOO |
| Resolution | 0.1HA | 0.1HD | 0.1HOO |
| Accuracy | ±1HA | ±1HD | ±1HOO |
| Indenter protrusion | 2.5mm | | |
| Output | wireless and USB | | |
| Power supply | built-in rechargeable battery | | |
| Dimension | 153×50×29mm | | |
| Weight | 170g | | |

* Use **ISH-DSD** when measuring result is higher than 90HA
Use **ISH-DSA** when measuring result is lower than 20HD

STANDARD DELIVERY

| | |
|------------------------|------|
| Main unit | 1 pc |
| Calibration block | 1 pc |
| Software and USB cable | 1 pc |
| AC/DC adapter | 1 pc |

OPTIONAL ACCESSORY

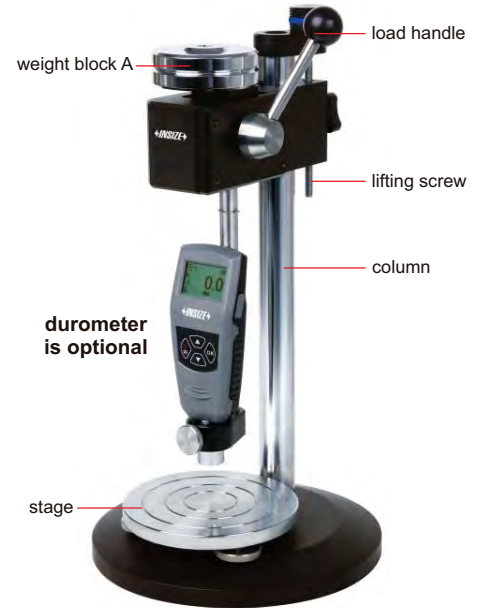
| | |
|------------|----------------|
| Printer | ISH-DS-PRINTER |
| Test stand | ISH-DS-STANDA |

TEST STAND FOR DIGITAL SHORE DUROMETERS CODE ISH-DS-STANDA

- For digital shore durometers (code **ISH-DSA**, **ISH-DSD** and **ISH-DSOO**)
- Perform repeatable hardness measurement due to fewer possibilities of human error or measurement variations
- Special structure for stable loading
- Weight block A (included) is for **ISH-DSA**, weight block D (optional) is for **ISH-DSD**, remove weight block for **ISH-DSOO**



weight block D (optional) for ISH-DSD



SPECIFICATION

| | |
|-----------------------|--------------------------------------|
| Stage diameter | Ø115mm |
| Max. workpiece height | 45mm |
| Max. testing width | 63mm (from test point to the column) |
| Dimension | Ø195×370mm |
| Weight | 5.61kg |

STANDARD DELIVERY

| | |
|------------------------------|------|
| Test stand | 1 pc |
| Weight block A (for ISH-DSA) | 1 pc |

OPTIONAL ACCESSORY

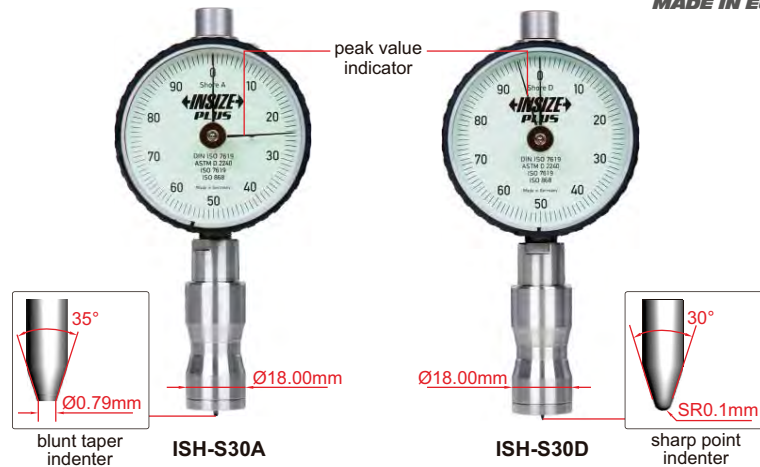
| | |
|------------------------------|-----------|
| Weight block D (for ISH-DSD) | ISH-DS-W4 |
|------------------------------|-----------|



- According to ISO868, ISO7619, ASTM D 2240
- With peak value indicator
- Handhold use or work with test stand (code **ISH-OS2**)

SHORE DUROMETERS

INSIZE PLUS
MADE IN EUROPE



SPECIFICATION

| Code | ISH-S30A | ISH-S30D |
|---------------------|---------------------------------|---------------------------------|
| Scale | Shore A | Shore D |
| Test material | soft plastic, soft rubber, etc. | hard plastic, hard rubber, etc. |
| Measuring range * | 0~100HA | 0~100HD |
| Graduation | 1HA | 1HD |
| Accuracy | ±0.5HA | ±0.5HD |
| Indenter protrusion | 2.5mm | |
| Weight | 184g | |

* Use **ISH-S30D** when measuring result is higher than 90HA
Use **ISH-S30A** when measuring result is lower than 20HD

TEST STAND FOR SHORE DUROMETERS CODE ISH-OS2

INSIZE PLUS
MADE IN EUROPE



- For shore durometers (code **ISH-S30A** and **ISH-S30D**)
- Perform repeatable hardness measurement due to fewer possibilities of human error or measurement variations
- Special structure for stable loading
- 1kg weight block (included) is for **ISH-S30A**, 4kg weight block (optional) is for **ISH-S30D**

SPECIFICATION

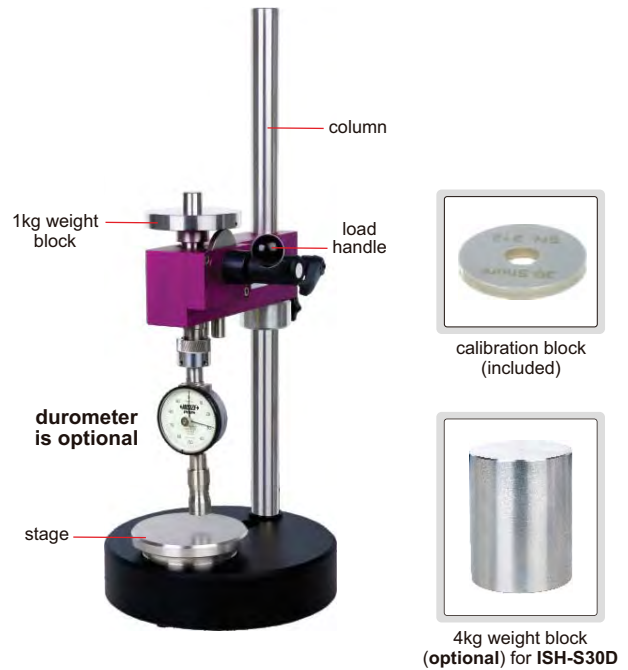
| | |
|-----------------------|---------------------------------------|
| Stage diameter | Ø98mm |
| Max. workpiece height | 180mm |
| Max. testing width | 115mm (from test point to the column) |
| Dimension | Ø200×500mm |
| Weight | 18kg |

STANDARD DELIVERY

| | |
|---------------------------------|------|
| Test stand | 1 pc |
| 1kg weight block (for ISH-S30A) | 1 pc |
| Calibration block | 1 pc |

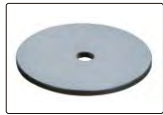
OPTIONAL ACCESSORY

| | |
|---------------------------------|------------|
| 4kg weight block (for ISH-S30D) | ISH-OS2-W4 |
|---------------------------------|------------|



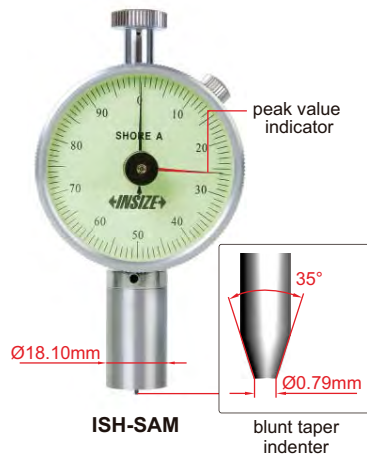
32

SHORE DUROMETERS



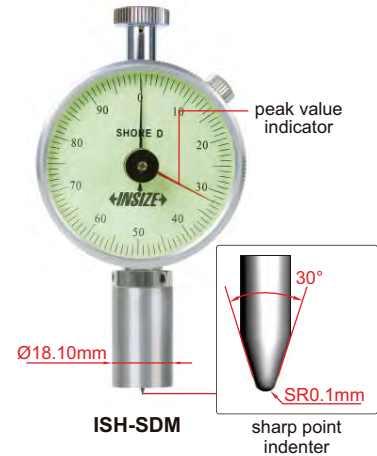
calibration block (optional)

- According to ISO868, ISO7619, ASTM D 2240
- With peak value indicator
- Optional accessory: test stand **ISH-STAC** and **ISH-STD**



ISH-SAM

blunt taper indenter



ISH-SDM

sharp point indenter

SPECIFICATION

| Code | ISH-SAM | ISH-SDM |
|---------------------|-------------------------------------|--|
| Scale | Shore A | Shore D |
| Application | nature rubber, soft elastomer, etc. | hard rubber, plastic, hard elastomer, etc. |
| Measuring range* | 10~90HA | 20~90HD |
| Graduation | 1HA | 1HD |
| Indenter protrusion | 2.5mm | |
| Dimension | 115×60×25mm | |
| Weight | 160g | |

* Use **ISH-SDM** when measuring result is higher than 90HA
Use **ISH-SAM** when measuring result is lower than 20HD

OPTIONAL ACCESSORY

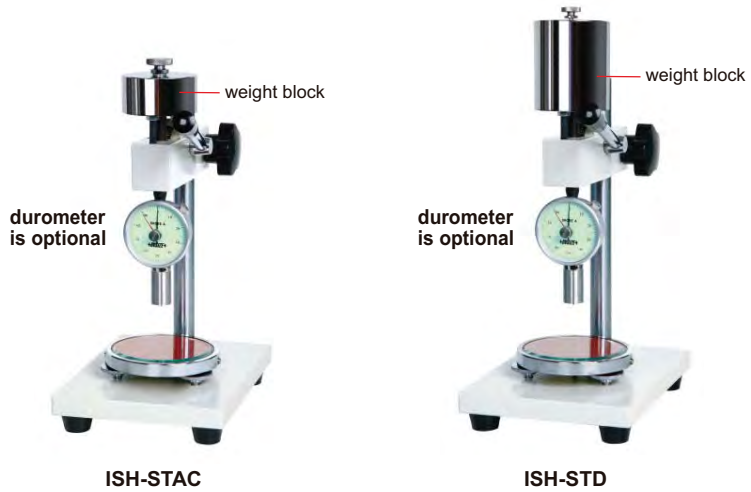
| | |
|-------------------|--------------|
| Calibration block | ISH-DS-BLOCK |
|-------------------|--------------|





TEST STANDS FOR SHORE DUROMETERS

- For shore durometers (code **ISH-SAM** and **ISH-SDM**)
- Perform repeatable hardness measurement due to fewer possibilities of human error or measurement variations

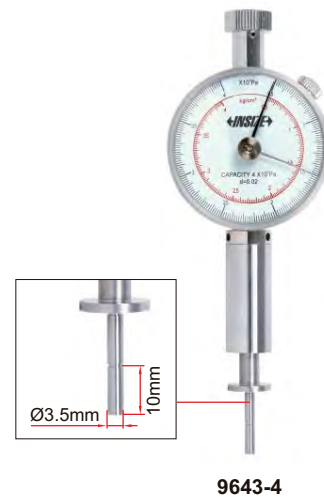


SPECIFICATION

| Code | ISH-STAC | ISH-STD |
|-----------------------|--------------------------------------|--------------------------------------|
| Applicable durometer | ISH-SAM | ISH-SDM |
| Stage diameter | Ø100mm | Ø100mm |
| Max. workpiece height | 75mm | 75mm |
| Max. testing width | 65mm (from test point to the column) | 65mm (from test point to the column) |
| Weight block | 1kg | 5kg |

FRUIT HARDNESS TESTER

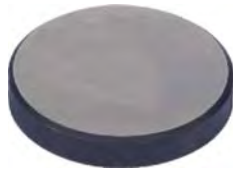
- Measure the hardness of apples, pears, strawberries and grapes, etc.
- The degree of ripeness can be judged by measuring the hardness of the fruit



SPECIFICATION

| Code | Range | Graduation | Accuracy | Probe diameter | Probe depth | Dimension | Weight |
|--------|---|---|----------|----------------|-------------|-------------|--------|
| 9643-4 | 0.5-4kg/cm ² (0.5-4×10 ⁵ Pa) | 0.02kg/cm ² (0.02×10 ⁵ Pa) | ±2% | Ø3.5mm | 10mm | 151×55×30mm | 0.2kg |

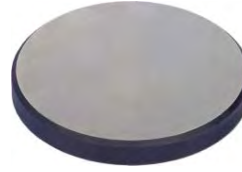
HARDNESS TEST BLOCKS



Rockwell



Vickers



Brinell



Leeb



Micro-Vickers



Knoop



Ultrasonic



Shore

▪ Supplied with manufacturer inspection certificate

Rockwell hardness test blocks

| Code | Type | Hardness |
|------------|------|----------|
| HDT-B-HRA | HRA | 80-84 |
| HDT-B-HRB | HRB | 88-100 |
| HDT-B-HRC1 | HRC | 20-30 |
| HDT-B-HRC2 | HRC | 35-55 |
| HDT-B-HRC3 | HRC | 60-70 |
| HDT-B-HRD1 | HRD | 40-47 |
| HDT-B-HRD2 | HRD | 55-63 |
| HDT-B-HRD3 | HRD | 70-75 |
| HDT-B-HRE | HRE | 107-114 |
| HDT-B-HRF | HRF | 105-114 |
| HDT-B-HRG1 | HRG | 57-82 |
| HDT-B-HRG2 | HRG | 80-94 |

Rockwell superficial hardness test blocks

| Code | Type | Hardness |
|--------------|-------|----------|
| HDT-B-HR15N1 | HR15N | 70-77 |
| HDT-B-HR15N2 | HR15N | 78-88 |
| HDT-B-HR15N3 | HR15N | 89-91 |
| HDT-B-HR30N1 | HR30N | 42-54 |
| HDT-B-HR30N2 | HR30N | 55-73 |
| HDT-B-HR30N3 | HR30N | 74-80 |
| HDT-B-HR45N1 | HR45N | 20-31 |
| HDT-B-HR45N2 | HR45N | 32-61 |
| HDT-B-HR45N3 | HR45N | 63-70 |
| HDT-B-HR15T | HR15T | 88-93 |
| HDT-B-HR30T | HR30T | 73-82 |
| HDT-B-HR45T | HR45T | 58-72 |

Leeb hardness test blocks

| Code | Type | Hardness |
|------------|------|----------|
| HDT-B-HLD1 | HLD | 490-570 |
| HDT-B-HLD2 | HLD | 590-670 |
| HDT-B-HLD3 | HLD | 750-830 |
| HDT-B-HLG1 | HLG | 460-540 |
| HDT-B-HLG2 | HLG | 550-630 |

Vickers hardness test blocks

| Code | Type | Hardness |
|--------------|-------|----------|
| HDT-B-HV5A | HV5 | 175-200 |
| HDT-B-HV5B | HV5 | 200-300 |
| HDT-B-HV5C | HV5 | 300-400 |
| HDT-B-HV5D | HV5 | 400-500 |
| HDT-B-HV5E | HV5 | 500-600 |
| HDT-B-HV5F | HV5 | 600-700 |
| HDT-B-HV5G | HV5 | 700-750 |
| HDT-B-HV10A | HV10 | 175-200 |
| HDT-B-HV10B | HV10 | 200-300 |
| HDT-B-HV10C | HV10 | 300-400 |
| HDT-B-HV10D | HV10 | 400-500 |
| HDT-B-HV10E | HV10 | 500-600 |
| HDT-B-HV10F | HV10 | 600-700 |
| HDT-B-HV10G | HV10 | 700-750 |
| HDT-B-HV30A | HV30 | 175-200 |
| HDT-B-HV30B | HV30 | 200-300 |
| HDT-B-HV30C | HV30 | 300-400 |
| HDT-B-HV30D | HV30 | 400-500 |
| HDT-B-HV30E | HV30 | 500-600 |
| HDT-B-HV30F | HV30 | 600-700 |
| HDT-B-HV30G | HV30 | 700-750 |
| HDT-B-HV50A | HV50 | 175-200 |
| HDT-B-HV50B | HV50 | 200-300 |
| HDT-B-HV50C | HV50 | 300-400 |
| HDT-B-HV50D | HV50 | 400-500 |
| HDT-B-HV50E | HV50 | 500-600 |
| HDT-B-HV50F | HV50 | 600-700 |
| HDT-B-HV50G | HV50 | 700-750 |
| HDT-B-HV100A | HV100 | 175-200 |
| HDT-B-HV100B | HV100 | 200-300 |
| HDT-B-HV100C | HV100 | 300-400 |
| HDT-B-HV100D | HV100 | 400-500 |
| HDT-B-HV100E | HV100 | 500-600 |
| HDT-B-HV100F | HV100 | 600-700 |
| HDT-B-HV100G | HV100 | 700-750 |

To be continued



Continued from previous page

Micro-Vickers hardness test blocks

| Code | Type | Hardness |
|--------------|--------|----------|
| HDT-B-HV005A | HV0.05 | 200-300 |
| HDT-B-HV005B | HV0.05 | 300-400 |
| HDT-B-HV005C | HV0.05 | 400-500 |
| HDT-B-HV005D | HV0.05 | 500-600 |
| HDT-B-HV005E | HV0.05 | 600-700 |
| HDT-B-HV005F | HV0.05 | 700-750 |
| HDT-B-HV01A | HV0.1 | 200-300 |
| HDT-B-HV01B | HV0.1 | 300-400 |
| HDT-B-HV01C | HV0.1 | 400-500 |
| HDT-B-HV01D | HV0.1 | 500-600 |
| HDT-B-HV01E | HV0.1 | 600-700 |
| HDT-B-HV01F | HV0.1 | 700-750 |
| HDT-B-HV02A | HV0.2 | 200-300 |
| HDT-B-HV02B | HV0.2 | 300-400 |
| HDT-B-HV02C | HV0.2 | 400-500 |
| HDT-B-HV02D | HV0.2 | 500-600 |
| HDT-B-HV02E | HV0.2 | 600-700 |
| HDT-B-HV02F | HV0.2 | 700-750 |
| HDT-B-HV03A | HV0.3 | 200-300 |
| HDT-B-HV03B | HV0.3 | 300-400 |
| HDT-B-HV03C | HV0.3 | 400-500 |
| HDT-B-HV03D | HV0.3 | 500-600 |
| HDT-B-HV03E | HV0.3 | 600-700 |
| HDT-B-HV03F | HV0.3 | 700-750 |
| HDT-B-HV05A | HV0.5 | 200-300 |
| HDT-B-HV05B | HV0.5 | 300-400 |
| HDT-B-HV05C | HV0.5 | 400-500 |
| HDT-B-HV05D | HV0.5 | 500-600 |
| HDT-B-HV05E | HV0.5 | 600-700 |
| HDT-B-HV05F | HV0.5 | 700-750 |
| HDT-B-HV1A | HV1 | 200-300 |
| HDT-B-HV1B | HV1 | 300-400 |
| HDT-B-HV1C | HV1 | 400-500 |
| HDT-B-HV1D | HV1 | 500-600 |
| HDT-B-HV1E | HV1 | 600-700 |
| HDT-B-HV1F | HV1 | 700-750 |

Knoop hardness test blocks

| Code | Type | Hardness |
|--------------|--------|----------|
| HDT-B-HK005A | HK0.05 | 200-300 |
| HDT-B-HK005B | HK0.05 | 400-500 |
| HDT-B-HK005C | HK0.05 | 700-800 |
| HDT-B-HK01A | HK0.1 | 200-300 |
| HDT-B-HK01B | HK0.1 | 400-500 |
| HDT-B-HK01C | HK0.1 | 700-800 |
| HDT-B-HK02A | HK0.2 | 200-300 |
| HDT-B-HK02B | HK0.2 | 400-500 |
| HDT-B-HK02C | HK0.2 | 700-800 |
| HDT-B-HK03A | HK0.3 | 200-300 |
| HDT-B-HK03B | HK0.3 | 400-500 |
| HDT-B-HK03C | HK0.3 | 700-800 |
| HDT-B-HK05A | HK0.5 | 200-300 |
| HDT-B-HK05B | HK0.5 | 400-500 |
| HDT-B-HK05C | HK0.5 | 700-800 |
| HDT-B-HK1A | HK1 | 200-300 |
| HDT-B-HK1B | HK1 | 400-500 |
| HDT-B-HK1C | HK1 | 700-800 |

Brinell hardness test blocks

| Code | Type | Hardness |
|--------------|--------------|----------|
| HDT-B-HB10A1 | HBW10/3000 | 100-200 |
| HDT-B-HB10A2 | HBW10/3000 | 200-300 |
| HDT-B-HB10A3 | HBW10/3000 | 300-400 |
| HDT-B-HB10A4 | HBW10/3000 | 400-500 |
| HDT-B-HB10A5 | HBW10/3000 | 500-600 |
| HDT-B-HB10A6 | HBW10/3000 | 600-650 |
| HDT-B-HB10B1 | HBW10/1500 | 100-200 |
| HDT-B-HB10B2 | HBW10/1500 | 200-300 |
| HDT-B-HB10B3 | HBW10/1500 | 300-400 |
| HDT-B-HB10B4 | HBW10/1500 | 400-500 |
| HDT-B-HB10B5 | HBW10/1500 | 500-600 |
| HDT-B-HB10B6 | HBW10/1500 | 600-650 |
| HDT-B-HB10C1 | HBW10/1000 | 90-200 |
| HDT-B-HB10C2 | HBW10/1000 | 200-300 |
| HDT-B-HB10C3 | HBW10/1000 | 300-400 |
| HDT-B-HB10C4 | HBW10/1000 | 400-450 |
| HDT-B-HB10D1 | HBW10/500 | 90-200 |
| HDT-B-HB10D2 | HBW10/500 | 200-300 |
| HDT-B-HB10D3 | HBW10/500 | 300-400 |
| HDT-B-HB10D4 | HBW10/500 | 400-450 |
| HDT-B-HB25A1 | HBW2.5/187.5 | 100-200 |
| HDT-B-HB25A2 | HBW2.5/187.5 | 200-300 |
| HDT-B-HB25A3 | HBW2.5/187.5 | 300-400 |
| HDT-B-HB25A4 | HBW2.5/187.5 | 400-500 |
| HDT-B-HB25A5 | HBW2.5/187.5 | 500-600 |
| HDT-B-HB25A6 | HBW2.5/187.5 | 600-650 |
| HDT-B-HB25B1 | HBW2.5/62.5 | 90-200 |
| HDT-B-HB25B2 | HBW2.5/62.5 | 200-300 |
| HDT-B-HB25B3 | HBW2.5/62.5 | 300-400 |
| HDT-B-HB25B4 | HBW2.5/62.5 | 400-450 |
| HDT-B-HB5A1 | HBW5/750 | 100-200 |
| HDT-B-HB5A2 | HBW5/750 | 200-300 |
| HDT-B-HB5A3 | HBW5/750 | 300-400 |
| HDT-B-HB5A4 | HBW5/750 | 400-500 |
| HDT-B-HB5A5 | HBW5/750 | 500-600 |
| HDT-B-HB5A6 | HBW5/750 | 600-650 |
| HDT-B-HB5B1 | HBW5/250 | 90-200 |
| HDT-B-HB5B2 | HBW5/250 | 200-300 |
| HDT-B-HB5B3 | HBW5/250 | 300-400 |
| HDT-B-HB5B4 | HBW5/250 | 400-450 |

Shore hardness test blocks

| Code | Type | Hardness * |
|----------|------|------------------------------------|
| HDT-B-SA | SA | 6 pcs/set (30, 40, 50, 60, 70, 80) |
| HDT-B-SD | SD | 3 pcs/set (15, 30, 90) |

*The actual value may be slightly different when delivered

Ultrasonic hardness test blocks

| Code | Type | Hardness |
|--------------|------------|----------|
| HDT-B-HRCU1 | HRC | 20-30 |
| HDT-B-HRCU2 | HRC | 35-55 |
| HDT-B-HRCU3 | HRC | 60-70 |
| HDT-B-HV5U1 | HV5 | 200-300 |
| HDT-B-HV5U2 | HV5 | 400-500 |
| HDT-B-HV5U3 | HV5 | 700-750 |
| HDT-B-HB10U1 | HBW10/1000 | 90-200 |
| HDT-B-HB10U2 | HBW10/3000 | 200-300 |
| HDT-B-HB10U3 | HBW10/3000 | 400-500 |

CONCRETE STRENGTH TESTERS



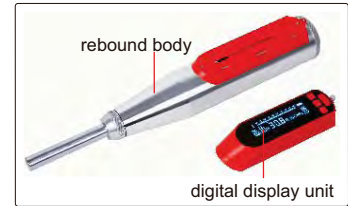
DATA OUTPUT



CST-D101

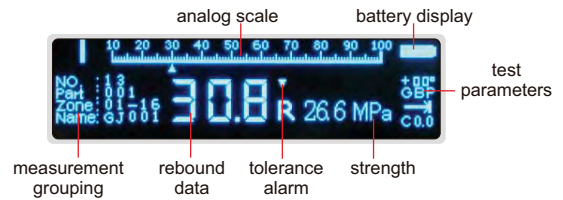


CST-D102



CST-D102 separable

- Measure the strength of general building components, bridges and various concrete components (slabs, beams, columns, bridges, etc.)
- Angle, test surface, pumping, carbonization depth and other parameters can be customized according to the requirements
- The rebound body can be used for 2000 times
- USB data transmission
- The software can automatically generate the test report, and the strength curve can be customized and stored in the tester
- Storage and reading of 1000 test data
- According to JGJ/T23-2011, the curve of rebound meter can be customized to calculate the compressive strength of concrete



SPECIFICATION

| Code | CST-D101 | CST-D102 |
|-----------------------|---|---|
| Display | OLED display | |
| Range | 10-70N/mm ² | |
| Accuracy | ±1R | |
| Parameter | MPa, N/mm ² , Kgf/mm ² | |
| Impact energy | 2.207J, for testing common buildings or bridge structures | |
| Output | USB | |
| Structure | one body, non-seperable | seperable, the digital display unit can be reused |
| Memory | 1000 data | |
| Operation temperature | -40°C~60°C | |
| Power supply | built-in rechargeable battery | |
| Dimension | 280×75×60mm | |
| Weight | 1.1kg | |



software flash disk (included)



sander (included)



calibration block (optional)

STANDARD DELIVERY

| | |
|------------------------|------|
| Main unit | 1 pc |
| Sander | 1 pc |
| Power adapter | 1 pc |
| Software and USB cable | 1 pc |

OPTIONAL ACCESSORY

| | |
|-------------------------------------|------------------|
| Rebound body (for CST-D102) | CST-D102-REBOUND |
| Digital display unit (for CST-D102) | CST-D102-DISPLAY |
| Calibration block | CST-D-BLOCK |

software (included) for uploading and storing data, printing and importing/exporting strength curves

| NO. | Part | Zone | Name | Rebound | HC | CC | EC | HC | EC | HC | EC |
|-----|------|------|------|---------|------|-----|----|----|----|----|----|
| 1 | 1 | 15 | | | | | | | | | |
| 2 | 2 | 15.2 | | | | | | | | | |
| 3 | 3 | 15.4 | | | | | | | | | |
| 4 | 4 | 15.6 | | | | | | | | | |
| 5 | 5 | 15.8 | | | | | | | | | |
| 6 | 6 | 16 | | | | | | | | | |
| 7 | 7 | 16.2 | | | | | | | | | |
| 8 | 8 | 16.4 | | | | | | | | | |
| 9 | 9 | 16.6 | | | | | | | | | |
| 10 | 10 | 16.8 | | | | | | | | | |
| 11 | 11 | 17 | | | | | | | | | |
| 12 | 12 | 17.2 | | | | | | | | | |
| 13 | 13 | 17.4 | | | | | | | | | |
| 14 | 14 | 17.6 | | | | | | | | | |
| 15 | 15 | 17.8 | | | | | | | | | |
| 16 | 16 | 18 | | | | | | | | | |
| 17 | 17 | 18.2 | | | | | | | | | |
| 18 | 18 | 18.4 | | | | | | | | | |
| 19 | 19 | 18.6 | | | | | | | | | |
| 20 | 20 | 18.8 | | | | | | | | | |
| 21 | 21 | 19 | | | | | | | | | |
| 22 | 22 | 19.2 | | | | | | | | | |
| 23 | 23 | 19.4 | | | | | | | | | |
| 24 | 24 | 19.6 | | | | | | | | | |
| 25 | 25 | 19.8 | | | | | | | | | |
| 26 | 26 | 20 | 5.7 | 5.9 | 13.4 | 6.3 | | | | | |
| 27 | 27 | 20.2 | 5.8 | 5.9 | 13.6 | 6.4 | | | | | |
| 28 | 28 | 20.4 | 5.8 | 5.9 | 13.7 | 6.5 | | | | | |

| Concrete compressive strength report detected by rebound method | | | | | | | | | |
|---|------|------|------------|---------|--------|---------|----|----|----------|
| Project | | | | | Report | | | | |
| NO. | Part | Zone | Total Area | Average | SYMBOL | Rebound | HC | EC | Strength |
| 1 | | | | | | | | | |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | | | | | | | | |
| 7 | | | | | | | | | |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |
| 10 | | | | | | | | | |
| 11 | | | | | | | | | |
| 12 | | | | | | | | | |
| 13 | | | | | | | | | |
| 14 | | | | | | | | | |
| 15 | | | | | | | | | |
| 16 | | | | | | | | | |



Cutting Machines
Page 844-846



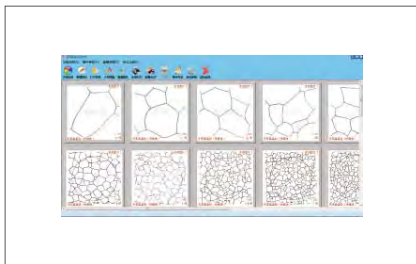
Grinders And Polishers
Page 847-850



Mounting Presses
Page 851-853



Metallurgical Microscopes
Page 853



Metallurgical Analysis Softwares
Page 853



Cutting Machine Accessories
Page 854-855

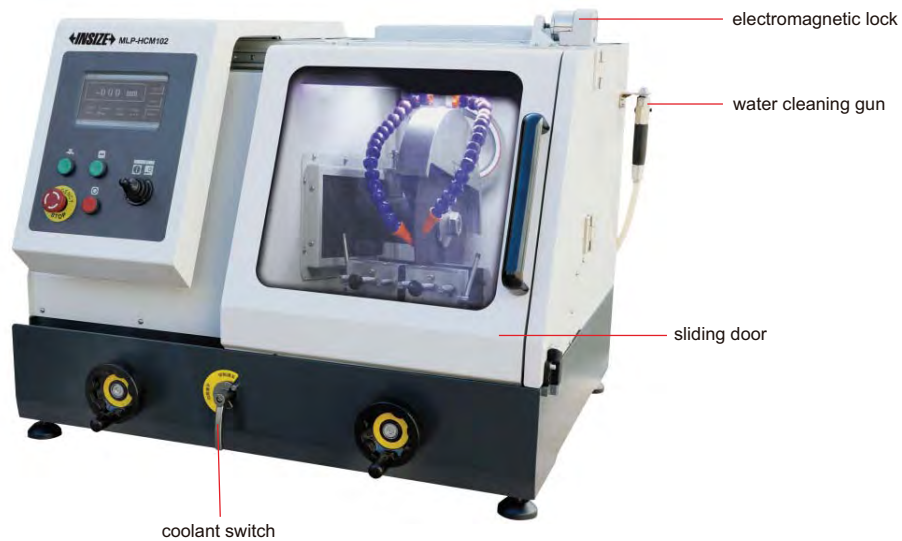


Mounting Press Accessories
Page 855-857



Grinder And Polisher Accessories
Page 857

AUTOMATIC CUTTING MACHINE (ADVANCED TYPE) CODE MLP-HCM102



- Suitable for cylinder workpieces (diameters≤100mm) and rectangular samples (height≤70mm, width≤100mm)
- Cooling system avoids overheating and destroying sample structure
- Three cutting modes (manual, pulse, continuous cutting), the cutting feed speed and cutting stroke can be programmed

SPECIFICATION

| | |
|--------------------------|-------------------|
| Maximum cutting diameter | Ø100mm |
| Cutting blade | Ø350×2.5×Ø32mm |
| Rotation speed | 2200r/min |
| Spindle travel | 145mm |
| Table travel | 300mm |
| Illumination | LED ceiling light |
| Noise | ≤85dB |
| Cooling tank | 60L |
| Removable baffle | contain |
| Table dimension | 330×280mm |
| Power | 3kW |
| Power supply | AC 380V, 50Hz |
| Dimension | 900×860×620mm |
| Weight | 285kg |

STANDARD DELIVERY

| | |
|---------------------|---------------|
| Main unit | 1 pc |
| Cutting blade | 5 pcs |
| Cutting blade chuck | 2 pcs |
| Coolant | 1 barrel (4L) |
| Water tank | 1 pc |

OPTIONAL ACCESSORY

| | |
|---|------------------|
| Coolant (4L, 1:20 diluted with water) | MLP-OL3 |
| Cutting blade (Ø350×2.5×Ø32mm, 40 pcs/box) | MLP-50Z4 |
| Cutting blade chuck (for Ø32mm cutting blade) | MLP-60Y4* |
| | MLP-HCM102-CHUCK |

* Special cutting blade for high hardness



coolant (included)



cutting blade MLP-50Z4
(included)



cutting blade MLP-60Y4
(optional)



CUTTING MACHINE (STANDARD TYPE) CODE MLP-CM60



- For metal and non-metal materials
- Cooling device avoids overheating and destroying sample structure
- With safety switch, the machine will automatically stop when the cover is opened



SPECIFICATION

| | |
|--------------------------|------------------|
| Maximum cutting diameter | Ø60mm |
| Cutting blade | Ø250×1.5×Ø25.4mm |
| Rotation speed | 2800r/min |
| Motor power | 2.2kW |
| Power supply | AC 380V, 50Hz |
| Dimension | 830×620×450mm |
| Weight | 82kg |



cutting blade MLP-CM60-CUT2
(included)

STANDARD DELIVERY

| | |
|---------------|---------------|
| Main unit | 1 pc |
| Cutting blade | 2 pcs |
| Coolant | 1 barrel (4L) |
| Water tank | 1 pc |



coolant (optional)

OPTIONAL ACCESSORY

| | |
|---|----------------|
| Coolant (4L, 1:20 diluted with water) | MLP-OL3 |
| Cutting blade (Ø250×1.5×Ø25.4mm, 60 pcs/box) | MLP-CM60-CUT2 |
| Cutting blade (Ø250×2×Ø32mm, 50 pcs/box) | MLP-50Z2 * |
| Cutting blade chuck (for Ø32mm cutting blade) | MLP-CM60-CHUCK |

* When use MLP-50Z2, please purchase MLP-CM60-CHUCK

CUTTING MACHINE (BASIC TYPE) CODE MLP-CM86



33

- For metal and non-metal materials
- Cooling device avoids overheating and destroying sample structure

SPECIFICATION

| | |
|--------------------------|---------------|
| Maximum cutting diameter | Ø80mm |
| Cutting blade | Ø250×2×Ø32mm |
| Rotation speed | 2800r/min |
| Power | 3kW |
| Power supply | AC 380V, 50Hz |
| Dimension | 690×790×670mm |

STANDARD DELIVERY

| | |
|---------------|---------------|
| Main unit | 1 pc |
| Cutting blade | 2 pcs |
| Coolant | 1 barrel (4L) |
| Water tank | 1 pc |

OPTIONAL ACCESSORY

| | |
|---|----------------|
| Coolant (4L, 1:20 diluted with water) | MLP-OL3 |
| Cutting blade (Ø250×2×Ø32mm, 50 pcs/box) | MLP-60Y2* |
| | MLP-50Z2 |
| Cutting blade chuck (for Ø32mm cutting blade) | MLP-CM86-CHUCK |

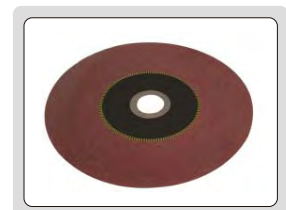
*Special cutting blade for high hardness



coolant (included)



cutting blade MLP-50Z2
(included)



cutting blade MLP-60Y2
(optional)



GRINDER AND POLISHER (ADVANCED TYPE) CODE MLP-GP305



manual grinding wheel

- Replaceable double wheels, rotation direction can be selected
- Multi sample holder, pneumatic single point loading, automatic abrasive distribution
- Adjustable speed
- Water cooling device and abrasive cleaning nozzle prevent samples from overheating and destroying structure
- ABS case and stainless steel parts, anti-corrosion, easy to clean
- Metallographic samples can be roughly ground, finely ground, roughly polished and finely polished

SPECIFICATION

| | |
|--------------------------|---|
| Wheel diameter | Ø250mm (customizable Ø300mm) |
| Wheel rotation speed | 50~1000r/min (stepless adjustable), 150r/min, 300r/min (two fixed speeds) |
| Wheel rotation direction | clockwise or counterclockwise |
| Grinding head speed | 50~150r/min (stepless adjustable) |
| Pressure range | 5~60N |
| Operation number | 6 |
| Operation time | 0~995s |
| Sample diameter | Ø30mm (customizable Ø22mm, Ø25mm, Ø30mm, Ø40mm, Ø45mm, Ø50mm) |
| Air pressure | 0.6~0.9MPa |
| Power supply | AC220V, 50Hz |
| Input power | 1.1kW |
| Dimension | 758×785×680mm |
| Weight | 125kg |

STANDARD DELIVERY

| | |
|-----------------------|--|
| Main unit | 1 pc |
| Silicon carbide paper | 20 pcs each (240, 250, 400, 800, 1200), 100 pcs in total |
| Polishing cloth | 3 pcs each (velvet silk, woolen fabric), 6 pcs in total |
| Polishing agent | 1 pc (W2.5, 500ml) |
| Spray polish agent | 1 pc (W2.5, 350ml) |
| Magnetic pad | 2 pcs (Ø250mm) |
| Anti-stick disc | 3 pcs (Ø250mm) |

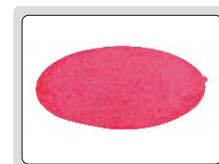
OPTIONAL ACCESSORY

| | | |
|--------------------------|-------------|---|
| Silicon carbide paper | MLP-SZG□□ * | 50 pcs/box, select granularity: 120, 180, 240, 400, 600, 800, 1000, 1200, 1500, 2000 |
| Polishing cloth | MLP-CT7 | 15 pcs/box, long velvet silk material |
| | MLP-CT27 | 15 pcs/box, woolen fabric |
| Diamond polishing liquid | MLP-DLA□□ * | 500ml, select granularity (µm): W40, W28, W20, W14, W9, W7, W5, W3.5, W2.5, W1.5, W1.0, W0.5, W0.25 |
| Spray polish agent | MLP-DSA□□ * | 350ml, select granularity (µm): W40, W28, W20, W14, W10, W7, W5, W3.5, W2.5, W1.5, W1.0, W0.5, W0.25 |
| Magnetic pad | MLP-AD2 | Ø250mm |
| Anti-stick disc | MLP-DC2 | Ø250mm |

* □□ is granularity specification, for example, code MLP-DLA40 stands for 40µm



silicon carbide paper (included)



polishing cloth (included)



anti-stick disc (included)



magnetic pad (included)

GRINDER AND POLISHER (ADVANCED TYPE) CODE MLP-GP260



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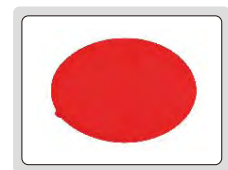
- ABS case and stainless steel parts, anti-corrosion, easy to clean
- Can hold up to 4 samples (6 holes are optional and can hold up to 6 samples)
- Smooth rotation, low noise
- Adjustable speed
- Water cooling device and abrasive cleaning nozzle prevent samples from overheating and destroying structure
- Wheel rotation direction can be selected
- Replaceable wheel

SPECIFICATION

| | |
|--------------------------|---|
| Wheel diameter | Ø250mm |
| Wheel rotation speed | 50~999r/min (stepless adjustable), 150 or 300r/min (two fixed speeds) |
| Wheel rotation direction | clockwise or counterclockwise |
| Grinding head speed | 50~150r/min (stepless adjustable) |
| Pressure range | 5~60N |
| Operation time | 5~995s |
| Sample diameter | Ø30mm (can be customized) |
| Air pressure | 0.6~0.9MPa |
| Power supply | AC 220V, 50Hz |
| Input power | 1.1kW |
| Dimension | 594×795×687mm |
| Weight | 98kg |



silicon carbide paper
(optional)



polishing cloth (optional)

STANDARD DELIVERY

| | |
|-----------------------|------------------------|
| Main unit | 1 pc |
| Silicon carbide paper | 6 pcs (200, 600, 1000) |
| Polishing cloth | 4 pcs |

OPTIONAL ACCESSORY

| | | |
|--------------------------|------------|--|
| Silicon carbide paper | MLP-SZG□□* | 50 pcs/box, select granularity: 120, 180, 240, 400, 600, 800, 1000, 1200, 1500, 2000 |
| Polishing cloth | MLP-CT7 | 15 pcs/box, long velvet silk material |
| Diamond polishing liquid | MLP-DLA□□* | 500ml, select granularity (µm): W40, W28, W20, W14, W9, W7, W5, W3.5, W2.5, W1.5, W1.0, W0.5, W0.25 |

* □□ is granularity specification, for example, code MLP-DLA40 stands for 40µm

GRINDERS AND POLISHERS (STANDARD TYPE)



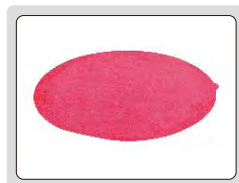
- ABS case and stainless steel parts, anti-corrosion, easy to clean
- Replaceable double wheel, wheel can be controlled independently, rotation direction can be selected
- Smooth rotation, low noise
- Four fixed speeds/stepless adjustable speed
- Water cooling device, prevent samples from overheating and destroying structure
- Metallographic samples can be roughly ground, finely ground, roughly polished and finely polished



MLP-GP280



silicon carbide paper
(optional)



polishing cloth (optional)



magnetic pad (optional)



anti-stick disc
(optional)

SPECIFICATION

| Code | MLP-GP270 | MLP-GP280 |
|--------------------------|---|-----------------------------------|
| Wheel diameter | Ø203mm | Ø250mm |
| Wheel rotation speed | 0-1400r/min (stepless adjustable) | 0-1000r/min (stepless adjustable) |
| Wheel rotation direction | clockwise or counterclockwise | |
| Fixed speed | 150r/min, 300r/min, 600r/min, 1000r/min | |
| Power supply | AC 220V, 50Hz | |
| Input power | 1.5kW | |
| Dimension | 758×785×310mm | |
| Weight | 50kg | |

STANDARD DELIVERY

| | |
|-----------------------|---|
| Main unit | 1 pc |
| Silicon carbide paper | 5 pcs each (240, 400, 800, 1200), 20 pcs in total |
| Polishing cloth | 3 pcs |
| Polishing agent | 1 pc |

OPTIONAL ACCESSORY

| | | |
|--------------------------|----------------------------|--|
| Silicon carbide paper | MLP-SZD□□* (for MLP-GP270) | 50 pcs/box, select granularity, Ø200mm with adhesive: 120, 180, 240, 400, 600, 800, 1000, 1200, 1500, 2000 |
| | MLP-SZG□□* (for MLP-GP280) | 50 pcs/box, select granularity, Ø250mm with adhesive: 120, 180, 240, 400, 600, 800, 1000, 1200, 1500, 2000 |
| Polishing cloth | MLP-CT6 (for MLP-GP270) | 15 pcs/box, Ø200mm with adhesive, long velvet silk material |
| | MLP-CT7 (for MLP-GP280) | 15 pcs/box, Ø250mm with adhesive, long velvet silk material |
| Diamond polishing liquid | MLP-DLA□□* | 500ml, select granularity (µm): W40, W28, W20, W14, W9, W7, W5, W3.5, W2.5, W1.5, W1.0, W0.5, W0.25 |
| Magnetic pad | MLP-AD1 (for MLP-GP270) | Ø200mm |
| | MLP-AD2 (for MLP-GP280) | Ø250mm |
| Anti-stick disc | MLP-DC1 (for MLP-GP280) | Ø200mm |
| | MLP-DC2 (for MLP-GP280) | Ø250mm |

* □□ is granularity specification, for example, code MLP-DLA40 stands for 40µm

GRINDER AND POLISHER (BASIC TYPE) CODE MLP-GP314

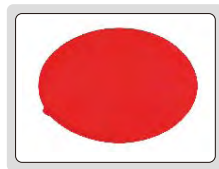


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- Double wheels, rotation direction can be selected
- Smooth rotation, low noise
- Water cooling device, prevent samples from overheating and destroying structure
- Replaceable silicon carbide paper and polishing cloth for grinding and polishing process



silicon carbide paper
(included)



polishing cloth (included)



anti-stick disc (optional)



magnetic pad (optional)

SPECIFICATION

| | |
|--------------------------|-----------------------------------|
| Wheel diameter | Ø203mm |
| Wheel rotation speed | 0~1400r/min (stepless adjustable) |
| Wheel rotation direction | clockwise or counterclockwise |
| Power supply | AC 220V, 50Hz |
| Input power | 0.75kW |
| Dimension | 755×700×310mm |
| Weight | 50kg |

STANDARD DELIVERY

| | |
|-----------------------|---|
| Main unit | 1 pc |
| Silicon carbide paper | 5 pcs each (240, 400, 800, 1200), 20 pcs in total |
| Polishing cloth | 4 pcs |
| Polishing agent | 1 pc (W2.5, 500ml) |

OPTIONAL ACCESSORY

| | | |
|--------------------------|-------------|--|
| Silicon carbide paper | MLP-SZD□□ * | 50 pcs/box, select granularity: 120, 180, 240, 400, 600, 800, 1000, 1200, 1500, 2000 |
| Polishing cloth | MLP-CT6 | 15 pcs/box, long velvet silk material |
| Diamond polishing liquid | MLP-DLA□□ * | 500ml, select granularity (µm): W40, W28, W20, W14, W9, W7, W5, W3.5, W2.5, W1.5, W1.0, W0.5, W0.25 |
| Magnetic pad | MLP-AD1 | Ø203mm |
| Anti-stick disc | MLP-DC1 | Ø203mm |

* □□ is granularity specification, for example, code **MLP-DLA40** stands for 40µm



MOUNTING PRESSES (ADVANCED TYPE)



MLP-MP43



MLP-MP53

- Built-in heating and cooling structure reduces the mounting time to 6 minutes
- The programmed control system reserves 10 customized preparation schemes to meet different mounting requirements
- The thickness of the middle mold is up to 15mm, and 2 samples can be mounted at the same time at one station
- Can accurately control the pressure size, adjustment range: 1~20MPa



hot mounting resin (included)

SPECIFICATION

| Code | MLP-MP43 | MLP-MP53 |
|--------------------------|---|-----------------------|
| Station number | 1 | 2 |
| Power | 1100W+heating power * | 1200W+heating power×2 |
| Mounting diameter | Ø30mm (customizable Ø25, Ø40, Ø50mm) | |
| System pressure | 1~20MPa, optional increase or decrease 1MPa | |
| Pressure mode | automatic electro-hydraulic | |
| Cooling mode | automatic water cooling ** | |
| Heating range | 90~200°C | |
| Holding time | 0~10min | |
| Cooling temperature/time | 40~90°C/0~10min | |
| Power supply | AC 220V, 50Hz | |
| Dimension | 530×485×463mm | 671×485×463mm |
| Weight | 44kg | 77kg |

* Heating power of mounting sleeve: 1800W (mounting diameter≤31.8mm), 2400W (mounting diameter≥38.1mm)

** Cooling water pressure should not be higher than 1MPa, must be filtered through 40µm filter

STANDARD DELIVERY

| | |
|--------------------|-----------------|
| Main unit | 1 pc |
| Hot mounting resin | 1 bottle (250g) |
| Funnel | 1 pc |
| Filter | 1 pc |
| Vacuum cleaner tip | 1 pc |

OPTIONAL ACCESSORY

| | |
|---------------------------------|---------|
| Hot mounting resin (black, 4kg) | MLP-DR3 |
|---------------------------------|---------|

MOUNTING PRESS (STANDARD TYPE) CODE MLP-MP30



- Automatic heating, pressuring, cooling and pressure relief
- Water cooling system



hot mounting resin (optional)



SPECIFICATION

| | |
|---------------------------|---------------|
| Diameter of workpiece | Ø30mm |
| Heating temperature range | 100~200°C |
| Delay range | 0~999s |
| Hold time | 0~999s |
| Cooling temperature | 20~90°C |
| Heating power | 600W |
| Power supply | AC 220V, 50Hz |
| Dimension | 350×450×470mm |
| Weight | 45kg |

STANDARD DELIVERY

| | |
|--------------------|-----------------|
| Main unit | 1 pc |
| Hot mounting resin | 1 bottle (250g) |
| Funnel | 1 pc |

OPTIONAL ACCESSORY

| | |
|---------------------------------|---------|
| Hot mounting resin (black, 4kg) | MLP-DR3 |
|---------------------------------|---------|

MOUNTING PRESS (BASIC TYPE) CODE MLP-MP62



- Suitable for tiny, difficult to handle or irregular metallographic and petrographic samples
- The sample preparation program has three modes: bakelite powder, electric jade powder and user-defined
- The sample preparation program controls the sample preparation time and realizes unattended sample preparation



hot mounting resin (included)



SPECIFICATION

| | |
|-------------------|-----------------------------------|
| Mounting diameter | Ø30mm (customizable Ø22mm, Ø45mm) |
| Heating range | room temperature~200°C |
| Timing range | 0~30min |
| Power | ≤800W |
| Power supply | AC220V, 50Hz |
| Dimension | 440×253×310mm |
| Weight | 32kg |

STANDARD DELIVERY

| | |
|--------------------|----------------|
| Main unit | 1 pc |
| Hot mounting resin | 1 bottle (60g) |
| Funnel | 1 pc |

OPTIONAL ACCESSORY

| | |
|---------------------------------|---------|
| Hot mounting resin (black, 4kg) | MLP-DR3 |
|---------------------------------|---------|



VACUUM MOUNTING PRESS CODE MLP-MP25

- Suitable for epoxy resins and cold mosaic compound of polyester castable
- High efficiency, simple and reliable



cold mounting compound
(optional)

SPECIFICATION

| | |
|---------------------|---------------|
| Maximum vacuum | -58kPa |
| Vacuum chamber size | Ø260×125mm |
| Transposition speed | 5r/min |
| Input power | 6W |
| Power supply | 220/110V |
| Dimension | 460×400×403mm |
| Weight | 30kg |

STANDARD DELIVERY

| | |
|---------------------|--------|
| Main unit | 1 pc |
| Vacuum pump | 1 pc |
| Ø25mm mold | 1 pc |
| Ø30mm mold | 1 pc |
| Ø40mm mold | 1 pc |
| Ø50mm mold | 1 pc |
| Epoxy resin (400g) | 1 pc |
| Curing agent (200g) | 1 pc |
| Waxed paper tray | 10 pcs |



OPTIONAL ACCESSORY

| | |
|------------------------|------------------|
| Cold mounting compound | MLP-CM1, MLP-CM6 |
| Epoxy resin | MLP-CM3, MLP-CM4 |

REFER TO PAGE
638-640 FOR DETAILS

METALLURGICAL MICROSCOPES



5102-M600

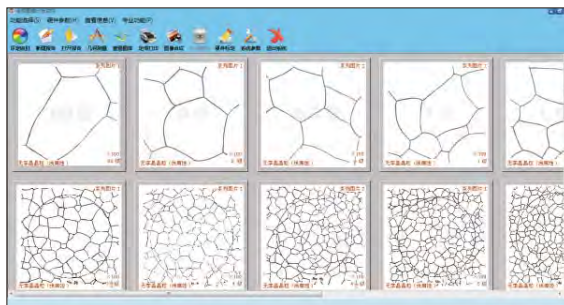


5108-M3000



5103-M1000

METALLURGICAL ANALYSIS SOFTWARE AND CAMERA



ISM-MAS100

REFER TO PAGE
657-658 FOR DETAILS

DIAMOND BLADES



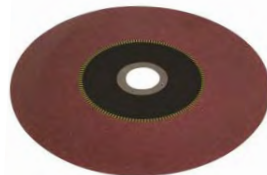
- Specially for precision cutting of carbide, ceramic materials, optical glass and other brittle metal materials

| Code | Description | Specification (mm) |
|---------|---|--------------------|
| MLP-DQ1 | 1. saw blade is made of edge electroplating 2. used for small workpieces made of crystal, ceramic, glass and alloy materials | Ø100×0.4×12.7 |
| MLP-DQ2 | | Ø150×0.5×12.7 |
| MLP-DQ3 | 1. saw blade is made of edge sintering technology 2. used for hard alloy, ceramic, optical glass and other brittle metal materials | Ø100×0.5×20 |
| MLP-DQ4 | | Ø200×1×32 |

CUTTING BLADES



MLP-50Z1



MLP-60Y1

| Code | Application | Cutting blade size | Package (pcs/box) |
|----------|---|--------------------|-------------------|
| MLP-10R1 | 1. light non-ferrous metal 2. high toughness metal (Ti) 3. HV hardness value: 0~250 | Ø250×1.5×32mm | 60 |
| MLP-10R2 | | Ø250×2×32mm | 50 |
| MLP-10R3 | | Ø300×2×32mm | 50 |
| MLP-10R4 | | Ø350×2.5×32mm | 40 |
| MLP-20R1 | 1. soft ferrous metal 2. HV hardness value: 50~300 | Ø250×1.5×32mm | 60 |
| MLP-20R2 | | Ø250×2×32mm | 50 |
| MLP-20R3 | | Ø300×2×32mm | 50 |
| MLP-20R4 | | Ø350×2.5×32mm | 40 |
| MLP-30R1 | 1. medium soft ferrous metal 2. HV hardness value: 120~500 | Ø250×1.5×32mm | 60 |
| MLP-30R2 | | Ø250×2×32mm | 50 |
| MLP-30R3 | | Ø300×2×32mm | 50 |
| MLP-30R4 | | Ø350×2.5×32mm | 40 |
| MLP-40Z1 | 1. medium hardness ferrous metal 2. HV hardness value: 180~600 | Ø250×1.5×32mm | 60 |
| MLP-40Z2 | | Ø250×2×32mm | 50 |
| MLP-40Z3 | | Ø300×2×32mm | 50 |
| MLP-40Z4 | | Ø350×2.5×32mm | 40 |
| MLP-50Z1 | 1. hard ferrous metal 2. HV hardness value: 180~700 | Ø250×1.5×32mm | 60 |
| MLP-50Z2 | | Ø250×2×32mm | 50 |
| MLP-50Z3 | | Ø300×2×32mm | 50 |
| MLP-50Z4 | | Ø350×2.5×32mm | 40 |
| MLP-50Z5 | | Ø400×3×32mm | 25 |
| MLP-50Z6 | | Ø450×3.2×32mm | 25 |
| MLP-50Z7 | | Ø509×4×38.1mm | 10 |
| MLP-50Z8 | | Ø610×4×38.1mm | 10 |
| MLP-60Y1 | 1. high hardness ferrous metal 2. HV hardness value: 250~900 | Ø250×1.5×32mm | 60 |
| MLP-60Y2 | | Ø250×2×32mm | 50 |
| MLP-60Y3 | | Ø300×2×32mm | 50 |
| MLP-60Y4 | | Ø350×2.5×32mm | 40 |

- Cutting surfaces are bright and smooth without burning

CUTTING COOLANT

- Free of mineral oil and sodium nitrite, suitable for all kinds of metallographic cutting machines
- Harmless to human health and environment

| Code | Description | Specification |
|---------|--|---------------|
| MLP-OL1 | 1. fully synthetic concentrate, used for various types of cutting machines, specially for built-in cooling circulatory system models 2. concentrate, dilute 1:20 with water 3. replace regularly, recommended once a month | 1L |
| MLP-OL2 | | 2L |
| MLP-OL3 | | 4L |
| MLP-OL4 | | 6L |
| MLP-OL5 | | 10L |
| MLP-OL6 | 1. oily mixture, use directly 2. cut water sensitive materials at low speed (high speed cutting machine is prohibited) 3. replace regularly, recommended once a month | 1L |
| MLP-OL7 | | 4L |



HOT MOUNTING RESIN

- Suitable for small sample preparation



| Code | Color | Description | Package (barrel) |
|----------|-------------|---|------------------|
| MLP-DR1 | black | for common sample preparation, fast grinding speed | 0.5kg |
| MLP-DR2 | | | 1kg |
| MLP-DR3 | | | 4kg |
| MLP-DR4 | black | edge protection type, low shrinkage, sample binding, high hardness, good wear resistance, slow grinding speed | 0.5kg |
| MLP-DR5 | | | 1kg |
| MLP-DR6 | | | 4kg |
| MLP-DR7 | black | carbon phenolic polymer, used in highly conductive fields, medium grinding speed | 0.5kg |
| MLP-DR8 | | | 1kg |
| MLP-DR9 | red | for common sample preparation, fast grinding speed | 0.5kg |
| MLP-DR10 | | | 1kg |
| MLP-DR11 | | | 4kg |
| MLP-DR12 | white | for common sample preparation, fast grinding speed | 0.5kg |
| MLP-DR13 | | | 1kg |
| MLP-DR14 | | | 4kg |
| MLP-DR15 | green | for common sample preparation, fast grinding speed | 0.5kg |
| MLP-DR16 | | | 1kg |
| MLP-DR17 | | | 4kg |
| MLP-DR18 | transparent | transparent, soluble, for sample with size, position, depth and other requirements | 0.5kg |
| MLP-DR19 | | | 1kg |
| | | | 4kg |

COLD MOUNTING CONSUMABLES



cold mounting resin



curing agent

| Code | Description | Package |
|---------|--|--|
| MLP-CM1 | <ol style="list-style-type: none"> 1. cold mounting compound, fast speed/good transparency/low viscosity/high strength 2. for metal processing without heating, pressure and mounting press 3. curing time: 25°C, 25min 4. usage: cold mounting resin 3:curing agent 2 | <ol style="list-style-type: none"> 1. cold mounting resin 1000g 2. curing agent 800ml 3. Ø30mm cold mounting mold 1 pc 4. plastic cup 20 pcs 5. stirring rod 40 pcs, spoon 1 pc |
| MLP-CM2 | <ol style="list-style-type: none"> 1. epoxy resin, low viscosity, good permeability, completely transparent 2. for samples which can not be heated or mounting pressed, like PCB, SMT and other micro-slice samples 3. curing time: 25°C, 5~6h 4. usage: resin liquid 2:curing agent 1 | <ol style="list-style-type: none"> 1. resin liquid 1000ml 2. curing agent 500ml 3. Ø30mm cold mounting mold 1 pc 4. plastic cup 20 pcs 5. stirring rod 40 pcs |
| MLP-CM3 | <ol style="list-style-type: none"> 1. fast epoxy, fast curing products, completely transparent 2. for samples which can not be heated or mounting pressed, like PCB, SMT and other micro-slice samples 3. curing time: 25°C, 1h 4. usage: resin liquid 2:curing agent 1 | <ol style="list-style-type: none"> 1. resin liquid 1000ml 2. curing agent 500ml 3. Ø30mm cold mounting mold 1 pc 4. plastic cup 20 pcs 5. stirring rod 40 pcs |
| MLP-CM4 | <ol style="list-style-type: none"> 1. low viscosity epoxy, good permeability, completely transparent 2. for samples which can not be heated or mounting pressed, like PCB, SMT and other micro-slice samples 3. curing time: 25°C, 3~4h 4. usage: resin liquid 2:curing agent 1 | <ol style="list-style-type: none"> 1. resin liquid 1000ml 2. curing agent 500ml 3. Ø30mm cold mounting mold 1 pc 4. plastic cup 20 pcs 5. stirring rod 40 pcs |
| MLP-CM5 | <ol style="list-style-type: none"> 1. low heat release epoxy, small, shrink, completely transparent 2. for samples which can not be heated or mounting pressed, like PCB, SMT and other micro-slice samples 3. curing time: 25°C, 20~24h 4. usage: resin liquid 3:curing agent 1 | <ol style="list-style-type: none"> 1. resin liquid 1000ml, 2. curing agent 300ml 3. Ø30mm cold mounting mold 1 pc 4. plastic cup 20 pcs, 5. stirring rod 40 pcs |
| MLP-CM6 | <ol style="list-style-type: none"> 1. cold mounting compound, fast speed/ceramics white/low viscosity/high strength 2. for metal processing without heating, pressure and mounting press 3. curing time: 25°C, 25min 4. usage: cold mounting resin 3:curing agent 2 | <ol style="list-style-type: none"> 1. cold mounting resin 1000g 2. curing agent 800ml 3. Ø30mm cold mounting mold 1 pc 4. plastic cup 20 pcs 5. stirring rod 40 pcs, spoon 1 pc |

COLD MOUNTING MOLDS

| Code | Description | Specification (mm) |
|----------|--|--------------------|
| MLP-QM1 | round soft mold, for cold embedding of epoxy resin, cold mounting resin on metallographic slice specimens | Ø20×18 |
| MLP-QM2 | | Ø25×18 |
| MLP-QM3 | | Ø30×18 |
| MLP-QM4 | | Ø40×23 |
| MLP-QM5 | | Ø50×23 |
| MLP-QM6 | square soft mold, for cold embedding of epoxy resin, cold mounting resin on metallographic slice specimens | 55×20×22 |
| MLP-QM7 | | 70×40×22 |
| MLP-QM8 | round hard mold, for cold embedding of epoxy resin, cold mounting resin on metallographic slice specimens | Ø25×23 |
| MLP-QM9 | | Ø30×27 |
| MLP-QM10 | | Ø32×27 |
| MLP-QM11 | | Ø40×29 |



MOUNTING DISCHARGING AGENT



| Code | Description | Specifications |
|--------|---|----------------|
| MLP-RA | for hot mounting press and cold mounting mold discharging | 200ml/bottle |

SLICE CLIPS


MLP-QP1

MLP-QP2

| Code | Description | Specifications |
|---------|---|-----------------|
| MLP-QP1 | stainless steel roll slice clip, for hot and cold mounting fixing | 100 pieces/pack |
| MLP-QP2 | PET roll slice clip, for hot and cold mounting fixing | 100 pieces/pack |

DIAMOND POLISHING LIQUID

- For surface grinding and polishing of metallographic, lithographic, ferrous and non-ferrous metals, ceramics, composite materials, gems, instruments, optical glass of high finish
- Compared with ordinary polishing agent, under the same grinding and polishing quality, consumption is saved 30%, time is saved 60%



| Code | Description | Granularity (μm) | Package/Bottle |
|------------|---|--|----------------|
| MLP-DLA□□* | 1. single crystal, water-based, ethylene glycol-based polishing lubricant formulation 2. for general metallographic preparation | 40, 30, 28, 20, 14, 10, 9, 7, 6, 5, 3.5, 3, 2.5, 1.5, 1.0, 0.5, 0.25 | 500ml |
| MLP-DLB□□* | 1. single crystal, water-based, propylene glycol-based polishing lubricant formulation 2. for grinding and polishing of soft and ductile materials | 30, 20, 15, 14, 9, 7, 6, 5, 3, 2.5, 1.5, 1.0, 0.5, 0.25 | 500ml |
| MLP-DLC□□* | 1. single crystal, water-based, propylene glycol-based polishing lubricant formulation 2. for ultra-precision polishing | 0.05 | 500ml |
| MLP-DLD□□* | 1. single crystal, oil-based, solvent-based polishing lubricant formulation 2. for grinding and polishing of soft materials and materials which cannot touch water | 20, 14, 9, 7, 5, 3.5, 2.5, 1.5, 1.0, 0.5, 0.25 | 500ml |
| MLP-DLE□□* | 1. polycrystalline, water-based, propylene glycol based polishing lubricant formula 2. for grinding and polishing of different materials and hardness components | 9, 6, 3, 1.0, 0.5, 0.25 | 500ml |
| MLP-DLF□□* | 1. polycrystalline, water-based, denatured ethanol based polishing lubricant formula 2. for grinding and polishing of materials which cannot touch water | 9, 6, 3, 1.0, 0.5, 0.25 | 500ml |

* □□ is granularity specification, for example, code **MLP-DLA40** stands for diamond polishing liquid 40μm granularity



Universal Testing Machines
Page 859-865



High And Low Temperature Test Chambers For Electronic Universal Testing Machines
Page 860



Impact Testing Machines
Page 866-867



Impact Specimen Notch Broaching Machines
Page 867



Universal Push And Pull Testing Machines
Page 868



Digital Spring Testers
Page 869



Force Gages
Page 870-874



Test Stands For Force Gages
Page 875-877

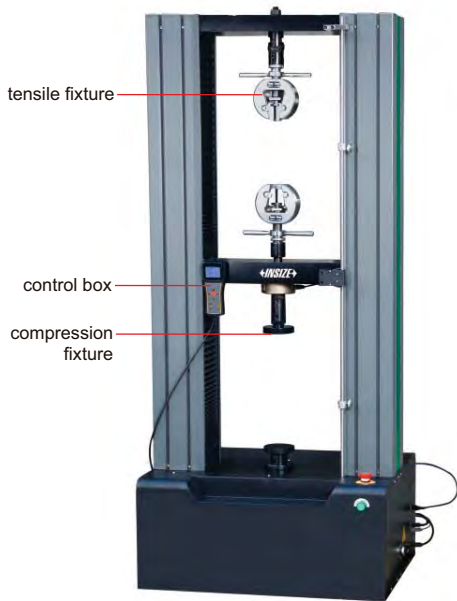


Dial Tension Gages
Page 877



Spindle Tension Meters
Page 878

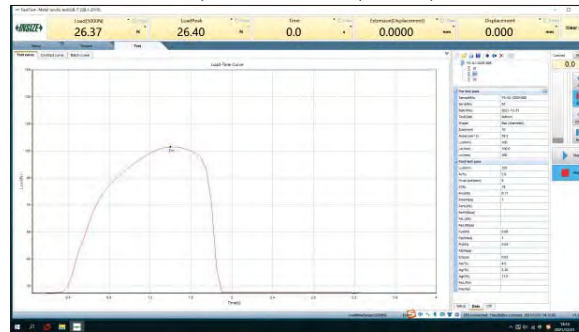
ELECTRONIC UNIVERSAL TESTING MACHINES



UTM-E50

- For tensile, compression, bend, shear, peel, tear tests of metal and non-metal materials

computer and software (included)



flat jaws (included)



V-shaped jaws (included)

STANDARD DELIVERY

| | |
|--|-------|
| Main unit | 1 pc |
| Control box | 1 pc |
| Computer | 1 pc |
| Measuring software | 1 pc |
| Printer | 1 pc |
| Wedge tension fixture (including flat jaws and V-shaped jaws) ** | 1 set |
| Compression fixture | 1 set |
| Extensometer (only for UTM-E100, UTM-E300) | 1 pc |

** UTM-E10 does not have V-shaped jaws



VIDEO

OPTIONAL ACCESSORY

| | |
|--------------|--------------|
| Extensometer | page 865 |
| Fixtures | page 862~863 |

SPECIFICATION

| Code | UTM-E10 | UTM-E50 | UTM-E100 | UTM-E300 |
|--|--|----------------|---------------------|-----------------|
| Max. test force | 10kN | 50kN | 100kN | 300kN |
| Accuracy class | 0.5 class | | | |
| Test force measurement range | 0.2%~100%FS | | | |
| Test force measurement accuracy | ±0.5% of indicating value | | | |
| Resolution of test force measurement | 1/300000 of Max. test force (same resolution all the way) | | | |
| Deformation measurement range | 0.2%~100%FS | | | |
| Deformation measurement accuracy | ±0.5% of indicating value | | | |
| Deformation measurement resolution | 1/200000 of Max. deformation, up to 1/300000 | | | |
| Large deformation measurement range | 10~800mm | | | |
| Large deformation measurement accuracy | ±1% of indicating value | | | |
| Large deformation measurement resolution | 8µm | | | |
| Displacement accuracy | ±0.5% of indicating value | | | |
| Displacement resolution | 0.01mm | | | |
| Force control speed adjustment range | 0.005~5%FS/s | | | |
| Force control speed control accuracy | ±2% of the set value (speed<0.05%FS/s) ±0.5% of the set value (speed≥0.05%FS/s) | | | |
| Deformation speed adjustment range | 0.005~5%FS/s | | | |
| Deformation speed control accuracy | ±2% of the set value (speed<0.05%FS/s) ±0.5% of the set value (speed≥0.05%FS/s) | | | |
| Beam displacement speed adjustment range | 0.001~500mm/min | | | |
| Beam displacement speed control accuracy | ±1% of the set value (speed<0.5mm/min) ±0.2% of the set value (speed≥0.5mm/min) | | | |
| Crosshead travel * | 1030mm | 970mm | 1250mm | 1000mm |
| Effective compression travel * | 800mm | 700mm | 700mm | 600mm |
| Horizontal test space * | 400mm | 440mm | 600mm | 550mm |
| Power supply | 220V, 50Hz, 0.4kW~1kW | | 380V, 50Hz, 2kW~5kW | |
| Dimension | 715×500×1680mm | 820×620×1880mm | 1070×855×2180mm | 1070×920×2550mm |
| Weight | 230kg | 350kg | 1000kg | 1500kg |

* Can be customized according to test requirements

HIGH AND LOW TEMPERATURE TEST CHAMBERS FOR ELECTRONIC UNIVERSAL TESTING MACHINES



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UTT-M63-E50

- For UTM-E□□□ electronic universal testing machines
- For tensile, compression, bend, shear tests in high and low temperature environment

SPECIFICATION

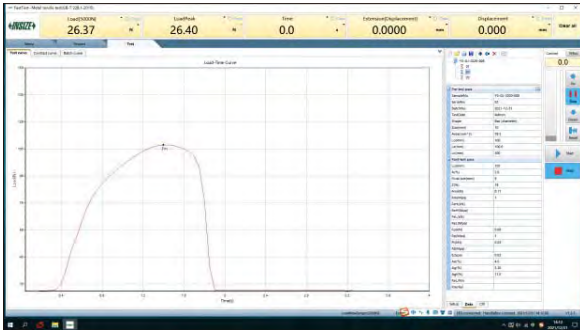
| Code | for UTM-E10 | UTT-M03-E10 | UTT-M33-E10 | UTT-M63-E10 |
|--------------------------------------|---|--------------|-------------------------------|--------------|
| | for UTM-E50 | UTT-M03-E50 | UTT-M33-E50 | UTT-M63-E50 |
| | for UTM-E100 | UTT-M03-E100 | UTT-M33-E100 | UTT-M63-E100 |
| Temperature range | (room temperature+10)~300°C | | -30~300°C | -60~300°C |
| Temperature accuracy * | ±1°C | | | |
| Temperature fluctuation * | ±0.5°C | | | |
| Temperature uniformity * | ≤2°C | | | |
| Temperature resolution | 0.1°C | | | |
| Cooling system | no | | compressor or liquid nitrogen | |
| Cooling time (room temperature@25°C) | | | 1~2°C/min (no-load) | |
| Warming up time | 1~3°C/min (no-load) | | | |
| Temperature control | PID automatic temperature control | | | |
| Heating system | magnesium powder heating tube | | | |
| Aperture size | Ø50mm | | | |
| Chamber dimension ** | 240×430×530mm (suitable for electronic universal testing machines with column spacing of 400mm and above) | | | |
| Power supply | AC 220V, 60Hz | | | |
| Total power | 1.8kW | | 2.2kW | 2.8kW |

*The applicable range of temperature accuracy, uniformity and fluctuation is Ø100×200mm

** Customized according to UTM-E□□□ electronic universal testing machine and customer requirements

ELECTRONIC UNIVERSAL TESTING MACHINES

computer and software (included)



UTM-S5KA

- For tensile, peel, tear tests of metal and non-metal materials

STANDARD DELIVERY

| | |
|--------------------|-------|
| Main unit | 1 pc |
| Control box | 1 pc |
| Computer | 1 pc |
| Measuring software | 1 pc |
| Printer | 1 pc |
| Tensile fixture | 1 set |

OPTIONAL ACCESSORY

| | |
|--------------|--------------|
| Extensometer | page 865 |
| Fixtures | page 862~863 |

SPECIFICATION

| Code | UTM-S200A | UTM-S500A | UTM-S1KA | UTM-S2KA | UTM-S5KA |
|--|--|-----------|----------|----------|----------|
| Max. test force | 200N | 500N | 1kN | 2kN | 5kN |
| Accuracy class | 0.5 class | | | | |
| Test force measurement range | 0.4%~100%FS | | | | |
| Test force measurement accuracy | ±0.5% of indicating value | | | | |
| Resolution of test force measurement | 1/300000 of Max. test force (same resolution all the way) | | | | |
| Deformation measurement range | 0.2%~100%FS | | | | |
| Deformation measurement accuracy | ±0.5% of indicating value | | | | |
| Deformation measurement resolution | 1/200000 of Max. deformation, up to 1/300000 | | | | |
| Large deformation measurement range | 10~800mm | | | | |
| Large deformation measurement accuracy | ±1% of indicating value | | | | |
| Large deformation measurement resolution | 8μm | | | | |
| Displacement accuracy | ±0.5% of indicating value | | | | |
| Displacement resolution | 0.01mm | | | | |
| Force control speed adjustment range | 0.005~5%FS/s | | | | |
| Force control speed control accuracy | ±2% of the set value (speed<0.05%FS/s) ±0.5% of the set value (speed≥0.05%FS/s) | | | | |
| Deformation speed adjustment range | 0.005~5%FS/s | | | | |
| Deformation speed control accuracy | ±2% of the set value (speed<0.05%FS/s) ±0.5% of the set value (speed≥0.05%FS/s) | | | | |
| Beam displacement speed adjustment range | 0.001~500mm/min | | | | |
| Beam displacement speed control accuracy | ±1% of the set value (speed<0.5mm/min) ±0.2% of the set value (speed≥0.5mm/min) | | | | |
| Crosshead travel* | 900mm | | | | |
| Effective compression travel* | 630mm | | | | |
| Power supply | 220V, 50Hz, 0.4kW~1kW | | | | |
| Dimension | 510×510×1580mm | | | | |
| Weight | 150kg | | | | |
















* Can be customized according to test requirements

FIXTURES FOR ELECTRONIC UNIVERSAL TESTING MACHINES

CUSTOM-MADE














■ Used with **UTM-E** series and **UTM-S** series electronic universal testing machines

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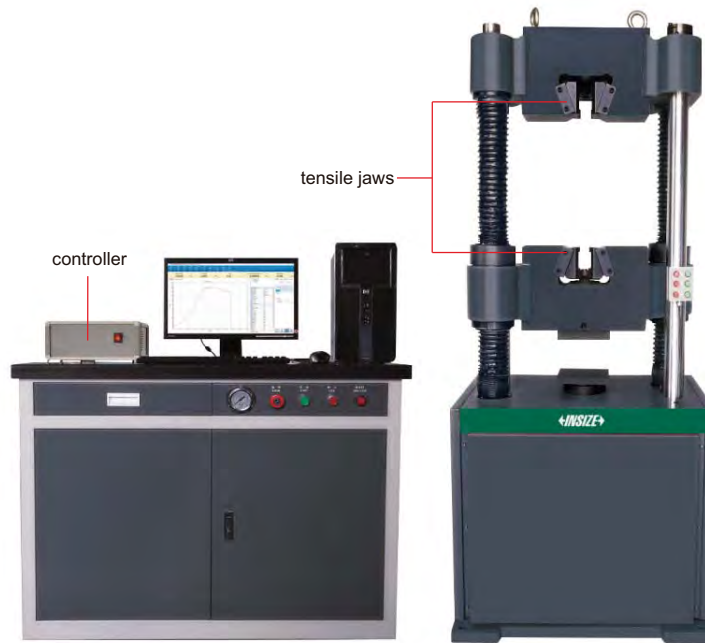
| | | |
|---|--|---|
| <p>UTM-F001</p> <ul style="list-style-type: none"> ■ Wedge tensile fixture ■ For tensile testing of non-metallic materials and thin metal specimens  | <p>UTM-F002</p> <ul style="list-style-type: none"> ■ Hydraulic tensile fixture ■ For tensile testing of metallic materials, round bar specimens  | <p>UTM-F003</p> <ul style="list-style-type: none"> ■ 10kN wedge tensile fixture ■ For tensile testing of metal specimens  |
| <p>UTM-F004</p> <ul style="list-style-type: none"> ■ Pneumatic tensile fixture ■ For tensile testing of non-metallic material specimens  | <p>UTM-F005</p> <ul style="list-style-type: none"> ■ Insulation profile longitudinal shearing fixture ■ Longitudinal shear test for insulation type materials  | <p>UTM-F006</p> <ul style="list-style-type: none"> ■ Insulation profile transverse tensile fixture ■ For transverse tensile testing of insulation-type materials  |
| <p>UTM-F007</p> <ul style="list-style-type: none"> ■ Filament winding fixture ■ For tensile testing of data wires, textile fabric wires, plastic wires  | <p>UTM-F008</p> <ul style="list-style-type: none"> ■ Filament opposite fixture ■ For tensile testing of wire specimens  | <p>UTM-F009</p> <ul style="list-style-type: none"> ■ Pneumatic threadlet tensile fixture ■ For tensile testing of non-metallic wire specimens  |
| <p>UTM-F010</p> <ul style="list-style-type: none"> ■ Steel wire tensile fixture ■ For tensile testing of fine steel wires and iron wires  | <p>UTM-F011</p> <ul style="list-style-type: none"> ■ Threadlet winding fixture ■ For tensile testing of filamentary metal specimens  | <p>UTM-F012</p> <ul style="list-style-type: none"> ■ Fabric belt winding tensile fixture ■ For tensile testing of non-metallic material specimens  |
| <p>UTM-F013</p> <ul style="list-style-type: none"> ■ Film tensile fixture ■ For tensile testing of paper, film and non-metallic materials  | <p>UTM-F014</p> <ul style="list-style-type: none"> ■ Film tensile fixture ■ For tensile testing of paper, film and non-metallic materials  | <p>UTM-F015</p> <ul style="list-style-type: none"> ■ Thin film opposite fixture ■ For tensile testing of paper, film and non-metallic materials  |

To be continued

Continued from previous page

| | | |
|--|--|---|
| <p>UTM-F016</p> <ul style="list-style-type: none"> ▪ Thin plate opposite fixture ▪ For tensile testing of thin plates of non-metallic materials  | <p>UTM-F017</p> <ul style="list-style-type: none"> ▪ Annule tensile fixture ▪ For tensile testing of non-metallic annular material specimens  | <p>UTM-F018</p> <ul style="list-style-type: none"> ▪ Adhesive tensile shearing fixture ▪ For tensile shear testing of different adhesive specimens  |
| <p>UTM-F019</p> <ul style="list-style-type: none"> ▪ Surface bonding strength fixture ▪ Tensile testing for adhesive properties  | <p>UTM-F020</p> <ul style="list-style-type: none"> ▪ Leverage tensile fixture ▪ For tensile testing of rubber, silicone and other elastomers  | <p>UTM-F021</p> <ul style="list-style-type: none"> ▪ Rubber tensile fixture ▪ Specialized for tensile testing of rubber material specimens  |
| <p>UTM-F022</p> <ul style="list-style-type: none"> ▪ 90° rubber peel fixture ▪ Peel test for adhesion of rubber materials  | <p>UTM-F023</p> <ul style="list-style-type: none"> ▪ PCB plate 90° peel fixture ▪ Peel-off test for adhesion of sticky materials on PCBs  | <p>UTM-F024</p> <ul style="list-style-type: none"> ▪ Plastic bending fixture ▪ Specialized for flexural testing of plastic specimens  |
| <p>UTM-F025</p> <ul style="list-style-type: none"> ▪ Three-point bending fixture ▪ For bending test of various material specimens  | <p>UTM-F026</p> <ul style="list-style-type: none"> ▪ Waving fixture ▪ For tensile testing of non-metallic specimens  | <p>UTM-F027</p> <ul style="list-style-type: none"> ▪ Butt fixture ▪ For tensile testing of different materials  |
| <p>UTM-F028</p> <ul style="list-style-type: none"> ▪ Shear fixture ▪ For shear testing of different materials  | <p>UTM-F029</p> <ul style="list-style-type: none"> ▪ Ceramic shearing fixture ▪ Specialized for shear testing of ceramic materials  | <p>UTM-F030</p> <ul style="list-style-type: none"> ▪ Compressive fixture ▪ For compression testing of different materials  |
| <p>UTM-F031</p> <ul style="list-style-type: none"> ▪ Puncture fixture ▪ For film puncture testing  | | |

HYDRAULIC UNIVERSAL TESTING MACHINES



UTM-H300B

- For tensile, compression, bend, shear tests of metal and non-metal materials

SPECIFICATION

| Code | UTM-H300B | UTM-H600B | UTM-H1000B | UTM-H2000B | UTM-H3000B | |
|---|--|--------------|--------------|--------------|---------------|---------------|
| Max. test force | 300kN | 600kN | 1000kN | 2000kN | 3000kN | |
| Accuracy | ±1% | | | | | |
| Test force measurement range | 2%~100%FS | | | | | |
| Resolution of test force measurement | 1/300000 of Max. test force (same resolution all the way) | | | | | |
| Deformation measurement device | extensometer | | | | | |
| Deformation measurement range | 1%~100%FS | | | | | |
| Deformation measurement accuracy | ±1% | | | | | |
| Deformation measurement resolution | 1/300000 | | | | | |
| Displacement accuracy | ±1% | | | | | |
| Displacement resolution | 0.01mm | | | | | |
| Displacement travel | 200mm | | | | | |
| Max tensile space (including piston stroke) | 600mm | 600mm | 680mm | 600mm | 900mm | |
| Max compression space (including piston stroke) | 500mm | 500mm | 560mm | 500mm | 800mm | |
| Transmission mode | chain drive | | | | | |
| Safety protection device | software protection and mechanical limit protection | | | | | |
| Control function | special software, closed-loop of stress, strain and velocity | | | | | |
| Clamping range of round sample | Ø10~32mm | Ø13~40mm | Ø13~60mm | Ø20~70mm | Ø25~80mm | |
| Clamping range of flat sample | 0~15mm | 0~15mm* | 0~20mm** | 0~40mm | 0~80mm | |
| Upper and lower pressure plate size | Ø188mm | Ø188mm | Ø208mm | Ø208mm | Ø208mm | |
| Bending branch roll width | 140mm | | | | | |
| Total power | 2.5kW | 3.0kW | 3.0kW | 3.75kW | 5.5kW | |
| Power supply | 380V, 50Hz | | | | | |
| Dimension (mm) | host | 800×620×1900 | 820×650×2000 | 940×780×2250 | 1100×760×3000 | 1250×930×3550 |
| | oil source | 1140×600×855 | | | | |
| Weight | 2T | 2.2T | 3T | 7.5T | 12.6T | |

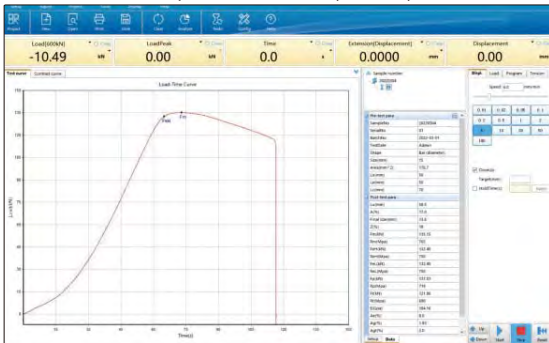
* Customizable 0~30mm

** Customizable 0~40mm

To be continued

Continued from previous page

computer and software (included)



STANDARD DELIVERY

| | |
|------------------------------------|-------|
| Main unit | 1 pc |
| Electro hydraulic servo oil source | 1 pc |
| Electro hydraulic servo valve | 1 pc |
| High pressure oil pump | 1 pc |
| Oil pressure sensor | 1 pc |
| Control box | 1 pc |
| Extensometer | 1 pc |
| Computer | 1 pc |
| Measuring software | 1 set |
| Printer | 1 pc |
| Tensile fixture | 1 set |
| Compression fixture | 1 set |



acrylic safety shield (optional)



steel wire safety shield (optional)

OPTIONAL ACCESSORY

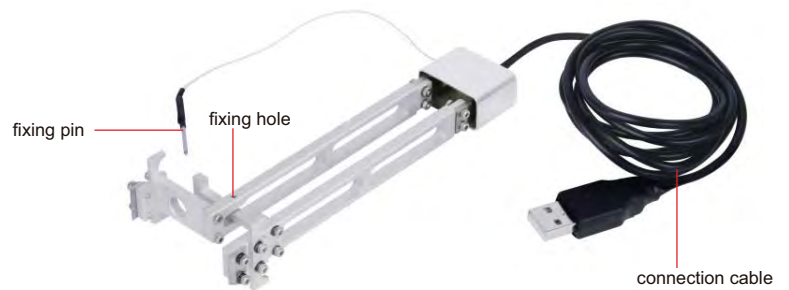
| | |
|--------------------------|--------------|
| Acrylic safety shield | UTM-H-COVER1 |
| Steel wire safety shield | UTM-H-COVER2 |

EXTENSOMETERS

- Used with universal testing machines

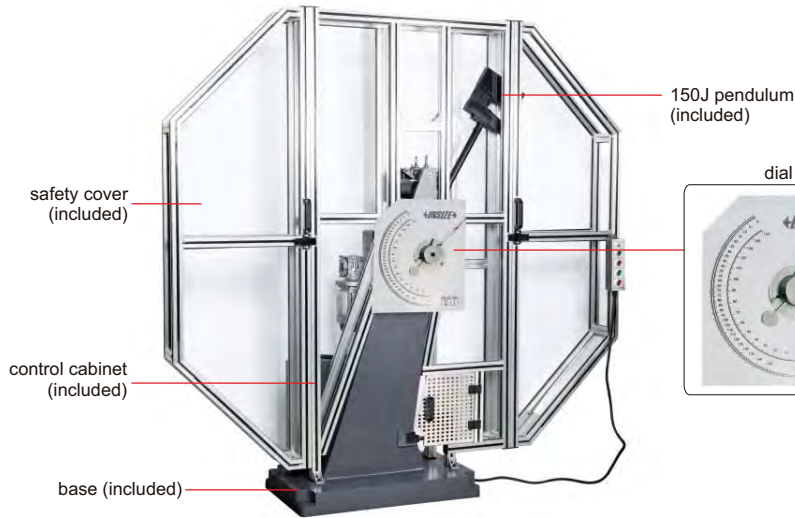
SPECIFICATION

| Code | Gage length | Deformation |
|--------------|---|-------------|
| UTM-EX25-5 | 25mm | 5mm |
| UTM-EX25-10 | 25mm | 10mm |
| UTM-EX25-25 | 25mm | 25mm |
| UTM-EX50-5 | 50mm | 5mm |
| UTM-EX50-10 | 50mm | 10mm |
| UTM-EX50-25 | 50mm | 25mm |
| UTM-EX100-5 | 100mm | 5mm |
| UTM-EX100-10 | 100mm | 10mm |
| UTM-EX100-25 | 100mm | 25mm |
| UTM-EX200-5 | 200mm | 5mm |
| UTM-EX200-10 | 200mm | 10mm |
| UTM-EX200-25 | 200mm | 25mm |
| UTM-EX-B | large deformation, customized according to the workpieces | |



UTM-EX50-10

SEMI-AUTOMATIC IMPACT TESTING MACHINES



ITM-S150J



pendulum (included)



span aligner (included)



tongs (included)



dial



software (included)

- According to ISO148
- For testing the anti-impact performance of metal materials under dynamic load
- High-precision bearings, small bearing friction, the impact absorption rate of empty pendulum is less than 0.3%
- Alloy steel impact blade, hardness HRC60
- PLC controller with built-in energy loss correction program
- Supplied with safety cover
- Supplied with software for data storage, automatic processing, etc.
- Data can be stored in Excel format, output and printed

SPECIFICATION

| Code | ITM-S150J | ITM-S300J | ITM-S450J | ITM-S600J | ITM-S750J |
|--|-----------------|---------------|-----------------|---------------|---------------|
| Impact energy | 150J | 300J | 450J | 600J | 750J |
| Dial range | 0~150J | 0~300J | 0~450J | 0~600J | 0~750J |
| Dial graduation | 1J | 2J | 3J | 4J | 5J |
| Pendulum moment | M=80.3848N·m | M=160.7695N·m | M=241.1543N·m | M=321.5390N·m | M=401.9238N·m |
| Pendulum preparing angle | 150° | | | | |
| Distance between pendulum shaft center and specimen center | 750mm | | | | |
| Impact speed | 5.24m/s | | | | |
| Span of specimen seat | 40mm | | | | |
| End face radius of specimen seat | R (1.0~1.5)mm | | | | |
| Radius of impact blade | R (2.0~2.5)mm | | | | |
| Inclination angle of support surface of specimen seat | 11°±1° | | | | |
| Angle of impact blade | 30°±1° | | | | |
| Thickness of impact blade | 16mm | | | | |
| Range of measuring angle | 0~360° | | | | |
| Angle resolution | ≤0.06° | | | | |
| Specimen size | 10×10×55mm | | | | |
| Power supply | AC 380V, 50Hz | | | | |
| Base size | 800×500mm | | 960×650mm | | |
| Power | 400W | | 1.5kW | | |
| Dimension of main body | 2050×690×2015mm | | 2100×835×2200mm | | |
| Weight | 450kg | | 900kg | | |

To be continued

Continued from previous page

STANDARD DELIVERY

| | | |
|---|-----------|---------------------------------|
| Main unit | 1 pc | |
| Dial | 1 pc | |
| Control cabinet | 1 pc | |
| Pendulum | ITM-S150J | 150J pendulum |
| | ITM-S300J | 300J pendulum and 150J pendulum |
| | ITM-S450J | 450J pendulum and 150J pendulum |
| | ITM-S600J | 600J pendulum and 150J pendulum |
| | ITM-S750J | 750J pendulum and 150J pendulum |
| Simply supported beam fixture (including jaws, anvil) | 1 set | |
| Computer | 1 set | |
| Printer | 1 pc | |
| Software | 1 set | |
| Span aligner | 1 pc | |
| Tongs | 1 pc | |
| Safety cover | 1 set | |

OPTIONAL ACCESSORY

| | |
|----------------------------|---------------|
| Workbench | 7911-15 |
| 150J pendulum | ITM-S-PE150J |
| 300J pendulum | ITM-S-PE300J |
| 450J pendulum | ITM-S-PE450J |
| 600J pendulum | ITM-S-PE600J |
| 750J pendulum | ITM-S-PE750J |
| ASTM standard impact blade | ITM-S-ASTM-IB |
| Sample recovery device | ITM-S-RD |
| Digital display screen | ITM-S-DDS |



**IMPACT SPECIMEN NOTCH BROACHING MACHINE (DOUBLE BROACHES)
CODE ITM-U32**

- Conforms with ISO 148, ISO 83 and EN 10045 standards
- One-time broaching forming, hydraulic transmission, special internal lubrication device to avoid damage of the broaches
- Dual-station broach, two specimen notches can be processed at the same time



raised broaches



lowered broaches



ITM-U32

SPECIFICATION

| | |
|-----------------------|--|
| Broach stroke | 350mm (V2, U2, U3 broaches) 400mm (U5 broach) |
| Specimen size (T×W×L) | 10×10×55mm |
| Broaching speed | 0.35-2.5m/min |
| Driving method | hydraulic |
| Power supply | 380V, 50Hz, 0.4kW |
| Dimension | 660×400×1200mm |
| Weight | 200kg |

STANDARD DELIVERY

| | |
|-----------|-----------|
| Main unit | 1 pc |
| Broach | U2 and V2 |

OPTIONAL ACCESSORY

| | |
|-----------|------------|
| U3 broach | ITM-U32-U3 |
| U5 broach | ITM-U32-U5 |

UNIVERSAL PUSH AND PULL TESTING MACHINES



34



ISF-U202

- Set force, set positioning and set deformation testing modes
- Protective functions of built-in mechanical limit, overload auto stop and emergency stop
- Dual-speed preset, high-speed approximation and low-speed acquisition
- Automatic back to start location after the test
- Can save 10 sets of test value and 3 sets of curve, test reports can be printed by built-in printer
- Display peak value, real-time value and process curve simultaneously
- Auto calibration of displacement zero
- Unit: lbf, N, kgf, ozf
- Auto power off (the time can be set)

SPECIFICATION

| Code | ISF-U055 | ISF-U101 | ISF-U202 |
|---------------------------------|--|---------------|---------------|
| Max. test force | 500N | 1000N | 2000N |
| Resolution of force | 0.05N | 0.1N | 0.2N |
| Test force measurement range | 1%~100%FS | | |
| Test force measurement accuracy | ±1%FS (test force<10%FS) ±0.5%FS (test force≥10%FS) | | |
| Range of adjustable speed | 0.5~500mm/min | | |
| Speed accuracy | ±2%FS (speed<10%FS) ±1%FS (speed≥10%FS) | | |
| Displacement resolution | 0.001mm | | |
| Displacement travel | 300mm | 450mm | 450mm |
| Displacement accuracy | ±0.4mm | | |
| Unit | lbf, N, kgf, ozf | | |
| Pressure plate size | Ø80mm | | |
| Power supply | AC 220V, 50/60Hz | | |
| Dimension | 420×250×700mm | 365×305×915mm | 365×305×915mm |
| Weight | 29.4kg | 40kg | 40kg |

STANDARD DELIVERY

| | |
|-----------|-------|
| Main unit | 1 pc |
| Adapter | 2 pcs |



DATA
OUTPUT

DIGITAL SPRING TESTERS

- Peak hold and automatic release function
- Set upper and lower limits, red and green indicator and buzzer alarm
- Automatic conversion of three units: N, kgf, lbf
- Built in printer
- Automatic power off



ISF-S10



ISF-S500



ISF-S1000

SPECIFICATION

| Code | ISF-S10 | ISF-S20 | ISF-S30 | ISF-S50 | ISF-S100 | ISF-S200 |
|-------------------------------|------------------------|---------------|---------------|---------------|---------------|---------------|
| Maximum load | 10N | 20N | 30N | 50N | 100N | 200N |
| Resolution | 0.001N | 0.002N | 0.01N | 0.01N | 0.02N | 0.05N |
| Range of digital scale | 65mm | 65mm | 65mm | 95mm | 95mm | 95mm |
| Resolution of digital scale | 0.01mm | 0.01mm | 0.01mm | 0.01mm | 0.01mm | 0.01mm |
| Disk diameter | Ø30mm | Ø30mm | Ø30mm | Ø49mm | Ø49mm | Ø49mm |
| Maximum free length of spring | 65mm | 65mm | 65mm | 95mm | 95mm | 95mm |
| Measuring range of force | 5%~100% (maximum load) | | | | | |
| Accuracy of force | ±1% (maximum load) | | | | | |
| Data output | RS232 | | | | | |
| Power supply | 220V, 50/60Hz | | | | | |
| Dimension | 300×235×600mm | 300×235×600mm | 300×235×600mm | 300×235×620mm | 300×235×620mm | 300×235×620mm |
| Weight | 13.2kg | 13.2kg | 13.2kg | 17.3kg | 19.1kg | 19.1kg |

| Code | ISF-S300 | ISF-S500 | ISF-S1000 | ISF-S2000 | ISF-S5000 |
|-------------------------------|------------------------|---------------|---------------|---------------|---------------|
| Maximum load | 300N | 500N | 1000N | 2000N | 5000N |
| Resolution | 0.1N | 0.1N | 0.2N | 0.5N | 1N |
| Range of digital scale | 95mm | 95mm | 150mm | 150mm | 150mm |
| Resolution of digital scale | 0.01mm | 0.01mm | 0.01mm | 0.01mm | 0.01mm |
| Disk diameter | Ø49mm | Ø49mm | Ø108mm | Ø108mm | Ø108mm |
| Maximum free length of spring | 95mm | 95mm | 200mm | 200mm | 200mm |
| Measuring range of force | 5%~100% (maximum load) | | | | |
| Accuracy of force | ±1% (maximum load) | | | | |
| Data output | RS232 | | | | |
| Power supply | 220V, 50/60Hz | | | | |
| Dimension | 300×235×620mm | 300×235×620mm | 490×300×920mm | 490×300×920mm | 490×300×920mm |
| Weight | 19.1kg | 20.8kg | 47.5kg | 47.5kg | 47.5kg |

STANDARD DELIVERY

| | |
|-----------|------|
| Main unit | 1 pc |
|-----------|------|

DIGITAL FORCE GAGES (HIGH ACCURACY)

DATA
OUTPUT

INSIZE
INSPECTION
CERTIFICATE



software flash disk
(included)

printer (optional)



ISF-DF100A
type A



ISF-DF5KA
type B



ISF-DF10KC
type C

- Type A and B can be used for tension and pressure tests, type C is only used for pressure tests
- Peak (max.) and tracking mode
- Units for type A: mN, N, gf, kgf, ozf, lbf, type B: N, kgf, lbf, kN, MPa, type C: N, kgf, lbf, kN, tf, MPa
- Tolerance testing
- 1000 memories
- Automatic power off
- Metal case, touch buttons
- LCD display with backlight
- The display flips over when the bottom faces up
- Overload alarm
- Keyboard signal, can be transmitted to Excel



VIDEO

accessory for type B (included)



flat push tip

adapter

pull clamps

accessory for type A (included)



flat
push tip

V-type
push tip

knife-edge
push tip

point
push tip

pull
clamp

extension
rod

SPECIFICATION

| Code | ISF-DF5A | ISF-DF10A | ISF-DF20A | ISF-DF50A | ISF-DF100A | ISF-DF200A | ISF-DF500A | ISF-DF1KA |
|-------------------|-------------------------------|-----------|-----------|-----------|------------|------------|------------|-----------|
| Type | A (internal sensor) | | | | | | | |
| Load capacity (N) | 5 | 10 | 20 | 50 | 100 | 200 | 500 | 1000 |
| Resolution (N) | 0.0005 | 0.001 | 0.005 | 0.005 | 0.01 | 0.05 | 0.05 | 0.1 |
| Accuracy | ±0.2% (of load capacity) | | | | | | | |
| Power supply | built-in rechargeable battery | | | | | | | |

| Code | ISF-DF1KB | ISF-DF2KA | ISF-DF5KA | ISF-DF10KA | ISF-DF20KA |
|-------------------|-------------------------------|-----------|-----------|------------|------------|
| Type | B (external sensor) | | | | |
| Load capacity (N) | 1000 | 2000 | 5000 | 10000 | 20000 |
| Resolution (N) | 0.1 | 0.5 | 0.5 | 1 | 5 |
| Accuracy | ±0.2% (of load capacity) | | | | |
| Power supply | built-in rechargeable battery | | | | |

| Code | ISF-DF10KC | ISF-DF20KC | ISF-DF50KC | ISF-DF100KC | ISF-DF200KC |
|--------------------|-------------------------------|------------|------------|-------------|-------------|
| Type | C (external sensor) | | | | |
| Load capacity (kN) | 10 | 20 | 50 | 100 | 200 |
| Resolution (kN) | 0.001 | 0.005 | 0.005 | 0.01 | 0.05 |
| Accuracy | ±0.2% (of load capacity) | | | | |
| Power supply | built-in rechargeable battery | | | | |

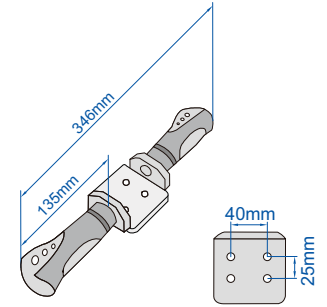
STANDARD DELIVERY

| | | |
|------------------------|--------|--|
| Main unit | 1 pc | |
| AC/DC adapter | 1 pc | |
| Software and USB cable | 1 pc | |
| Push/pull accessory | type A | 6 pcs (flat push tip, V-type push tip, knife-edge push tip, point push tip, pull clamp, extension rod) |
| | type B | 4 pcs (flat push tip, adapter, pull clamps) |

OPTIONAL ACCESSORY

| | |
|------------|----------------|
| Printer | ISF-DF-PRINTER |
| Test stand | ISF-MT1K |

FORCE GAGE HANDLES CODE ISF-DFAT1



34

- For digital force gages (code **ISF-DF**□□□)
- Push and pull test
- Maximum range 1000N

STANDARD DELIVERY

| | |
|--------|-------|
| Handle | 2 pcs |
| Base | 1 pc |

push test with single handle



pull test with two handles



SOFT PROBES FOR HUMAN BODY



ISF-DFAT2-C1



ISF-DFAT2-C2



ISF-DFAT2-C3



ISF-DFAT2-C4

- To measure muscle force
- For press test with digital force gages (code **ISF-DF**□□□) and force gage handles (code **ISF-DFAT1**)
- Maximum range 1000N

| Code | Specification |
|--------------|--------------------------------|
| ISF-DFAT2-C1 | rectangle, 90×25mm, M6 |
| ISF-DFAT2-C2 | square, 25×25mm, M6 |
| ISF-DFAT2-C3 | arc-shaped, 90×25mm, R80mm, M6 |
| ISF-DFAT2-C4 | M6 |

application



DIGITAL FORCE GAGES

DATA
OUTPUT

INSPECTION
CERTIFICATE



software flash disk
(included)



ISF-1DF100

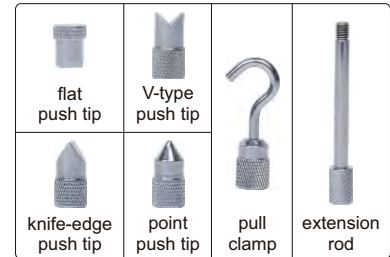


VIDEO

printer (optional)



accessory (included)



- Push and pull test
- Units: N, gf, kgf, ozf, lbf
- 500 memories
- Automatic power off
- Metal case
- LCD display with backlight
- The display flips over when the bottom faces up
- Overload alarm

SPECIFICATION

| Code | ISF-1DF10 | ISF-1DF50 | ISF-1DF100 | ISF-1DF500 | ISF-1DF1000 |
|-------------------|--|-----------|------------|------------|-------------|
| Load capacity (N) | 10 | 50 | 100 | 500 | 1000 |
| Resolution (N) | 0.01 | 0.01 | 0.1 | 0.1 | 1 |
| Accuracy | ±0.3% (of load capacity) | | | | |
| Measuring mode | tracking, peak (max.), tolerance testing | | | | |
| Power supply | built-in rechargeable battery | | | | |
| Dimension | 150×73×33mm | | | | |
| Weight | 450g | | | | |

STANDARD DELIVERY

| | |
|------------------------|--|
| Main unit | 1 pc |
| AC/DC adapter | 1 pc |
| Software and USB cable | 1 pc |
| Push/pull accessory | 6 pcs (flat push tip, V-type push tip, knife-edge push tip, point push tip, pull clamp, extension rod) |

OPTIONAL ACCESSORY

| | |
|------------|----------------|
| Printer | ISF-DF-PRINTER |
| Test stand | ISF-MT1K |

TEST STAND FOR DIGITAL FORCE GAGES CODE ISF-MT1K

- For digital force gages (code ISF-1DF□□□ and ISF-DF□□□)
- To be used in vertical and horizontal orientation

SPECIFICATION

| | |
|---------------|---|
| Load capacity | 1000N |
| Travel | 200mm (3mm vertical movement per revolution of handwheel) |
| Dimension | 196×250×446mm |
| Weight | 13kg |

OPTIONAL ACCESSORY

| | |
|--|----------------|
| Digital scale (range: 200mm, resolution: 0.01mm/0.0005") | ISF-MT1K-SCALE |
|--|----------------|

force gage
is optional



VIDEO



digital scale (optional)



horizontal orientation test

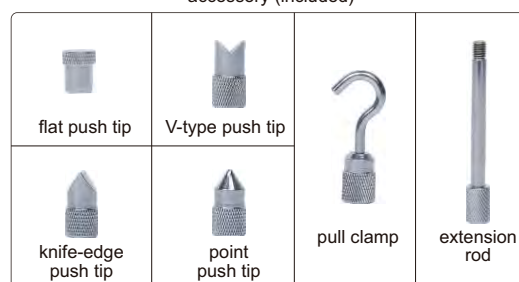
FORCE GAGES



ISF-F500

- Push and pull test
- Peak (max.) or tracking mode

accessory (included)



SPECIFICATION

| Code | | ISF-F10 | ISF-F20 | ISF-F30 | ISF-F50 | ISF-F100 | ISF-F200 | ISF-F300 | ISF-F500 |
|------------|-----|------------------------|---------|---------|---------|----------|----------|----------|----------|
| Capacity | N | 10 | 20 | 30 | 50 | 100 | 200 | 300 | 500 |
| | kgf | 1 | 2 | 3 | 5 | 10 | 20 | 30 | 50 |
| Graduation | N | 0.05 | 0.1 | 0.2 | 0.25 | 0.5 | 1 | 2 | 2.5 |
| Accuracy | | ±1% (of load capacity) | | | | | | | |

STANDARD DELIVERY

| | |
|---------------|---|
| Main unit | 1 pc |
| Push tip | 4 pcs (flat, V-type, knife-edge, point) |
| Pull clamp | 1 pc |
| Extension rod | 1 pc |

OPTIONAL ACCESSORY

| | |
|------------|-----------|
| Test stand | ISF-MT500 |
|------------|-----------|



TEST STAND FOR FORCE GAGE CODE ISF-MT500

- For force gages (code ISF-F□□□)
- To be used in vertical and horizontal orientation

force gage
is optional



horizontal orientation test

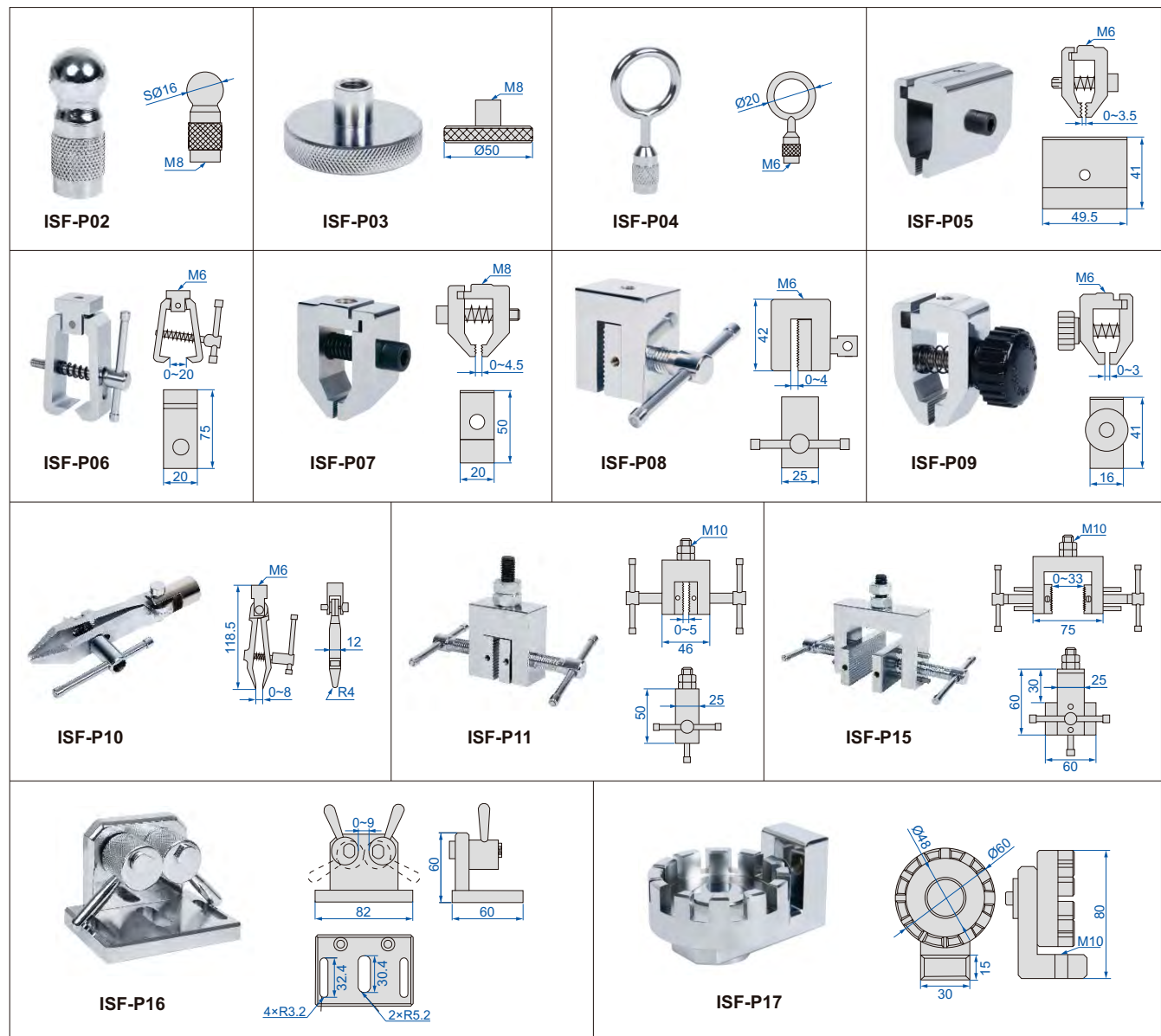
SPECIFICATION

| | |
|---------------|---|
| Load capacity | 500N |
| Travel | 150mm (3mm vertical movement per revolution of handwheel) |
| Dimension | 160×240×460mm |
| Weight | 12kg |

PUSH TIPS AND PULL CLAMPS FOR FORCE GAGES

■ For force gages (code ISF-DF□□□, ISF-1DF□□□ and ISF-F□□□)

Unit: mm



Push tips

| Code | Max. load | Diameter | Weight |
|---------|-----------|----------|--------|
| ISF-P02 | 5000N | 16mm | 33g |
| ISF-P03 | 3000N | 50mm | 17g |

Pull ring

| Code | Max. load | Diameter | Weight |
|---------|-----------|----------|--------|
| ISF-P04 | 500N | 16mm | 158g |

Special pull clamps

| Code | Max. load | Opening size | Application | Weight |
|---------|-----------|--------------|-----------------------------|--------|
| ISF-P16 | 2400N | 0~9mm | for wire pull test | 803g |
| ISF-P17 | 5000N | 1.8~8.4mm | for wire terminal pull test | 620g |

Pull clamps

| Code | Max. load | Jaw opening | Jaw width | Weight |
|---------|-----------|-------------|-----------|--------|
| ISF-P05 | 1100N | 0~3.5mm | 49.5mm | 241g |
| ISF-P06 | 1000N | 0~20mm | 20mm | 217g |
| ISF-P07 | 500N | 0~4.5mm | 20mm | 190g |
| ISF-P08 | 500N | 0~4mm | 25mm | 274g |
| ISF-P09 | 140N | 0~3mm | 16mm | 87g |
| ISF-P10 | 230N | 0~8mm | 4mm | 173g |
| ISF-P11 | 1500N | 0~5mm | 25mm | 484g |
| ISF-P15 | 2000N | 0~33mm | 60mm | 742g |



MOTORIZED VERTICAL TEST STAND CODE ISF-RV61

- For digital force gages (code **ISF-1DF** and **ISF-DF**)
- Push and pull test
- Automatic and manual test
- Programmable automatic operation (automatic cycle)
- Four operation modes: displacement cycle (D cycle), force cycle (F cycle), demo (teaching & playback) mode and positioning mode
- Alarm indications: stroke overrange alarm, force overrange alarm, motor block alarm

SPECIFICATION

| | |
|--|---------------------|
| Load capacity | 650N (250lbf, 65kg) |
| Max. travel | 220mm |
| Resolution of displacement | 0.01mm |
| Accuracy of displacement | ±0.3mm |
| Range of adjustable speed | 30~720mm/min |
| Resolution of speed | 1mm/min |
| Accuracy of speed | ±2% |
| Data output | USB, RS232 |
| Work temperature and relative humidity | 10~40°C, 10%~80%RH |
| Power supply | 100~230V |
| Dimension | 340×180×630mm |
| Weight | 15.5kg |

digital force gage
is optional



STANDARD DELIVERY

| | |
|-----------------------------|------|
| Test stand | 1 pc |
| AC/DC adapter | 1 pc |
| MD8 cable (for force gages) | 1 pc |
| Software and USB cable | 1 pc |



MOTORIZED HORIZONTAL TEST STAND CODE ISF-RH62

- For digital force gages (code **ISF-1DF** and **ISF-DF**)
- Push and pull test
- Automatic and manual test
- Programmable automatic operation (automatic cycle)
- Four operation modes: displacement cycle (D cycle), force cycle (F cycle), demo (teaching & playback) mode and positioning mode
- Alarm indications: stroke overrange alarm, force overrange alarm, motor block alarm

SPECIFICATION

| | |
|--|---------------------|
| Load capacity | 650N (250lbf, 65kg) |
| Max. travel | 220mm |
| Resolution of displacement | 0.01mm |
| Accuracy of displacement | ±0.3mm |
| Range of adjustable speed | 30~720mm/min |
| Resolution of speed | 1mm/min |
| Accuracy of speed | ±2% |
| Data output | USB, RS232 |
| Work temperature and relative humidity | 10~40°C, 10%~80%RH |
| Power supply | 100~230V |
| Dimension | 671×120×278mm |
| Weight | 13kg |

digital force gage
is optional



STANDARD DELIVERY

| | |
|-----------------------------|------|
| Test stand | 1 pc |
| AC/DC adapter | 1 pc |
| MD8 cable (for force gages) | 1 pc |
| Software and USB cable | 1 pc |

MANUAL VERTICAL TEST STANDS FOR FORCE GAGES

ATTENTION:
ONLY FOR PRESS TEST

- For press test with force gages



VIDEO

force gage
is optional



ISF-V10A

SPECIFICATION

| Code | ISF-V10A | ISF-V10D |
|--------------------------|-------------------------------------|--|
| Apply to | dial force gages (code ISF-F□□□) | digital force gages (code ISF-1DF□□□ and ISF-DF□□□) |
| Load capacity | 500N | |
| Maximum workpiece height | 280mm | |
| Travel | 70mm | |
| Dimension | 152×235×425mm | |
| Weight | 10.7kg | |

MANUAL HORIZONTAL TEST STANDS FOR FORCE GAGES

ATTENTION:
ONLY FOR PULL TEST

- For pull test with force gages



VIDEO

force gage
is optional



ISF-H20A

SPECIFICATION

| Code | ISF-H20A | ISF-H20D |
|---------------|-------------------------------------|--|
| Apply to | dial force gages (code ISF-F□□□) | digital force gages (code ISF-1DF□□□ and ISF-DF□□□) |
| Load capacity | 500N | |
| Travel | 60mm | |
| Dimension | 450×185×170mm | |
| Weight | 9kg | |

MANUAL HORIZONTAL TEST STAND FOR FORCE GAGES CODE ISF-MH2

- For force gages (code ISF-F□□□, ISF-DF□□□ and ISF-1DF□□□)
- Push and pull test



VIDEO

force gage
is optional



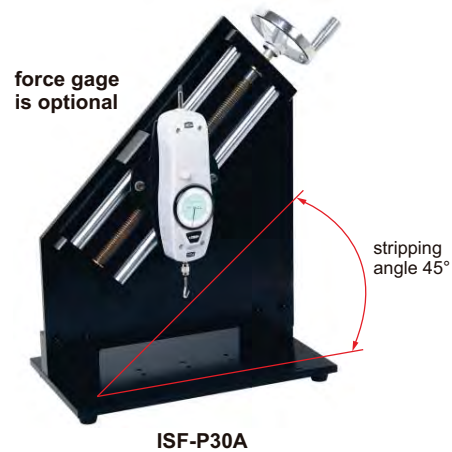
SPECIFICATION

| | |
|---------------|--|
| Load capacity | 1000N |
| Travel | 250mm (1.5mm horizontal movement per revolution of handwheel) |
| Dimension | 542×189×278mm |
| Weight | 21.5kg |



MANUAL STRIPPING FORCE TEST STANDS

- For stripping force test with force gages



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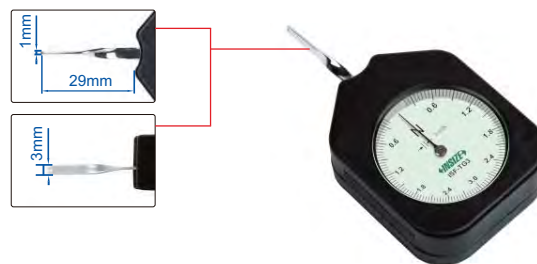
SPECIFICATION

| Code | ISF-P30A | ISF-P30D |
|-------------------|-------------------------------------|--|
| Apply to | dial force gages (code ISF-F□□□) | digital force gages (code ISF-1DF□□□ and ISF-DF□□□) |
| Load capacity | 500N | |
| Horizontal travel | 170mm | |
| Dimension | 420×215×480mm | |
| Weight | 22kg | |



DIAL TENSION GAGES

- Clockwise and counter-clockwise use
- For electronic and precision mechanical industry, such as test the contact pressure of relay, adjust the tension or compression of spring



ISF-TG3

SPECIFICATION (Unit: N)

| Code | ISF-TGD1 | ISF-TGD3 | ISF-TGD5 | ISF-TG1 | ISF-TG1D5 | ISF-TG3 | ISF-TG5 |
|-------------------|------------------|----------|----------|---------|-----------|---------|---------|
| Range (N) | 0.01~0.1 | 0.03~0.3 | 0.05~0.5 | 0.1~1 | 0.15~1.5 | 0.3~3 | 0.5~5 |
| Graduation (N) | 0.002 | 0.005 | 0.01 | 0.02 | 0.025 | 0.05 | 0.1 |
| Accuracy | ±2% (full scale) | | | | | | |
| Dimension (L×W×H) | 90×47×19mm | | | | | | |
| Weight | 60g | | | | | | |

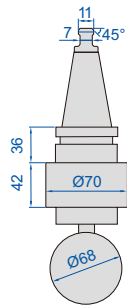
SPECIFICATION (Unit: gf)

| Code | ISF-TG10 | ISF-TG30 | ISF-TG50 | ISF-TG100 | ISF-TG150 | ISF-TG300 | ISF-TG500 |
|-------------------|------------------|----------|----------|-----------|-----------|-----------|-----------|
| Range (gf) | 1~10 | 3~30 | 5~50 | 10~100 | 15~150 | 30~300 | 50~500 |
| Graduation (gf) | 0.2 | 0.5 | 1 | 2 | 2.5 | 5 | 10 |
| Accuracy | ±2% (full scale) | | | | | | |
| Dimension (L×W×H) | 90×47×19mm | | | | | | |
| Weight | 60g | | | | | | |

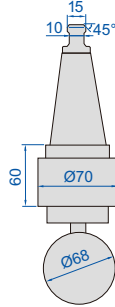
SPINDLE TENSION METERS



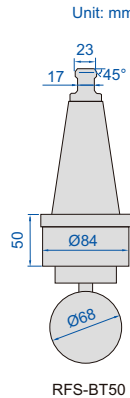
RFS-BT40



RFS-BT30



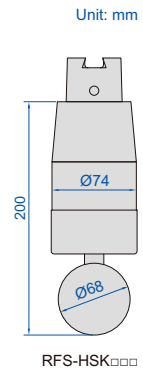
RFS-BT40



RFS-BT50



RFS-HSK63A



RFS-HSK63A

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- Hydraulic mechanical structure, high stability
- To detect the tension of locking device

RFS-BT $\square\square$ SPECIFICATION

| Code | Dial range* | Accuracy | Applicable tension of spindle | Rivet angle** |
|----------|-------------------------|-------------------------|-------------------------------|---------------|
| RFS-BT30 | 0~60kg/cm ² | ±0.96kg/cm ² | 200~500kgf | 45° |
| RFS-BT40 | 0~150kg/cm ² | ±2.4kg/cm ² | 500~1100kgf | |
| RFS-BT50 | 0~250kg/cm ² | ±4kg/cm ² | 1500~2200kgf | |

RFS-HSK $\square\square\square$ SPECIFICATION

| Code | Dial range* | Accuracy | Applicable tension of spindle |
|------------|--------------------------|-------------------------|-------------------------------|
| RFS-HSK20A | 0~120kg/cm ² | ±1.92kg/cm ² | 50~100kgf |
| RFS-HSK20C | | | |
| RFS-HSK20E | | | |
| RFS-HSK25A | 0~150kg/cm ² | ±2.4kg/cm ² | 250~500kgf |
| RFS-HSK25C | | | |
| RFS-HSK25E | | | |
| RFS-HSK32A | 0~500kg/cm ² | ±8kg/cm ² | 350~600kgf |
| RFS-HSK32B | | | |
| RFS-HSK32C | | | |
| RFS-HSK32D | | | |
| RFS-HSK32E | | | |
| RFS-HSK32F | | | |
| RFS-HSK40A | 0~680kg/cm ² | ±10.9kg/cm ² | 750~1500kgf |
| RFS-HSK40B | | | |
| RFS-HSK40C | | | |
| RFS-HSK40D | | | |
| RFS-HSK40E | | | |
| RFS-HSK40F | | | |
| RFS-HSK50A | 0~1100kg/cm ² | ±17.6kg/cm ² | 1000~2000kgf |
| RFS-HSK50B | | | |
| RFS-HSK50C | | | |
| RFS-HSK50D | | | |
| RFS-HSK50E | | | |
| RFS-HSK50F | | | |

| Code | Dial range* | Accuracy | Applicable tension of spindle |
|-------------|---------------------------|-------------------------|-------------------------------|
| RFS-HSK63A | 0~1800kg/cm ² | ±28.8kg/cm ² | 1500~3000kgf |
| RFS-HSK63B | | | |
| RFS-HSK63C | | | |
| RFS-HSK63D | | | |
| RFS-HSK63E | | | |
| RFS-HSK63F | | | |
| RFS-HSK80A | 0~2800kg/cm ² | ±44.8kg/cm ² | 2000~4000kgf |
| RFS-HSK80B | | | |
| RFS-HSK80C | | | |
| RFS-HSK80D | | | |
| RFS-HSK80E | | | |
| RFS-HSK80F | | | |
| RFS-HSK100A | 0~7000kg/cm ² | ±112kg/cm ² | 6000~9000kgf |
| RFS-HSK100B | | | |
| RFS-HSK100C | | | |
| RFS-HSK100D | | | |
| RFS-HSK100E | | | |
| RFS-HSK100F | | | |
| RFS-HSK160A | 0~11500kg/cm ² | ±184kg/cm ² | 10000~16000kgf |
| RFS-HSK160B | | | |
| RFS-HSK160C | | | |
| RFS-HSK160D | | | |
| RFS-HSK160E | | | |
| RFS-HSK160F | | | |

* The actual tension of spindle (kgf) is 10X of dial reading

** Can be customized for 60° and 90°



Digital Torque Testers
Page 880



Bottle Cap Torque Testers
Page 880



Digital Torque Testers
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Torque Wrench Test Stands
Page 883



Torque Screwdrivers
Page 883-885



Intelligent Electric Screwdrivers
Page 885-886



Torque Wrenches
Page 887-899



Torque Adapters
Page 900



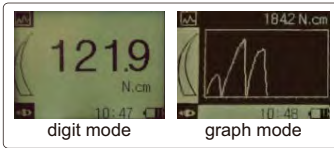
Torque Multipliers
Page 901-903

DIGITAL TORQUE TESTERS

DATA
OUTPUT



two display modes



software flash disk
(included)

- External sensor
- Metal case, touch buttons
- Clockwise and counter-clockwise operation
- Test mode: track, peak, first peak, preset tolerance
- Unit: N.m, N.cm, kgf.cm, lbf.in, lbf.ft
- Set tolerance with judgement
- 1000 memories
- LCD display with backlight, can automatically turn 180°
- Overload alarm
- Automatic power off



IST-DTT5

SPECIFICATION

| Code | IST-DTT1 | IST-DTT5 | IST-DTT10 |
|------------------------|-------------------------------|-----------|-----------|
| Load capacity | 0.05~1N.m | 0.25~5N.m | 0.5~10N.m |
| Resolution | 0.0001N.m | 0.0005N.m | 0.001N.m |
| Max. clamping diameter | Ø10mm | Ø10mm | Ø13mm |
| Sampling frequency | 2000 times per second | | |
| Accuracy | ±0.3% (of load capacity) | | |
| Output | USB, RS232, alarm signal | | |
| Power supply | built-in rechargeable battery | | |
| Dimension | 145x73x34mm | | |
| Weight | 1.4kg | | |

STANDARD DELIVERY

| | |
|------------------------|------|
| Main unit | 1 pc |
| External sensor | 1 pc |
| AC/DC adapter | 1 pc |
| Software and USB cable | 1 pc |

OPTIONAL ACCESSORY

| | |
|-------------|----------------|
| Printer | ISF-DF-PRINTER |
| RS232 cable | IST-DTT-CABLE |



printer (optional)

DIGITAL BOTTLE CAP TORQUE TESTERS

DATA
OUTPUT



- Measure the opening and tightening torque of bottle caps
- Unit: N.m, N.cm, kgf.cm, lbf.in, lbf.ft
- 1500 memories
- Wireless connection to printer
- Automatic power off
- LCD display with backlight
- Overload alarm
- With calibration function

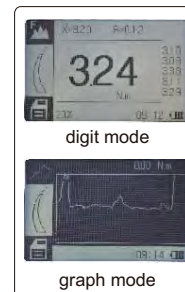


IST-DCT20

SPECIFICATION

| Code | IST-DCT2 | IST-DCT5 | IST-DCT10 | IST-DCT20 |
|----------------|---|-----------|-----------|-----------|
| Load capacity | 2N.m | 5N.m | 10N.m | 20N.m |
| Resolution | 0.0002N.m | 0.0005N.m | 0.001N.m | 0.002N.m |
| Clamping range | Ø19.5~190mm | | | |
| Accuracy | ±0.5% (of load capacity) | | | |
| Measuring mode | tracking, peak (max.), first peak, double peak, tolerance testing | | | |
| Output | wireless and USB | | | |
| Power supply | built-in rechargeable battery | | | |
| Dimension | 200×197×142mm | | | |
| Weight | 2.5kg | | | |

two display modes



software flash disk
(included)



printer (optional)

STANDARD DELIVERY

| | |
|------------------------|------|
| Main unit | 1 pc |
| AC/DC adapter | 1 pc |
| Software and USB cable | 1 pc |

OPTIONAL ACCESSORY

| | |
|---------|----------------|
| Printer | ISH-DS-PRINTER |
|---------|----------------|

ATTENTION: NOT SUITABLE FOR ELECTRIC WRENCHES, IMPACT WRENCHES OR PNEUMATIC WRENCHES

DIGITAL TORQUE TESTERS



**IST-04TT350
type A**



**IST-04TT815
type B**

- Test torque wrenches, torque screwdrivers and other torque tools
- Clockwise operation
- Peak, track and first peak working modes
- Tolerance testing
- LED indicator for target torque alarm:
 - Green LED light on when the value is within tolerance;
 - Red LED light on when the value is above the high tolerance
- Power off automatically in 2 minutes without any operations



adaptor
(type A included)

SPECIFICATION

| Code | IST-04TT5 | IST-04TT28 | IST-04TT68 | IST-04TT350 | IST-04TT815 | IST-04TT1000 | IST-04TT2000 |
|--------------------------|--------------------------|--------------|--------------|------------------------------|-------------|--------------|--------------|
| Type | A | | | | B | | |
| Range | 0.5~5N.m | 2.8~28N.m | 6.8~68N.m | 35~350N.m | 81.5~815N.m | 100~1000N.m | 200~2000N.m |
| Accuracy | ±1% (clockwise) | | | | | | |
| Resolution | 0.001N.m | 0.01N.m | 0.01N.m | 0.1N.m | 0.1N.m | 1N.m | 1N.m |
| Unit | N.m, in.lb, ft.lb, kg.cm | | | | | N.m, ft.lb | |
| Square socket/hex driver | 1/4" | 3/8" | 3/8" | 1/2" | 27mm | 27mm | 27mm |
| Adaptor | no | 3/8" to 1/4" | 3/8" to 1/4" | 1/2" to 3/8" 3/8" to 1/4" | no | | |
| Power supply | DC | | | | | | |
| Weight | 0.75kg | 0.75kg | 1.1kg | 1.1kg | 5.1kg | 5.1kg | 5.1kg |

STANDARD DELIVERY

| | |
|---------------|------------------|
| Main unit | 1 pc |
| AC/DC adapter | 1 pc |
| Adaptor | refer to details |

DIGITAL TORQUE TESTERS

ATTENTION: NOT SUITABLE FOR ELECTRIC WRENCHES, IMPACT WRENCHES OR PNEUMATIC WRENCHES



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IST-TT550

- With external sensor, to test torque wrenches, torque screwdrivers and other torque tools
- Clockwise and counter-clockwise operation
- Peak, track and first peak working modes
- Unit: N.m, in.lb, ft.lb, kg.cm
- Tolerance testing
- LED indicator for target torque alarm:
 - Yellow LED light on when the value is below the low tolerance;
 - green LED light on when the value is within tolerance;
 - red LED light on when the value is above the high tolerance
 - The buzzer alarms when the maximum torque value is captured in the first peak mode
- Automatic power off



extension cable (included)



adaptor (included)



with 3 mounting holes on the bottom

SPECIFICATION

| Code | IST-TT05 | IST-TT5 | IST-TT30 | IST-TT50 | IST-TT220 | IST-TT550 | IST-TT1000 | IST-TT2200 |
|----------------------|---------------------------------------|----------------|----------------|----------------|------------------------------|------------------------------|--|----------------------------|
| Range | 0.1~0.5N.m | 0.5~5N.m | 3~30N.m | 5~50N.m | 22~220N.m | 55~550N.m | 100~1000N.m | 220~2200N.m |
| Accuracy | ±1% (clockwise and counter-clockwise) | | | | | | | |
| Resolution | 0.0001N.m | 0.0001N.m | 0.001N.m | 0.001N.m | 0.01N.m | 0.01N.m | 0.1N.m | 0.1N.m |
| Square socket (L) | 1/4" | 1/4" | 3/8" | 3/8" | 1/2" | 3/4" | 1" | 1" |
| Power supply | DC | | | | | | | |
| Adaptor | no | no | 3/8" to 1/4" | 3/8" to 1/4" | 1/2" to 3/8" 3/8" to 1/4" | 3/4" to 1/2" 1/2" to 3/8" | 1" to 3/4" 3/4" to 1/2" 1/2" to 3/8" | 1" to 3/4" 3/4" to 1/2" |
| Transducer dimension | 63×63 ×65mm | 63×63 ×65mm | 89×89 ×75mm | 89×89 ×75mm | 109×109 ×83mm | 140×140 ×107mm | 160×160 ×126mm | 160×160 ×126mm |
| Weight | 0.75kg | 0.75kg | 1.1kg | 1.1kg | 1.4kg | 2.9kg | 5.0kg | 5.1kg |

STANDARD DELIVERY

| | |
|----------------------------|------------------|
| Main unit | 1 pc |
| Transducer with 1.5m cable | 1 pc |
| Extension cable (1.2m) | 1 pc |
| AC/DC adaptor | 1 pc |
| Adaptor | refer to details |

TORQUE WRENCH TEST STANDS

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application example



IST-06TS350



- Rotate the wheel to apply force. Rotary speed is adjustable
- Easy operation due to the gear box
- Used with digital torque testers (IST-TT series)

SPECIFICATION

| Code | IST-06TS350 | IST-06TS1100 | IST-06TS2000 |
|-------------------|---------------|----------------|----------------|
| Max. torque value | 350N.m | 1100N.m | 2000N.m |
| Arm length | 197~686mm | 380~1350mm | 420~1690mm |
| Dimension | 860×290×590mm | 1760×350×590mm | 2090×350×590mm |
| Weight | 32.5kg | 76kg | 80kg |

Can be customized according to test requirements



digital torque tester (optional)

OPTIONAL ACCESSORY

| | |
|-----------------------|---|
| Digital torque tester | IST-TT series |
| Adaptor | IST-06TS-BLOCK1 (necessary for IST-TT05, IST-TT5, IST-TT30, IST-TT50 and IST-TT220) |
| | IST-06TS-BLOCK2 (necessary for IST-TT550, IST-TT1000 and IST-TT2200) |



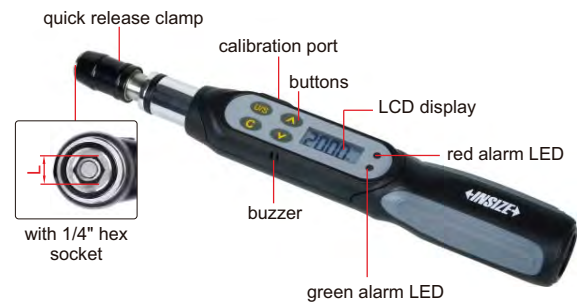
phillips screwdriver bits (included)



hex screwdriver bits (included)

- Clockwise and counter-clockwise operation
- Unit: cN.m, in.lb, kg.cm
- Peak and track working modes
- Target torque value can be set, with audible and visible alarm:
 - Green LED light on and buzzer sounds when target torque value is 90%~100% of target torque
 - Red LED light on and buzzer sounds when target torque value is reached
- Power off automatically in 5 minutes without any operations

DIGITAL TORQUE SCREWDRIVERS



IST-SD200



SPECIFICATION

| Code | IST-SD50 | IST-SD200 | IST-SD400 |
|------------------------|-------------------|------------|------------|
| Range | 10~50cN.m | 40~200cN.m | 80~400cN.m |
| Accuracy | clockwise | ±3% | ±2.5% |
| | counter-clockwise | ±4% | ±3.5% |
| Resolution | 0.1cN.m | 0.1cN.m | 0.1cN.m |
| Size of hex socket (L) | 1/4" | 1/4" | 1/4" |
| Power supply | 1×AAA battery | | |
| Length | 193mm | 203mm | 203mm |
| Weight | 190g | 200g | 200g |

STANDARD DELIVERY

| | |
|---------------------------|------|
| Torque screwdriver | 1 pc |
| Phillips screwdriver bits | 1 pc |
| Hex screwdriver bits | 1 pc |

OPTIONAL ACCESSORY

| | |
|-------------------|--------------|
| Calibration cable | IST-SD-CABLE |
|-------------------|--------------|

BLUETOOTH DIGITAL TORQUE SCREWDRIVERS (KEYBOARD SIGNAL)



BUILT-IN
BLUETOOTH

INSPECTION
CERTIFICATE

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Torque screwdrivers:

- Clockwise and counter-clockwise operation
- Unit: N.m, in.lb, ft.lb, kg.cm
- Peak and track working modes
- Target torque value can be set, with audible and visible alarm:
 - LED lights up in sequence and the buzzer sounds when target torque value is 80%~99.5% of target torque
 - Both green and red LED light on and buzzer sounds when target torque value is reached
- Power off in 2 minutes automatically

Data transmission:

- Built-in Bluetooth module, which can be connected with computers (with Bluetooth function), mobile phones, tablets and other devices
- Keyboard signal, can be transmitted to Excel
- Transmission distance is 10 meters (no obstacles, no electromagnetic interference)
- Bluetooth connection and disconnection are respectively shown by indicator lights

SPECIFICATION

| Code | IST-3SD50 | IST-3SD200 | IST-3SD400 |
|------------------------|-------------------|------------|------------|
| Range | 0.1~0.5N.m | 0.4~2N.m | 0.8~4N.m |
| Accuracy | clockwise | ±3% | ±2.5% |
| | counter-clockwise | ±4% | ±3.5% |
| Resolution | 0.001N.m | 0.001N.m | 0.001N.m |
| Size of hex socket (L) | 1/4" | 1/4" | 1/4" |
| Power supply | 2×AAA batteries | | |
| Length | 193mm | 193mm | 193mm |
| Weight | 304g | 304g | 383g |



hex screwdriver bits (included)



phillips screwdriver bits (included)

STANDARD DELIVERY

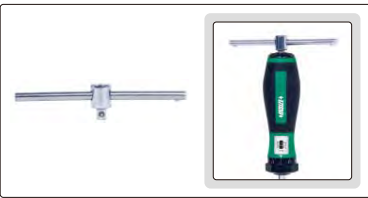
| | |
|--|------|
| Torque screwdriver | 1 pc |
| Phillips screwdriver bits | 1 pc |
| Hex screwdriver bits | 1 pc |
| Wrench (only for IST-3SD200, IST-3SD400) | 1 pc |

OPTIONAL ACCESSORY

| | |
|-------------------|--------------|
| Calibration cable | IST-SD-CABLE |
|-------------------|--------------|

ATTENTION: CLOCKWISE OPERATION ONLY

TORQUE SCREWDRIVERS



T-bar wrench
(for IST-MG250, IST-MG360, IST-MG600)



IST-MG100

SPECIFICATION

| Code | IST-MG100 | IST-MG250 | IST-MG360 | IST-MG600 |
|-------------------|-----------------|------------|------------|------------|
| Range (clockwise) | 20~100cN.m | 50~250cN.m | 60~360cN.m | 1.0~6.0N.m |
| Graduation | 2cN.m | 5cN.m | 5cN.m | 0.1N.m |
| Head | 1/4" hex socket | | | |
| Accuracy | ±6% | | | |
| Length | 172mm | | | |
| Weight | 0.26kg | | | |

STANDARD DELIVERY

| | |
|--|------|
| Torque screwdriver | 1 pc |
| T-bar wrench (for IST-MG250, IST-MG360, IST-MG600) | 1 pc |



INTELLIGENT ELECTRIC SCREWDRIVERS



HES-H022

- Unit: kfg.cm, N.m, mN.m, 0.01kgf.cm, lbf.in
- Up to 8 preset values can form a task link
- Clockwise and counter-clockwise operation
- Non-slip grip handle
- Built-in overload protection function

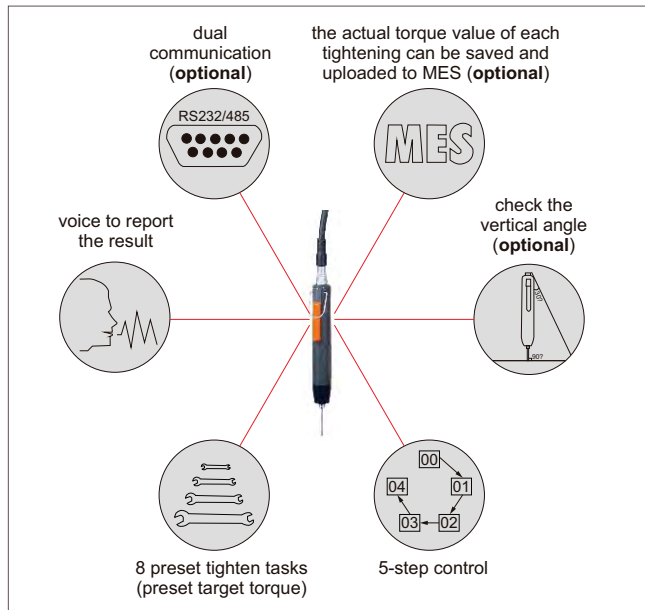
To be continued

Continued from previous page

SPECIFICATION

| | | | |
|-------------------|-----------------------------|---------------------|-----------------|
| Code | HES-H022 | HES-H055 | HES-H107 |
| Range | 0.2~1.5kgf.cm | 0.5~5kgf.cm | 1~7kgf.cm |
| Accuracy | 0.02~0.15N.m | 0.05~0.5N.m | 0.1~0.7N.m |
| Speed | ±5% | | |
| Bits model | 30~2000rpm | | 30~1000rpm |
| Dimension | electric screwdriver | tail deficient type | |
| | control box | 30×42×204mm | |
| Weight | electric screwdriver | 147×60×201mm | |
| | control box | 250g | |
| Power | electric screwdriver | 1280g | |
| | control box | AC 220V | |

features



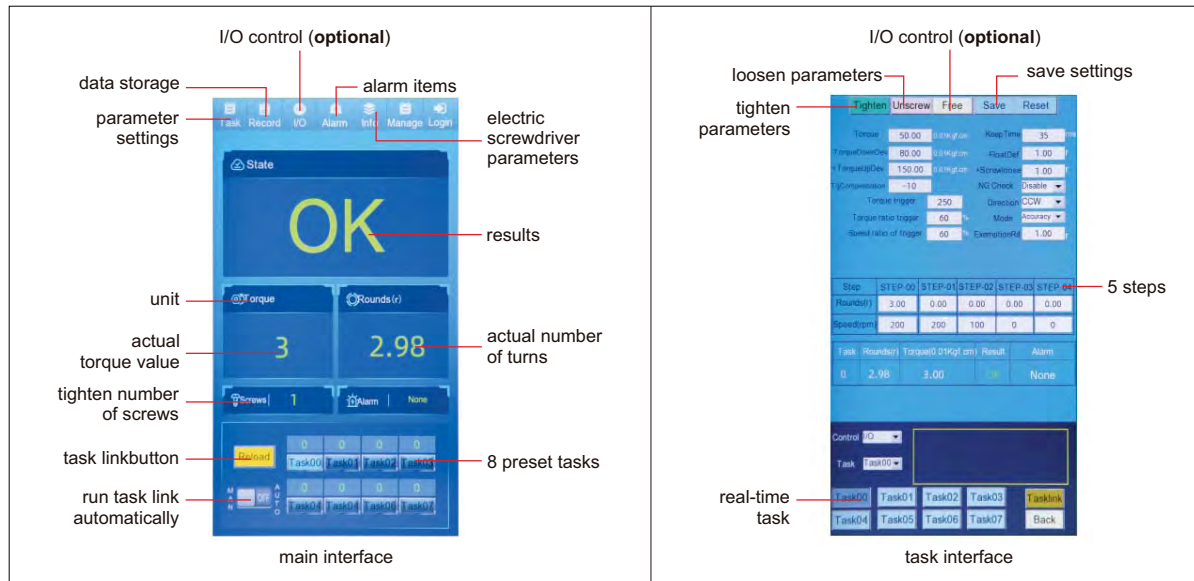
STANDARD DELIVERY

| | |
|--|------|
| Electric screwdriver (with bits and connection cable) | 1 pc |
| Control box | 1 pc |
| AC adapter | 1 pc |
| Software and USB disk | 1 pc |
| RS232 connection cable | 1 pc |

OPTIONAL ACCESSORY

| | |
|--|------------------------|
| RS232 connection cable | HES-H-CABLE-232 |
| RS485 connection cable | HES-H-CABLE-485 |
| Bits | HES-H-BITS |
| I/O control function | HES-H-SOFT-T |
| Network transmission function | HES-H-SOFT-T |
| Upload to MES | HES-H-SOFT-M |
| Vertical angle detection function | HES-H-SOFT-C |
| QR code scanner | HES-H-S |
| Mechanical arm | HES-H-X |

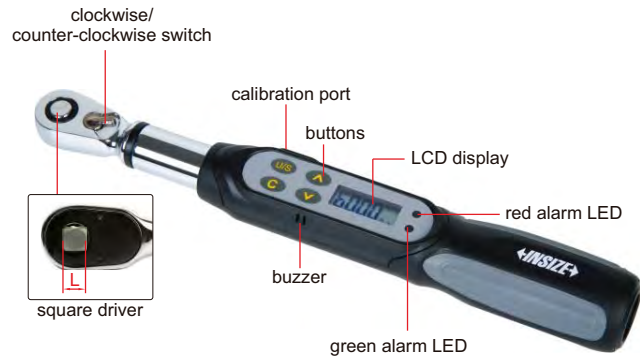
operation system on control box (included)





SMALL RANGE DIGITAL TORQUE WRENCH

- Clockwise and counter-clockwise operation
- Unit: N.m, in.lb, ft.lb, kg.cm
- Peak and track working modes
- Target torque value can be set, with audible and visible alarm:
 - Green LED light on and buzzer sounds when target torque value is 90%~100% of target torque
 - Red LED light on and buzzer sounds when target torque value is reached
- Power off automatically in 5 minutes without any operations
- Non-slip grip handle
- With overload record (once the torque reaches 110% of the maximum range)



IST-WP6

SPECIFICATION

| | | |
|-------------------|-------------------|-----|
| Code | IST-WP6 | |
| Range | 1.2~6N.m | |
| Accuracy | clockwise | ±3% |
| | counter-clockwise | ±4% |
| Resolution | 0.001N.m | |
| Square driver (L) | 1/4" | |
| Power supply | 1×AAA battery | |
| Length | 260mm | |
| Weight | 430g | |

OPTIONAL ACCESSORY

| | |
|-------------------|--------------|
| Calibration cable | IST-SD-CABLE |
|-------------------|--------------|



SHORT HANDLE DIGITAL TORQUE WRENCHES

- Clockwise and counter-clockwise operation
- Unit: N.m, in.lb, ft.lb, kg.cm
- Peak and track working modes
- Target torque value can be set, with audible and visible alarm:
 - Green LED light on and buzzer sounds when torque value is 90%~100% of target torque
 - Both green and red LED light on and buzzer sounds when target torque value is reached
- Power off in 5 minutes automatically
- Non-slip grip handle
- With damp record
- With overload record (once the torque reaches 110% of the maximum range)



IST-WS60

SPECIFICATION

| Code | IST-WS12 | IST-WS20 | IST-WS30 | IST-WS30A | IST-WS60 | IST-WS85 |
|-------------------|-------------------|----------|----------|-----------|----------|----------|
| Range | 2.4~12N.m | 4~20N.m | 6~30N.m | 6~30N.m | 12~60N.m | 17~85N.m |
| Accuracy | clockwise | ±3% | | | | |
| | counter-clockwise | ±4% | | | | |
| Resolution | 0.01N.m | 0.01N.m | 0.01N.m | 0.01N.m | 0.01N.m | 0.1N.m |
| Square driver (L) | 1/4" | 1/4" | 1/4" | 3/8" | 3/8" | 3/8" |
| Power supply | 2×AAA batteries | | | | | |
| Length | 215mm | 215mm | 215mm | 215mm | 225mm | 271mm |
| Weight | 750g | 750g | 750g | 830g | 917g | 1000g |

OPTIONAL ACCESSORY

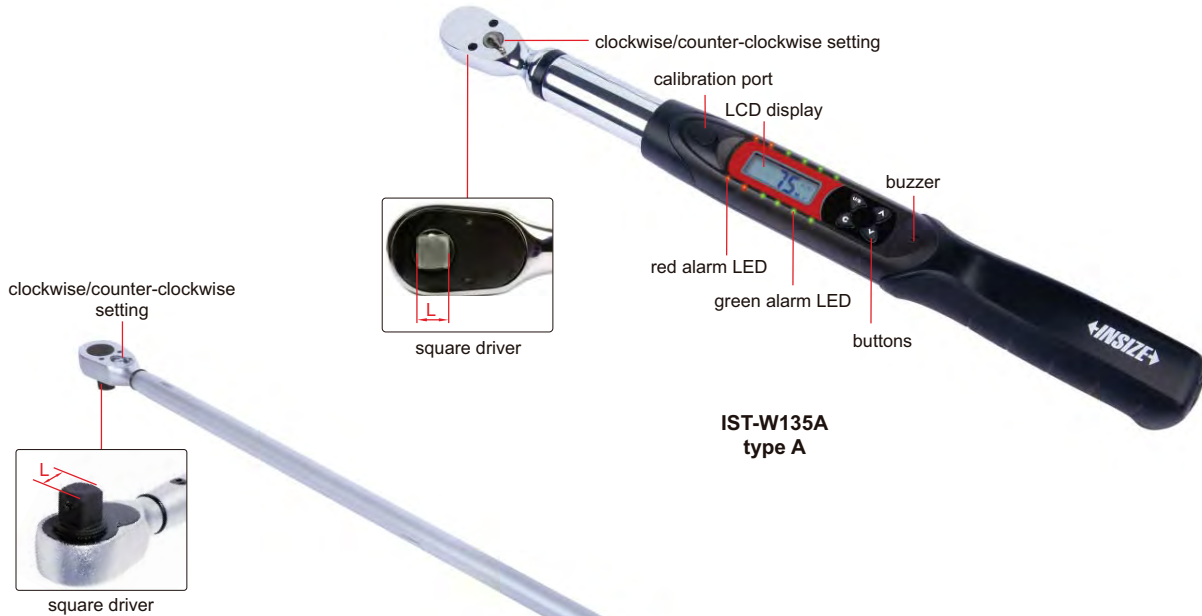
| | |
|-------------------|--------------|
| Calibration cable | IST-SD-CABLE |
|-------------------|--------------|

DIGITAL TORQUE WRENCHES

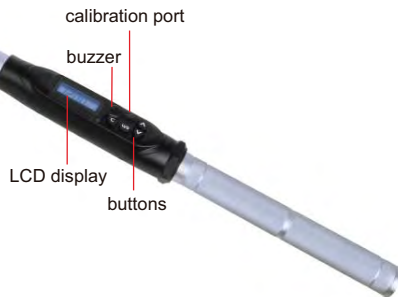


OPTIONAL ACCURACY:
CLOCKWISE: ±1%
COUNTER-CLOCKWISE: ±2%
ONLY FOR RANGE 6~850N.m

35



IST-W135A
type A



IST-W1200A
type B

- Clockwise and counter-clockwise operation
- Unit: N.m, in.lb, ft.lb, kg.cm
- Peak and track working mode
- Target torque value can be set, with audible and visible alarm:
 - Green LED light on and buzzer sounds when torque value is 90%~100% of target torque
 - Both green and red LED light on and buzzer sounds when target torque value is reached
- Power off automatically in 5 minutes without any operations
- Non-slip grip handle
- With damp record
- With overload record (once the torque reaches 110% of the maximum range)

SPECIFICATION

| Code | Type | Range | Accuracy | Resolution | Square driver (L) | Power supply | Length | Weight |
|------------|------|-------------|---|------------|-------------------|--|--------|--------|
| IST-W30A | A | 6~30N.m | clockwise: ±2% counter-clock wise: ±3% | 0.01N.m | 1/4" | 2×AA batteries, for 110 hours working | 390mm | 830g |
| IST-W135A | | 27~135N.m | | 0.1N.m | 3/8" | | 415mm | 950g |
| IST-W200A | | 40~200N.m | | 0.1N.m | 1/2" | | 530mm | 1.4kg |
| IST-W340A | | 68~340N.m | | 0.1N.m | 1/2" | | 650mm | 1.6kg |
| IST-W500A* | B | 100~500N.m | clockwise: ±2.5% counter-clock wise: ±3.5% | 0.1N.m | 3/4" | | 1285mm | 7kg |
| IST-W850A | | 170~850N.m | | 0.1N.m | 3/4" | | 1295mm | 6kg |
| IST-W1200A | | 240~1200N.m | | 1N.m | 1" | | 1920mm | 13kg |
| IST-W1500A | | 300~1500N.m | | 1N.m | 1" | | 1920mm | 13kg |
| IST-W2000A | | 400~2000N.m | | 1N.m | 1" | 1920mm | 14kg | |

OPTIONAL ACCESSORY

| | |
|-------------------|-------------|
| Calibration cable | IST-W-CABLE |
|-------------------|-------------|

* The accuracy of this code is not optional

OPTIONAL ACCURACY:
 CLOCKWISE: ±1%
 COUNTER-CLOCKWISE: ±2%

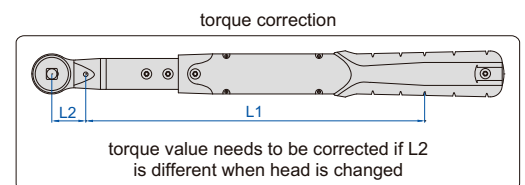
INTERCHANGEABLE HEAD DIGITAL TORQUE WRENCHES



IST-2W135A



- Clockwise and counter-clockwise operation
- Unit: N.m, in.lb, ft.lb, kg.cm, degree
- Peak and track working modes
- Target torque value can be set, with audible and visible alarm:
 - Green LED light on and buzzer sounds when torque value is 90%~100% of target torque
 - Both green and red LED light on and buzzer sounds when target torque value is reached
- Power off in 5 minutes automatically without any operations
- Non-slip grip handle
- With damp record
- With overload record (once the torque reaches 110% of the maximum range)



SPECIFICATION

| Code | IST-2W30A | IST-2W135A | IST-2W200A | IST-2W340A | IST-2W410A |
|-------------------|---------------------------------------|------------|------------|------------|------------|
| Range | 6~30N.m | 27~135N.m | 40~200N.m | 68~340N.m | 82~410N.m |
| Accuracy | clockwise | ±2% | | | |
| | counter-clockwise | ±3% | | | |
| Resolution | 0.01N.m | 0.1N.m | 0.1N.m | 0.1N.m | 0.1N.m |
| Socket size (A×B) | 12×9mm | 12×9mm | 18×14mm | 18×14mm | 18×14mm |
| Arm length (L1) | 272.7mm | 287.7mm | 381.2mm | 501.2mm | 501.2mm |
| Power supply | 2xAA batteries, for 110 hours working | | | | |
| Weight | 1400g | 1570g | 2170g | 2320g | 2320g |

STANDARD DELIVERY

| | |
|---------------|------|
| Torque wrench | 1 pc |
| Ratchet head | 1 pc |

OPTIONAL ACCESSORY

| | |
|----------------------|------------------|
| Calibration cable | IST-W-CABLE |
| Interchangeable head | refer to details |

To be continued

Continued from previous page

RATCHET HEAD (INCLUDED) SPECIFICATION

| Code of torque wrench | IST-2W30A | IST-2W135A | IST-2W200A | IST-2W340A | IST-2W410A |
|-----------------------|-----------|------------|------------|------------|------------|
| Square driver (D) | 1/4" | 3/8" | 1/2" | 1/2" | 3/4" |
| Length (L2) | 29mm | 29mm | 40mm | 40mm | 40mm |



RATCHET HEAD (optional)

| Code | Square driver (D) | Applicable wrenches |
|-----------|-------------------|--|
| IST-2W-R1 | 1/4" | IST-2W30A |
| IST-2W-R2 | 3/8" | IST-2W135A |
| IST-2W-R3 | 1/2" | IST-2W135A |
| IST-2W-R4 | 1/2" | IST-2W200A IST-2W340A IST-2W410A |

ADJUSTABLE SPANNER HEAD (optional)

| Code | Open size | Applicable wrenches |
|-----------|-----------|--------------------------|
| IST-2W-A1 | 5~27mm | IST-2W30A IST-2W135A |
| IST-2W-A2 | 5-30mm | IST-2W200A IST-2W410A |
| IST-2W-A3 | 10-41mm | IST-2W340A IST-2W410A |



OPEN END HEAD (optional)

| Code | Open size | Applicable wrenches |
|-------------|-----------|--|
| IST-2W-K7 | 7mm | IST-2W30A IST-2W135A |
| IST-2W-K8 | 8mm | |
| IST-2W-K9 | 9mm | |
| IST-2W-K10 | 10mm | |
| IST-2W-K11 | 11mm | |
| IST-2W-K12 | 12mm | |
| IST-2W-K13 | 13mm | |
| IST-2W-K14 | 14mm | |
| IST-2W-K15 | 15mm | |
| IST-2W-K16 | 16mm | |
| IST-2W-K17 | 17mm | |
| IST-2W-K18 | 18mm | |
| IST-2W-K19 | 19mm | |
| IST-2W-K13A | 13mm | IST-2W200A IST-2W340A IST-2W410A |
| IST-2W-K14A | 14mm | |
| IST-2W-K15A | 15mm | |
| IST-2W-K16A | 16mm | |
| IST-2W-K17A | 17mm | |
| IST-2W-K18A | 18mm | |
| IST-2W-K19A | 19mm | |
| IST-2W-K21A | 21mm | |
| IST-2W-K22A | 22mm | |
| IST-2W-K24A | 24mm | |
| IST-2W-K27A | 27mm | |

BOX END HEAD (optional)

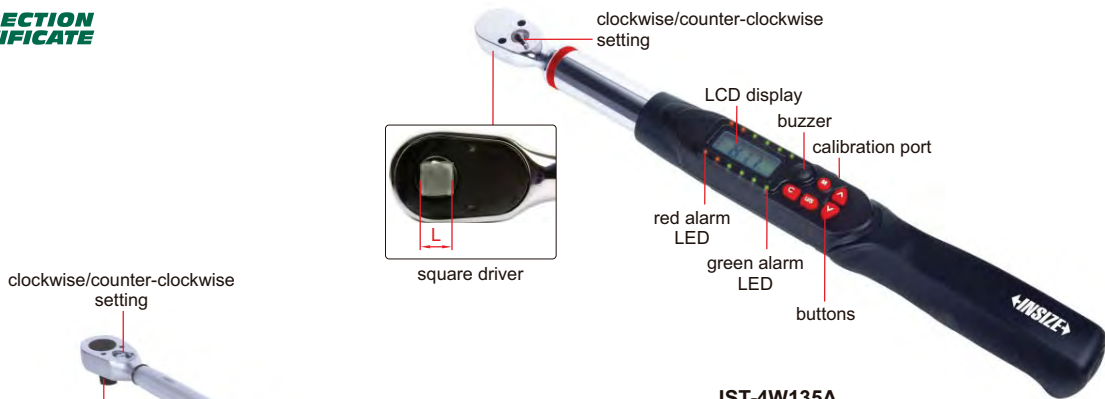
| Code | Open size | Applicable wrenches |
|-------------|-----------|--------------------------|
| IST-2W-M7 | 7mm | IST-2W30A IST-2W135A |
| IST-2W-M8 | 8mm | |
| IST-2W-M10 | 10mm | |
| IST-2W-M11 | 11mm | |
| IST-2W-M12 | 12mm | |
| IST-2W-M13 | 13mm | |
| IST-2W-M14 | 14mm | |
| IST-2W-M15 | 15mm | |
| IST-2W-M16 | 16mm | |
| IST-2W-M17 | 17mm | |
| IST-2W-M18 | 18mm | |
| IST-2W-M19 | 19mm | |
| IST-2W-M21 | 21mm | |
| IST-2W-M22 | 22mm | IST-2W200A IST-2W340A |
| IST-2W-M13A | 13mm | |
| IST-2W-M14A | 14mm | |
| IST-2W-M15A | 15mm | |
| IST-2W-M16A | 16mm | |
| IST-2W-M17A | 17mm | |
| IST-2W-M18A | 18mm | |
| IST-2W-M19A | 19mm | |
| IST-2W-M21A | 21mm | |

OPTIONAL ACCURACY:
 CLOCKWISE: ±1%
 COUNTER-CLOCKWISE: ±2%
 ONLY FOR RANGE 6~340N.m

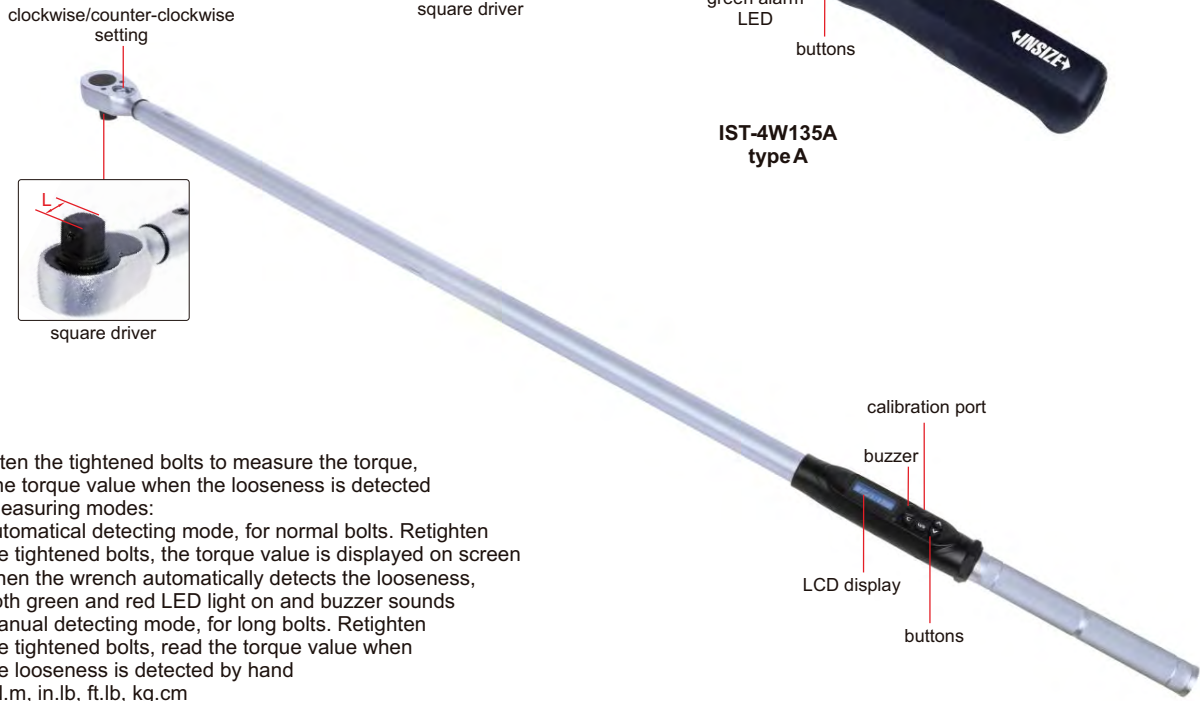
**MEASURE THE TORQUE
 OF TIGHTENED BOLTS**

QUALITY INSPECTION TORQUE WRENCHES

**INSPECTION
 CERTIFICATE**



**IST-4W135A
 type A**



**IST-4W1200A
 type B**

- Retighten the tightened bolts to measure the torque, read the torque value when the looseness is detected
- Two measuring modes:
 - M1: automatic detecting mode, for normal bolts. Retighten the tightened bolts, the torque value is displayed on screen when the wrench automatically detects the looseness, both green and red LED light on and buzzer sounds
 - M2: manual detecting mode, for long bolts. Retighten the tightened bolts, read the torque value when the looseness is detected by hand
- Unit: N.m, in.lb, ft.lb, kg.cm
- Peak and track working mode (only for M2 measuring mode)
- Clockwise and count-clockwise operation
- Memory of 50 results
- Power off in 15 minutes automatically
- Non-slip grip handle
- With overload record (once the torque reaches 110% of the maximum range)

SPECIFICATION

| Code | Type | Range | Accuracy | Resolution | Square driver (L) | Power supply | Length | Weight |
|-------------|------|-------------|---|------------|-------------------|---|--------|--------|
| IST-4W30A | A | 6~30N.m | clockwise: ±2% counter-clock wise: ±3% | 0.01N.m | 1/4" | 2×AA batteries, for 110 hours working | 390mm | 760g |
| IST-4W135A | | 27~135N.m | | 0.1N.m | 3/8" | | 415mm | 940g |
| IST-4W200A | | 40~200N.m | | 0.1N.m | 1/2" | | 530mm | 1340g |
| IST-4W340A | | 68~340N.m | | 0.1N.m | 1/2" | | 650mm | 1540g |
| IST-4W850A | B | 170~850N.m | clockwise: ±2.5% counter-clock wise: ±3.5% | 0.1N.m | 3/4" | | 1220mm | 6000g |
| IST-4W1200A | | 240~1200N.m | | 1N.m | 1" | | 1800mm | 9100g |
| IST-4W1500A | | 300~1500N.m | | 1N.m | 1" | | 1800mm | 9100g |
| IST-4W2000A | | 400~2000N.m | | 1N.m | 1" | | 1800mm | 10500g |

OPTIONAL ACCESSORY

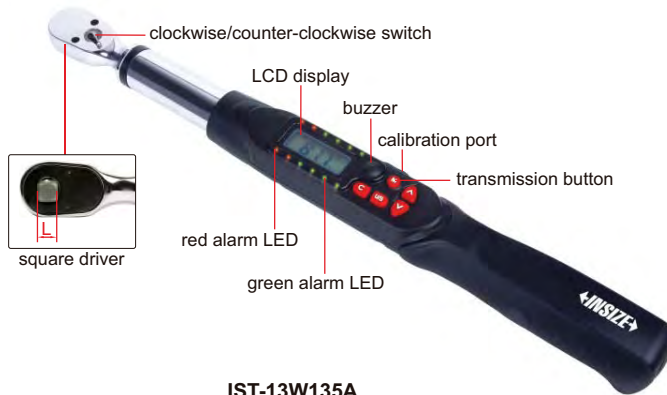
| | |
|-------------------|-------------|
| Calibration cable | IST-W-CABLE |
|-------------------|-------------|

TWO-WAY WIRELESS DIGITAL TORQUE WRENCHES

OPTIONAL ACCURACY:
CLOCKWISE: ±1%
COUNTER-CLOCKWISE: ±2%

TRANSMISSION DISTANCE
IS 300 METERS

INSPECTION
CERTIFICATE



IST-13W135A



two-way receiver

35

Torque wrench:

- The test results can be transmitted wirelessly to the computer and PLC
- Unit: N.m, in.lb, ft.lb, kg.cm
- Clockwise and counter-clockwise operation
- Peak and track working mode
- Can set tolerance with judgement in peak working mode
- 9 target torque values can be set, with audible and visible alarm:
 - Green LED light on and buzzer sounds when torque value is 80%~99.5% of target torque
 - Both green and red LED light on and buzzer sounds when torque value is over 99.5% of target torque
- Power off in 2 minutes automatically
- Non-slip grip handle
- With damp record
- With overload record (once the torque reaches 110% of the maximum range)

Two-way receiver:

- A two-way receiver can be connected with up to 10 wrenches at the same time, and the maximum transmission distance is 300 meters

Software:

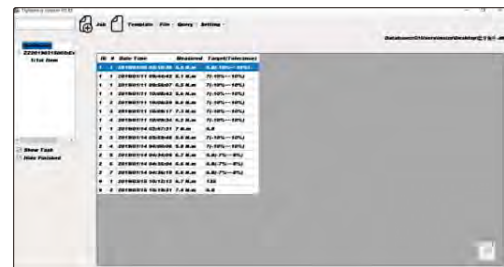
- In Windows10 system version 1709 or above
- Two operation mode:
 - Data transmission mode: wrench transmits actual torque value to software after operation
 - Program guidance mode: firstly set process on software (set sequence of tightening, select wrench and set torque values and tolerances). Then software shows which wrench the operator should use (indicator light of the selected wrench is on) and shows the target torque value, and serial number of the screw to be tightened (shows on the wrench); After the operation is finished, the actual torque value is sent to software.
- Can select whether the wrench only sends qualified data after operation (in accordance with the tolerance)
- Two data transmission modes: automatic or press button to send
- When the wrench is disconnected, data is stored in the wrench and automatically sent to computer after wireless connection
- The data in software can be printed or sent to Excel

TWO-WAY RECEIVER SPECIFICATION

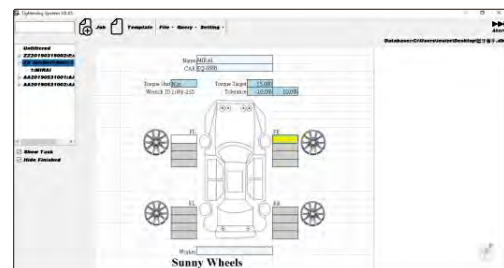
| Code | IST-13WREC | IST-13WREC-PLC |
|-------------------|--|----------------|
| Signal output to | computer | PLC |
| Working frequency | ISM433MHz (432.0~433.8MHz, adjustable) | |
| Power supply | power adapter, 24V, 0.5A | |
| Dimension | 200×108×31mm | |
| Weight | 500g | |

OPTIONAL ACCESSORY

| | |
|-------------------|--------------|
| Calibration cable | IST-SD-CABLE |
|-------------------|--------------|



data transmission mode



program guidance mode

SPECIFICATION

| Code | Range | Accuracy | Unit | Resolution | Square driver (L) | Working frequency | Power supply | Length | Weight |
|--------------|-------------|--|---------------------------|------------|-------------------|--|----------------|--------|--------|
| IST-13W30A | 6~30N.m | clockwise: ±2% counter-clockwise: ±3% | N-m/ft-lb/ in-lb/kg-cm | 0.01N.m | 1/4" | ISM433MHz (432.0~433.8MHz, adjustable) | 2×AA batteries | 390mm | 760g |
| IST-13W60A | 12~60N.m | | | 0.01N.m | 3/8" | | | 390mm | 940g |
| IST-13W135A | 27~135N.m | | | 0.1N.m | 3/8" | | | 415mm | 940g |
| IST-13W200A | 40~200N.m | | | 0.1N.m | 1/2" | | | 530mm | 1340g |
| IST-13W340A | 68~340N.m | | | 0.1N.m | 1/2" | | | 650mm | 1540g |
| IST-13W1200A | 240~1200N.m | clockwise: ±2.5% counter-clockwise: ±3.5% | N-m/ft-lb | 1N.m | 1" | | | 1800mm | 9000g |
| IST-13W1500A | 300~1500N.m | | | 1N.m | 1" | | | 1800mm | 9000g |
| IST-13W2000A | 400~2000N.m | | | 1N.m | 1" | | | 1800mm | 10500g |
| | | | | | | | | | |

TYPE B OPTIONAL ACCURACY:
 CLOCKWISE: ±1%
 COUNTER-CLOCKWISE: ±2%

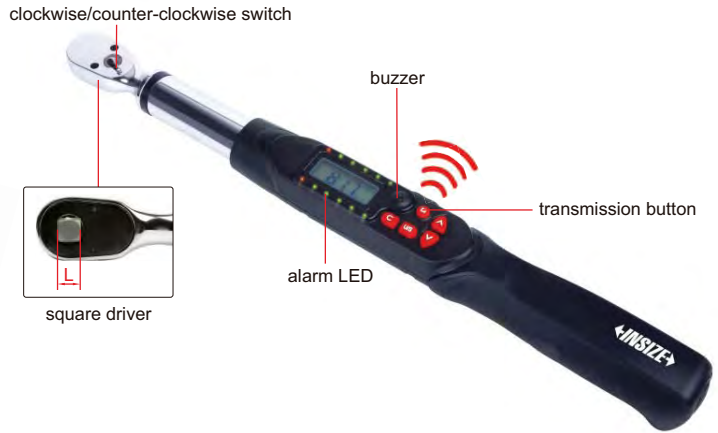
BUILT-IN BLUETOOTH



BLUETOOTH DIGITAL TORQUE WRENCHES (KEYBOARD SIGNAL)



**IST-15W12A
type A**



**IST-15W135A
type B**

Torque wrenches:

- Unit: in.lb, ft.lb, N.m, kg.cm
- Clockwise and counter-clockwise operation
- Peak and track working mode
- Can set tolerance with judgement in peak working mode
- 9 target torque values can be set, with audible and visible alarm:
 LED lights up in sequence, and the buzzer gets louder and louder when torque value is 80%~99.5% of target torque
- Power off in 2 minutes automatically
- Non-slip grip handle
- With overload record (once the torque reaches 110% of the maximum range)

Data transmission:

- Built-in Bluetooth 4.0 module, which can be connected with computers (with Bluetooth function), mobile phones, tablets and other devices
- Keyboard signal, can be transmitted to Excel, Word, TXT
- Transmission distance is 10 meters (no obstacles, no electromagnetic interference)
- Bluetooth connection and disconnection are respectively shown by indicator lights



transmission distance is 10 meters
(no obstacles, no electromagnetic interference)

SPECIFICATION

| Code | IST-15W06A | IST-15W12A | IST-15W20A | IST-15W30A | IST-15W135A | IST-15W200A | IST-15W340A |
|-------------------------|---------------------------------|------------|------------|-----------------|-------------|-------------|-------------|
| Type | A (short handle) | | | B (long handle) | | | |
| Range | 1.2~6N.m | 2.4~12N.m | 4~20N.m | 6~30N.m | 27~135N.m | 40~200N.m | 68~340N.m |
| Accuracy | clockwise | ±2% | | | | | |
| | counter-clockwise | ±3% | | | | | |
| Tolerance setting range | -20%~+20% (target torque value) | | | | | | |
| Resolution | 0.001N.m | 0.01N.m | 0.01N.m | 0.01N.m | 0.1N.m | 0.1N.m | 0.1N.m |
| Square driver (L) | 1/4" | 1/4" | 1/4" | 1/4" | 3/8" | 1/2" | 1/2" |
| Power supply | 2xAAA batteries | | | 2xAA batteries | | | |
| Length | 215mm | 215mm | 215mm | 390mm | 415mm | 530mm | 650mm |
| Weight | 750g | 750g | 750g | 760g | 940g | 1340g | 1540g |

OPTIONAL ACCESSORY

| | |
|-------------------|--------------|
| Calibration cable | IST-SD-CABLE |
|-------------------|--------------|

INTERCHANGEABLE HEAD TORQUE WRENCHES

ATTENTION: CLOCKWISE OPERATION ONLY



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IST-11WM200

- According to DIN ISO 6789, ASME B107.300
- All-metal construction, sturdy and durable

SPECIFICATION

| Code | Range (clockwise) | Accuracy | Graduation | Socket size (A×B) | Length | Weight |
|--------------|-------------------|------------------------------|------------|-------------------|--------|--------|
| IST-11WM12 | 2.5~12N.m | ±6% (<10N.m) ±4% (≥10N.m) | 0.05N.m | 12×9mm | 284mm | 580g |
| IST-11WM30 | 6.0~30N.m | ±6% (<10N.m) ±4% (≥10N.m) | 0.1N.m | 12×9mm | 303mm | 720g |
| IST-11WM60 | 10~60N.m | ±4% | 0.5N.m | 12×9mm | 372mm | 860g |
| IST-11WM125 | 25~125N.m | ±4% | 0.5N.m | 12×9mm | 427mm | 940g |
| IST-11WM200 | 40~200N.m | ±4% | 1N.m | 18×14mm | 460mm | 1060g |
| IST-11WM335 | 65~335N.m | ±4% | 1N.m | 18×14mm | 520mm | 1200g |
| IST-11WM500 | 100~500N.m | ±4% | 2.5N.m | 32×24mm | 855mm | 5000g |
| IST-11WM800 | 160~800N.m | ±4% | 4N.m | 32×24mm | 1055mm | 5900g |
| IST-11WM1000 | 200~1000N.m | ±4% | 5N.m | 32×24mm | 1055mm | 5900g |
| IST-11WM1500 | 300~1500N.m | ±4% | 5N.m | 36×27mm | 1249mm | 9000g |
| IST-11WM2000 | 400~2000N.m | ±4% | 10N.m | 36×27mm | 1249mm | 9000g |
| IST-11WM3000 | 600~3000N.m | ±4% | 15N.m | 36×27mm | 1249mm | 10300g |

RATCHET HEAD (optional)



| Code | Square driver | Applicable wrenches |
|--------------|---------------|---|
| IST-11WM-R1 | 1/4" | IST-11WM12 IST-11WM30 |
| IST-11WM-R2 | 3/8" | IST-11WM12 IST-11WM30 IST-11WM60 IST-11WM125 |
| IST-11WM-R3 | 1/2" | IST-11WM200 IST-11WM335 |
| IST-11WM-R4* | 3/4" | IST-11WM200 IST-11WM335 |
| IST-11WM-R5 | 3/4" | IST-11WM500 IST-11WM800 IST-11WM1000 |
| IST-11WM-R6 | 1" | IST-11WM1500 IST-11WM2000 IST-11WM3000 |



HOOK HEAD (optional)

Hook head

customized according to customer requirements

To be continued

Continued from previous page



OPEN END HEAD (optional)

| Code | Open size | Applicable wrenches |
|----------------|-----------|---|
| IST-11WM-K8 | 8mm | IST-11WM12 IST-11WM30 IST-11WM60 IST-11WM125 |
| IST-11WM-K10 | 10mm | |
| IST-11WM-K13 | 13mm | |
| IST-11WM-K14 | 14mm | |
| IST-11WM-K15 | 15mm | |
| IST-11WM-K17 | 17mm | |
| IST-11WM-K19* | 19mm | |
| IST-11WM-K13A | 13mm | IST-11WM200 IST-11WM335 |
| IST-11WM-K14A | 14mm | |
| IST-11WM-K15A | 15mm | |
| IST-11WM-K17A | 17mm | |
| IST-11WM-K19A | 19mm | |
| IST-11WM-K22A | 22mm | |
| IST-11WM-K24A | 24mm | |
| IST-11WM-K27A* | 27mm | |
| IST-11WM-K30A* | 30mm | |
| IST-11WM-K32A* | 32mm | |
| IST-11WM-K22B | 22mm | IST-11WM500 IST-11WM800 IST-11WM1000 |
| IST-11WM-K24B | 24mm | |
| IST-11WM-K27B | 27mm | |
| IST-11WM-K28B | 28mm | |
| IST-11WM-K30B | 30mm | |
| IST-11WM-K32B | 32mm | |
| IST-11WM-K33B* | 33mm | |
| IST-11WM-K36B* | 36mm | |
| IST-11WM-K38B* | 38mm | |
| IST-11WM-K40B* | 40mm | |
| IST-11WM-K30C | 30mm | IST-11WM1500 IST-11WM2000 IST-11WM3000 |
| IST-11WM-K32C | 32mm | |
| IST-11WM-K34C | 34mm | |
| IST-11WM-K36C | 36mm | |
| IST-11WM-K38C | 38mm | |
| IST-11WM-K41C | 41mm | |
| IST-11WM-K45C | 45mm | |
| IST-11WM-K50C* | 50mm | |
| IST-11WM-K55C* | 55mm | |
| IST-11WM-K60C* | 60mm | |

BOX END HEAD (optional)

| Code | Open size | Applicable wrenches | |
|----------------|-----------|---|----------------------------|
| IST-11WM-M8 | 8mm | IST-11WM12 IST-11WM30 IST-11WM60 IST-11WM125 | |
| IST-11WM-M10 | 10mm | | |
| IST-11WM-M13 | 13mm | | |
| IST-11WM-M14 | 14mm | | |
| IST-11WM-M15 | 15mm | | |
| IST-11WM-M17 | 17mm | | |
| IST-11WM-M19 | 19mm | | |
| IST-11WM-M13A | 13mm | | IST-11WM200 IST-11WM335 |
| IST-11WM-M14A | 14mm | | |
| IST-11WM-M15A | 15mm | | |
| IST-11WM-M17A | 17mm | | |
| IST-11WM-M19A | 19mm | | |
| IST-11WM-M22A | 22mm | | |
| IST-11WM-M24A | 24mm | | |
| IST-11WM-M27A | 27mm | | |
| IST-11WM-M30A | 30mm | | |
| IST-11WM-M32A | 32mm | IST-11WM500 IST-11WM800 IST-11WM1000 | |
| IST-11WM-M22B | 22mm | | |
| IST-11WM-M24B | 24mm | | |
| IST-11WM-K27B | 27mm | | |
| IST-11WM-M28B | 28mm | | |
| IST-11WM-M30B | 30mm | | |
| IST-11WM-M32B | 32mm | | |
| IST-11WM-M33B | 33mm | | |
| IST-11WM-M36B* | 36mm | | |
| IST-11WM-M38B* | 38mm | | |
| IST-11WM-M40B | 40mm | IST-11WM1500 IST-11WM2000 IST-11WM3000 | |
| IST-11WM-M30C | 30mm | | |
| IST-11WM-M32C | 32mm | | |
| IST-11WM-M34C | 34mm | | |
| IST-11WM-M36C | 36mm | | |
| IST-11WM-M38C | 38mm | | |
| IST-11WM-M41C | 41mm | | |
| IST-11WM-M45C | 45mm | | |
| IST-11WM-M50C | 50mm | | |
| IST-11WM-M55C* | 55mm | | |
| IST-11WM-M60C* | 60mm | | |

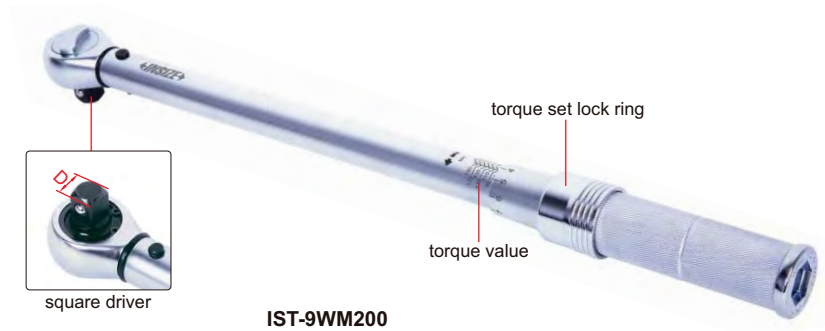
*Torque value needs to be corrected for these heads

TORQUE WRENCHES

ATTENTION: CLOCKWISE
OPERATION ONLY



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IST-9WM20

- According to DIN ISO 6789, ASME B107.300
- All-metal construction, sturdy and durable

SPECIFICATION

| Code | IST-9WM12 | IST-9WM20 | IST-9WM30 | IST-9WM60 | IST-9WM100 |
|-------------------|------------------------------|------------------------------|------------------------------|-----------|------------|
| Range (clockwise) | 2.5~12N.m | 4~20N.m | 6~30N.m | 10~60N.m | 20~100N.m |
| Accuracy | ±6% (<10N.m) ±4% (≥10N.m) | ±6% (<10N.m) ±4% (≥10N.m) | ±6% (<10N.m) ±4% (≥10N.m) | ±4% | ±4% |
| Graduation | 0.1N.m | 0.1N.m | 0.2N.m | 0.5N.m | 0.5N.m |
| Square driver (D) | 1/4" | 1/4" | 3/8" | 3/8" | 1/2" |
| Length | 290mm | 290mm | 318mm | 388mm | 443mm |
| Weight | 680g | 680g | 820g | 960g | 1040g |

| Code | IST-9WM125 | IST-9WM200 | IST-9WM335 | IST-9WM500 | IST-9WM800 |
|-------------------|------------|------------|------------|------------|------------|
| Range (clockwise) | 25~125N.m | 40~200N.m | 65~335N.m | 100~500N.m | 160~800N.m |
| Accuracy | ±4% | ±4% | ±4% | ±4% | ±4% |
| Graduation | 0.5N.m | 1N.m | 1N.m | 2.5N.m | 4N.m |
| Square driver (D) | 1/2" | 1/2" | 1/2" | 3/4" | 3/4" |
| Length | 443mm | 468mm | 528mm | 855mm | 1055mm |
| Weight | 1040g | 1160g | 1300g | 5000g | 5900g |

| Code | IST-9WM1000 | IST-9WM1500 | IST-9WM2000 | IST-9WM3000 |
|-------------------|-------------|-------------|-------------|-------------|
| Range (clockwise) | 200~1000N.m | 300~1500N.m | 400~2000N.m | 600~3000N.m |
| Accuracy | ±4% | ±4% | ±4% | ±4% |
| Graduation | 5N.m | 5N.m | 10N.m | 15N.m |
| Square driver (D) | 3/4" | 1" | 1" | 1" |
| Length | 1055mm | 1260mm | 1260mm | 1260mm |
| Weight | 5900g | 9200g | 9200g | 10500g |

ATTENTION: DISPLAY PRE-SET TORQUE VALUE (NOT REAL TIME TORQUE)

ATTENTION: CLOCKWISE OPERATION ONLY



INTERCHANGEABLE HEAD MECHANICAL TORQUE WRENCHES (DIGITAL SETTING)



- Unit: N.m, in.lb, ft.lb, kg.cm
- Mechanical "click" torque wrench, the pre-set torque value is shown on the display

SPECIFICATION

| Code | IST-25WM60 | IST-25WM100 | IST-25WM140 | IST-25WM200 | IST-25WM300 |
|-------------------|------------|-------------|-------------|-------------|-------------|
| Range (clockwise) | 12~60N.m | 20~100N.m | 28~140N.m | 40~200N.m | 60~300N.m |
| Accuracy | ±3% | ±3% | ±3% | ±3% | ±3% |
| Resolution | 0.1N.m | 0.1N.m | 0.1N.m | 0.1N.m | 0.1N.m |
| Socket size (A×B) | 12×9mm | 12×9mm | 18×14mm | 18×14mm | 18×14mm |
| Length | 408mm | 431mm | 492mm | 510mm | 568mm |
| Weight | 1.3kg | 1.4kg | 1.45kg | 1.5kg | 1.7kg |



RATCHET HEAD (optional)

| Code | Square driver | Applicable wrenches |
|--------------|---------------|---|
| IST-11WM-R1 | 1/4" | IST-25WM60 IST-25WM100 |
| IST-11WM-R2 | 3/8" | IST-25WM60 IST-25WM100 |
| IST-11WM-R3 | 1/2" | IST-25WM140 IST-25WM200 IST-25WM300 |
| IST-11WM-R4* | 3/4" | IST-25WM140 IST-25WM200 IST-25WM300 |

BOX END HEAD (optional)

| Code | Open size | Applicable wrenches |
|---------------|-----------|----------------------------|
| IST-11WM-M8 | 8mm | IST-25WM60 IST-25WM100 |
| IST-11WM-M10 | 10mm | |
| IST-11WM-M13 | 13mm | |
| IST-11WM-M14 | 14mm | |
| IST-11WM-M15 | 15mm | |
| IST-11WM-M17 | 17mm | |
| IST-11WM-M19 | 19mm | IST-25WM140 IST-25WM200 |
| IST-11WM-M13A | 13mm | |
| IST-11WM-M14A | 14mm | |
| IST-11WM-M15A | 15mm | |
| IST-11WM-M17A | 17mm | |
| IST-11WM-M19A | 19mm | |
| IST-11WM-M22A | 22mm | |
| IST-11WM-M24A | 24mm | |
| IST-11WM-M27A | 27mm | |
| IST-11WM-M30A | 30mm | |
| IST-11WM-M32A | 32mm | |



HOOK HEAD (optional)

| | |
|-----------|---|
| Hook head | customized according to customer requirements |
|-----------|---|

To be continued

Continued from previous page



OPEN END HEAD (optional)

| Code | Open size | Applicable wrenches | |
|----------------|-----------|---------------------------|---|
| IST-11WM-K6 | 6mm | IST-25WM60 IST-25WM100 | |
| IST-11WM-K7 | 7mm | | |
| IST-11WM-K8 | 8mm | | |
| IST-11WM-K9 | 9mm | | |
| IST-11WM-K10 | 10mm | | |
| IST-11WM-K11 | 11mm | | |
| IST-11WM-K12 | 12mm | | |
| IST-11WM-K13 | 13mm | | |
| IST-11WM-K14 | 14mm | | |
| IST-11WM-K15 | 15mm | | |
| IST-11WM-K16 | 16mm | | |
| IST-11WM-K17 | 17mm | | |
| IST-11WM-K18* | 18mm | | |
| IST-11WM-K19* | 19mm | | |
| IST-11WM-K13A | 13mm | | IST-25WM140 IST-25WM200 IST-25WM300 |
| IST-11WM-K14A | 14mm | | |
| IST-11WM-K15A | 15mm | | |
| IST-11WM-K16A | 16mm | | |
| IST-11WM-K17A | 17mm | | |
| IST-11WM-K18A | 18mm | | |
| IST-11WM-K19A | 19mm | | |
| IST-11WM-K20A | 20mm | | |
| IST-11WM-K21A | 21mm | | |
| IST-11WM-K22A | 22mm | | |
| IST-11WM-K23A | 23mm | | |
| IST-11WM-K24A | 24mm | | |
| IST-11WM-K27A* | 27mm | | |
| IST-11WM-K30A* | 30mm | | |
| IST-11WM-K32A* | 32mm | | |

*Torque value needs to be corrected for these heads

MECHANICAL TORQUE WRENCHES (DIGITAL SETTING)

ATTENTION: DISPLAY PRE-SET TORQUE VALUE (NOT REAL TIME TORQUE)

ATTENTION: CLOCKWISE OPERATION ONLY



- Unit: N.m, in.lb, ft.lb, kg.cm
- Mechanical "click" torque wrench, the pre-set torque value is shown on the display

SPECIFICATION

| Code | IST-19WM60 | IST-19WM100 | IST-19WM140 | IST-19WM200 | IST-19WM300 |
|-------------------|------------|-------------|-------------|-------------|-------------|
| Range (clockwise) | 12~60N.m | 20~100N.m | 28~140N.m | 40~200N.m | 60~300N.m |
| Accuracy | ±3% | ±3% | ±3% | ±3% | ±3% |
| Resolution | 0.1N.m | 0.1N.m | 0.1N.m | 0.1N.m | 0.1N.m |
| Square driver (D) | 3/8" | 3/8" | 1/2" | 1/2" | 1/2" |
| Length | 382mm | 450mm | 481mm | 520mm | 585mm |
| Weight | 1.3kg | 1.4kg | 1.45kg | 1.6kg | 1.8kg |

ATTENTION: CLOCKWISE OPERATION ONLY

PRESET TORQUE WRENCHES

- Torque is preset, to prevent adjustment by mistake during use
- The torque is set at the factory before delivery. Customers can also set the torque with torque adjustment tool (**IST-PW-TOOL, optional**) and digital torque testers (**IST-TT□□□, optional**)
- Clockwise operation only



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SPECIFICATION

| Code | IST-PW12 | IST-PW20 | IST-PW30 | IST-PW60 | IST-PW125 | IST-PW200 |
|-------------------|--------------------------|------------------------|------------------------|-----------------------|-------------------------|--------------------------|
| Adjustable range* | 2.5~12N.m 22~105in.lb | 4~20N.m 36~175in.lb | 6~30N.m 55~265in.lb | 10~60N.m 8~44ft.lb | 25~125N.m 20~90ft.lb | 40~200N.m 30~145ft.lb |
| Accuracy | ±3% | ±3% | ±3% | ±3% | ±3% | ±3% |
| Square driver (D) | 1/4" | 1/4" | 3/8" | 3/8" | 3/8" | 1/2" |
| Length | 184mm | 184mm | 214mm | 255mm | 366mm | 457mm |
| Weight | 450g | 450g | 500g | 560g | 790g | 1200g |

| Code | IST-PW340 | IST-PW500 | IST-PW650 | IST-PW800 | IST-PW1000A | IST-PW1000B |
|-------------------|--------------------------|---------------------------|----------------------------|----------------------------|-----------------------------|-----------------------------|
| Adjustable range* | 65~340N.m 50~250ft.lb | 100~500N.m 75~365ft.lb | 150~650N.m 110~475ft.lb | 160~800N.m 120~585ft.lb | 200~1000N.m 150~735ft.lb | 200~1000N.m 150~735ft.lb |
| Accuracy | ±3% | ±3% | ±4% | ±4% | ±4% | ±4% |
| Square driver (D) | 1/2" | 3/4" | 3/4" | 3/4" | 3/4" | 1" |
| Length | 691mm | 910mm | 910mm | 1037mm | 1265mm | 1265mm |
| Weight | 1960g | 2800g | 2800g | 5000g | 6000g | 6000g |

OPTIONAL ACCESSORY

Torque adjustment tool **IST-PW-TOOL**

*Adjust to a fixed torque value according to customer requirements before delivery

DIAL TORQUE WRENCHES



- Clockwise and counter-clockwise operation
- According to DIN ISO 6789, ASME B107.300

SPECIFICATION

| Code | IST-DW1D8 | IST-DW3D5 | IST-DW9 | IST-DW18 | IST-DW35 | IST-DW70 | IST-DW140 | IST-DW240 | IST-DW350 | IST-DW480 |
|-------------------|--------------------------|-------------------------|------------------------|--------------------------|------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Range | 0.36~1.8N.m 3~16in.lb | 0.7~3.5N.m 6~30in.lb | 1.8~9N.m 15~75in.lb | 3.6~18N.m 30~150in.lb | 7~35N.m 60~300in.lb | 14~70N.m 120~600in.lb | 28~140N.m 20~100ft.lb | 48~240N.m 35~175ft.lb | 70~350N.m 50~250ft.lb | 96~480N.m 70~350ft.lb |
| Accuracy | ±3% | ±3% | ±3% | ±3% | ±3% | ±3% | ±3% | ±3% | ±3% | ±3% |
| Graduation | 0.02N.m 0.2in.lb | 0.05N.m 0.5in.lb | 0.1N.m 1in.lb | 0.2N.m 2in.lb | 0.5N.m 5in.lb | 1N.m 10in.lb | 2N.m 1ft.lb | 3N.m 2.5ft.lb | 2.5N.m 2.5ft.lb | 6N.m 5ft.lb |
| Square driver (D) | 1/4" | 1/4" | 1/4" | 3/8" | 3/8" | 3/8" | 1/2" | 1/2" | 1/2" | 3/4" |
| Length | 254mm | 254mm | 254mm | 254mm | 254mm | 378mm | 546mm | 546mm | 546mm | 708mm |
| Weight | 480g | 480g | 480g | 480g | 480g | 820g | 1300g | 1300g | 1300g | 4030g |

DIGITAL TORQUE ADAPTERS (WITH ANGLE DETECTION)



working with mechanical wrenches



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IST-5W135A



- Clockwise and counter-clockwise operation
- After reaching the desired torque, turn the wrench at an angle to apply extra torque
- Unit: N.m, in.lb, ft.lb, kg.cm, degree
- Peak and track working modes
- Target torque or angle value can be set, with audible and visible alarm:
 - Green LED light on and buzzer sounds when torque or angle value is 80%~100% of target torque or angle
 - Both green and red LED light on and buzzer sounds when target torque or angle value is reached
- Power off in 2 minutes automatically
- Memory 50 measurement values for browsing
- With overload record (once the torque reaches 110% of the maximum range)

SPECIFICATION

| Code | | IST-5W30A | IST-5W135A | IST-5W200A | IST-5W340A |
|-------------------|-------------------|---------------------|------------|------------|------------|
| Range | torque | 6~30N.m | 27~135N.m | 40~200N.m | 68~340N.m |
| | angle | 0~999° | | | |
| Accuracy | clockwise | ±3% | | | |
| | counter-clockwise | ±4% | | | |
| | angle | ±2° (rotate at 90°) | | | |
| Resolution | torque | 0.01N.m | 0.1N.m | 0.1N.m | 0.1N.m |
| | angle | 1° | | | |
| Square driver (L) | | 1/4" | 3/8" | 1/2" | 1/2" |
| Power supply | | 2xAAA batteries | | | |
| Dimension | | Ø85×60mm | Ø85×75mm | Ø85×80mm | Ø85×80mm |
| Weight | | 150g | 220g | 240g | 240g |

OPTIONAL ACCESSORY

| | |
|-------------------|--------------|
| Calibration cable | IST-SD-CABLE |
|-------------------|--------------|

DIGITAL ANGLE METER CODE 2177-121

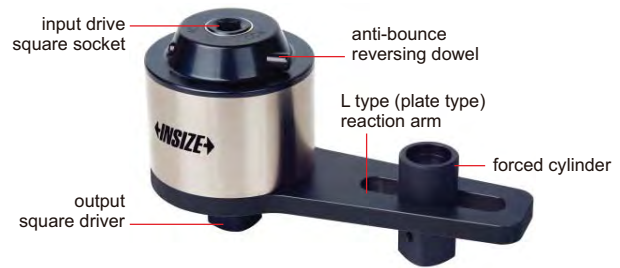
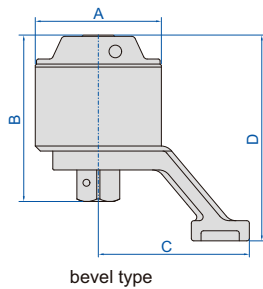
REFER TO PAGE 376
FOR DETAILS



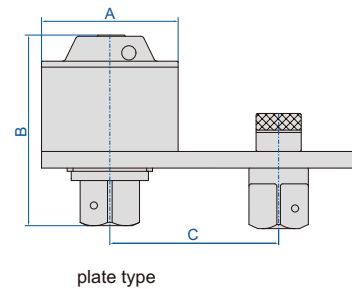
TORQUE MULTIPLIERS



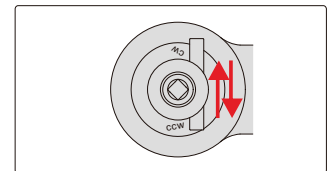
IST-TM2000



IST-TM3500P



■ Input to output accuracy: $\pm 5\%$



after tightening, toggle the anti-bounce reversing dowel, turn the wrench in the anticlockwise direction, then remove the wrench from torque multiplier

Z TYPE (BEVEL TYPE) TORQUE MULTIPLIER

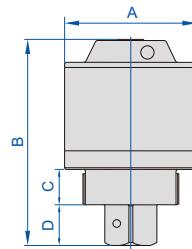
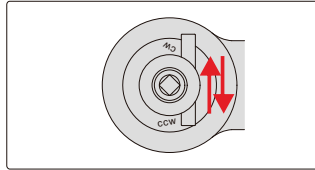
| Code | Capacity | Torque ratio | Square socket | Square driver | Dimension (A×B×C×D) | For bolt | For nut | Weight |
|-------------|----------|--------------|---------------|---------------|---------------------|----------|---------|--------|
| IST-TM1000 | 1000N.m | 1:4 | 1/2" | 1" | 82×98.5×97×122.4mm | M20~30 | S30~46 | 2.1kg |
| IST-TM2000 | 2000N.m | 1:13 | 1/2" | 1" | 82×120×105×147mm | M22~35 | S32~55 | 3.15kg |
| IST-TM3500 | 3500N.m | 1:16 | 1/2" | 1" | 98×131×120×163mm | M30~45 | S46~70 | 4.9kg |
| IST-TM5500 | 5500N.m | 1:20.5 | 1/2" | 1 1/2" | 115×163.5×137×199mm | M38~52 | S55~80 | 8.1kg |
| IST-TM7500 | 7500N.m | 1:23 | 1/2" | 1 1/2" | 127×173×146×215mm | M42~60 | S65~90 | 10.6kg |
| IST-TM10000 | 10000N.m | 1:28 | 1/2" | 1 1/2" | 141×170×164×238mm | M52~72 | S80~105 | 14kg |

L TYPE (PLATE TYPE) TORQUE MULTIPLIER

| Code | Capacity | Torque ratio | Square socket | Square driver | Dimension (A×B×C) | For bolt | For nut | Weight |
|--------------|----------|--------------|---------------|---------------|---------------------------|----------|----------|--------|
| IST-TM1000P | 1000N.m | 1:4 | 1/2" | 1" | 82×91×(76.7~127.3)mm | M20~30 | S30~46 | 2.4kg |
| IST-TM2000P | 2000N.m | 1:13 | 1/2" | 1" | 82×120×(92.7~129.3)mm | M22~35 | S32~55 | 3.5kg |
| IST-TM3500P | 3500N.m | 1:16 | 1/2" | 1" | 98×128×(102.7~145.3)mm | M30~45 | S46~70 | 5.0kg |
| IST-TM5500P | 5500N.m | 1:20.5 | 1/2" | 1 1/2" | 115×157×(134.05~165.95)mm | M38~52 | S55~80 | 8.7kg |
| IST-TM7500P | 7500N.m | 1:23 | 1/2" | 1 1/2" | 127×168×(139.05~190.95)mm | M42~60 | S65~90 | 11.7kg |
| IST-TM10000P | 10000N.m | 1:28 | 1/2" | 1 1/2" | 141×186×(144.05~215.95)mm | M52~72 | S80~105 | 15.2kg |
| IST-TM15000P | 15000N.m | 1:50 | 3/4" | 2 1/2" | 156×246×(155.25~244.75)mm | M60~85 | S80~120 | 24.1kg |
| IST-TM20000P | 20000N.m | 1:76 | 3/4" | 2 1/2" | 170×264×(163.75~276.25)mm | M72~100 | S105~145 | 27.8kg |

SPLINE-TYPE TORQUE MULTIPLIERS

after tightening, toggle the anti-bounce reversing dowel, turn the wrench in the anticlockwise direction, then remove the wrench from torque multiplier



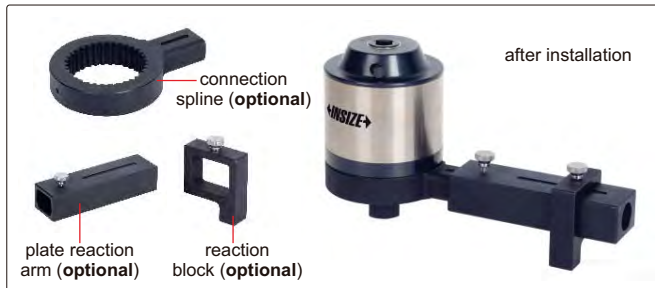
IST-ST2000

- High efficiency gear set with small input torque and large output torque
- Can be installed directly on the workpieces or through different options to form different installation types

application



plate type

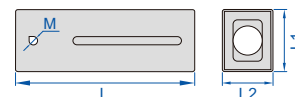
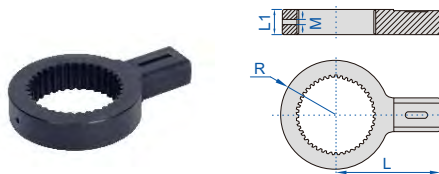


bevel type



SPECIFICATION

| Code | Type | Capacity | Accuracy | Torque ratio | Square socket | Square driver | Dimension (A×B×C×D) | For bolt | For nut | Weight | | | | |
|------------|-------|----------|----------|--------------|---------------|---------------|---------------------|----------|---------|--------|-----------------|--------|--------|-------|
| IST-ST2000 | plate | 2000N.m | ±5% | 1:13.3 | 1/2" | 1" | 82×135×18×26mm | M22~35 | S32~55 | 3.2kg | | | | |
| | bevel | | | 1:12 | | | | | | | | | | |
| IST-ST3500 | plate | 3500N.m | | 1:16 | 1/2" | 1" | | | | | | | | |
| | bevel | | | 1:15 | | | | | | | | | | |
| IST-ST5500 | plate | 5500N.m | | 1:21.5 | 1/2" | 1 1/2" | | | | | 115×180×29×39mm | M38~52 | S55~80 | 7.8kg |
| | bevel | | | 1:18.5 | | | | | | | | | | |
| IST-ST7500 | plate | 7500N.m | 1:24 | 1/2" | 1 1/2" | | | | | | | | | |
| | bevel | | 1:20 | | | | | | | | | | | |



CONNECTION SPLINE (optional)

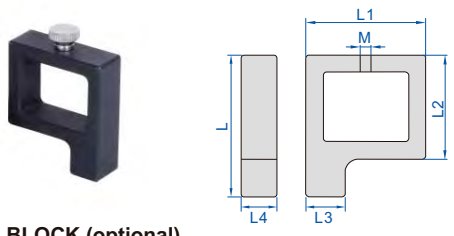
| Code | Dimension (mm) | | | |
|---------------|----------------|-------|------|---|
| | R | L | L1 | M |
| IST-ST2000-C1 | 41 | 78 | 18 | 5 |
| IST-ST3500-C2 | 49 | 95 | 23 | 5 |
| IST-ST5500-C3 | 58 | 112 | 28.5 | 6 |
| IST-ST7500-C4 | 63.5 | 123.5 | 29 | 6 |

PLATE REACTION ARM (optional)

| Code | Dimension (mm) | | | |
|---------------|----------------|----|------|---|
| | L | L1 | L2 | M |
| IST-ST2000-P1 | 120 | 38 | 25.5 | 4 |
| IST-ST3500-P2 | 145 | 42 | 32 | 5 |
| IST-ST5500-P3 | 150 | 53 | 45 | 6 |
| IST-ST7500-P4 | 175 | 60 | 49 | 8 |

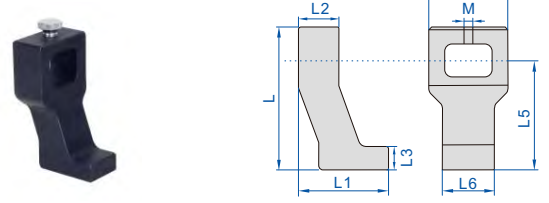
To be continued

Continued from previous page



REACTION BLOCK (optional)

| Code | Dimension (mm) | | | | | |
|---------------|----------------|----|------|----|----|---|
| | L | L1 | L2 | L3 | L4 | M |
| IST-ST2000-R1 | 53.5 | 52 | 39.5 | 15 | 18 | 4 |
| IST-ST3500-R2 | 66 | 58 | 48 | 18 | 20 | 5 |
| IST-ST5500-R3 | 94.5 | 73 | 65 | 22 | 25 | 6 |
| IST-ST7500-R4 | 98 | 83 | 72 | 28 | 25 | 8 |



BEVEL REACTION ARM (optional)

| Code | Dimension (mm) | | | | | | | | |
|---------------|----------------|----|----|----|----|----|----|---|--|
| | L | L1 | L2 | L3 | L4 | L5 | L6 | M | |
| IST-ST2000-B1 | 85 | 51 | 18 | 14 | 44 | 60 | 25 | 4 | |
| IST-ST3500-B2 | 87.5 | 52 | 20 | 15 | 50 | 67 | 30 | 5 | |
| IST-ST5500-B3 | 110 | 70 | 30 | 16 | 59 | 86 | 35 | 6 | |
| IST-ST7500-B4 | 123 | 78 | 35 | 20 | 68 | 94 | 45 | 6 | |



IST-DT2000

- High efficiency gear set with small input torque and large output torque
- The reaction arm can adjust the position of the applied force according to the operation conditions
- Plate reaction arm and bevel reaction arm are included

TWO-USE TORQUE MULTIPLIERS

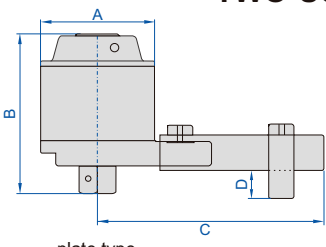
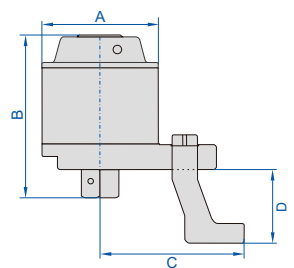
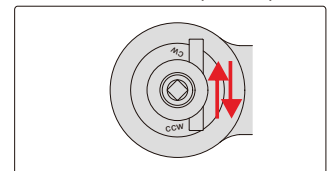


plate type



bevel type

after tightening, toggle the anti-bounce reversing dowel, turn the wrench in the anticlockwise direction, then remove the wrench from torque multiplier



application



plate type



bevel type



SPECIFICATION

| Code | Type | Capacity | Accuracy | Torque ratio | Square socket | Square driver | Dimension (A×B×C×D) | For bolt | For nut | Weight | |
|------------|-------|----------|----------|--------------|---------------|------------------|---------------------|----------|---------|--------|--------|
| IST-DT2000 | plate | 2000N.m | ±5% | 1:13.3 | 1/2" | 1" | 82×120×160×21mm | M22~35 | S32~55 | 4.1kg | |
| | bevel | | | 1:12 | | | 82×120×93×52mm | | | | |
| IST-DT3500 | plate | 3500N.m | | 1:16 | 1/2" | 1" | 98×133×152×26mm | M30~45 | S46~70 | | 6.4kg |
| | bevel | | | 1:15 | | | 98×133×117×56mm | | | | |
| IST-DT5500 | plate | 5500N.m | | 1:21.5 | 1/2" | 1 1/2" | 115×165×210×39.5mm | M38~52 | S55~80 | | 11.4kg |
| | bevel | | | 1:18.5 | | | 115×165×134×72mm | | | | |
| IST-DT7500 | plate | 7500N.m | 1:24 | 1/2" | 1 1/2" | 127×174×243×38mm | M42~60 | S65~90 | 16kg | | |
| | bevel | | 1:20 | | | 127×174×146×80mm | | | | | |



Electronic Balances
Page 905-909



Explosion Proof Electronic Balances
Page 909



Weighing Scales
Page 910/912



Counting Scales
Page 911



Electronic Pocket Scales
Page 911-912



Platform Scales
Page 913



Floor Scales
Page 914



Electronic Crane Scales
Page 915-917



Moisture Analyzers
Page 918



Weights
Page 919-920

ELECTRONIC BALANCES (0.1mg)



DATA OUTPUT



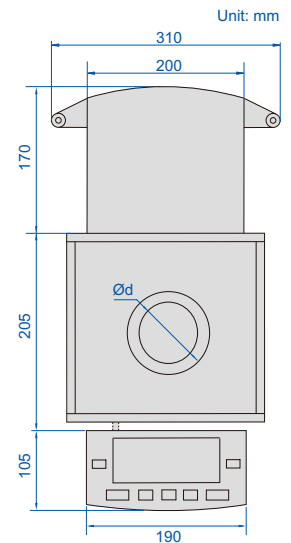
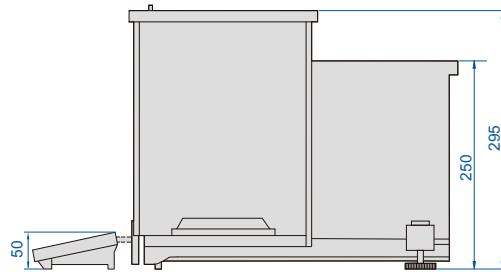
printer (optional)



calibration weight (included in 8310-120M, 8310-210M and 8310-320M)



8310-320A



- Rear electromagnetic sensor
- Separated display unit and weighing unit, reduce vibration error
- Digital processing technology improves reading stability and response speed for micro sample addition, sample weight and balance reading is consistent
- Unit: g, oz, ct, lb
- Weighing, counting, taring, percentage
- Data output

SPECIFICATION

| Code | 8310-120M | 8310-210M | 8310-320M | 8310-120A | 8310-210A | 8310-320A |
|---------------------------|---|-----------|-----------|---|-----------|-----------|
| Calibration | external calibration | | | internal calibration | | |
| Maximum weighing | 120g | 210g | 320g | 120g | 210g | 320g |
| Minimum weighing | 10mg | 10mg | 10mg | 10mg | 10mg | 10mg |
| Resolution (d) | 0.1mg | 0.1mg | 0.1mg | 0.1mg | 0.1mg | 0.1mg |
| Verification interval (e) | 1mg | 1mg | 1mg | 1mg | 1mg | 1mg |
| Accuracy (m is load) | m≤50g: ±0.5mg; 50g<m≤200g: ±1mg; m>200g: ±1.5mg | | | m≤50g: ±0.5mg; 50g<m≤200g: ±1mg; m>200g: ±1.5mg | | |
| Repeatability | ±0.1mg | | | | | |
| Linearity | ±0.1mg | | | | | |
| Stabilization time | 2.5s | | | | | |
| Weighing pan size (Ød) | Ø90mm | | | | | |
| Output | RS232 | | | | | |
| Operation temperature | 10~30°C | | | | | |
| Operation humidity | 20~85% RH | | | | | |
| Power supply | power adapter (12V/2A) | | | | | |
| Dimension (L×W×H) | 480×310×320mm | | | | | |
| Weight | 6kg | | | | | |

OPTIONAL ACCESSORY

| | |
|-------------|--------------|
| RS232 cable | 8304-CABLE * |
| Printer | 8303-PRINTER |

*Used to connect with computers

ELECTRONIC BALANCES (0.1mg)

DATA
OUTPUT

36



8304-120

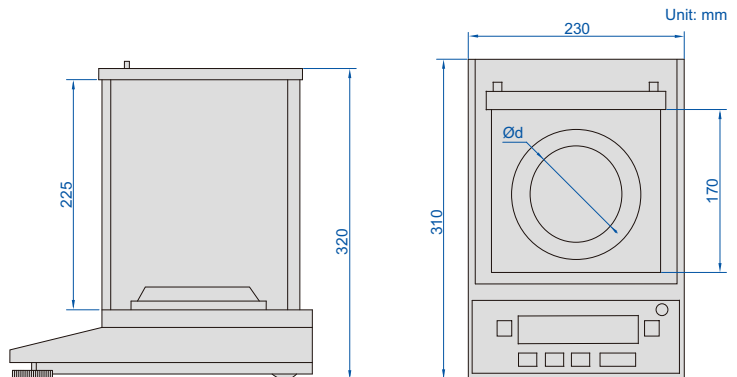


calibration weight
(included)



printer (optional)

- Electromagnetic sensor
- Unit: g, ct, oz, lb
- Weighing, counting, taring
- Data output



SPECIFICATION

| Code | 8304-120 | 8304-220 |
|---------------------------|------------------------------------|---|
| Maximum weighing | 120g | 220g |
| Minimum weighing | 10mg | 10mg |
| Resolution (d) | 0.1mg | 0.1mg |
| Verification interval (e) | 1mg | 1mg |
| Accuracy (m is load) | m≤50g: ±0.5mg; 50g<m≤120g: ±1mg | m≤50g: ±0.5mg; 50g<m≤200g: ±1mg; m>200g: ±1.5mg |
| Weighing pan size (Ød) | Ø90mm | |
| Operation temperature | 10~30°C | |
| Operation humidity | 20~85% RH | |
| Power supply | power adapter (12V/2A) | |
| Dimension (L×W×H) | 230×310×320mm | |

OPTIONAL ACCESSORY

| | |
|--|-------------------|
| RS232 cable | 8304-CABLE * |
| Printer | 8303-PRINTER |
| Data output cable (keyboard format) | 7302-8304 page 14 |

*Used to connect with computers

DATA
OUTPUT

ELECTRONIC BALANCES (1mg)

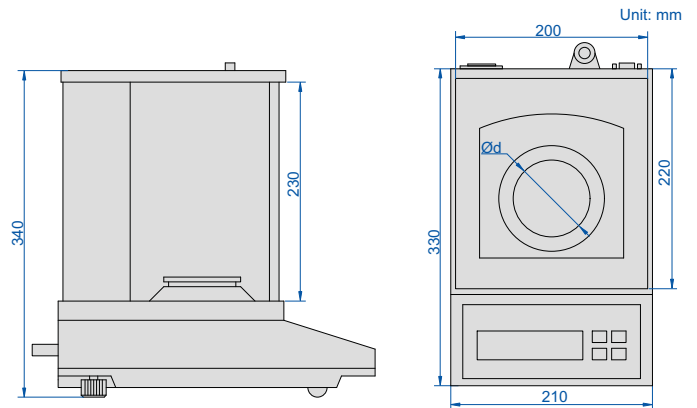
36



calibration weight (included)

8303-520

- Aluminum alloy shell, wind shield, three side glass sliding doors
- Electromagnetic balance sensor
- Unit: g, ct, ozt, oz, gn, dwt, mg
- Weighing, counting, taring
- Data output
- With a hook at the bottom



SPECIFICATION

| Code | 8303-220 | 8303-320 | 8303-520 | 8303-620 | 8303-1020 |
|---------------------------|---|----------|------------|----------|-----------|
| Maximum weighing | 220g | 320g | 520g | 620g | 1020g |
| Minimum weighing | 20mg | 20mg | 100mg | 100mg | 100mg |
| Resolution (d) | 1mg | 1mg | 1mg | 1mg | 1mg |
| Verification interval (e) | 10mg | 10mg | 10mg | 10mg | 10mg |
| Accuracy | load capacity≤500g: ±5mg; load capacity>500g: ±10mg | | | | |
| Weighing pan size (Ød) | Ø80mm | | | | Ø120mm |
| Operation temperature | 15~30°C | | 18~23°C | | |
| Operation humidity | 40%~80% RH | | 50%~70% RH | | |
| Power supply | 220V, 50/60Hz | | | | |
| Dimension (L×W×H) | 330×210×340mm | | | | |

OPTIONAL ACCESSORY

| | |
|-------------|--------------|
| RS232 cable | 8301-CABLE * |
| Printer | 8303-PRINTER |

* Used to connect with computers



printer (optional)

ELECTRONIC BALANCES (0.01g)

DATA
OUTPUT

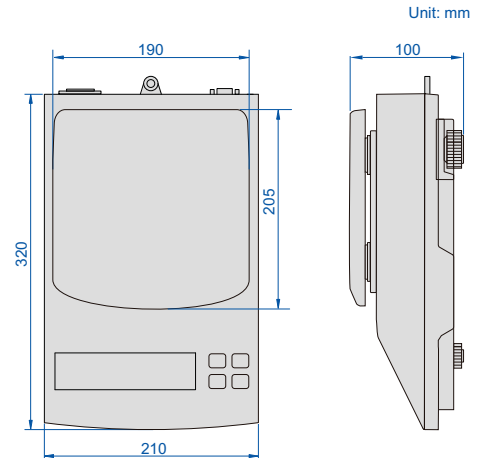


8305-5000

- LCD with back light
- Unit: g, ct, ozt, oz, GN, dwt, lb, kg
- Weighing, counting, taring



calibration weight
(included in 8305-2000
and 8305-3000)



SPECIFICATION

| Code | 8305-2000 | 8305-3000 | 8305-5000 | 8305-6000 |
|---------------------------|--|---|---|---|
| Maximum weighing | 2kg | 3kg | 5kg | 6kg |
| Minimum weighing | 0.2g | 0.2g | 0.2g | 0.2g |
| Resolution (d) | 0.01g | 0.01g | 0.01g | 0.01g |
| Verification interval (e) | 0.1g | 0.1g | 0.1g | 0.1g |
| Accuracy (m is load) | m≤0.5kg: ±0.05g; 0.5kg<m≤2kg: ±0.1g | m≤0.5kg: ±0.05g; 0.5kg<m≤2kg: ±0.1g m>2kg: ±0.15g | m≤0.5kg: ±0.05g; 0.5kg<m≤2kg: ±0.1g m>2kg: ±0.15g | m≤0.5kg: ±0.05g; 0.5kg<m≤2kg: ±0.1g m>2kg: ±0.15g |
| Weighing pan size | 190×205mm | | | |
| Output | RS232 | | | |
| Operation temperature | 0~40°C | | | |
| Operation humidity | ≤80% RH | | | |
| Power supply | 220V, 50/60Hz | | | |
| Dimension (L×W×H) | 320×210×100mm | | | |

OPTIONAL ACCESSORY

| | |
|--------------------------------------|-------------------|
| RS232 cable | 8301-CABLE* |
| Printer | 8303-PRINTER |
| Data output cable (keyboard format) | 7302-8001 page 14 |
| Wireless transmitter (need receiver) | 7315-8301 page 6 |

*Used to connect with computers



printer (optional)

DATA
OUTPUT

Ex

EXPLOSION PROOF ELECTRONIC BALANCES

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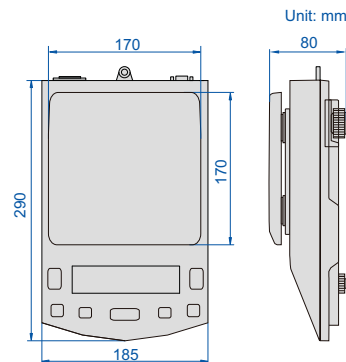
- LCD display, with backlight
- Zero-setting, subtracting tare value, counting
- Unit: g, ct, oz, lb, ozt



8105-30KG

SPECIFICATION

| Code | 8105-5KG | 8105-30KG |
|---------------------------|--|--|
| Maximum weighing | 5kg | 30kg |
| Minimum weighing | 0.5g | 5g |
| Resolution (d) | 0.01g | 0.1g |
| Verification interval (e) | 0.1g | 1g |
| Accuracy (m is load) | m≤0.05kg: ±0.05g; 0.05kg≤m≤0.2kg: ±0.1g; 0.2kg≤m≤5kg: ±0.15g | m≤0.5kg: ±0.5g; 0.5kg≤m≤2kg: ±1.0g; m>2kg: ±1.5g |
| Dimension of pan | 170×170mm | |
| Output | RS232 | |
| Operation temperature | 15~30°C | |
| Operation humidity | 40%~80% RH | |
| Power | explosion-proof battery, DC7.4V/4.0Ah | |
| Dimension (L×W×H) | 290×185×80mm | |



OPTIONAL ACCESSORY

| | |
|-------------|-------------|
| RS232 cable | 8105-CABLE* |
|-------------|-------------|

* Used to connect with computers

DATA
OUTPUT

ELECTRONIC BALANCES

- Automatic zero when power on
- Unit: g (gram), ct (carat), ozt (troy ounce)
- Weighing, counting, taring
- Overload alarm
- Data output



8301-3000



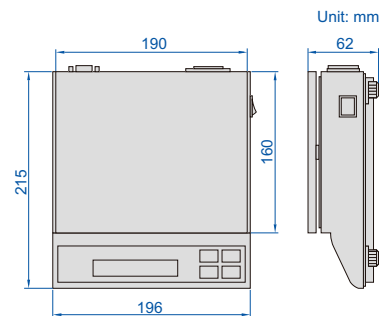
windshield
(included in 8301-300,
8301-600 and 8301-1200)



calibration weight
(included in 8301-300,
8301-600 and 8301-1200)

SPECIFICATION

| Code | 8301-300 | 8301-600 | 8301-1200 | 8301-3000 | 8301-6000 |
|---------------------------|--|----------|-----------|--|-----------|
| Maximum weighing | 300g | 600g | 1200g | 3000g | 6000g |
| Minimum weighing | 0.2g | 0.2g | 0.2g | 2g | 2g |
| Resolution (d) | 0.01g | 0.01g | 0.01g | 0.1g | 0.1g |
| Verification interval (e) | 0.1g | 0.1g | 0.1g | 1g | 1g |
| Accuracy (m is load) | m≤50g: ±0.05g; 50g<m≤200g: ±0.1g; m>200g: ±0.15g | | | m≤500g: ±0.5g; 500g<m≤2000g: ±1g; m>2000g: ±1.5g | |
| Weighing pan size | Ø135mm | | | 190×160mm | |
| Operation temperature | 0~40°C | | | | |
| Operation humidity | ≤80% RH | | | | |
| Power supply | 220V, 50/60Hz | | | | |
| Dimension (L×W×H) | 215×196×62mm | | | | |



OPTIONAL ACCESSORY

| | |
|--------------------------------------|----------------------|
| RS232 cable | 8301-CABLE |
| Data output cable (keyboard format) | 7302-8001 page 14 |
| Wireless transmitter (need receiver) | 7315-8301 page 6 |

WEIGHING SCALES (OIML CERTIFICATE)

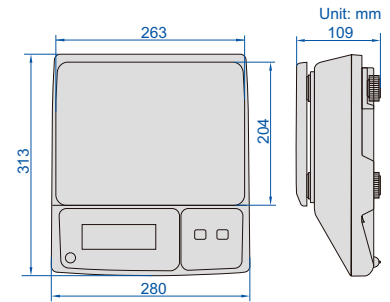


36

- LCD display, with backlight
- Zero-setting, subtracting tare value
- Overload alarm
- Automatic power off
- OIML certificate (No. 0200-NAWI-04601)



8002-30M



SPECIFICATION

| Code | 8002-6M | 8002-15M | 8002-30M | 8002-6MD | 8002-15MD | 8002-30MD |
|---------------------------|--|-------------------------------|----------------------------------|------------------------------|-------------------------------|----------------------------------|
| Maximum weighing | 3/6kg | 6/15kg | 15/30kg | 3/6kg | 6/15kg | 15/30kg |
| Minimum weighing | 20g | 40g | 100g | 20g | 40g | 100g |
| Resolution (d) | 1/2g | 2/5g | 5/10g | 1/2g | 2/5g | 5/10g |
| Verification interval (e) | 2g | 5g | 10g | 2g | 5g | 10g |
| Accuracy (m is load) | m≤3kg: ±1g 3kg<m≤6kg: ±2g | m≤6kg: ±2g 6kg<m≤15kg: ±5g | m≤15kg: ±5g 15kg<m≤30kg: ±10g | m≤3kg: ±1g 3kg<m≤6kg: ±2g | m≤6kg: ±2g 6kg<m≤15kg: ±5g | m≤15kg: ±5g 15kg<m≤30kg: ±10g |
| Output | no | | | RS232 | | |
| Operation temperature | -10~40°C | | | | | |
| Power | rechargeable battery (6V/3.2Ah), power adapter (12V/500mA) | | | | | |
| Dimensions of pan | 263×204mm | | | | | |

WEIGHING SCALES (HIGH PRECISION)

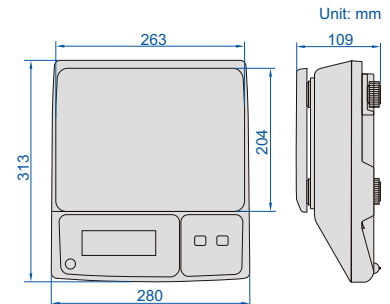


printer (optional)

- LCD display, with backlight
- Zero-setting, subtracting tare value
- Overload alarm
- Automatic power off



8001-30



SPECIFICATION

| Code | 8001-6 | 8001-15 | 8001-30 | 8001-6D | 8001-15D | 8001-30D |
|-----------------------|--|--|--|--|--|--|
| Maximum weighing | 6kg | 15kg | 30kg | 6kg | 15kg | 30kg |
| Minimum weighing | 4g | 10g | 20g | 4g | 10g | 20g |
| Resolution (d) | 0.2g | 0.5g | 1g | 0.2g | 0.5g | 1g |
| Accuracy (m is load) | m≤1kg: ±1g 1kg<m≤4kg: ±2g m>4kg: ±3g | m≤2.5kg: ±2.5g 2.5kg<m≤10kg: ±5g m>10kg: ±7.5g | m≤5kg: ±5g 5kg<m≤20kg: ±10g m>20kg: ±15g | m≤1kg: ±1g 1kg<m≤4kg: ±2g m>4kg: ±3g | m≤2.5kg: ±2.5g 2.5kg<m≤10kg: ±5g m>10kg: ±7.5g | m≤5kg: ±5g 5kg<m≤20kg: ±10g m>20kg: ±15g |
| Units | kg, lb | | | kg | | |
| Output | no | | | RS232 | | |
| Operation temperature | -10~40°C | | | | | |
| Power | rechargeable battery (6V/3.2Ah), power adapter (12V/500mA) | | | | | |
| Dimensions of pan | 263×204mm | | | | | |

OPTIONAL ACCESSORY (for scales with RS232)

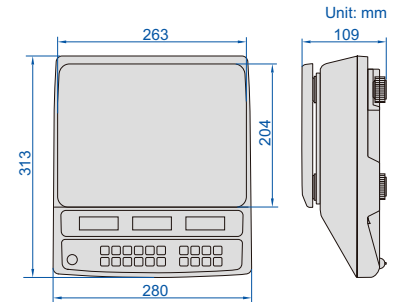
| | |
|-------------------------------------|-------------------|
| Printer | 8001-PRINTER |
| Data output cable (keyboard format) | 7302-8001 page 14 |

COUNTING SCALES



printer (optional)

- LCD display, with backlight
- Zero-setting, subtracting tare value, counting, accumulation, checking alarm
- Overload alarm
- Units: kg, g, lb, tj, hj, lb-oz


8101-30

SPECIFICATION

| Code | 8101-6 | 8101-15 | 8101-30 | 8101-6D | 8101-15D | 8101-30D |
|-----------------------|--|--|--|--|--|--|
| Maximum weighing | 6kg | 15kg | 30kg | 6kg | 15kg | 30kg |
| Minimum weighing | 4g | 10g | 20g | 4g | 10g | 20g |
| Resolution (d) | 0.2g | 0.5g | 1g | 0.2g | 0.5g | 1g |
| Accuracy (m is load) | m≤1kg: ±1g 1kg<m≤4kg: ±2g m>4kg: ±3g | m≤2.5kg: ±2.5g 2.5kg<m≤10kg: ±5g m>10kg: ±7.5g | m≤5kg: ±5g 5kg<m≤20kg: ±10g m>20kg: ±15g | m≤1kg: ±1g 1kg<m≤4kg: ±2g m>4kg: ±3g | m≤2.5kg: ±2.5g 2.5kg<m≤10kg: ±5g m>10kg: ±7.5g | m≤5kg: ±5g 5kg<m≤20kg: ±10g m>20kg: ±15g |
| Output | no | | | RS232 | | |
| Operation temperature | -10~40°C | | | | | |
| Power | rechargeable battery (6V/3.2Ah), power adapter (12V/500mA) | | | | | |
| Dimensions of pan | 263×204mm | | | | | |

OPTIONAL ACCESSORY (for scales with RS232)

| | |
|---------|---------------------|
| Printer | 8001-PRINTER |
|---------|---------------------|

ATTENTION:
 LOW ACCURACY

ELECTRONIC POCKET SCALE (ECONOMIC TYPE)

- LCD display, with backlight
- Zero-setting, subtracting tare value, counting
- Overload alarm
- Automatic power off


8601-100
SPECIFICATION

| Code | 8601-100 |
|-----------------------|---|
| Maximum weighing | 100g |
| Minimum weighing | 0.1g |
| Resolution (d) | 0.01g |
| Accuracy (m is load) | 0.1g≤m≤1g: ±0.03g; 1g<m≤30g: ±0.05g 30g<m≤50g: ±0.07g; m>50g: ±0.14g |
| Units | g, oz, dwt, ozt |
| Dimension of pan | 55×64mm |
| Dimension (L×W×H) | 108×65×21mm |
| Operation temperature | -10~40°C |
| Power supply | 2×AAA batteries |

use of pan



ELECTRONIC POCKET SCALE (ECONOMIC TYPE)

ATTENTION:
LOW ACCURACY

36

- LCD display, with backlight
- Zero-setting, subtracting tare value, counting
- Overload alarm
- Automatic power off



8602-200

SPECIFICATION

| | |
|-----------------------|--|
| Code | 8602-200 |
| Maximum weighing | 200g |
| Minimum weighing | 0.2g |
| Resolution (d) | 0.02g |
| Accuracy (m is load) | 0.2g ≤ m ≤ 2g: ±0.06g; 2g < m ≤ 60g: ±0.1g 60g < m ≤ 100g: ±0.14g; m > 100g: ±0.28g |
| Units | g, oz, dwt, ozt |
| Dimension of pan | 55×64mm |
| Dimension (L×W×H) | 120×70×17mm |
| Operation temperature | -10~40°C |
| Power supply | 2×CR2032 batteries |

use of pan



WEIGHING SCALES (ECONOMIC TYPE)

- Unit: g, oz, lb, tl



8003-3

SPECIFICATION

| Code | 8003-3 | 8003-6 | 8003-10 |
|-----------------------|--------------------------------|--------|---------|
| Maximum weighing | 3kg | 6kg | 10kg |
| Minimum weighing | 2g | 10g | 20g |
| Resolution (d) | 0.1g | 0.5g | 1g |
| Accuracy | ±0.5g | ±2.5g | ±5g |
| Weighing pan size | 157×157mm | | |
| Operation temperature | 5~35°C | | |
| Power supply | 2×AAA batteries, power adapter | | |
| Dimension (L×W) | 160×225mm | | |

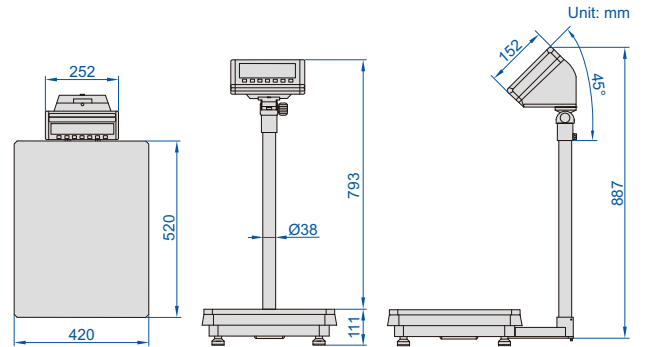


8501-AL150



printer (optional)

- LCD large screen display with LED backlight
- Weighing, overweight alarm, counting, keyboard lock, accumulating, auto zero and animal scale
- Unit: kg, g, lb, oz



SPECIFICATION

| Code | 8501-AL60 | 8501-AL150 | 8501-AL300 |
|-----------------------|--|------------|------------|
| Maximum weighing | 60kg | 150kg | 300kg |
| Minimum weighing | 100g | 200g | 400g |
| Resolution (d) | 5g | 10g | 20g |
| Accuracy | ±10g | ±20g | ±30g |
| Operation temperature | -10~40°C | | |
| Material | platform: stainless steel, base: die-cast aluminum | | |
| Dimension of platform | 420×520mm | | |
| Power | rechargeable lead acid battery (6V/4Ah) | | |
| Output | RS232 | | |
| Weight | 18.3kg | | |

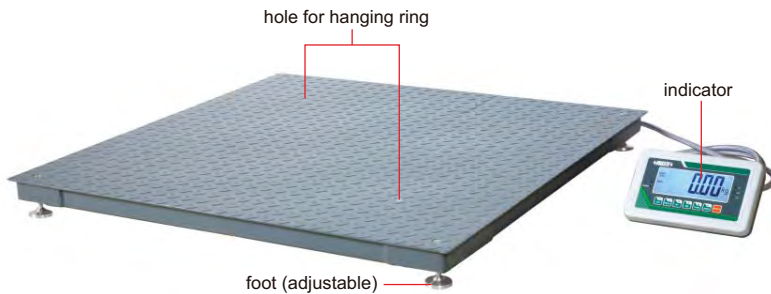
OPTIONAL ACCESSORY

| | |
|-------------------------------------|-------------------|
| Printer | 8001-PRINTER |
| Data output cable (keyboard format) | 7302-8001 page 14 |

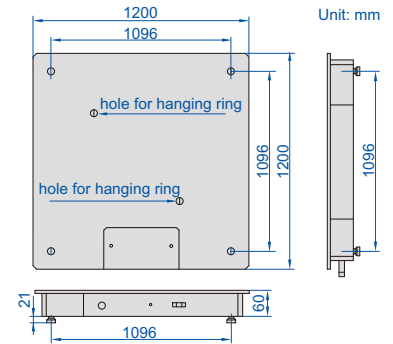
FLOOR SCALES

DATA OUTPUT

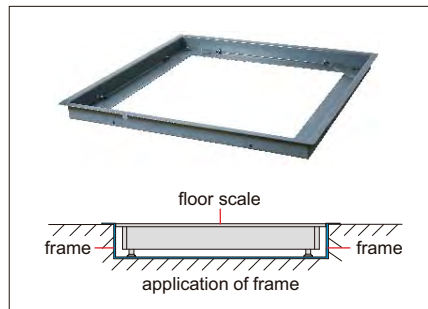
36



8401-1T1212



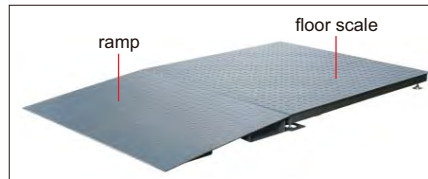
- LCD large screen display with automatic backlight
- Zero, overweight alarm, deduction, unit conversion, accumulating, animal scale, etc.
- Unit: kg, g, lb, oz
- OIML approved load cell



frame (optional)



stand (optional)



ramp (optional)



printer (optional)

SPECIFICATION

| Code | 8401-1T1212 | 8401-2T1212 | 8401-3T1212 |
|---------------------------|---|---|-------------|
| Maximum weighing | 1t | 2t | 3t |
| Minimum weighing | 10kg | 20kg | 20kg |
| Resolution (d) | 0.5kg | 1kg | 1kg |
| Verification interval (e) | 0.5kg | 1kg | 1kg |
| Accuracy (m is load) | m≤250kg: ±0.25kg; 250kg<m≤1000kg: ±0.5kg | m≤500kg: ±0.5kg; 500kg<m≤2000kg: ±1kg; m>2000kg: ±1.5kg | |
| Load cell | 4 pcs 350Ω | | |
| Operation temperature | -10~40°C | | |
| Material | mild steel | | |
| Dimension of platform | 1200×1200mm | | |
| Power | rechargeable lead acid battery (6V/4Ah) | | |
| Output | RS232 | | |
| Weight | 140kg | | |

STANDARD DELIVERY

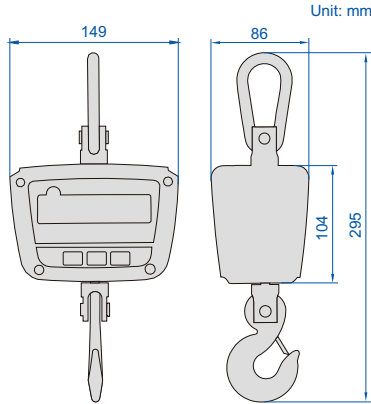
| | |
|----------------------|-------|
| Main unit | 1 pc |
| Indicator | 1 pc |
| AC/DC adapter | 1 pc |
| Stainless steel foot | 4 pcs |
| Hanging ring | 2 pcs |

OPTIONAL ACCESSORY

| | |
|---------|--------------|
| Ramp | 8401-1212-1 |
| Frame | 8401-1212-2 |
| Stand | 8401-STAND |
| Printer | 8001-PRINTER |

IP65
WATERPROOF

- Dust/waterproof level: IP65
- LED display, remote control
- Low voltage indicator
- Unit: kg, lb
- Automatic power off
- Overload alarm
- 360° safe rotary hook and shackle
- Aluminum alloy die casting case with high strength



SPECIFICATION

| Code | 8201-50KG | 8201-150KG | 8201-300KG |
|---------------------------|--|---------------|---------------|
| Maximum weighing | 50kg | 150kg | 300kg |
| Minimum weighing | 0.4kg | 1.0kg | 2.0kg |
| Resolution (d) | 0.02kg/0.01kg | 0.05kg/0.02kg | 0.10kg/0.05kg |
| Verification interval (e) | 0.02kg | 0.05kg | 0.10kg |
| Accuracy | ±0.02kg | ±0.05kg | ±0.10kg |
| Operation temperature | -10~40°C | | |
| Operation humidity | 30%~90% RH | | |
| Overload alarm | 100%F.S.+9e | | |
| Maximum safe load | 125%F.S. | | |
| Limited overload | 400%F.S. | | |
| Power supply | rechargeable battery 6V/3Ah (for 40 hours working) | | |
| Stable reading time | ≤8s | | |

ELECTRONIC CRANE SCALES



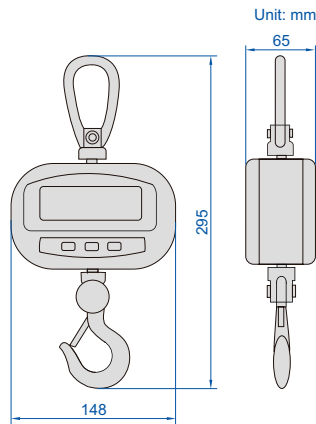
remote controller (included)

8201-150KG

STANDARD DELIVERY

| | |
|-------------------|------|
| Main unit | 1 pc |
| Remote controller | 1 pc |
| Battery charger | 1 pc |

- LED display, remote control
- Low voltage indicator
- Unit: kg, lb
- Automatic power off
- Overload alarm
- 360° safe rotary hook and shackle
- Plastic case



SPECIFICATION

| Code | 8202-50KG | 8202-150KG | 8202-300KG |
|---------------------------|--|---------------|---------------|
| Maximum weighing | 50kg | 150kg | 300kg |
| Minimum weighing | 0.4kg | 1.0kg | 2.0kg |
| Resolution (d) | 0.02kg/0.01kg | 0.05kg/0.02kg | 0.10kg/0.05kg |
| Verification interval (e) | 0.02kg | 0.05kg | 0.10kg |
| Accuracy | ±0.02kg | ±0.05kg | ±0.10kg |
| Operation temperature | -10~40°C | | |
| Operation humidity | 30%~90% RH | | |
| Overload alarm | 100%F.S.+9e | | |
| Maximum safe load | 125%F.S. | | |
| Limited overload | 400%F.S. | | |
| Power supply | 4×1.5V AA batteries (for 40 hours working) | | |
| Stable reading time | ≤8s | | |

ELECTRONIC CRANE SCALES (BASIC TYPE)



remote controller (included)

8202-150KG

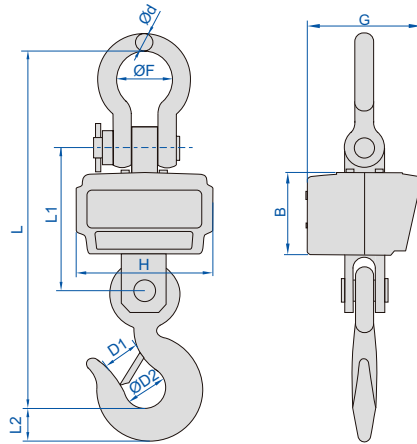
STANDARD DELIVERY

| | |
|-------------------|------|
| Main unit | 1 pc |
| Remote controller | 1 pc |

ELECTRONIC CRANE SCALES

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- Zeroing, taring, weighing
- LED display, remote control
- Low voltage indicator
- Unit: kg, lb
- Overload alarm
- Automatic power off
- Aluminum alloy die casting case with high strength



8204-CS3T

remote controller (included)

| Code | B | G | H | L | L1 | L2 | D1 | ØD2 | Ød | ØF |
|------------|-----|-----|-----|-----|-----|----|----|-----|----|-----|
| 8204-CS06T | 120 | 163 | 198 | 420 | 190 | 33 | 40 | 47 | 21 | 76 |
| 8204-CS1T | 120 | 163 | 198 | 420 | 190 | 33 | 40 | 47 | 21 | 76 |
| 8204-CS2T | 120 | 163 | 198 | 420 | 190 | 33 | 50 | 47 | 21 | 76 |
| 8204-CS3T | 120 | 163 | 198 | 462 | 196 | 40 | 50 | 50 | 23 | 76 |
| 8204-CS5T | 120 | 163 | 198 | 511 | 204 | 47 | 52 | 60 | 26 | 80 |
| 8204-CS10T | 135 | 181 | 206 | 589 | 239 | 66 | 52 | 70 | 36 | 90 |
| 8204-CS15T | 135 | 181 | 206 | 727 | 257 | 77 | 60 | 85 | 47 | 135 |

SPECIFICATION

| Code | 8204-CS06T | 8204-CS1T | 8204-CS2T | 8204-CS3T |
|---------------------------|--|---|--|---|
| Maximum weighing | 600kg | 1000kg | 2000kg | 3000kg |
| Minimum weighing | 4kg | 10kg | 20kg | 20kg |
| Resolution (d) | 0.2kg/0.1kg | 0.5kg/0.2kg | 1kg/0.5kg | 1kg/0.5kg |
| Verification interval (e) | 0.2kg | 0.5kg | 1kg | 1kg |
| Accuracy (m is load) | m≤100kg: ±0.1kg; 50kg<m≤200kg: ±0.2kg; m>200kg: ±0.3kg | m≤250kg: ±0.25kg; 250kg<m≤1000kg: ±0.5kg | m≤500kg: ±0.5kg; 500kg<m≤2000kg: ±1kg | m≤500kg: ±0.5kg; 500kg<m≤2000kg: ±1kg; m>2000kg: ±1.5kg |
| Overload alarm | 100%F.S.+9e | | | |
| Maximum safe load | 150%F.S. | | | |
| Limited overload | 400%F.S. | | | |
| Stable reading time | ≤8s | | | |
| Power supply | rechargeable battery 6V/4Ah (for 40 hours working) | | | |
| Operation temperature | -10~40°C | | | |
| Operation humidity | ≤85% RH | | | |

| Code | 8204-CS5T | 8204-CS10T | 8204-CS15T |
|---------------------------|---|---|---|
| Maximum weighing | 5000kg | 10000kg | 15000kg |
| Minimum weighing | 40kg | 100kg | 100kg |
| Resolution (d) | 2kg/1kg | 5kg/2kg | 5kg/2kg |
| Verification interval (e) | 2kg | 5kg | 5kg |
| Accuracy (m is load) | m≤1000kg: ±1kg; 1000kg<m≤4000kg: ±2kg; m>4000kg: ±3kg | m≤2500kg: ±2.5kg; 2500kg<m≤10000kg: ±5kg | m≤2500kg: ±2.5kg; 2500kg<m≤10000kg: ±5kg; m>10000kg: ±7.5kg |
| Overload alarm | 100%F.S.+9e | | |
| Maximum safe load | 150%F.S. | | |
| Limited overload | 400%F.S. | | |
| Stable reading time | ≤8s | | |
| Power supply | rechargeable battery 6V/4Ah (for 40 hours working) | | |
| Operation temperature | -10~40°C | | |
| Operation humidity | ≤85% RH | | |

To be continued

Continued from previous page

STANDARD DELIVERY

| | |
|-------------------|------|
| Main unit | 1 pc |
| Remote controller | 1 pc |
| Battery charger | 1 pc |



handheld display (optional)



large display (optional)

OPTIONAL ACCESSORY

| | |
|------------------|--|
| Handheld display | 8204-INDICATOR (must be supplied with scales together) |
| Large display | 8204-SCREEN (must be supplied with scales together) |

ELECTRONIC CRANE SCALES

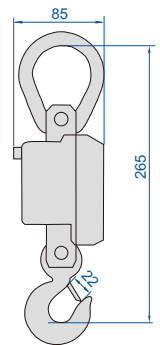
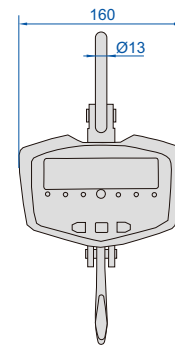
- Zeroing, taring, weighing
- LED display, remote control
- Low voltage indicator
- Unit: kg, lb
- Overload alarm
- Automatic power off
- Aluminum alloy die casting case with high strength



8203-CW05T



remote controller (included)



Unit: mm

SPECIFICATION

| Code | 8203-CW03T | 8203-CW05T | 8203-CW1T |
|---------------------------|---|---|---|
| Maximum weighing | 300kg | 500kg | 1000kg |
| Minimum weighing | 2kg | 4kg | 10kg |
| Resolution (d) | 0.1kg/0.05kg | 0.2kg/0.1kg | 0.5kg/0.2kg |
| Verification interval (e) | 0.1kg | 0.2kg | 0.5kg |
| Accuracy (m is load) | m≤50kg: ±0.05kg; 50kg<m≤200kg: ±0.1kg; m>200kg: ±0.15kg | m≤100kg: ±0.1kg; 100kg<m≤400kg: ±0.2kg; m>400kg: ±0.3kg | m≤250kg: ±0.25kg; 250kg<m≤1000kg: ±0.5kg |
| Overload alarm | 100%F.S.+9e | | |
| Maximum safe load | 150%F.S. | | |
| Limited overload | 400%F.S. | | |
| Stable reading time | <10s | | |
| Power supply | 3×1.5V AA batteries | | |
| Operation temperature | -10~40°C | | |
| Operation humidity | 30%~90% RH | | |

STANDARD DELIVERY

| | |
|-------------------|------|
| Main unit | 1 pc |
| Remote controller | 1 pc |

MOISTURE ANALYZERS

DATA
OUTPUT



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8701-RM40



calibration weight
(included)

- LCD screen
- High sensitivity temperature and humidity sensor
- Ring halogen lamp heating evenly, shorten drying time

SPECIFICATION

| Code | 8701-RM20 | 8701-RM30 | 8701-RM40 |
|-------------------------------|---|-----------|-----------|
| Maximum weighing | 120g | 120g | 120g |
| Resolution (d) | 5mg | 1mg | 0.1mg |
| Accuracy for moisture | sample<10g | ±10% | ±0.2% |
| | sample≥10g | ±5% | ±0.1% |
| Operation temperature | 13~25°C | | |
| Verification interval | 2.5s | | |
| Warm-up time | 20~30 minutes | | |
| Weighing pan size | Ø90mm | | |
| Heating source | halogen lamp (450W) | | |
| Range for heating temperature | 60~200°C | | |
| Heating time setting | 0~99 minutes | | |
| Heating mode | standard heating, step heating, rapid heating | | |
| Shutdown mode | automatic shutdown, manual shutdown, timed shutdown | | |
| Output | RS232C | | |
| Power supply | 220V, 50/60Hz | | |
| Dimension (L×W×H) | 330×210×340mm | | |

STANDARD DELIEVERY

| | |
|-----------|------|
| Main unit | 1 pc |
| Weight | 1 pc |

OPTIONAL ACCESSORY

| | |
|-------------|--------------|
| RS232 cable | 8304-CABLE * |
| Printer | 8303-PRINTER |

*Used to connect with computers



- Supplied with manufacturer inspection certificate

CLASS SELECTION

| Resolution of the weighing instruments | Required class of weights |
|--|---------------------------|
| 0.001mg | E1 |
| 0.01mg | E2 |
| 0.1mg | E2/F1 |
| 1mg | F2 |
| 0.01g/0.1g | M1 |

OIML R111-2004 TOLERANCE

| Weight | E2 | F1 | F2 | M1 |
|--------|---------|---------|--------|--------|
| 1mg | 0.006mg | 0.020mg | 0.06mg | 0.20mg |
| 2mg | 0.006mg | 0.020mg | 0.06mg | 0.20mg |
| 5mg | 0.006mg | 0.020mg | 0.06mg | 0.20mg |
| 10mg | 0.008mg | 0.025mg | 0.08mg | 0.25mg |
| 20mg | 0.010mg | 0.03mg | 0.10mg | 0.3mg |
| 50mg | 0.012mg | 0.04mg | 0.12mg | 0.4mg |
| 100mg | 0.016mg | 0.05mg | 0.16mg | 0.5mg |
| 200mg | 0.020mg | 0.06mg | 0.20mg | 0.6mg |
| 500mg | 0.025mg | 0.08mg | 0.25mg | 0.8mg |
| 1g | 0.03mg | 0.10mg | 0.3mg | 1.0mg |
| 2g | 0.04mg | 0.12mg | 0.4mg | 1.2mg |
| 5g | 0.05mg | 0.16mg | 0.5mg | 1.6mg |
| 10g | 0.06mg | 0.20mg | 0.6mg | 2.0mg |
| 20g | 0.08mg | 0.25mg | 0.8mg | 2.5mg |
| 50g | 0.10mg | 0.3mg | 1.0mg | 3.0mg |
| 100g | 0.16mg | 0.5mg | 1.6mg | 5.0mg |
| 200g | 0.3mg | 1.0mg | 3.0mg | 10mg |
| 500g | 0.8mg | 2.5mg | 8.0mg | 25mg |
| 1kg | 1.6mg | 5.0mg | 16mg | 50mg |
| 2kg | 3.0mg | 10mg | 30mg | 100mg |
| 5kg | 8.0mg | 25mg | 80mg | 250mg |
| 10kg | 16mg | 50mg | 160mg | 500mg |
| 20kg | 30mg | 100mg | 300mg | 1000mg |

| Weight | Class and material | | | | | | Shape | |
|--------|-----------------------------------|-----------------------------------|--------------------------|--------------------------|--------------------------|---------------------------|-------|---|
| | E2 (non-magnetic stainless steel) | F1 (non-magnetic stainless steel) | F1 (304 stainless steel) | F2 (304 stainless steel) | M1 (304 stainless steel) | M1 (steel, chrome plated) | | |
| 1mg | 8911-1MGE2 | 8911-1MGF1 | 8911-1MGF1S | 8911-1MGF2 | 8911-1MGM1 | - | sheet | |
| 2mg | 8911-2MGE2 | 8911-2MGF1 | 8911-2MGF1S | 8911-2MGF2 | 8911-2MGM1 | | | |
| 5mg | 8911-5MGE2 | 8911-5MGF1 | 8911-5MGF1S | 8911-5MGF2 | 8911-5MGM1 | | | |
| 10mg | 8911-10MGE2 | 8911-10MGF1 | 8911-10MGF1S | 8911-10MGF2 | 8911-10MGM1 | | | |
| 20mg | 8911-20MGE2 | 8911-20MGF1 | 8911-20MGF1S | 8911-20MGF2 | 8911-20MGM1 | | | |
| 50mg | 8911-50MGE2 | 8911-50MGF1 | 8911-50MGF1S | 8911-50MGF2 | 8911-50MGM1 | | | |
| 100mg | 8911-100MGE2 | 8911-100MGF1 | 8911-100MGF1S | 8911-100MGF2 | 8911-100MGM1 | | | |
| 200mg | 8911-200MGE2 | 8911-200MGF1 | 8911-200MGF1S | 8911-200MGF2 | 8911-200MGM1 | | | |
| 500mg | 8911-500MGE2 | 8911-500MGF1 | 8911-500MGF1S | 8911-500MGF2 | 8911-500MGM1 | | | |
| 1g | 8911-1GE2 | 8911-1GF1 | 8911-1GF1S | 8911-1GF2 | 8911-1GM1 | | | - |
| 2g | 8911-2GE2 | 8911-2GF1 | 8911-2GF1S | 8911-2GF2 | 8911-2GM1 | | | |
| 5g | 8911-5GE2 | 8911-5GF1 | 8911-5GF1S | 8911-5GF2 | 8911-5GM1 | | | |
| 10g | 8911-10GE2 | 8911-10GF1 | 8911-10GF1S | 8911-10GF2 | 8911-10GM1 | 8911-10GM1C | | |
| 20g | 8911-20GE2 | 8911-20GF1 | 8911-20GF1S | 8911-20GF2 | 8911-20GM1 | 8911-20GM1C | | |
| 50g | 8911-50GE2 | 8911-50GF1 | 8911-50GF1S | 8911-50GF2 | 8911-50GM1 | 8911-50GM1C | | |
| 100g | 8911-100GE2 | 8911-100GF1 | 8911-100GF1S | 8911-100GF2 | 8911-100GM1 | 8911-100GM1C | | |
| 200g | 8911-200GE2 | 8911-200GF1 | 8911-200GF1S | 8911-200GF2 | 8911-200GM1 | 8911-200GM1C | | |
| 500g | 8911-500GE2 | 8911-500GF1 | 8911-500GF1S | 8911-500GF2 | 8911-500GM1 | 8911-500GM1C | | |
| 1kg | 8911-1KGE2 | 8911-1KGF1 | 8911-1KGF1S | 8911-1KGF2 | 8911-1KGM1 | 8911-1KGM1C | | |
| 2kg | 8911-2KGE2 | 8911-2KGF1 | 8911-2KGF1S | 8911-2KGF2 | 8911-2KGM1 | 8911-2KGM1C | | |
| 5kg | 8911-5KGE2 | 8911-5KGF1 | 8911-5KGF1S | 8911-5KGF2 | 8911-5KGM1 | 8911-5KGM1C | | |
| 10kg | 8911-10KGE2 | 8911-10KGF1 | 8911-10KGF1S | 8911-10KGF2 | 8911-10KGM1 | 8911-10KGM1C | | |
| 20kg | 8911-20KGE2 | 8911-20KGF1 | 8911-20KGF1S | 8911-20KGF2 | 8911-20KGM1 | 8911-20KGM1C | | |

WEIGHT SETS



- Supplied with manufacturer inspection certificate



8910-200GF1

CLASS AND MATERIAL

| Specification | Code | | | | |
|---------------|-----------------------------------|-----------------------------------|--------------------------|--------------------------|--------------------------|
| | E2 (non-magnetic stainless steel) | F1 (non-magnetic stainless steel) | F1 (304 stainless steel) | F2 (304 stainless steel) | M1 (304 stainless steel) |
| 1mg~100g | 8910-100GE2 | 8910-100GF1 | 8910-100GF1S | 8910-100GF2 | 8910-100GM1 |
| 1mg~200g | 8910-200GE2 | 8910-200GF1 | 8910-200GF1S | 8910-200GF2 | 8910-200GM1 |
| 1mg~1kg | 8910-1KGE2 | 8910-1KGF1 | 8910-1KGF1S | 8910-1KGF2 | 8910-1KGM1 |
| 1mg~2kg | 8910-2KGE2 | 8910-2KGF1 | 8910-2KGF1S | 8910-2KGF2 | 8910-2KGM1 |
| 1mg~5kg | 8910-5KGE2 | 8910-5KGF1 | 8910-5KGF1S | 8910-5KGF2 | 8910-5KGM1 |

SPECIFICATION AND SHAPE

| Weight | Specification | | | | |
|-------------|---------------|-------------|--------------|--------------|---------------|
| | 1mg~100g | 1mg~200g | 1mg~1kg | 1mg~2kg | 1mg~5kg |
| 1mg | ◆ | ◆ | ◆ | ◆ | ◆ |
| 2mg | ◆◆* | ◆◆* | ◆◆* | ◆◆* | ◆◆* |
| 5mg | ◆ | ◆ | ◆ | ◆ | ◆ |
| 10mg | ◆ | ◆ | ◆ | ◆ | ◆ |
| 20mg | ◆◆* | ◆◆* | ◆◆* | ◆◆* | ◆◆* |
| 50mg | ◆ | ◆ | ◆ | ◆ | ◆ |
| 100mg | ◆ | ◆ | ◆ | ◆ | ◆ |
| 200mg | ◆◆* | ◆◆* | ◆◆* | ◆◆* | ◆◆* |
| 500mg | ◆ | ◆ | ◆ | ◆ | ◆ |
| 1g | ■ | ■ | ■ | ■ | ■ |
| 2g | ■◆* | ■◆* | ■◆* | ■◆* | ■◆* |
| 5g | ■ | ■ | ■ | ■ | ■ |
| 10g | ■ | ■ | ■ | ■ | ■ |
| 20g | ■◆* | ■◆* | ■◆* | ■◆* | ■◆* |
| 50g | ■ | ■ | ■ | ■ | ■ |
| 100g | ■ | ■ | ■ | ■ | ■ |
| 200g | | ■◆* | ■◆* | ■◆* | ■◆* |
| 500g | | | ■ | ■ | ■ |
| 1kg | | | ■ | ■ | ■ |
| 2kg | | | | ■◆* | ■◆* |
| 5kg | | | | | ■ |
| Quantity | 21 pcs | 23 pcs | 25 pcs | 27 pcs | 28 pcs |
| Total range | 1mg~211.11g | 1mg~611.11g | 1mg~2111.11g | 1mg~6111.11g | 1mg~11111.11g |

- ◆ sheet
- cylinder
- ◆* sheet, with mark
- * cylinder, with mark

SALT SPRAY TESTERS, TEMPERATURE AND HUMIDITY CHAMBERS

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Salt Spray Testers
Page 922



Temperature And Humidity Chambers
Page 923-925

**SALT SPRAY TESTER
CODE SFT-S210R**


- Using plastic precision nozzle and conical spray device, the salt spray drops evenly and rapidly, the nozzle has a long working life and does not crystallize
- The spraying time can be controlled internally without external time relay
- The flow rate of salt water and the pressure of compressed air are regulated by flow meter and pressure regulating valve to ensure uniform salt spray settlement
- Manual water adding system can automatically replenish when the water level is insufficient to ensure uninterrupted test

SPECIFICATION

| | |
|------------------------------|---|
| Test condition | suitable for neutral and acid salt spray test |
| Chamber dimension (WxHxD) | 900×500×600mm |
| Chamber volume | 270L |
| Saline tank volume | 25L |
| Chamber temperature | 35±1°C |
| Saturated barrel temperature | 47±1°C |
| Saline temperature | 35±1°C |
| Heating mode | heat radiation |
| Spray mode | continuous, intermittent |
| Test fluid | neutral: purified water+sodium chloride (PH6.5~7.2) |
| Compressed air pressure | 2~3kgf/cm ² |
| Power supply | AC 220V, 1Ø, 50HZ, 2kW |
| Dimension (WxHxD) | 1560×1250×910mm |
| Weight | 118kg |

STANDARD DELIVERY

| | |
|--|-----------|
| Main unit | 1 pc |
| Stick | 1 group |
| Sodium chloride | 2 bottles |
| 10L salt water preparation measuring cup | 1 pc |
| 80ml standard cup | 2 pcs |
| 50ml metering cup | 2 pcs |

OPTIONAL ACCESSORY

| | |
|--------------|------------------|
| Nozzle | SFT-S210R-NOZZLE |
| Brine Filter | SFT-S210R-FILTER |

DESKTOP TEMPERATURE AND HUMIDITY CHAMBER CODE THT-Z158



- Table design, quiet and small
- Equipped with operation system with 7-inch touch screen controller
- Intelligent refrigeration and dehumidification system, it can save 30~45% of electricity compared with traditional machines
- Output excel data report through USB port

SPECIFICATION

| | | |
|----------------------------------|-----------------------------|--|
| Chamber dimension (WxHxD) | | 300×350×300mm |
| Chamber volume | | 32L |
| Temperature range | | -40~120°C |
| Humidity range | | 20~98%RH |
| Temperature/humidity uniformity | | ≤2°C, ±3%RH |
| Temperature/humidity fluctuation | | ±0.5°C, ±2.5%RH |
| Temperature/humidity stability | | ±0.3°C, 2.5%RH |
| Warm up time | | 1~3°C/min |
| Cooling time | | 0.7~1°C/min |
| Operation environment | environment temperature | 5~35°C |
| | relative humidity | ≤85%RH |
| Material | case material | cold rolled steel plate+varnish |
| | chamber material | SUS#304 stainless steel |
| | thermal insulation material | polyurethane foam |
| Cooling system | | compressor |
| Protector | | compressor overload protection switch, refrigerant high pressure protection switch, ceramic fuse, water plate of water shortage protection switch, electromagnetic switch, air burn protection switch, alarm |
| Power supply | | AC220, 50/60HZ, 2kW |
| Dimension (WxHxD) | | 550×850×1050mm |
| Weight | | 185kg |

STANDARD DELIVERY

| | |
|-----------|-------|
| Main unit | 1 pc |
| Test hole | 1 pc |
| Shelf | 2 pcs |


THT-A101T

- The chamber is equipped with an independent operation system with 7-inch or 10.1-inch touch screen controller
- Intelligent refrigeration and dehumidification system, combined with energy-saving control algorithm, can adjust the refrigeration level and save energy. Compared with traditional machines, it can save 30~45% of electricity
- It can output excel data report through USB port

SPECIFICATION

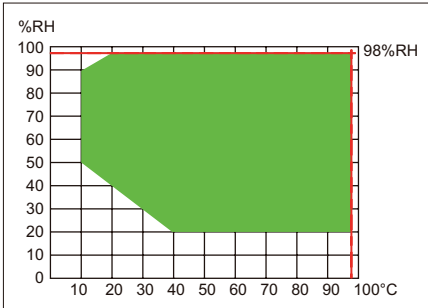
| Code | THT-A101T | THT-A102T | THT-A103T | THT-A104T | THT-A105T |
|----------------------------------|---|---------------------------------|-----------------------|-------------------------|-------------------------|
| Chamber dimension (WxHxD) | 500×600×500mm | 500×500×400mm | 500×750×600mm | 700×850×700mm | 1000×1000×1000mm |
| Chamber volume | 150L | 100L | 225L | 416L | 1000L |
| Temperature range | -40~150°C | | | | |
| Humidity range | 10~98%RH | | | | |
| Temperature/humidity fluctuation | ±0.5°C, ±2.5%RH | | | | |
| Temperature/humidity uniformity | <2°C, 5%RH | | | | |
| Temperature/humidity stability | 0.2°C, 2%RH | | | | |
| Temperature/humidity deviation | ±2°C, 3%RH | | | | |
| Warm up time | about 3°C/min | | | | |
| Cooling time | about 1°C/min | | | | |
| Material | case material | cold rolled steel plate+varnish | | | |
| | chamber material | SUS#304 stainless steel | | | |
| | thermal insulation material | rigid polyurethane foam | | | |
| Cooling system | compressor | | | | |
| Protector | no fuse switch, compressor overpressure, overheat protection, overtemperature protection, overload protection, dry burning protection, water shortage protection, etc | | | | |
| Power supply | AC220V, 50HZ, 4.5kW | AC220V, 50HZ, 2kW | AC380V, 3Ø, 50HZ, 4kW | AC380V, 3Ø, 50HZ, 3.5kW | AC380V, 3Ø, 50HZ, 3.5kW |
| Dimension (WxHxD) | 800×1660×1400mm | 750×1550×1170mm | 850×1750×1200mm | 950×1850×1400mm | 1300×1950×1850mm |
| Weight | 365kg | 285kg | 385kg | 510kg | 950kg |

STANDARD DELIVERY

| | |
|-----------|-------|
| Main unit | 1 pc |
| Test hole | 1 pc |
| Shelf | 2 pcs |

PROGRAMMABLE TEMPERATURE AND HUMIDITY CHAMBER (PROFESSIONAL TYPE) CODE HTT-A150

temperature and humidity control range diagram



- The chamber is equipped with a standalone operation system and uses a 7-inch human-machine interface touch screen programmable controller
- Adopt advanced balanced temperature and humidity control system, dynamic PID and steam partial pressure control, HFC environmental refrigerant
- Remote control and data acquisition can be performed through the RS232 interface, and CSV data files can be directly exported to a USB flash drive


SPECIFICATION

| | | |
|----------------------------------|---|---|
| Chamber dimension (WxHxD) | 500×600×500mm | |
| Chamber volume | 150L | |
| Temperature range | -40~150°C | |
| Humidity range | 20~98%RH | |
| Temperature/humidity deviation | ±2.0°C, ±2.5%RH | |
| Temperature/humidity fluctuation | ±0.5°C, ±2.0%RH | |
| Temperature/humidity uniformity | ±2.0°C, ±3.0%RH | |
| Warm up time | 2.0~3.0°C/min (empty) | |
| Cooling time | 1.0~1.5°C/min (empty) | |
| Cooling system | compressor | |
| Material | case material | double-sided galvanized steel plate+spray treatment |
| | chamber material | SUS#304 stainless steel |
| | thermal insulation | rigid polyurethane foam |
| Protector | total power supply phase sequence and out-of-phase protection, leakage protection, load short-circuit protection, adjustable over-temperature protection, humidification system water-deficit protection, compressor over-pressure protection, etc. | |
| Power supply | AC380V, 50Hz, 5kW | |
| Dimension (WxHxD) | 765×1670×1575mm | |
| Weight | 370kg | |

STANDARD DELIVERY

| | |
|-----------|-------|
| Main unit | 1 pc |
| Test hole | 1 pc |
| Shelf | 2 pcs |

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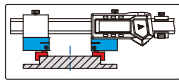
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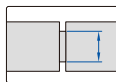
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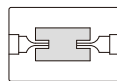
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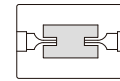
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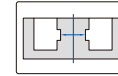
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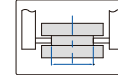
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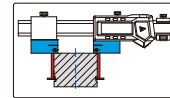
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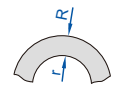
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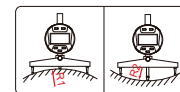
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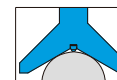
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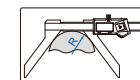
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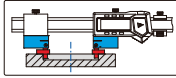
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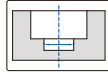
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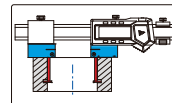
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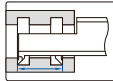
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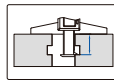
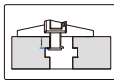
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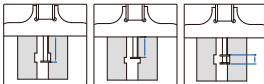
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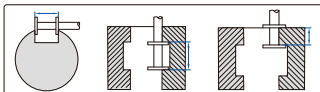
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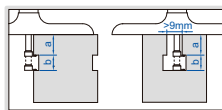
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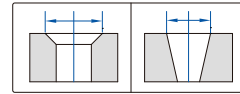
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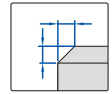
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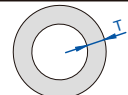
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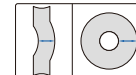
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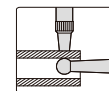
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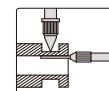
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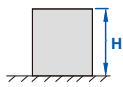


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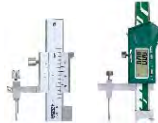
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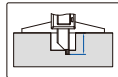
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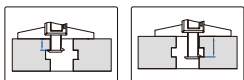
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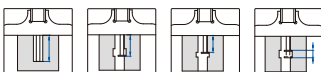
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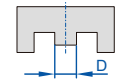
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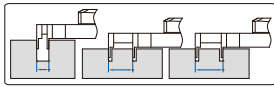
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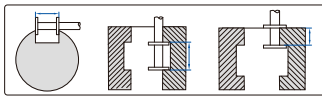
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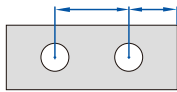
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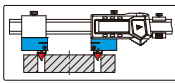
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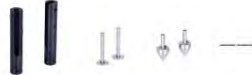
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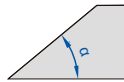
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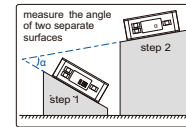
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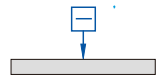
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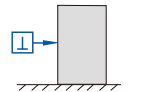
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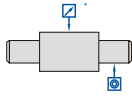
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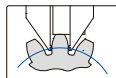
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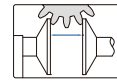
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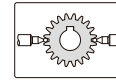
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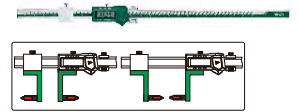
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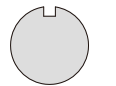
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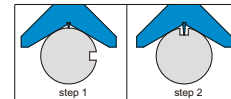
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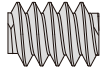


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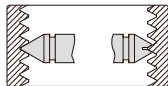
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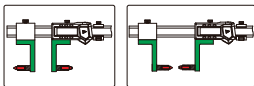
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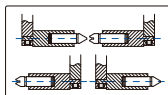
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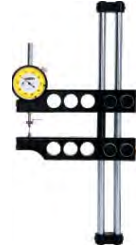


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Add: Av. do Trabalhador, 2640 - Centro
Empresarial Castelo Branco,
CEP 18552-100-Boituva-SP-Brasil
Tel: +55 15 29490830
E-mail: vendas@insize.com.br
Website: www.insize.com.br



INSIZE USA

Add: 2230 Commerce Drive Loganville, GA 30052
Tel: 470-240-2520
Fax: 470-448-4771
E-mail: sales@insizeus.com
Website: www.insizeus.com



INSIZE (CHINA) CO., LTD.

Add: 80 Xiangyang Road, Suzhou New District,
215009 China
Tel: +86-512-68099993
Fax: +86-512-68085081
E-mail: china@insize.com
Website: www.insize.cn



INSIZE EUROPE S.L.

Add: Aresti No 8, 48160, Derio, Spain
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INSIZE INDIA

Add: Block B-09, Sumel-8, Nr. Ajit Mill Char
Rasta, Rakhial Ahmedabad - 380023, India
Tel: +91-78-19819939, 19819941
E-mail: india@insize.com
Website: www.insize.in



INSIZE Czech s.r.o.

Add: Krumlovská 1454/26, Ivančice 664 91,
Czech republic
Tel: +420-544 500 151
GSM: +420-703 148 182
E-mail: obchod@insize.cz
Website: www.insize.cz



INSIZE Mexico

Add: Miguel Hidaglo 1332 Poniente Col La
Esmeralda CP 67140, Guadalupe,
Nuevo León, México
Tel: +52 (81) 811 843 8316
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