2016

# MEASURING INSTRUMENTS

CATALOGUE NO. 202

INSIZE

# QUALITY | INNOVATION | SERVICE | VALUE

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- Innovation by continually striving to improve and develop new products
- Service and support to ensure you have trouble-free use of our products
- High performance products at a good price

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## 1 DATA OUTPUT AND SOFTWARE PAGE 1-5

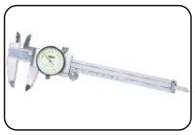
MEASURING DATA MANAGEMENT SOFTWARE

WIRELESS DATA TRANSFER SYSTEM

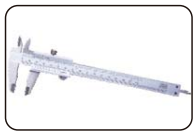
DATA OUTPUT CABLE

## 2 CALIPER PAGE 6-40

DIGITAL CALIPER



DIAL CALIPER



VERNIER CALIPER

LARGE RANGE CALIPER

SPECIAL PURPOSE CALIPER

## 3 DEPTH MEASUREMENT PAGE 41-52

DEPTH GAGE

DIAL DEPTH GAGE

DEPTH MICROMETER

## 4 HEIGHT MEASUREMENT PAGE 53-56

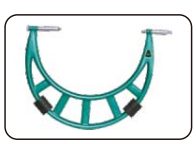
DIGITAL HEIGHT GAGE

VERNIER HEIGHT GAGE

## 5 MICROMETER PAGE 57-96

DIGITAL OUTSIDE MICROMETER

OUTSIDE MICROMETER



LARGE RANGE MICROMETER

INDICATING MICROMETER

MICROMETER WITH DIAL INDICATOR

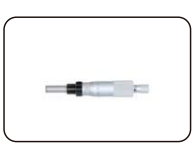
3-WIRES

SPECIAL PURPOSE MICROMETER

MICROMETER MEASURING FORCE DETECTOR

OPTICAL PARALLEL

MICROMETER STAND

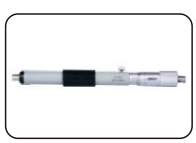


MICROMETER HEAD

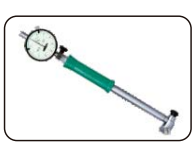
## 6 INTERNAL AND EXTERNAL DIAMETER MEASUREMENT PAGE 97-118

INSIDE MICROMETER

THREE POINTS INTERNAL MICROMETER



TUBULAR INSIDE MICROMETER



BORE GAGE

BORE GAGE SETTER

SETTING RING

TELESCOPING GAGE SET

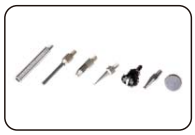
DIGITAL RADIUS GAGE

CIRCUMFERENCE TAPE

## 7 INDICATOR PAGE 119-151

DIGITAL INDICATOR

DIAL INDICATOR


POINTS

DIAL TEST INDICATOR

DIAL TEST INDICATOR HOLDER

MAGNETIC STAND

DIAL INDICATOR STAND

TRANSFER STAND

CONCENTRICITY GAGE

BENCH CENTER

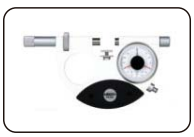
SINE BENCH CENTER

## 8 PAGE 152-167

INTERNAL/EXTERNAL CALIPER GAGE

DIGITAL THICKNESS GAGE

THICKNESS GAGE


DIAL SNAP GAGE

DIAL SNAP GAGE

ADJUSTABLE SNAP GAGE

DIGITAL SNAP GAGE

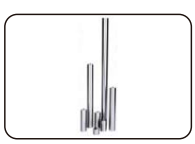
STEP AND GAP GAGE

CRANKSHAFT TESTER

## 9 PAGE 168-194

GAGE BLOCKS

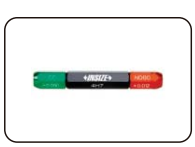
GAGE BLOCK ACCESSORY

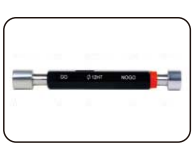

CYLINDER GAGE BLOCK

CHECK MASTER

ANGLE GAGE BLOCK

PIN GAGE

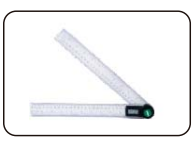

PIN GAGE HANDLE


PLAIN PLUG GAGE

THREAD PLUG GAGE

THREAD RING GAGE

## 10 PAGE 195-212


DIGITAL PROTRACTOR

PROTRACTOR

PROTRACTOR

UNIVERSAL PROTRACTOR

DIGITAL PROTRACTOR

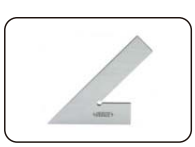
COMBINATION SQUARE SET

GRANITE SQUARE

CYLINDER SQUARE

PERPENDICULARITY TESTER

SQUARE


45° SQUARE

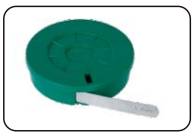
STRAIGHT EDGE

GRANITE STRAIGHT EDGE

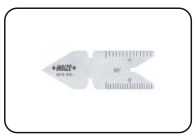
PRECISION STRAIGHT EDGE

## 11 PAGE 213-237

FEELER GAGE

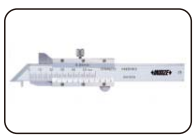

FEELER GAGE TAPE

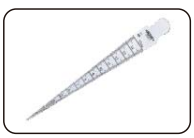
PITCH GAGE

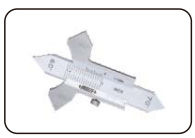

CENTER GAGE

ANGLE GAGE

RADIUS GAGE


CHAMFER GAGE


TAPER GAGE

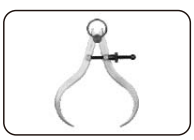

WELDING GAGE

WELDING GAGE

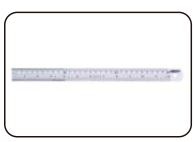
PIPE WELDING GAGE

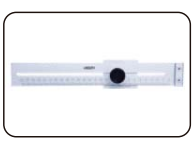
DRILL POINT GAGE

DRILL ANGLE GAGE


INSIDE/OUTSIDE CALIPER

DIVIDER

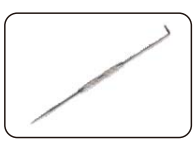

STEEL RULE


MARKING GAGE

CENTER MARKING GAGE

SCRIBING CALIPER

HEIGHT SCRIBER


SCRIBER

## 12 PAGE 238-261

GRANITE SURFACE PLATE

STAND FOR GRANITE SURFACE PLATE

JACK SET FOR GRANITE SURFACE PLATE

MAGNETIC RECTANGULAR BLOCKS

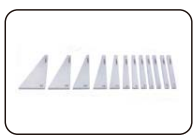
V-BLOCK SET

ROLLER BEARING V-BLOCK SET

GRANITE V-BLOCK SET

MAGNETIC V-BLOCK

PARALLEL SET


ANGLE PLATE SET

ADJUSTABLE ANGLE BLOCK

RIGHT ANGLE PLATE

SINE TABLE

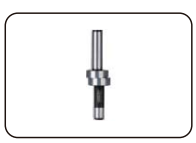
PRECISION SINE VISE

PRECISION UNIVERSAL VISE

PRECISION VISE

CENTERING INDICATOR

3D TESTER


EDGE FINDER

ZERO SETTER

## 13 MEASURING TOOL SET PAGE 262-268

MEASURING TOOL SET

## 14 SCALE PAGE 269-273

DIGITAL SCALE

LINEAR SCALE

COUNTER

## 15 LINEAR GAGE PAGE 274-276

LINEAR GAGE AND DISPLAY UNIT

HIGH PRECISION LINEAR GAGE AND DISPLAY UNIT

## 16 EXTERNAL THREAD MEASURING DEVICE PAGE 277-278

EXTERNAL THREAD MEASURING DEVICE

## 17 PROFILE PROJECTOR PAGE 279-286

PROFILE PROJECTOR

HORIZONTAL PROFILE PROJECTOR

## 18 VISION MEASURING SYSTEM PAGE 287-290

VISION MEASURING SYSTEM

VISION MEASURING SYSTEM

## 19 MICROSCOPE PAGE 291-303

DIGITAL MEASURING MICROSCOPE

ZOOM STEREO MICROSCOPE

METALLURGICAL MICROSCOPE

DIGITAL CAMERA

PORTABLE MEASURING MICROSCOPE

## 20 BORESCOPE PAGE 304-317

VIDEOSCOPE

PIPE VIDEOSCOPE

RIGID BORESCOPE

## 21 PAGE 318-324

COATING THICKNESS GAGE

ULTRASONIC THICKNESS GAGE

DIGITAL LED TACHOMETER/STROBOSCOPE

LASER DISTANCE METER

## 22 ROUGHNESS TESTER PAGE 325-340

ROUGHNESS TESTER

ROUGHNESS TESTER

SURFACE ROUGHNESS SPECIMEN

## 23 LEVEL PAGE 341-345

DIGITAL LEVEL

DIGITAL LEVEL AND PROTRACTOR

DIGITAL LEVEL AND PROTRACTOR

FRAME LEVEL

BLOCK LEVEL

DIGITAL LEVEL

ALUMINUM ALLOY LEVEL

## 25 FORCE GAGE PAGE 378-380

DIGITAL FORCE GAGE

TEST STAND

## 26 TORQUE TESTER TORQUE WRENCH PAGE 381-391

DIGITAL TORQUE TESTER

TORQUE WRENCH TEST STAND

DIGITAL BOTTLE CAP TORQUE TESTER

DIGITAL TORQUE SCREWDRIVER

DIGITAL TORQUE WRENCH

TORQUE WRENCH

## 24 HARDNESS TESTER PAGE 346-377

ROCKWELL HARDNESS TESTER

BRINELL/ROCKWELL/ VICKERS HARDNESS TESTER

BRINELL HARDNESS TESTER

MICRO-VICKERS HARDNESS TESTER

VICKERS HARDNESS TESTER

BRINELL INDENTATION MEASURING SYSTEM

VICKERS HARDNESS MEASURING SYSTEM

PORTABLE LEEB HARDNESS TESTER

ULTRASONIC HARDNESS TESTER

PORTABLE ROCKWELL HARDNESS TESTER

MAGNETIC ROCKWELL HARDNESS TESTER

HYDRAULIC BRINELL HARDNESS TESTER

PIN BRINELL HARDNESS TESTER

WEBSTER HARDNESS TESTER

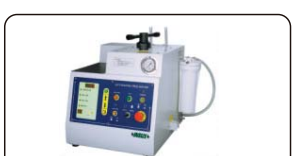
BARCOL HARDNESS TESTER

SHORE DUROMETER

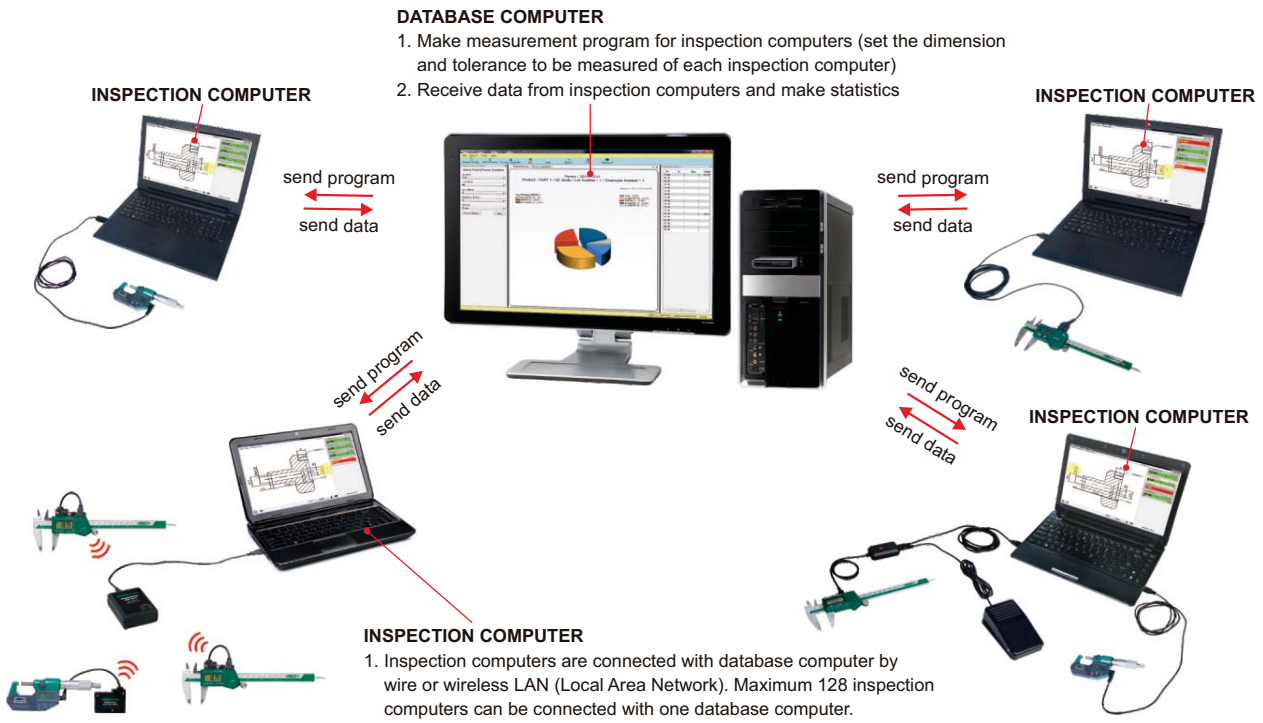
## 27 PAGE 392-394

PRECISION CUTTING MACHINE

GRINDER AND POLISHER

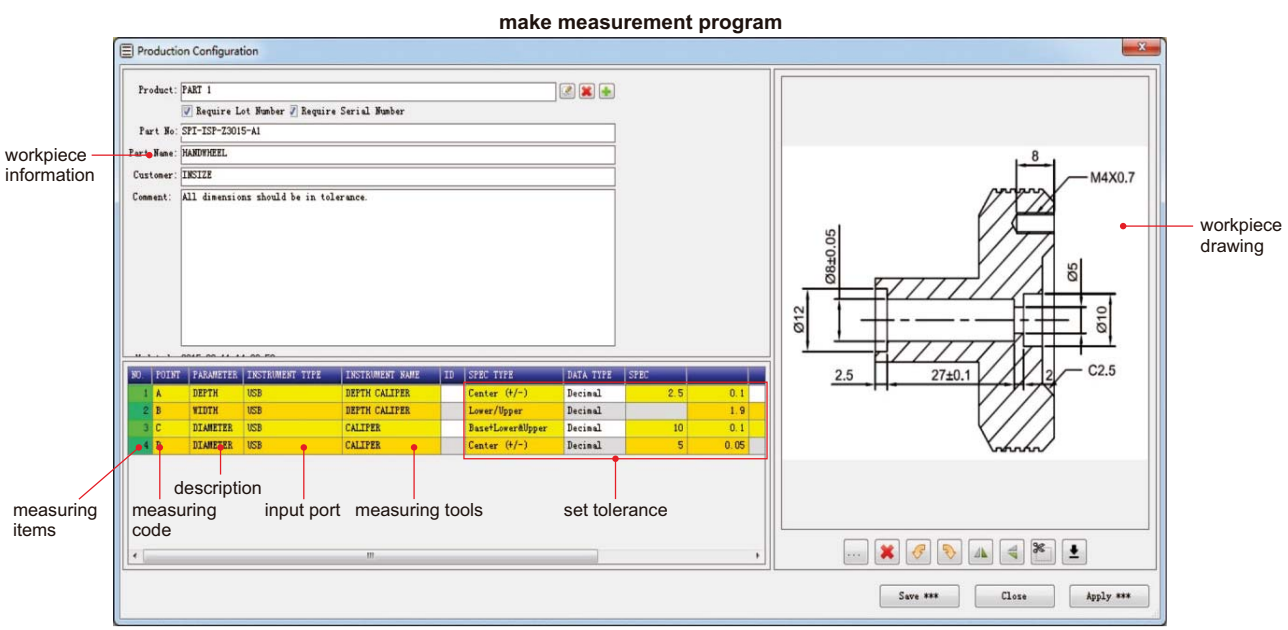

MOUNTING PRESS

# MEASURING DATA MANAGEMENT SOFTWARE




## SOFTWARE FOR DATABASE COMPUTER
## CODE 7311-1

**make measurement program**

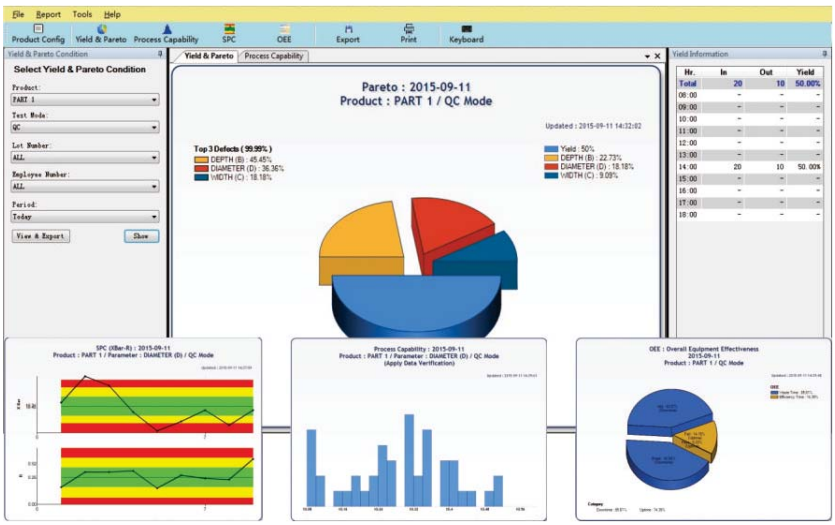



Make measurement program for each one inspection computer. Maximum 200 dimensions can be measured by one inspection computer.

To be continued

Continued from previous page

**make data statistics**

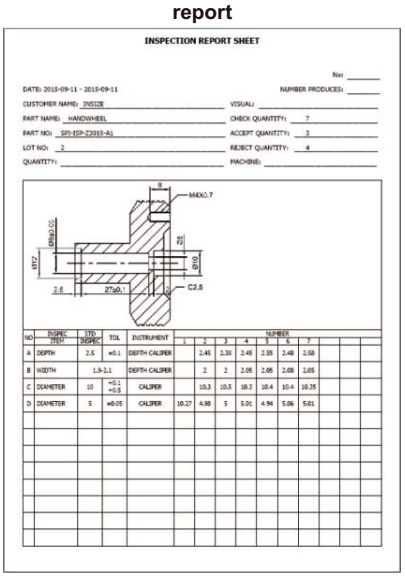



process control analysis

CPK analysis

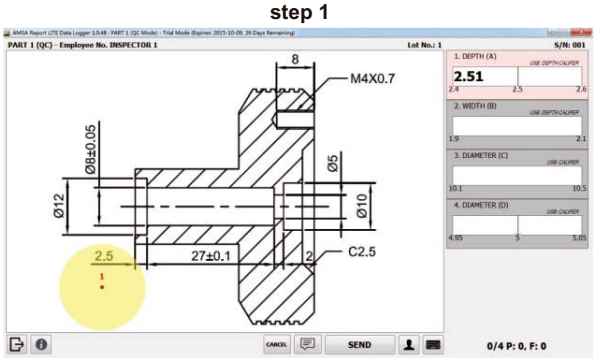
overall equipment effectiveness analysis

**report**



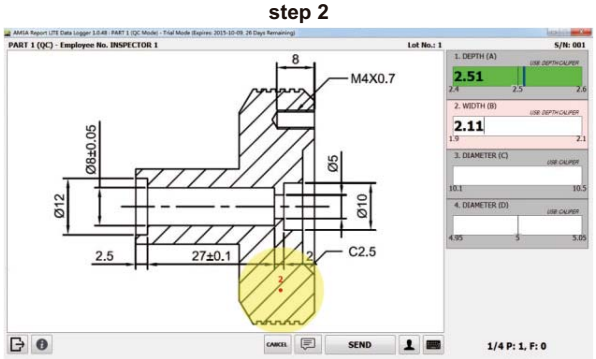

## SOFTWARE FOR INSPECTION COMPUTER CODE 7311-2

**step 1**



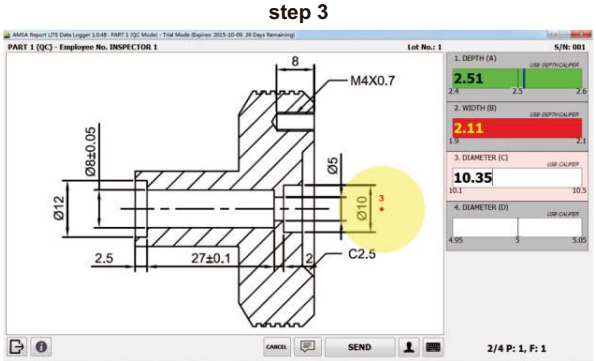

Measure the 1st dimension by following the yellow position indication.

**step 2**



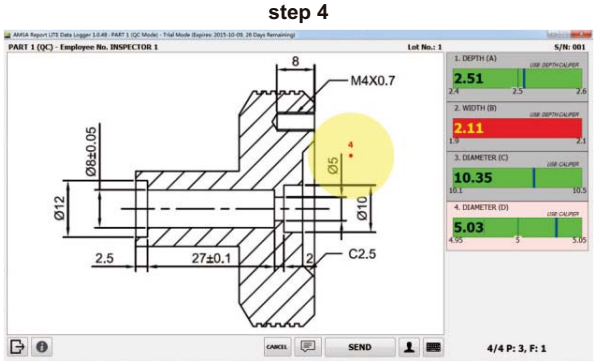

Measure the 2nd dimension by following the yellow position indication.
The 1st data will be shown in red or green according its tolerance.

**step 3**




Measure the 3rd dimension by following the yellow position indication.
The 2nd data will be shown in red or green according its tolerance.

**step 4**




Measure the 4th dimension by following the yellow position indication.
The 3rd data will be shown in red or green according its tolerance.
The data of four measurements will be sent to the database computer.

# WIRELESS DATA TRANSFER SYSTEM

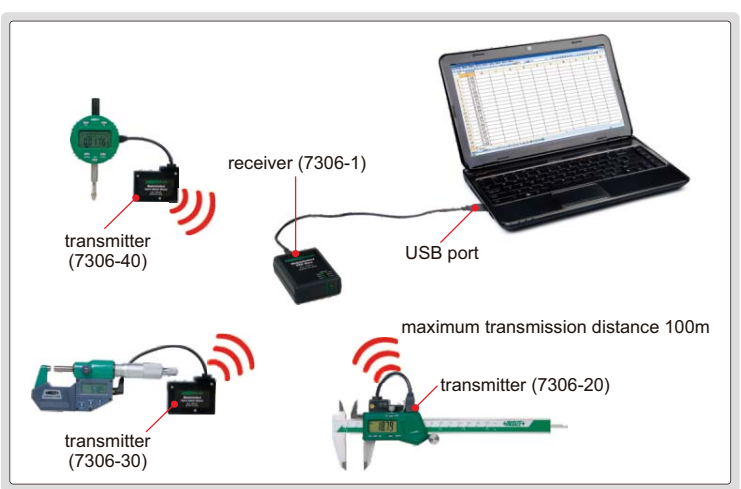
APPLICABLE FOR OTHER BRANDS

**receiver**
**7306-1**

**transmitter**
**7306-20**

| Code | Description | Applicable products |
|---|---|---|
| **7306-1** | receiver (with USB cable) | |
| **7306-20** | transmitter | digital calipers and digital depth gages (not for **1103**) |
| **7306-30** | transmitter | digital micrometers (not for **3631, 3632, 3108, 3109, 3635**) |
| **7306-40** | transmitter | digital indicators digital protractors |

- **CONNECTION:** one receiver can be connected to 10 transmitters.




- **DATA COLLECTION:**
  1) Single collection: press the read button once to collect the reading from measuring tool once.
  2) Multi collection: press the read button once to start collecting readings from measuring tools continuously, press the button again to stop collecting. Total collection times and interval time can be adjusted.

- **DISPLAY:** data can be input to Excel as keyboard signal.

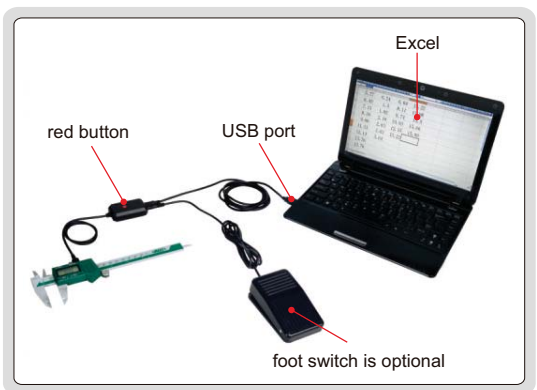
measuring tools code A, B, C

| | A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|---|
| 1 | 10.88-A | | | | | | |
| 2 | 5.963-B | | | | | | |
| 3 | 50.03-C | | | | | | |
| 4 | 25.49-D | | | | | | |
| 5 | 50.05-C | | | | | | |
| 6 | 10.89-A | | | | | | |
| 7 | 25.50-D | | | | | | |
| 8 | 5.965-B | | | | | | |
| 9 | 10.87-A | | | | | | |
| 10 | 50.04-C | | | | | | |
| 11 | 25.05-D | | | | | | |
| 12 | 50.03-C | | | | | | |
| 13 | 5.963-B | | | | | | |
| 14 | 50.05-C | | | | | | |
| 15 | | | | | | | |
| 16 | | | | | | | |

All data are displayed in the same column. Each measuring tool can be coded such as A, B, C, etc.

# DATA OUTPUT CABLE

- Connect to USB port of computer
- Without software, data can be input as keyboard signal to Excel, Word, etc.
- Press the red button or foot switch (optional) to input data



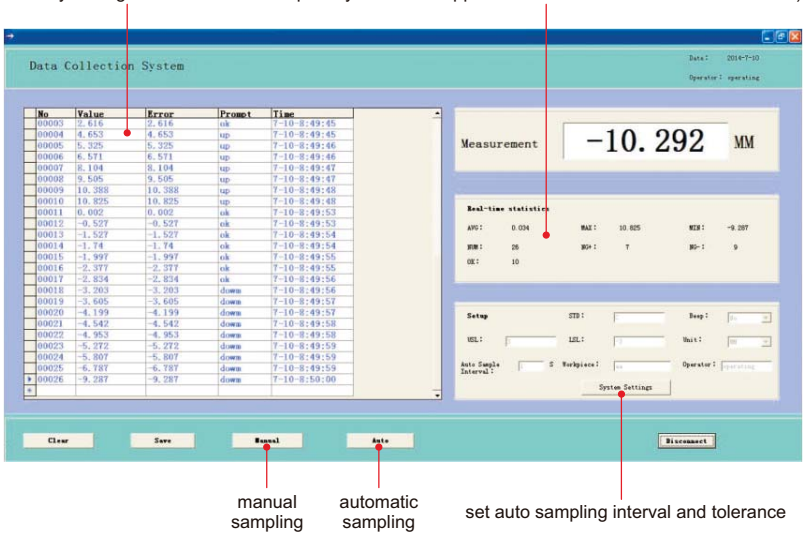
7304-2

| Code | Description | Remark |
|---|---|---|
| **7302-SPC1A** | cable (length 2.5m) | for digital calipers and digital depth gages (not for **1103**) |
| **7302-SPC1B** | cable (length 2.5m) | for digital calipers and digital depth gages (not for **1103**) |
| **7302-SPC2A** | cable (length 2.5m) | for digital micrometers (not for **3631, 3632, 3108, 3109, 3635**) |
| **7302-SPC3A** | cable (length 2.5m) | for digital indicators digital protractors |
| **7302-SPC4** | cable (length 2.5m) | for digital calipers **1103** series (for **1103** only) |
| **7304-2** | foot switch with cable (length 1.5m) | optional |

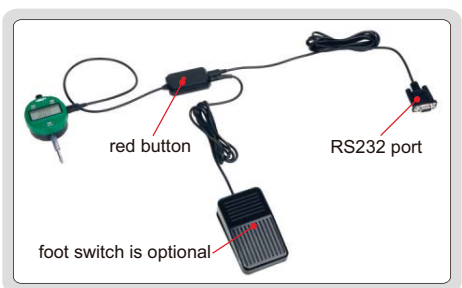
# RS232 DATA OUTPUT CABLE

**7305-SPC1A**

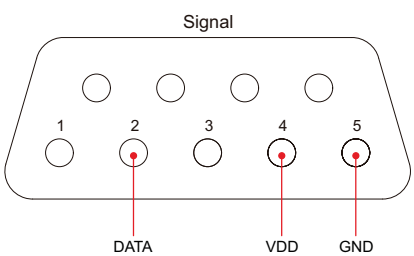
**7305-SPC3**



foot switch (optional)
**7304-2**




- Manual sampling and automatic sampling
- Press manual sampling button in software or red button on cable or foot switch once to collect the reading from measuring tool once
- Can be used in Windows Hyperterminal
- Supplied with software
- Voltage required: 5-10V
- Cable length 2.5m




| Code | Applicable products |
|---|---|
| **7305-SPC1A** | digital indicators  digital protractors |
| **7305-SPC2** | digital calipers and digital depth gages (not for **1103**) |
| **7305-SPC3** | digital micrometers (not for **3631, 3632, 3108, 3109, 3635**) |
| **7304-2** | foot switch with cable (length 1.5m), optional |

# WATERPROOF DIGITAL CALIPER

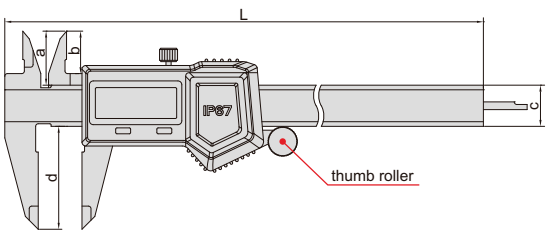
MANUFACTURER INSPECTION CERTIFICATE TRACEABLE TO DKD

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

ATTENTION: NO DATA OUTPUT

IP67 WATERPROOF

**1118-150BW**




- 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

(mm)

| Code | Range | Accuracy | Thumb roller | L | a | b | c | d |
|---|---|---|---|---|---|---|---|---|
| **1118-150BW*** | 0-150mm/0-6" | ±0.03mm | without | 236 | 21 | 16 | 16 | 40 |
| **1118-200BW*** | 0-200mm/0-8" | ±0.03mm | without | 286 | 24 | 19 | 16 | 50 |
| **1118-300BW*** | 0-300mm/0-12" | ±0.03mm | without | 400 | 25 | 20.5 | 17 | 60 |
| **1118-150B*** | 0-150mm/0-6" | ±0.03mm | with | 236 | 21 | 16 | 16 | 40 |
| **1118-200B*** | 0-200mm/0-8" | ±0.03mm | with | 286 | 24 | 19 | 16 | 50 |
| **1118-300B*** | 0-300mm/0-12" | ±0.03mm | with | 400 | 25 | 20.5 | 17 | 60 |

*Supplied with manufacturer inspection certificate traceable to DKD Germany

INSIZE Inspection Certificate

| | | | |
|---|---|---|---|
| Product name | Digital Caliper | Traceable to | USA NIST No.821/279484-10 |
| Code No. | 1108-150 | | Germany DKD No.D-K-15190-01-00 |
| Measuring range | 0-150mm / 0-6" | Inspector | |
| Resolution | 0.01mm / 0.0005" | | |
| Serial No. | 0910120004 | Judgement | Passed |
| Standard temperature | 20°C / 68°F | | |

Unit: inch

| Measuring Length | Permissible Error | Error | |
|---|---|---|---|
| | | External | Internal |
| 0.4 DIA | +0.0005 -0.0010 | / | 0.0005 |
| 2 | ±0.0010 | -0.0005 | / |
| 4 | | -0.0005 | / |
| 6 | ±0.0015 | -0.0010 | / |
| 8 | | / | / |
| 10 | | / | / |
| 12 | | / | / |

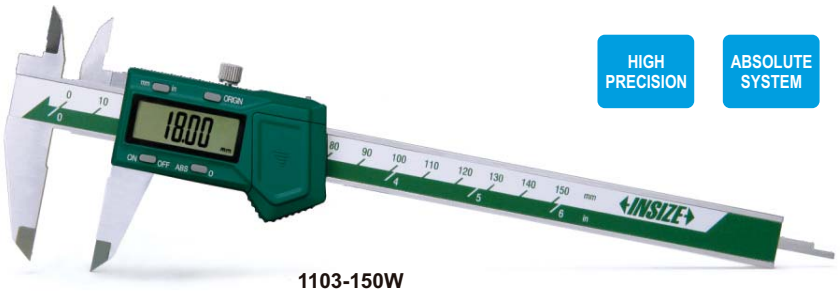
Unit: mm

| Measuring Length | Permissible Error | Error | |
|---|---|---|---|
| | | External | Internal |
| Φ10 | +0.01 -0.02 | / | 0.01 |
| 50 | ±0.02 | -0.01 | / |
| 100 | | -0.01 | / |
| 150 | ±0.03 | -0.02 | / |
| 200 | | / | / |
| 250 | | / | / |
| 300 | | / | / |

## MANUFACTURER INSPECTION CERTIFICATE TRACEABLE TO DKD GERMANY, FOR CALIPERS

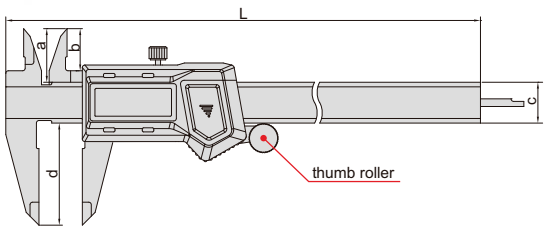
# DIGITAL CALIPER

HIGH PRECISION | ABSOLUTE SYSTEM | DATA OUTPUT



**1103-150W**

- Absolute system
- Resolution: 0.01mm/0.0005"
- Buttons: mm/inch, ABS/REL, on/off, origin set
- Battery CR2032, automatic power off
- After 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 **7302-SPC4**)




(mm)

| Code | Range | Accuracy | Thumb roller | L | a | b | c | d |
|---|---|---|---|---|---|---|---|---|
| **1103-150W*** | 0-150mm/0-6" | ±0.02mm | without | 234 | 21 | 16.5 | 16 | 40 |
| **1103-200W*** | 0-200mm/0-8" | ±0.02mm | without | 286 | 24 | 19 | 16 | 50 |
| **1103-300W*** | 0-300mm/0-12" | ±0.03mm | without | 390 | 26 | 21.5 | 16 | 60 |
| **1103-150*** | 0-150mm/0-6" | ±0.02mm | with | 234 | 21 | 16.5 | 16 | 40 |
| **1103-200*** | 0-200mm/0-8" | ±0.02mm | with | 286 | 24 | 19 | 16 | 50 |
| **1103-300*** | 0-300mm/0-12" | ±0.03mm | with | 390 | 26 | 21.5 | 16 | 60 |

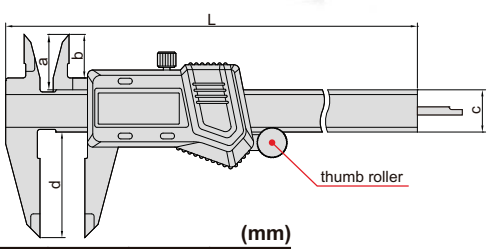
*Supplied with manufacturer inspection certificate traceable to DKD Germany

# DIGITAL CALIPER

ATTENTION: NO DATA OUTPUT

**1114-150AW**

- Zinc alloy house 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




(mm)

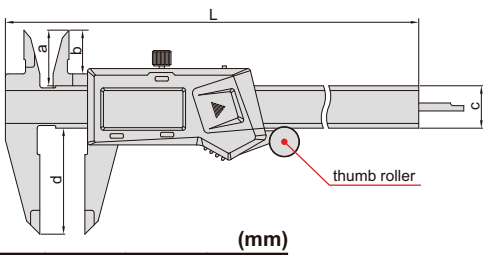
| Code | Range | Accuracy | Thumb roller | L | a | b | c | d |
|---|---|---|---|---|---|---|---|---|
| **1114-150AW*** | 0-150mm/0-6" | ±0.03mm | without | 236 | 21 | 16 | 16 | 40 |
| **1114-200AW*** | 0-200mm/0-8" | ±0.03mm | without | 286 | 24 | 19 | 16 | 50 |
| **1114-300AW*** | 0-300mm/0-12" | ±0.03mm | without | 400 | 25 | 20.5 | 17 | 60 |
| **1114-150A*** | 0-150mm/0-6" | ±0.03mm | with | 236 | 21 | 16 | 16 | 40 |
| **1114-200A*** | 0-200mm/0-8" | ±0.03mm | with | 286 | 24 | 19 | 16 | 50 |
| **1114-300A*** | 0-300mm/0-12" | ±0.03mm | with | 400 | 25 | 20.5 | 17 | 60 |

*Supplied with manufacturer inspection certificate traceable to DKD Germany

# DIGITAL CALIPER

DATA OUTPUT

1108-150W




- 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 **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)

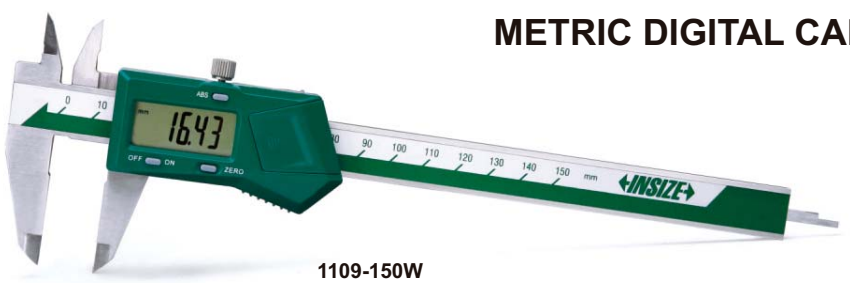
(mm)

| Code | Range | Accuracy | Thumb roller | L | a | b | c | d |
|---|---|---|---|---|---|---|---|---|
| **1108-150W*** | 0-150mm/0-6" | ±0.03mm | without | 236 | 21 | 16 | 16 | 40 |
| **1108-200W*** | 0-200mm/0-8" | ±0.03mm | without | 286 | 24 | 19 | 16 | 50 |
| **1108-300W*** | 0-300mm/0-12" | ±0.03mm | without | 400 | 25 | 20.5 | 17 | 60 |
| **1108-150*** | 0-150mm/0-6" | ±0.03mm | with | 236 | 21 | 16 | 16 | 40 |
| **1108-200*** | 0-200mm/0-8" | ±0.03mm | with | 286 | 24 | 19 | 16 | 50 |
| **1108-300*** | 0-300mm/0-12" | ±0.03mm | with | 400 | 25 | 20.5 | 17 | 60 |

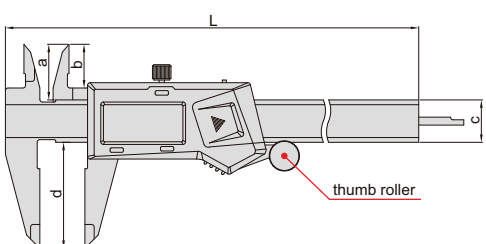
*Supplied with manufacturer inspection certificate traceable to DKD Germany

# METRIC DIGITAL CALIPER

DATA OUTPUT



1109-150W




- Resolution: 0.01mm
- Buttons: on/off, zero, ABS
- Absolute and incremental measurement
- 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 **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)

(mm)

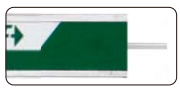
| Code | Range | Accuracy | Thumb roller | L | a | b | c | d |
|---|---|---|---|---|---|---|---|---|
| **1109-150W*** | 0-150mm | ±0.03mm | without | 236 | 21 | 16 | 16 | 40 |
| **1109-200W*** | 0-200mm | ±0.03mm | without | 286 | 24 | 19 | 16 | 50 |
| **1109-300W*** | 0-300mm | ±0.03mm | without | 400 | 25 | 20.5 | 17 | 60 |
| **1109-150*** | 0-150mm | ±0.03mm | with | 236 | 21 | 16 | 16 | 40 |
| **1109-200*** | 0-200mm | ±0.03mm | with | 286 | 24 | 19 | 16 | 50 |
| **1109-300*** | 0-300mm | ±0.03mm | with | 400 | 25 | 20.5 | 17 | 60 |

*Supplied with manufacturer inspection certificate traceable to DKD Germany

# DIGITAL CALIPER WITH ROUND DEPTH BAR

DATA OUTPUT

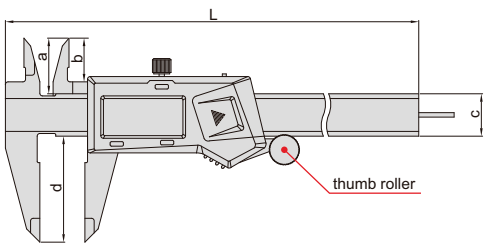
MANUFACTURER INSPECTION CERTIFICATE TRACEABLE TO DKD



round depth bar Ø1.6mm

**1119-150W**

- 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 **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)




**(mm)**

| Code | Range | Accuracy | Thumb roller | L | a | b | c | d |
|---|---|---|---|---|---|---|---|---|
| **1119-150W*** | 0-150mm/0-6" | ±0.03mm | without | 236 | 21 | 16 | 16 | 40 |
| **1119-150*** | 0-150mm/0-6" | ±0.03mm | with | 236 | 21 | 16 | 16 | 40 |

*Supplied with manufacturer inspection certificate traceable to DKD Germany

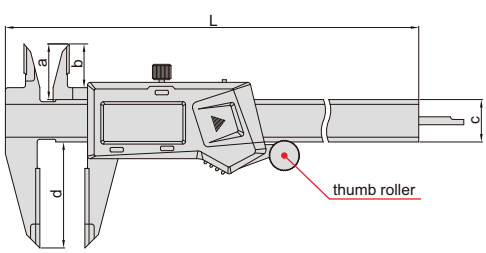
# DIGITAL CALIPER WITH CARBIDE TIPPED JAWS

DATA OUTPUT

MANUFACTURER INSPECTION CERTIFICATE TRACEABLE TO DKD

**1110-150AW**

- Carbide tipped jaws for inside and outside measurements
- 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 **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)




**(mm)**

| Code | Range | Accuracy | Thumb roller | L | a | b | c | d |
|---|---|---|---|---|---|---|---|---|
| **1110-150AW*** | 0-150mm/0-6" | ±0.03mm | without | 236 | 21 | 16 | 16 | 40 |
| **1110-200AW*** | 0-200mm/0-8" | ±0.03mm | without | 286 | 24 | 19 | 16 | 50 |
| **1110-300AW*** | 0-300mm/0-12" | ±0.03mm | without | 400 | 25 | 20.5 | 17 | 60 |
| **1110-150A*** | 0-150mm/0-6" | ±0.03mm | with | 236 | 21 | 16 | 16 | 40 |
| **1110-200A*** | 0-200mm/0-8" | ±0.03mm | with | 286 | 24 | 19 | 16 | 50 |
| **1110-300A*** | 0-300mm/0-12" | ±0.03mm | with | 400 | 25 | 20.5 | 17 | 60 |

*Supplied with manufacturer inspection certificate traceable to DKD Germany

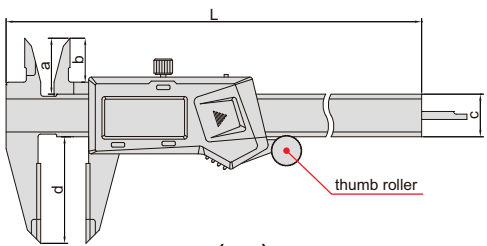
# DIGITAL CALIPER WITH CERAMIC TIPPED JAWS

DATA OUTPUT

INSIZE MANUFACTURER INSPECTION CERTIFICATE TRACEABLE TO DKD

**1193-150W**

- Ceramic tipped jaws for outside measurement, extremely wear-resistant, non-magnetic, non-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, data output, meet DIN862, made of stainless steel
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)




**(mm)**

| Code | Range | Accuracy | Thumb roller | L | a | b | c | d |
|---|---|---|---|---|---|---|---|---|
| **1193-150W** * | 0-150mm/0-6" | ±0.03mm | without | 235 | 21 | 16.5 | 16 | 40 |
| **1193-200W** * | 0-200mm/0-8" | ±0.03mm | without | 297 | 24 | 20 | 16 | 50 |
| **1193-300W** * | 0-300mm/0-12" | ±0.03mm | without | 390 | 26 | 21.5 | 16 | 60 |
| **1193-150** * | 0-150mm/0-6" | ±0.03mm | with | 235 | 21 | 16.5 | 16 | 40 |
| **1193-200** * | 0-200mm/0-8" | ±0.03mm | with | 297 | 24 | 20 | 16 | 50 |
| **1193-300** * | 0-300mm/0-12" | ±0.03mm | with | 390 | 26 | 21.5 | 16 | 60 |

**ceramic tipped jaws**

*Supplied with manufacturer inspection certificate traceable to DKD Germany

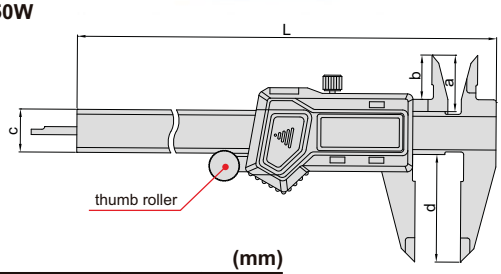
# LEFT HAND DIGITAL CALIPER

INSIZE MANUFACTURER INSPECTION CERTIFICATE TRACEABLE TO DKD

DATA OUTPUT

- Designed for left handers
- 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 **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)

**1130-150W**




**(mm)**

| Code | Range | Accuracy | Thumb roller | L | a | b | c | d |
|---|---|---|---|---|---|---|---|---|
| **1130-150W** * | 0-150mm/0-6" | ±0.03mm | without | 236 | 21 | 16 | 16 | 40 |
| **1130-200W** * | 0-200mm/0-8" | ±0.03mm | without | 286 | 24 | 19 | 16 | 50 |
| **1130-300W** * | 0-300mm/0-12" | ±0.03mm | without | 400 | 25 | 20.5 | 17 | 60 |
| **1130-150** * | 0-150mm/0-6" | ±0.03mm | with | 236 | 21 | 16 | 16 | 40 |
| **1130-200** * | 0-200mm/0-8" | ±0.03mm | with | 286 | 24 | 19 | 16 | 50 |
| **1130-300** * | 0-300mm/0-12" | ±0.03mm | with | 400 | 25 | 20.5 | 17 | 60 |

*Supplied with manufacturer inspection certificate traceable to DKD Germany

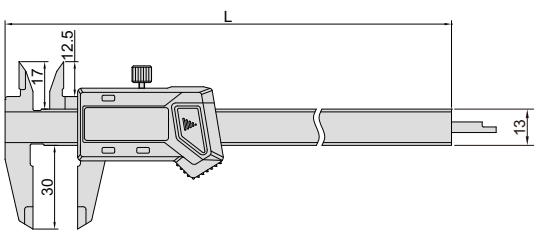
# MINI DIGITAL CALIPER

ATTENTION:
NO DATA OUTPUT

**1111-100A**

- 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

Unit: mm

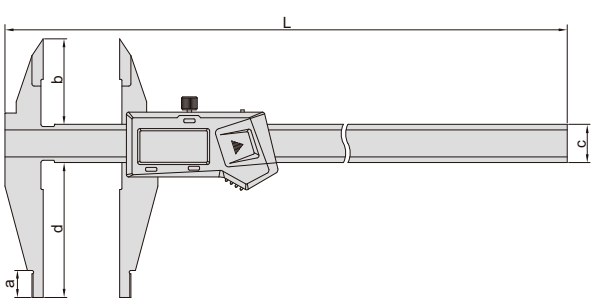


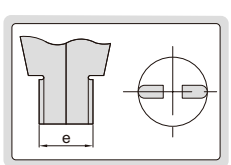

| Code | Range | Accuracy | L |
|---|---|---|---|
| **1111-75A** | 0-75mm/0-3" | ±0.02mm | 144mm |
| **1111-100A** | 0-100mm/0-4" | ±0.02mm | 170mm |

# DIGITAL CALIPER

DATA
OUTPUT

**1171-300**




(mm)

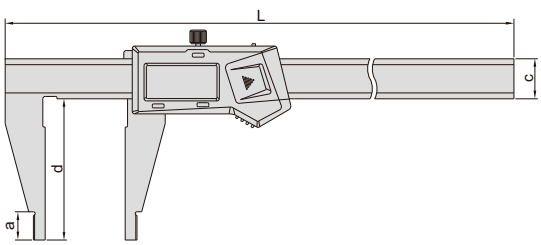
| Code | Range | Accuracy | a | b | c | d | e | L |
|---|---|---|---|---|---|---|---|---|
| **1171-200** | 0-200mm/0-8" | ±0.03mm | 12 | 38 | 17 | 60 | 10 | 320 |
| **1171-306** | 0-300mm/0-12" | ±0.04mm | 12 | 38 | 17 | 60 | 10 | 420 |
| **1171-300** | 0-300mm/0-12" | ±0.04mm | 12 | 38 | 17 | 90 | 10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

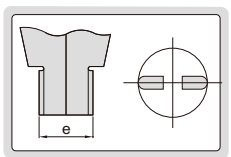
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)

DATA OUTPUT

# DIGITAL CALIPER

1170-300




(mm)

| Code | Range | Accuracy | a | c | d | e | L |
|---|---|---|---|---|---|---|---|
| **1170-200** | 0-200mm/0-8" | ±0.03mm | 12 | 17 | 60 | 10 | 320 |
| **1170-306** | 0-300mm/0-12" | ±0.04mm | 12 | 17 | 60 | 10 | 420 |
| **1170-300** | 0-300mm/0-12" | ±0.04mm | 12 | 17 | 90 | 10 | 420 |

- 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 **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)

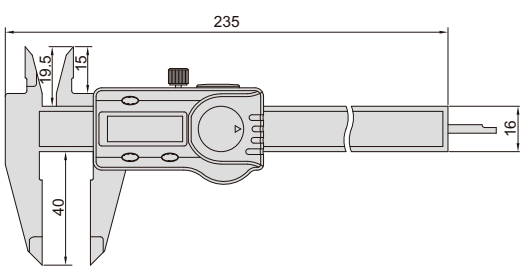
ATTENTION: NO DATA OUTPUT

# PLASTIC DIGITAL CALIPER

1139-150

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

Unit: mm




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

SHOCK PROOF

# DIAL CALIPER

1312-150A

**Dial indicator graduation: 0.02mm** (mm)

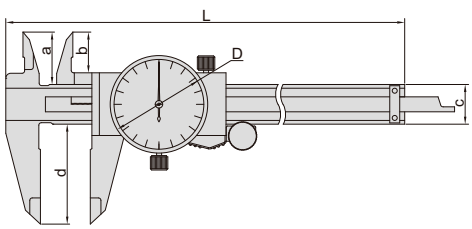
| Code | Range | Accuracy | L | a | b | c | d | D |
|---|---|---|---|---|---|---|---|---|
| 1312-150A* | 0-150mm | ±0.03mm | 235 | 21 | 16.5 | 16 | 40 | Ø39 |
| 1312-200A* | 0-200mm | ±0.03mm | 288 | 24 | 19 | 16 | 48 | Ø39 |
| 1312-300A* | 0-300mm | ±0.04mm | 410 | 28 | 22 | 20 | 62 | Ø44.5 |

**Dial indicator graduation: 0.01mm** (mm)

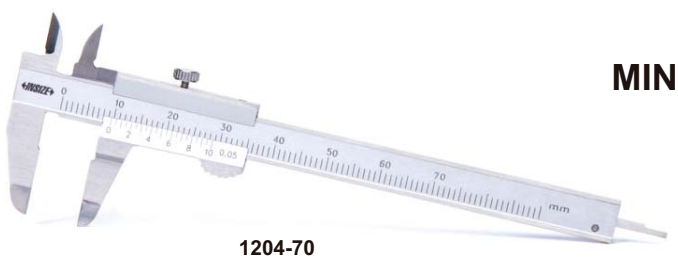
| Code | Range | Accuracy | L | a | b | c | d | D |
|---|---|---|---|---|---|---|---|---|
| 1311-150A* | 0-150mm | ±0.03mm | 235 | 21 | 16.5 | 16 | 40 | Ø39 |
| 1311-200A* | 0-200mm | ±0.03mm | 288 | 24 | 19 | 16 | 48 | Ø39 |
| 1311-300A* | 0-300mm | ±0.04mm | 410 | 28 | 22 | 20 | 62 | Ø44.5 |

*Supplied with manufacturer inspection certificate traceable to DKD Germany

- Shockproof dial indicator
- Made of stainless steel



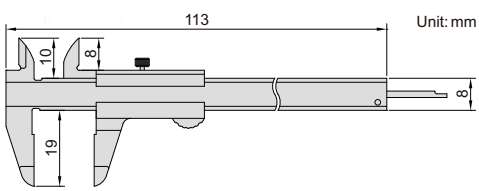

# MINI VERNIER CALIPER



1204-70

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

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

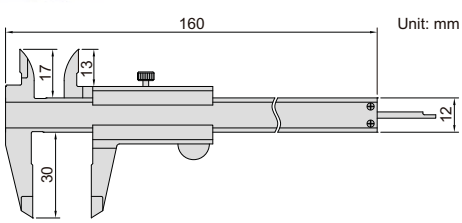



# MINI VERNIER CALIPER

1203-1003

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

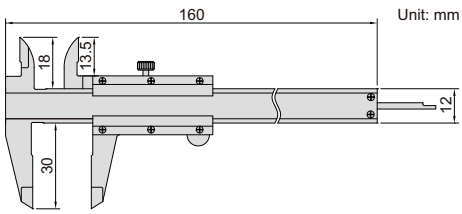
| Code | Range | Graduation | Accuracy |
|---|---|---|---|
| 1203-1003 | 0-100mm | 0.05mm | ±0.05mm |



# MINI VERNIER CALIPER

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

**1201-1003**




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

# VERNIER CALIPER

**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 | 16 | 50 |
| **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 | 16 | 50 |
| **1205-3003S** | 0-300mm | ±0.05mm | 414 | 27.5 | 22 | 20 | 64 |

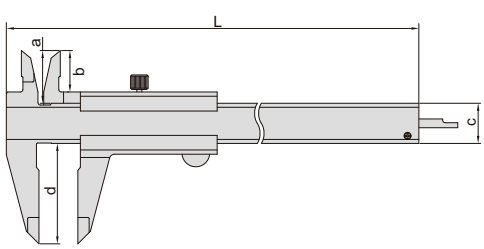
**Graduation 0.02mm/0.001"** **(mm)**

| 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 | 16 | 50 |
| **1205-3002S** | 0-300mm/0-12" | ±0.03mm | 414 | 27.5 | 22 | 20 | 64 |

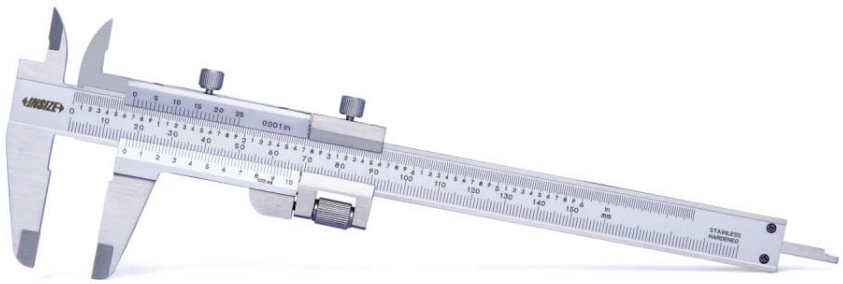
**Graduation 0.02mm** **(mm)**

| 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 | 16 | 50 |
| **1205-3001S** | 0-300mm | ±0.03mm | 414 | 27.5 | 22 | 20 | 64 |

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

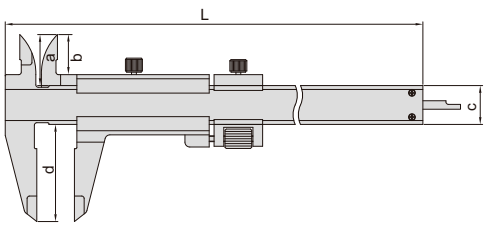


# VERNIER CALIPER WITH FINE ADJUSTMENT



**1233-130**

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

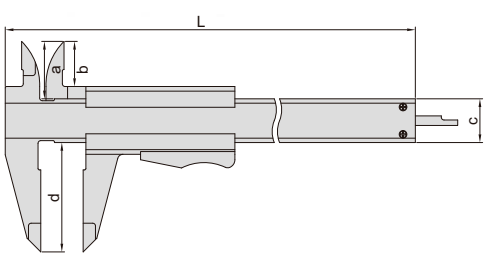



**(mm)**

| 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 |

# VERNIER CALIPER WITH THUMB CLAMP

**1223-150**




**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 |
| **1223-300** | 0-300mm/0-12" | ±0.05mm | 405 | 26 | 20 | 20 | 60 |

**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 |
| **1223-3002** | 0-300mm/0-12" | ±0.03mm | 405 | 26 | 20 | 20 | 60 |

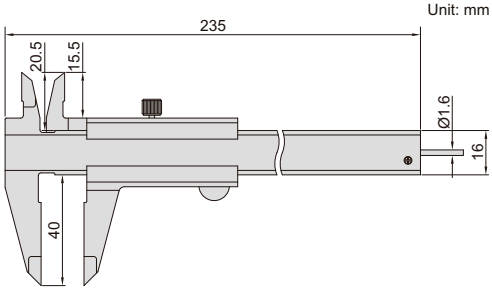
- Meet DIN862
- With thumb clamp
- Made of stainless steel
- Satin chrome plated reading surface

# 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

Unit: mm




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

# VERNIER CALIPER WITH CARBIDE TIPPED JAWS

**1238-150**

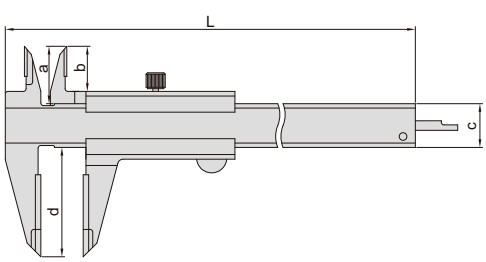
- Carbide tipped jaws for inside and outside measurements
- Meet DIN862
- Made of stainless steel
- Satin chrome plated reading surface

**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 | 17 | 60 |

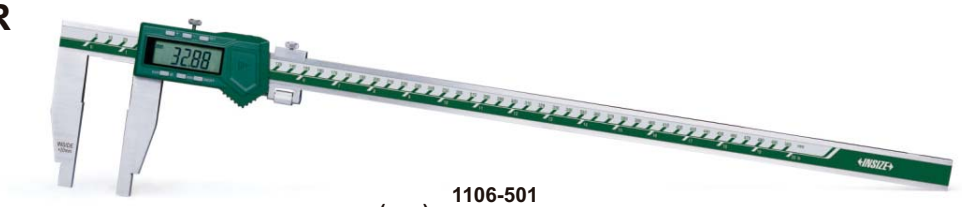
**Graduation 0.02mm/0.001"** **(mm)**

| 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 | 17 | 60 |



# DIGITAL CALIPER

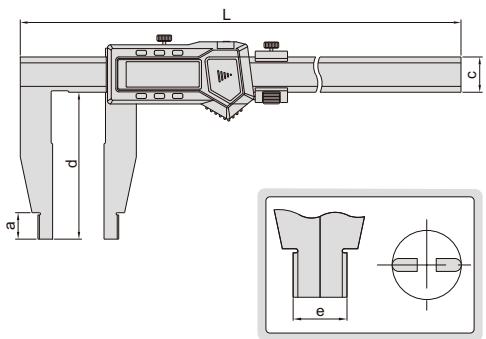
DATA OUTPUT



1106-501

(mm)

| Code | Range | Accuracy | a | c | d | e | L |
|---|---|---|---|---|---|---|---|
| **1106-301** | 0-300mm/0-12" | ±0.05mm | 12 | 24 | 100 | 20 | 420 |
| **1106-302** | 0-300mm/0-12" | ±0.05mm | 12 | 24 | 150 | 20 | 420 |
| **1106-451** | 0-450mm/0-18" | ±0.05mm | 18 | 24 | 100 | 20 | 625 |
| **1106-501** | 0-500mm/0-20" | ±0.05mm | 18 | 24 | 100 | 20 | 675 |
| **1106-502** | 0-500mm/0-20" | ±0.06mm | 18 | 24 | 150 | 20 | 675 |
| **1106-503** | 0-500mm/0-20" | ±0.06mm | 18 | 31 | 200 | 20 | 675 |
| **1106-505** | 0-500mm/0-20" | ±0.08mm | 18 | 42 | 300 | 20 | 675 |
| **1106-601** | 0-600mm/0-24" | ±0.05mm | 18 | 24 | 100 | 20 | 770 |
| **1106-602** | 0-600mm/0-24" | ±0.06mm | 18 | 24 | 150 | 20 | 770 |
| **1106-603** | 0-600mm/0-24" | ±0.06mm | 18 | 31 | 200 | 20 | 770 |
| **1106-802** | 0-800mm/0-32" | ±0.07mm | 24 | 31 | 150 | 20 | 1025 |
| **1106-1002** | 0-1000mm/0-40" | ±0.08mm | 24 | 31 | 150 | 20 | 1220 |
| **1106-1003** | 0-1000mm/0-40" | ±0.08mm | 24 | 31 | 200 | 20 | 1220 |
| **1106-1005** | 0-1000mm/0-40" | ±0.10mm | 24 | 42 | 300 | 20 | 1220 |
| **1106-1502** | 0-1500mm/0-60" | ±0.11mm | 24 | 42 | 150 | 20 | 1780 |
| **1106-1503** | 0-1500mm/0-60" | ±0.12mm | 24 | 42 | 200 | 20 | 1780 |
| **1106-2002** | 0-2000mm/0-80" | ±0.14mm | 24 | 42 | 150 | 20 | 2290 |
| **1106-2003** | 0-2000mm/0-80" | ±0.14mm | 24 | 42 | 200 | 20 | 2290 |




- Resolution: 0.01mm/0.0005"
- Button function: on/off, zero, mm/inch, ABS, data preset
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code **7306-20**, **7302-SPC1A/SPC1B**, **7305-SPC2**)

# DIGITAL CALIPER

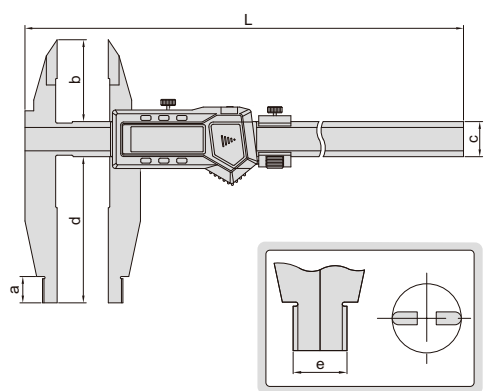
DATA OUTPUT

1117-501

- Resolution: 0.01mm/0.0005"
- Button function: on/off, zero, mm/inch, ABS, data preset
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code **7306-20**, **7302-SPC1A/SPC1B**, **7305-SPC2**)

(mm)

| Code | Range | Accuracy | a | b | c | d | e | L |
|---|---|---|---|---|---|---|---|---|
| **1117-301** | 0-300mm/0-12" | ±0.05mm | 12 | 38 | 24 | 100 | 20 | 420 |
| **1117-501** | 0-500mm/0-20" | ±0.05mm | 18 | 56 | 24 | 100 | 20 | 675 |
| **1117-502** | 0-500mm/0-20" | ±0.06mm | 18 | 56 | 24 | 150 | 20 | 675 |
| **1117-601** | 0-600mm/0-24" | ±0.05mm | 18 | 56 | 24 | 100 | 20 | 770 |
| **1117-802** | 0-800mm/0-32" | ±0.07mm | 24 | 67 | 31 | 150 | 20 | 1025 |
| **1117-1002** | 0-1000mm/0-40" | ±0.08mm | 24 | 67 | 31 | 150 | 20 | 1220 |



DATA OUTPUT

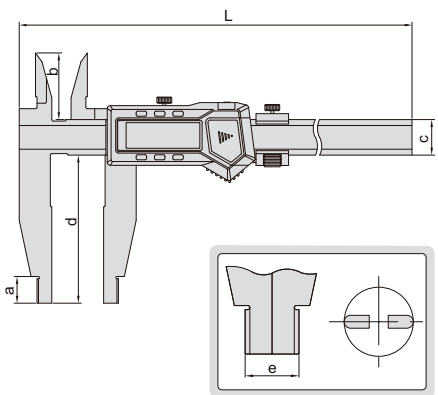
# DIGITAL CALIPER

**1136-501**

- Resolution: 0.01mm/0.0005"
- Button function: on/off, zero, mm/inch, ABS, data preset
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code **7306-20**, **7302-SPC1A/SPC1B**, **7305-SPC2**)

**(mm)**

| Code | Range | Accuracy | a | b | c | d | e | L |
|---|---|---|---|---|---|---|---|---|
| **1136-301** | 0-300mm/0-12" | ±0.05mm | 12 | 28 | 24 | 100 | 20 | 420 |
| **1136-451** | 0-450mm/0-18" | ±0.05mm | 18 | 45 | 24 | 100 | 20 | 625 |
| **1136-501** | 0-500mm/0-20" | ±0.05mm | 18 | 45 | 24 | 100 | 20 | 675 |
| **1136-502** | 0-500mm/0-20" | ±0.06mm | 18 | 45 | 24 | 150 | 20 | 675 |
| **1136-503** | 0-500mm/0-20" | ±0.06mm | 18 | 45 | 31 | 200 | 20 | 675 |
| **1136-601** | 0-600mm/0-24" | ±0.05mm | 18 | 45 | 24 | 100 | 20 | 770 |
| **1136-1002** | 0-1000mm/0-40" | ±0.08mm | 24 | 60 | 31 | 150 | 20 | 1220 |
| **1136-1502** | 0-1500mm/0-60" | ±0.11mm | 24 | 60 | 42 | 150 | 20 | 1780 |
| **1136-2002** | 0-2000mm/0-80" | ±0.14mm | 24 | 60 | 42 | 150 | 20 | 2290 |




DATA OUTPUT

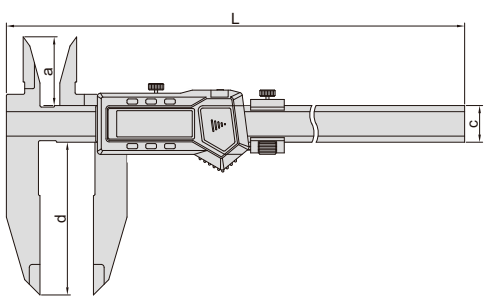
# DIGITAL CALIPER

**1135-601**

- Resolution: 0.01mm/0.0005"
- Button function: on/off, zero, mm/inch, ABS, data preset
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code **7306-20**, **7302-SPC1A/SPC1B**, **7305-SPC2**)

**(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 |



# VERNIER CALIPER

**1236-521**

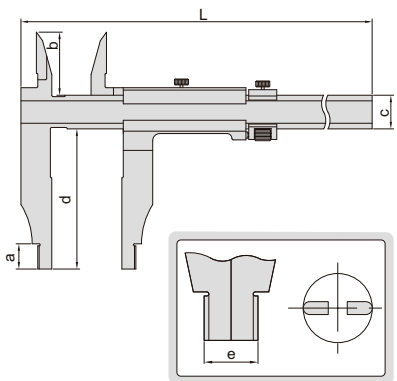
- With fine adjustment
- Made of stainless steel
- Satin chrome plated reading surface

**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 |



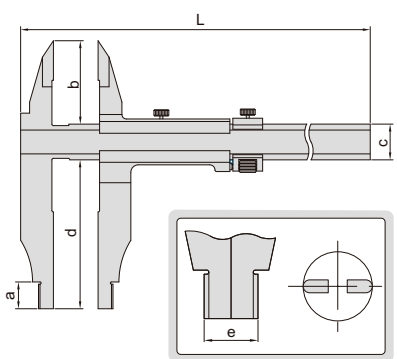

# VERNIER CALIPER

**1207-514**

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

**(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 CALIPER

1208-511

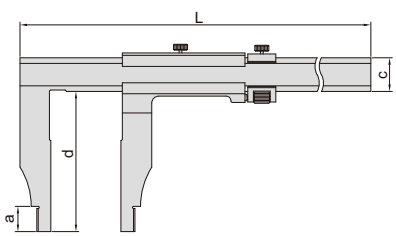
**Graduation 0.05mm/1/128"** **(mm)**

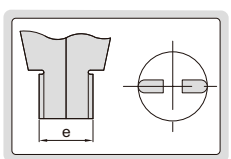
| Code | Range | Accuracy | a | c | d | e | L |
|---|---|---|---|---|---|---|---|
| **1208-214** | 0-200mm/0-8" | ±0.06mm | 10 | 20 | 100 | 10 | 330 |
| **1208-394** | 0-300mm/0-12" | ±0.07mm | 12 | 20 | 90 | 10 | 410 |
| **1208-324** | 0-300mm/0-12" | ±0.07mm | 18 | 24 | 150 | 20 | 410 |
| **1208-524** | 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 |

**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 |

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




# VERNIER CALIPER

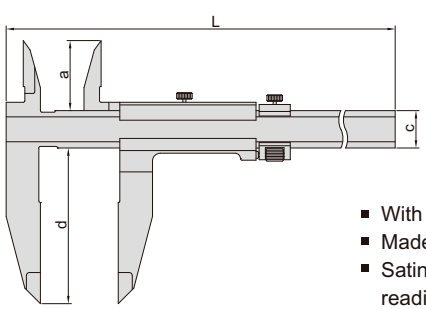
1210-611

**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 |

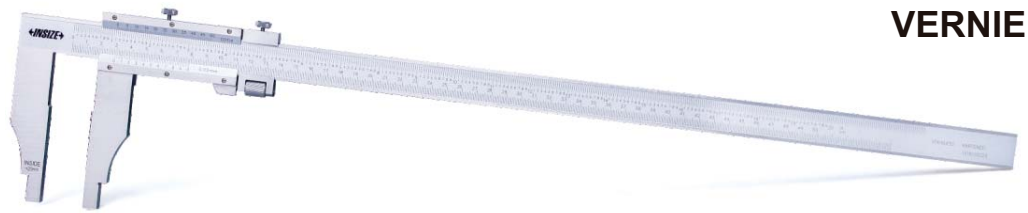
**Graduation 0.02mm** **(mm)**

| 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 |




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

# VERNIER CALIPER



1214-500

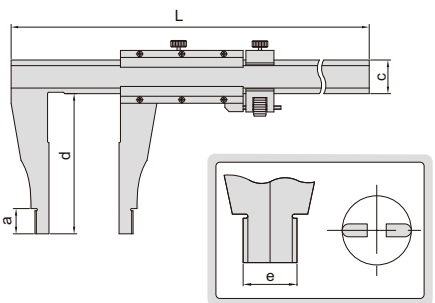
**Graduation 0.02mm/0.001"** **(mm)**

| 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 |

**Graduation 0.05mm/1/128"** **(mm)**

| 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 |

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




# LONG JAW VERNIER CALIPER

1215-1032

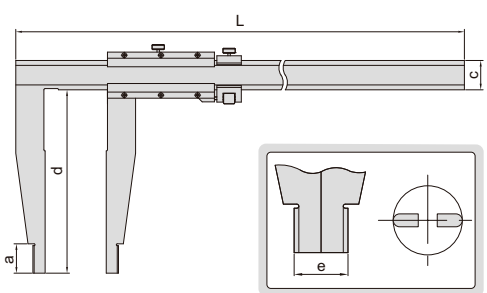
**Graduation 0.02mm/0.001"** **(mm)**

| 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 | 32 | 300 | 20 | 1330 |
| **1215-3052** | 0-3000mm/0-120" | ±0.26mm | 24 | 50 | 300 | 20 | 3360 |

**Graduation 0.05mm/1/128"** **(mm)**

| 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 |

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



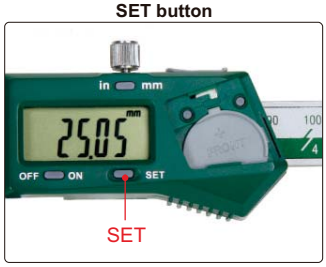
## CUSTOM-MADE CALIPER

- We are able to make calipers according to the design from customers

## SET BUTTON

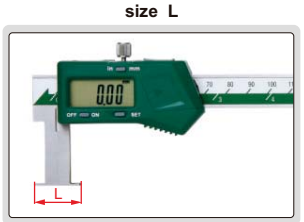
- In some calipers, there is a “ SET ” button. It is possible to set a initial reading (instead of zero) on these calipers.

SET button



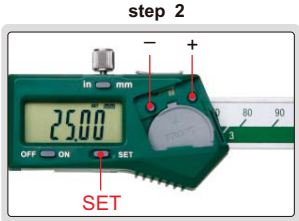

- For internal measurement, if the size L is unknown, it is necessary to set. After setting, you can get a direct reading, without adding L.
  - Step 1: Find a micrometer, set it at a number (for example, 25mm) and lock it.
  - Step 2: Press “ SET ”, “ + ” and “ - ” buttons to set 25 on caliper. After setting, the initial reading will be 25 instead of zero, when “ SET ” is pressed anytime.
  - Step 3: Put caliper into the micrometer, press “ SET ”, the reading is 25.

size L

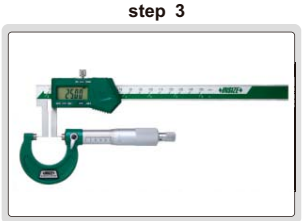



step 1

step 2

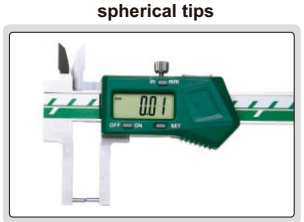



step 3

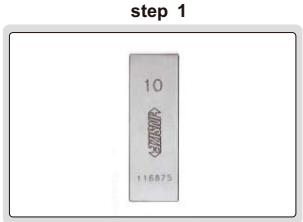


- For external measurement, if the tips are spherical, it is difficult to set zero because the two tips may not be aligned.
  - Step 1: Find a gage block (for example, 10mm).
  - Step 2: Press “ SET ”, “ + ” and “ - ” buttons to set 10mm on caliper. After setting, the initial reading will be 10mm instead of zero, when SET is pressed anytime.
  - Step 3: Hold the gage block, press “ SET ”, the reading is 10mm.

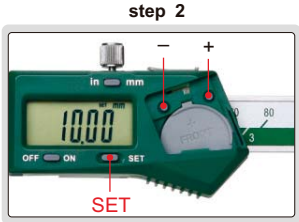
spherical tips



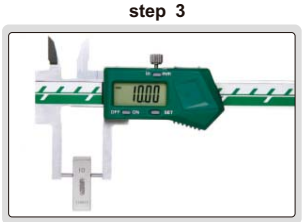
step 1




step 2




step 3

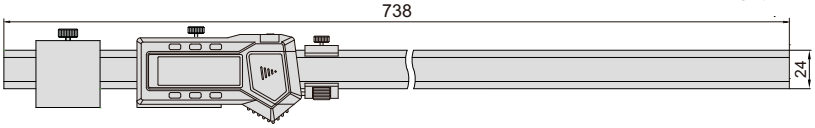


# UNIVERSAL CALIPER
# CODE 1125-600

DATA OUTPUT

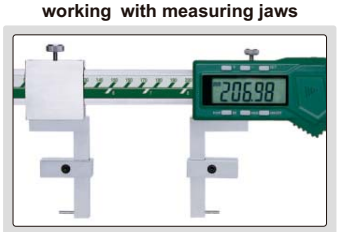
1125-600

Unit: mm




working with stands

working with measuring jaws



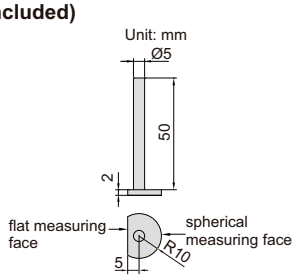
- Buttons: on/off, set, mm/inch, ABS, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code **7306-20**, **7302-SPC1A/SPC1B**, **7305-SPC2**)

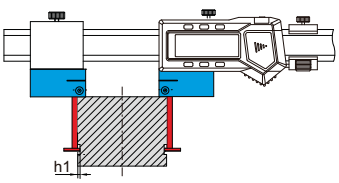
| Code | Range* | Resolution | Accuracy |
|---|---|---|---|
| **1125-600** | 0-600mm/0-24" | 0.01mm/0.0005" | ±0.05mm |

*The range changes according to different points

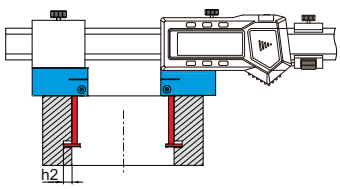
## Half disk points (included)

Unit: mm



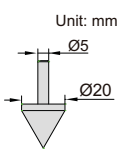

Measuring external groove diameter with flat measuring face (depth h1≤ 2.5mm)

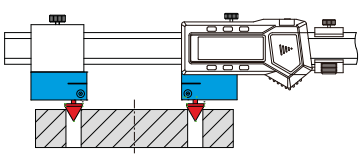



Measuring internal groove diameter with spherical measuring face (depth h2≤ 7.5mm)

## Conical points (optional)

Unit: mm



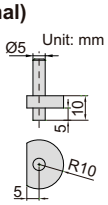



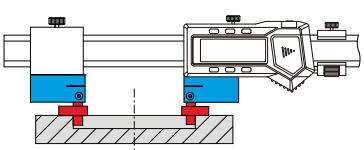
Measuring center distance

| Code |
|---|
| 1125-T101 |

## Round shoulder points (optional)

Unit: mm



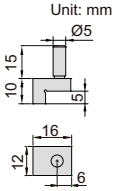



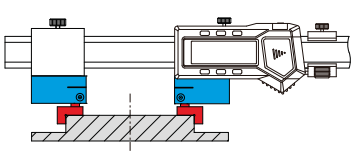
Measuring inside diameter

| Code |
|---|
| 1125-T102 |

## Flat shoulder points (optional)

Unit: mm



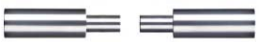
Measuring outside diameter

| Code |
|---|
| 1125-T103 |

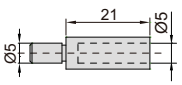
To be continued

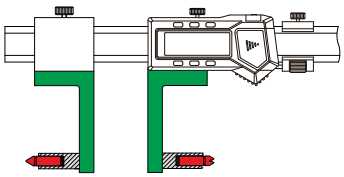
Continued from previous page

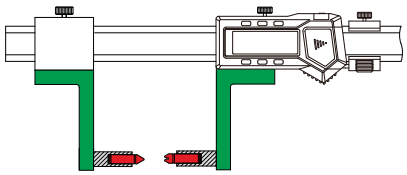
**Point sleeve (optional)**



Unit: mm



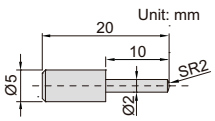


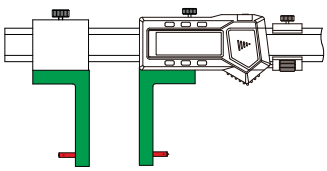
| Code |
| --- |
| 1125-T104 |

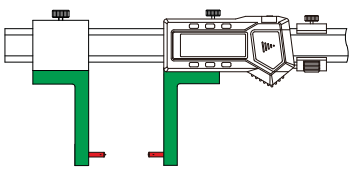
Working with multifunctional points, ball points and screw thread points

**Spherical points (included)**

Unit: mm

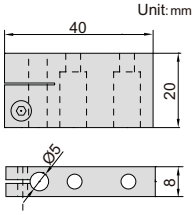


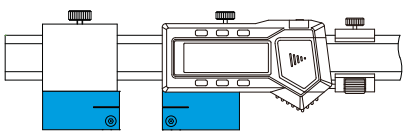





**Stands (included)**

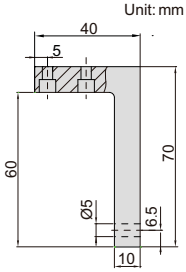
Unit: mm

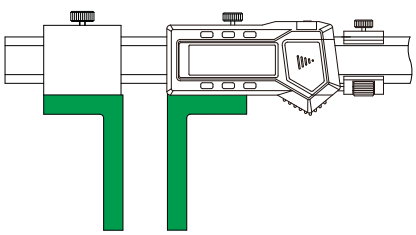


**Measuring jaws (included)**

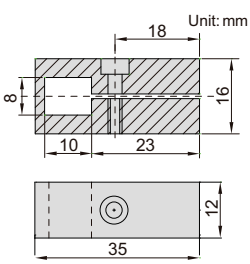
Unit: mm

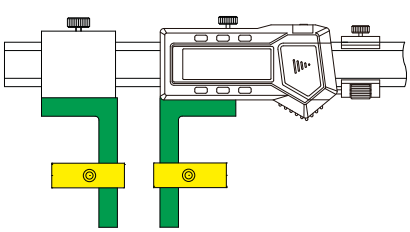


**Depth stop (included)**

Unit: mm



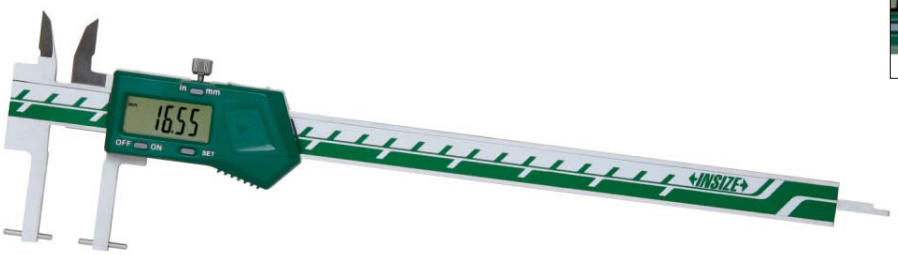
**Multifunctional points 7392 (optional, page 26)**

**Ball points 7391 (optional, page 26))**

**Screw thread points 7381, 7321 (optional, page 26))**

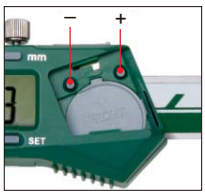
# DIGITAL CALIPER WITH INTERCHANGEABLE POINTS
# CODE 1526-200

DATA OUTPUT

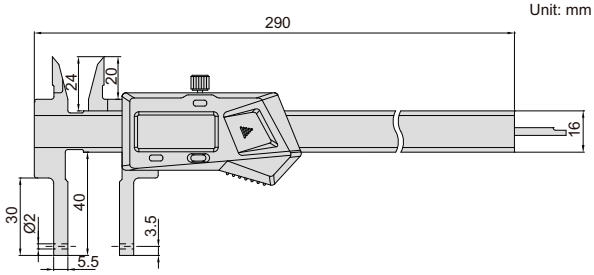



**1526-200**

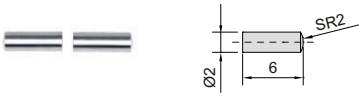
**preset buttons**



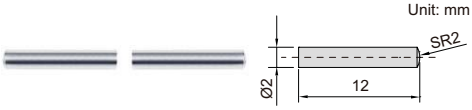

Unit: mm



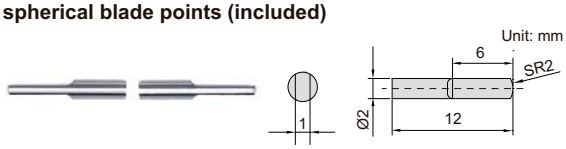

**short spherical points (included)**



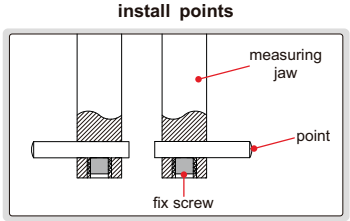

**long spherical/flat points (included)**



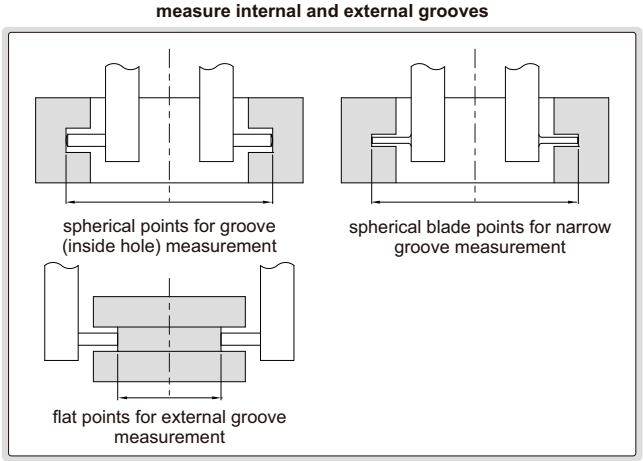

**spherical blade points (included)**




**install points**




**measure internal and external grooves**




- 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
- Data output
- Made of stainless steel
- Optional accessory: points (code **1526-T101**, **7392**, **7391**, **7381**, **7321**), depth stop (code **6143**), data output cable (code **7306-20**, **7302-SPC1A/SPC1B**, **7305-SPC2**)

| 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)<br>0-187mm/0-7.5"(external) | ±0.03mm | spherical points for grooves inside hole<br>flat points for external grooves |
| **spherical blade points** | 24-224mm/1-8.8"(internal)<br>0-187mm/0-7.5"(external) | ±0.03mm | for narrow grooves inside hole |

**zero setting block for external measurement (included)**

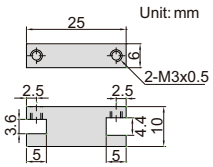
To be continued

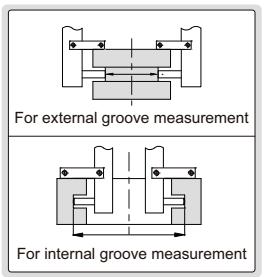
Continued from previous page

## Depth stop (optional)

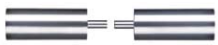
| Code |
|---|
| 6143 |

Unit: mm



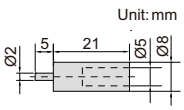




## Point sleeve (optional)



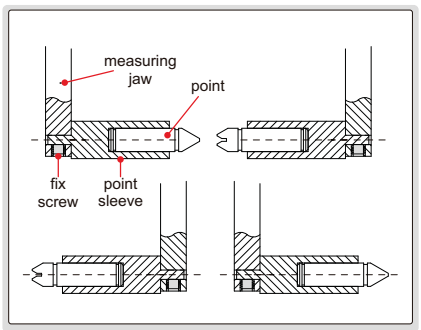
1526-T101

Unit: mm



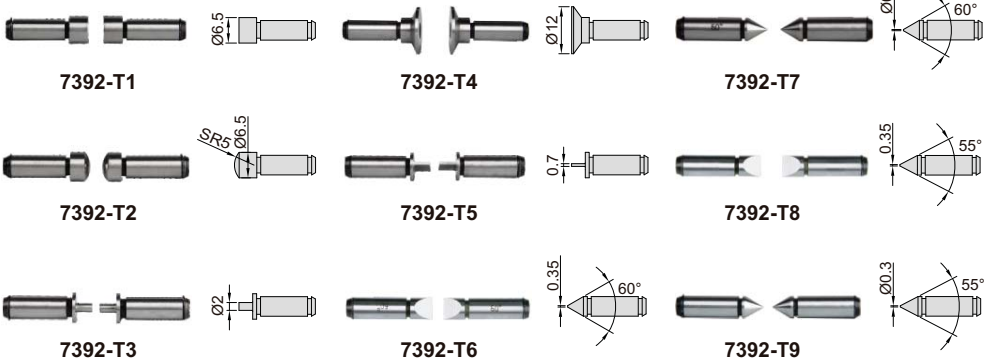

| Code |
|---|
| 1526-T101 |

installation




## Multifunctional points (optional)

Unit: mm




7392-T1 7392-T4 7392-T7

7392-T2 7392-T5 7392-T8

7392-T3 7392-T6 7392-T9

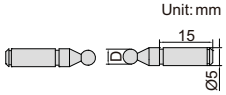
| Code | Type |
|---|---|
| 7392-T1 | flat |
| 7392-T2 | spherical |
| 7392-T3 | spline |
| 7392-T4 | disk |
| 7392-T5* | blade |
| 7392-T6* | knife-edge |
| 7392-T7 | point |
| 7392-T8* | knife-edge |
| 7392-T9 | point |

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

## Ball points (optional)

7391-T5

Unit: mm



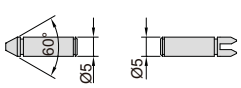

| Code | Ball dia.(D) | Module |
|---|---|---|
| 7391-T1 | SØ1mm | 0.6-0.65 |
| 7391-T2 | SØ1.5mm | 0.9-1.0 |
| 7391-T3 | SØ2.0mm | 1.25 |
| 7391-T4 | SØ2.5mm | 1.5 |
| 7391-T5 | SØ3.0mm | 1.75 |
| 7391-T6 | SØ3.5mm | 2 |
| 7391-T7 | SØ4.0mm | 2.25 |
| 7391-T8 | SØ4.5mm | 2.5 |
| 7391-T9 | SØ5.0mm | 2.75 |
| 7391-T10 | SØ6.0mm | 3.5 |
| 7391-TS | 10 pairs/set, including all above points | |

## Screw thread points (optional)

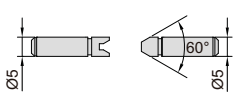
7321-T16

7381-T11

Unit: mm




Unit: mm




### 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 |

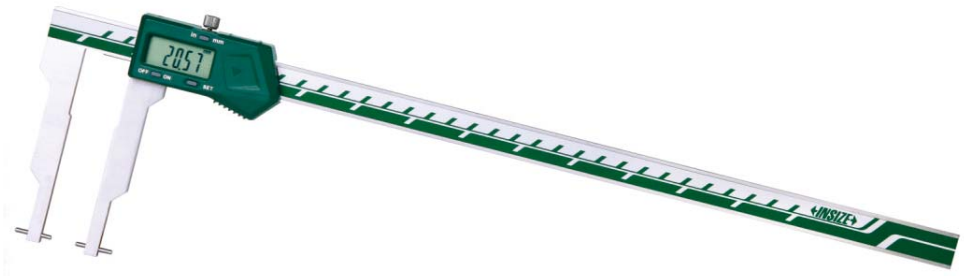
### External thread (60° thread angle)

| 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 |

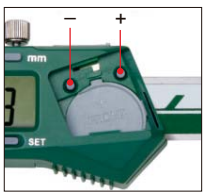
*It is necessary to use point sleeve (code **1526-T101**) for these points

# DIGITAL CALIPER WITH INTERCHANGEABLE POINTS
# CODE 1124-300A

DATA OUTPUT

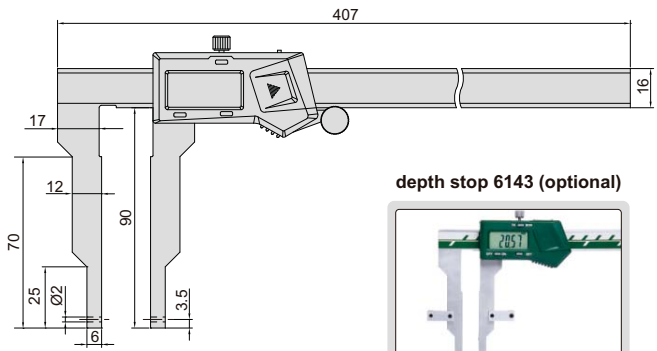


**preset buttons**



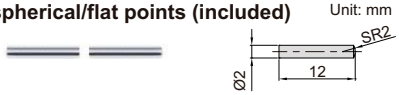

**1124-300A**

Unit: mm



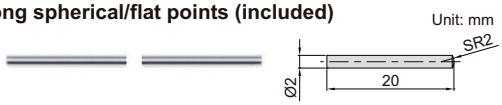

**short spherical/flat points (included)**

Unit: mm



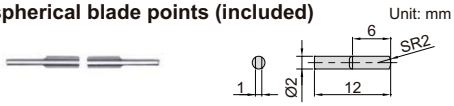

**long spherical/flat points (included)**

Unit: mm



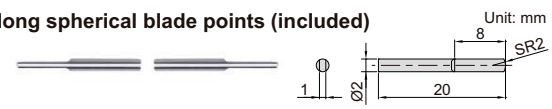

**short spherical blade points (included)**

Unit: mm



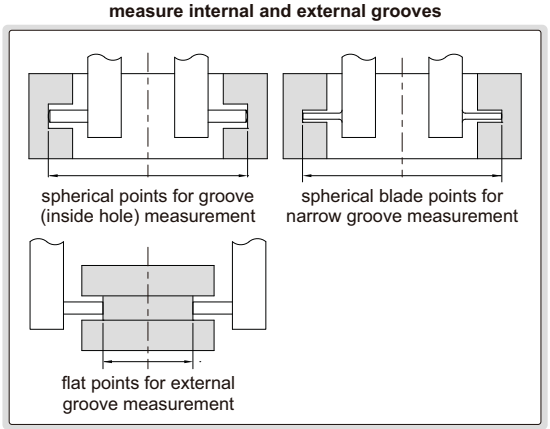

**long spherical blade points (included)**

Unit: mm




**depth stop 6143 (optional)**

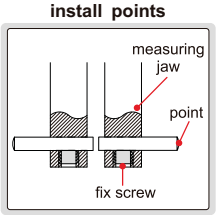
**measure internal and external grooves**




- 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
- Data output
- Made of stainless steel
- Optional accessory: points (code **1526-T101**, **7392**, **7391**, **7381**, **7321**) , depth stop (code **6143**), data output cable (code **7306-20**, **7302-SPC1A/SPC1B**, **7305-SPC2**)

| 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) |

**install points**




**Multifunctional points 7392 (optional, page 26)**

**Ball points 7391 (optional, page 26)**

**Screw thread points 7381, 7321 (optional, page 26)**

**zero setting block for external measurement (included)**

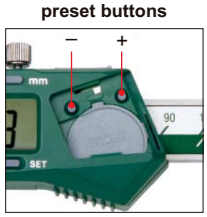
DATA OUTPUT

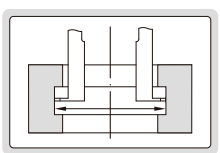
# DIGITAL INSIDE GROOVE CALIPER

1120-150A

depth stop 6143 (optional)

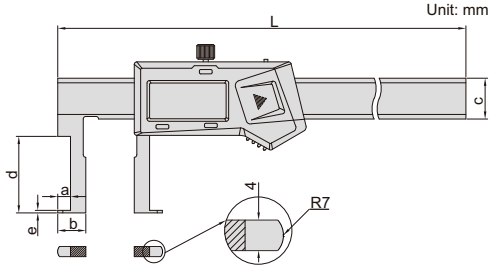
preset buttons





- Measure groove diameter
- 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
- Data output
- Made of stainless steel
- Optional accessory: depth stop (code **6143**), data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)

Unit: mm




(mm)

| Code | Range | Accuracy | L | a | b | c | d | e |
|---|---|---|---|---|---|---|---|---|
| **1120-150A** | 22-150mm | ±0.04mm | 250 | 5 | 11 | 16 | 30 | 1 |
| **1120-200A** | 25-200mm | ±0.04mm | 310 | 5 | 12.5 | 16 | 40 | 1 |
| **1120-300A** | 30-300mm | ±0.05mm | 410 | 5 | 15 | 17 | 50 | 1.5 |

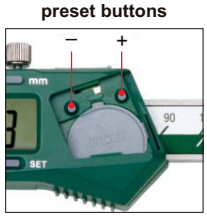
DATA OUTPUT

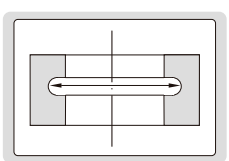
# DIGITAL INSIDE POINT CALIPER

1121-150A

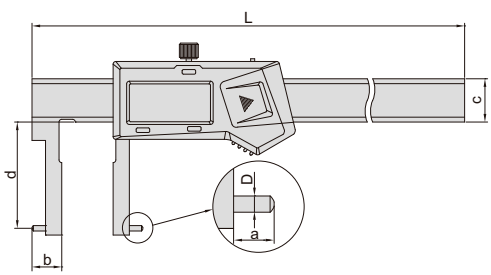
depth stop 6143 (optional)

preset buttons





- Measure groove diameter
- 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
- Data output
- Made of stainless steel
- Optional accessory: depth stop (code **6143**), data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)

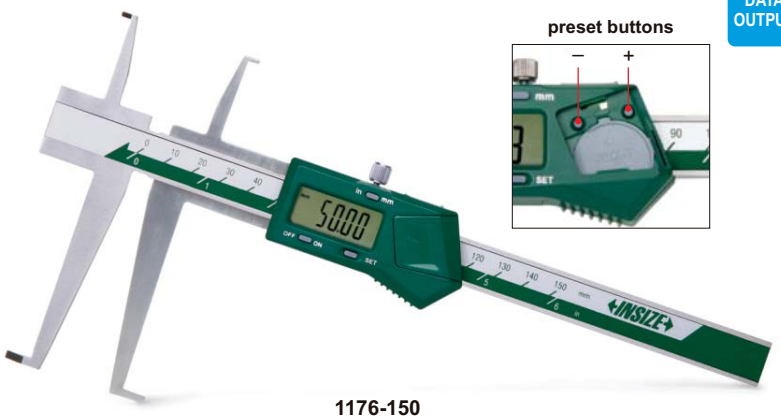



(mm)

| Code | Range | Accuracy | L | a | b | c | d | D |
|---|---|---|---|---|---|---|---|---|
| **1121-150A** | 24-150mm | ±0.04mm | 250 | 5 | 12 | 16 | 30 | Ø2 |
| **1121-200A** | 25-200mm | ±0.04mm | 310 | 5 | 12.5 | 16 | 40 | Ø2 |
| **1121-3001A** | 50-300mm | ±0.06mm | 410 | 8 | 25 | 17 | 80 | Ø3 |

# DIGITAL INSIDE GROOVE CALIPER

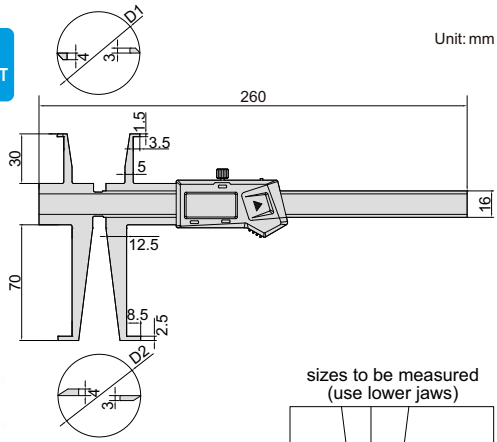
DATA OUTPUT



preset buttons



Unit: mm

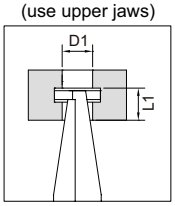



**1176-150**

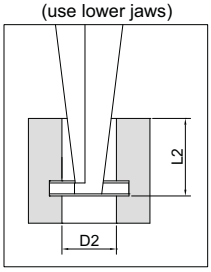
- Measure diameter of grooves inside bores
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, set, mm/inch, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: depth stop (code **6143**), data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)

depth stop 6143 (optional)

sizes to be measured (use upper jaws)




sizes to be measured (use lower jaws)




| Code | Range of upper jaw | Range of lower jaw | Accuracy |
|---|---|---|---|
| **1176-150** | 9-150mm/0.35-6" | 15-150mm/0.59-6" | ±0.04mm |

(mm)

| D1 | L1 |
|---|---|
| Ø9 | <8 |
| Ø10 | <15 |
| Ø11~150 | <30 |

(mm)

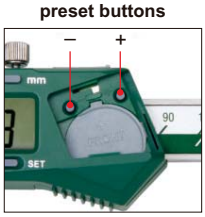
| D2 | L2 | D2 | L2 |
|---|---|---|---|
| Ø15 | <10 | Ø19 | <42 |
| Ø16 | <18 | Ø20 | <50 |
| Ø17 | <26 | Ø21 | <58 |
| Ø18 | <34 | Ø22~150 | <70 |

# DIGITAL INSIDE GROOVE CALIPER

DATA OUTPUT

depth stop 6143 (optional)

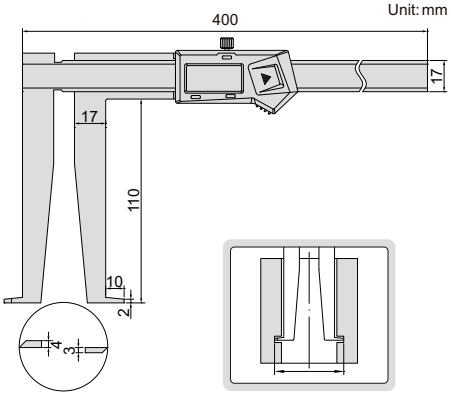
preset buttons



**1178-300**

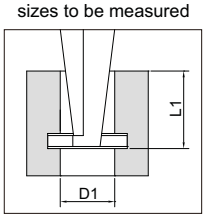
- Measure diameter of grooves inside bores
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, set, mm/inch, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: depth stop (code **6143**), data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)

Unit: mm






sizes to be measured




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

(mm)

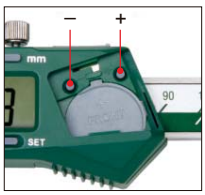
| D1 | L1 |
|---|---|
| Ø25 | <50 |
| Ø26 | <60 |
| Ø27~300 | <110 |

DATA OUTPUT

# DIGITAL INSIDE GROOVE CALIPER

1520-150

preset buttons

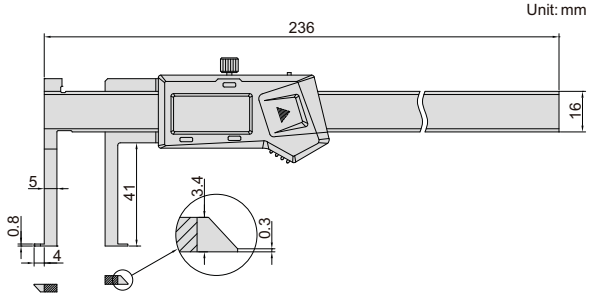


depth stop 6143 (optional)

- Measure diameter of grooves inside small bores
- 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
- Data output
- Made of stainless steel
- Optional accessory: depth stop (code **6143**), data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)

| Code | Range | Accuracy |
|---|---|---|
| **1520-150** | 11-150mm/0.43-6" | ±0.04mm |

Unit: mm

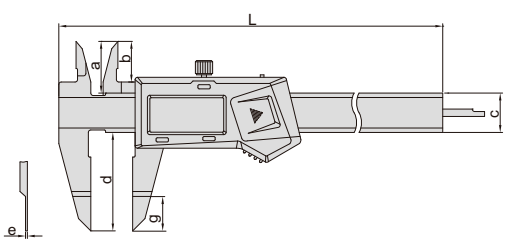



DATA OUTPUT

# DIGITAL BLADE CALIPER

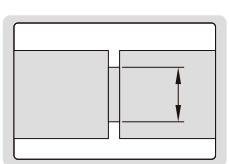
1188-150A

- 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
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)




(mm)

| Code | Range | Accuracy | L | a | b | c | d | e | g |
|---|---|---|---|---|---|---|---|---|---|
| **1188-150A** | 0-150mm/0-6" | ±0.03mm | 235 | 21 | 16.5 | 16 | 40 | 0.75 | 17 |
| **1188-200A** | 0-200mm/0-8" | ±0.03mm | 297 | 24 | 20 | 16 | 50 | 0.75 | 17 |
| **1188-300A** | 0-300mm/0-12" | ±0.04mm | 390 | 26 | 21.5 | 16 | 60 | 1.00 | 17 |



# DIGITAL OUTSIDE NECK CALIPER

DATA OUTPUT

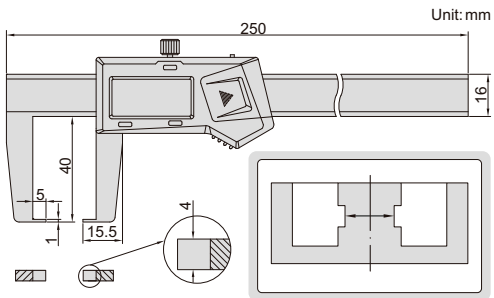
- Measure grooves and recesses
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: depth stop (code **6143**), data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)

| Code | Range | Accuracy |
|---|---|---|
| **1187-150A** | 0-150mm/0-6" | ±0.04mm |

**1187-150A**

**depth stop 6143 (optional)**

Unit: mm




# DIGITAL OUTSIDE POINT CALIPER

DATA OUTPUT

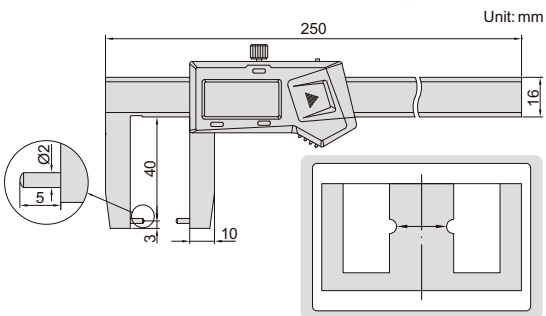
- Measure wall thickness inside bores and recesses
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: depth stop (code **6143**), data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)

| Code | Range | Accuracy |
|---|---|---|
| **1185-150A** | 0-150mm/0-6" | ±0.04mm |

**1185-150A**

**depth stop 6143 (optional)**

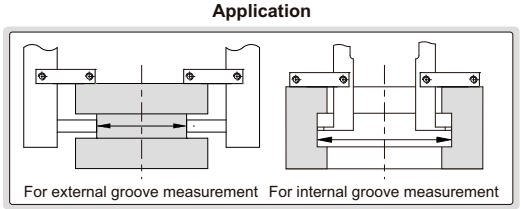
Unit: mm




# DEPTH STOP FOR CALIPERS

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

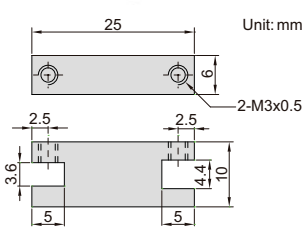
**Application**




| Code |
|---|
| 6143 |

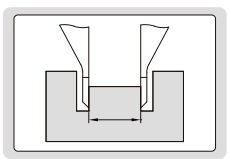
**6143**

Unit: mm



DATA OUTPUT

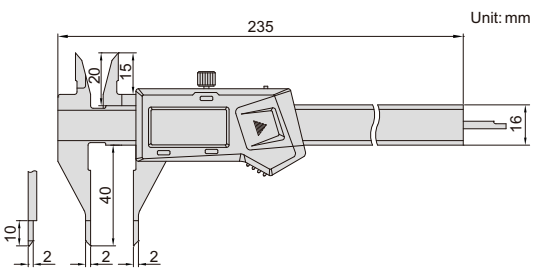
# DIGITAL SMALL POINT CALIPER



**1169-150**

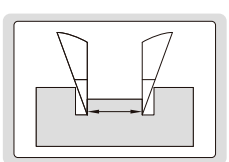
- Small pointed jaws fit into small grooves and recesses
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable
  (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)

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




DATA OUTPUT

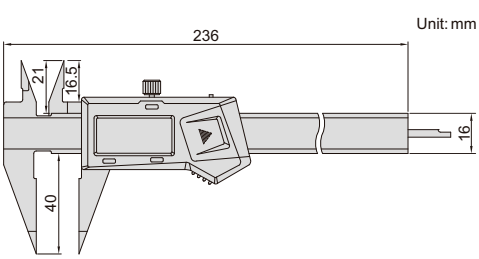
# DIGITAL POINT CALIPER



**1183-150A**

- 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
- Data output
- Made of stainless steel
- Optional accessory: data output cable
  (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)

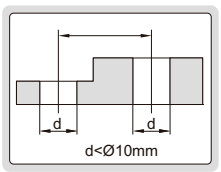
| Code | Range | Accuracy |
|---|---|---|
| **1183-150A** | 0-150mm/0-6" | ±0.03mm |



# DIGITAL OFFSET CENTERLINE CALIPER

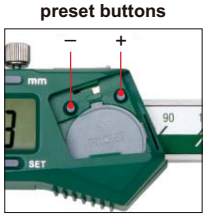
DATA OUTPUT

1192-150A

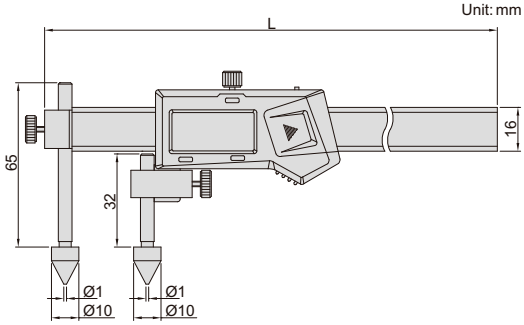



- Measure hole center distance in the same or offset planes
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, set, mm/inch, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)

**preset buttons**




Unit: mm



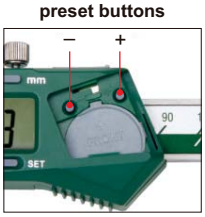

**(mm)**

| Code | Range | Accuracy | L |
|---|---|---|---|
| **1192-150A** | 10-150mm | ±0.05mm | 236 |
| **1192-200A** | 10-200mm | ±0.07mm | 286 |
| **1192-300A** | 10-300mm | ±0.09mm | 396 |

# DIGITAL BACK-JAW CENTERLINE CALIPER

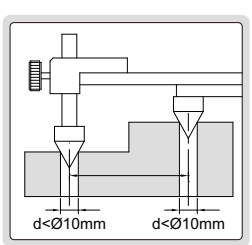
**back-jaw**

**preset buttons**



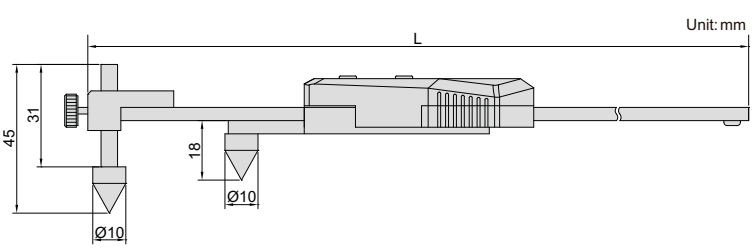

DATA OUTPUT

1177-200




- 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
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)

Unit: mm




**(mm)**

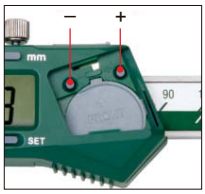
| Code | Range | Accuracy | L |
|---|---|---|---|
| **1177-200** | 10-200mm/0.4-8" | ±0.1mm | 310 |
| **1177-300** | 10-300mm/0.4-12" | ±0.1mm | 410 |

DATA OUTPUT

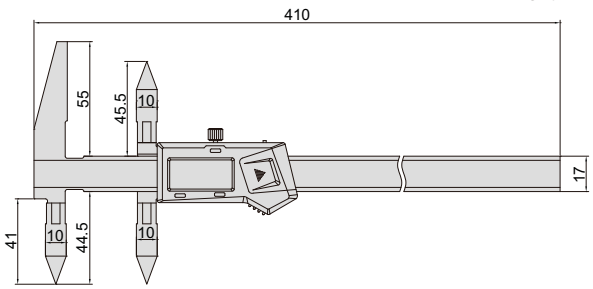
# DIGITAL CENTERLINE/EDGE TO CENTER CALIPER

1525-300

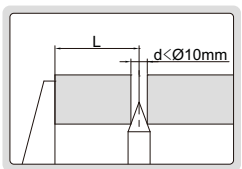
preset buttons



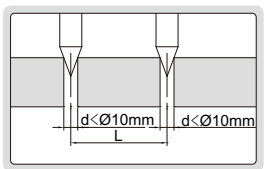
Unit: mm




measure edge to hole center distance




measure hole center distance




| Code | Range of upper jaw (edge to center) | Range of lower jaw (center to center) | Accuracy |
|---|---|---|---|
| **1525-300** | 5-300mm/0.2-12" | 10-300mm/0.4-12" | ±0.08mm |

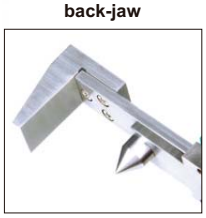
- Measure hole center distance or edge to hole center distance
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, set, mm/inch, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)

DATA OUTPUT

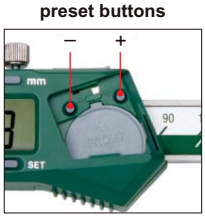
# DIGITAL BACK-JAW EDGE TO CENTER CALIPER

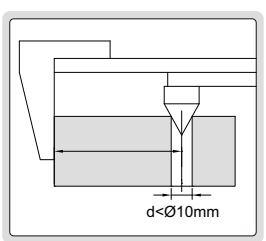
1524-200

back-jaw



preset buttons



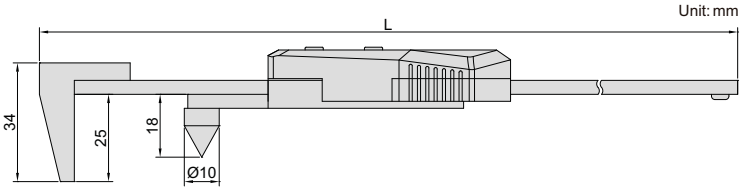



- Measure edge to hole center distance
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, set, mm/inch, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)

**(mm)**

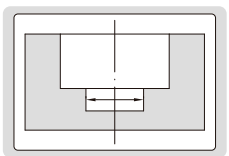
| Code | Range | Accuracy | L |
|---|---|---|---|
| **1524-200** | 5-200mm/0.2-8" | ±0.1 | 310 |
| **1524-300** | 5-300mm/0.2-12" | ±0.1 | 410 |

Unit: mm



# DIGITAL INSIDE KNIFE-EDGE CALIPER

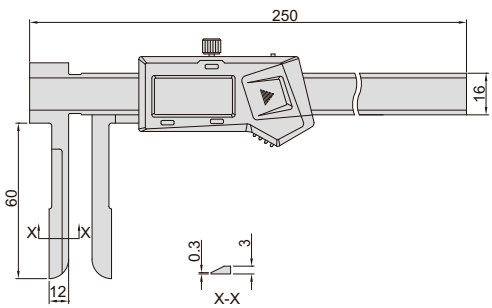
DATA OUTPUT



**1123-150A**

- 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
- Data output
- Made of stainless steel
- Optional accessory: data output cable
  (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)

Unit: mm



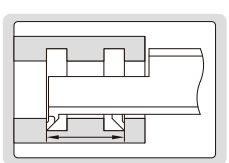

| Code | Range | Accuracy |
|---|---|---|
| **1123-150A** | 15-150mm/0.6-6" | ±0.05mm |

# DIGITAL HOOK CALIPER

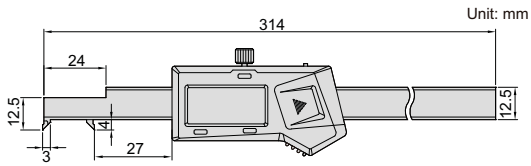
DATA OUTPUT

**1122-200A**

- Measure width of groove 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
- Data output
- Made of stainless steel
- Optional accessory: data output cable
  (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)



Unit: mm

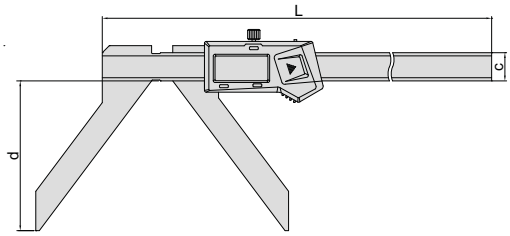


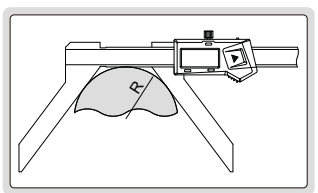

| Code | Range | Accuracy |
|---|---|---|
| **1122-200A** | 3-200mm/0.12-8" | ±0.03mm |

# DIGITAL ARC RADIUS CALIPER

DATA OUTPUT

1189-150B




- 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
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)

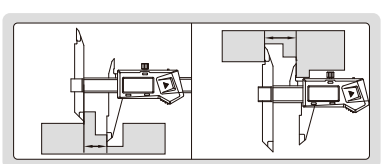
**(mm)**

| Code | Range (R) | Accuracy | L | c | d |
|---|---|---|---|---|---|
| **1189-150B** | 5-150mm/0.2-6" | ±0.05mm | 263 | 16 | 65 |
| **1189-200B** | 5-200mm/0.2-8" | ±0.07mm | 313 | 16 | 85 |

# DIGITAL OFFSET CALIPER

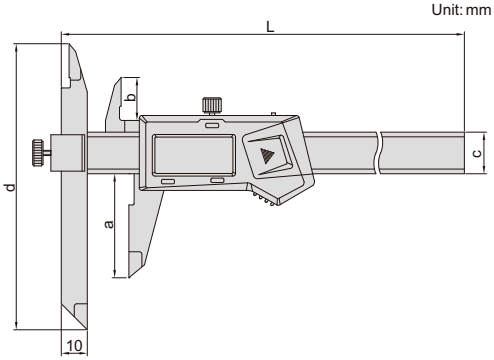
DATA OUTPUT

1186-150A



- 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
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)

Unit: mm




**(mm)**

| Code | Range | Accuracy | L | a | b | c | d |
|---|---|---|---|---|---|---|---|
| **1186-150A** | 0-150mm/0-6" | ±0.04mm | 239 | 40 | 16.5 | 16 | 110 |
| **1186-200A** | 0-200mm/0-8" | ±0.04mm | 289 | 50 | 19.5 | 16 | 120 |
| **1186-300A** | 0-300mm/0-12" | ±0.05mm | 389 | 60 | 20.5 | 17 | 130 |

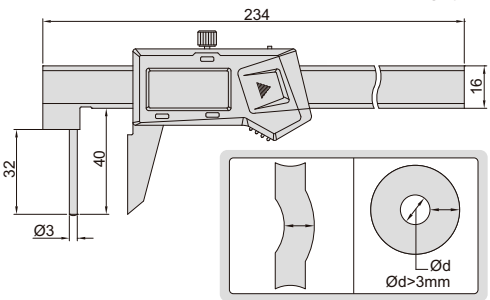
# DIGITAL TUBE THICKNESS CALIPER

DATA OUTPUT

1161-150A

- 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
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)

Unit: mm



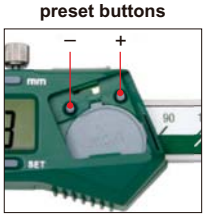

| Code | Range | Accuracy |
|---|---|---|
| **1161-150A** | 0-150mm/0-6" | ±0.05mm |

# DIGITAL RTJ RING GROOVE CALIPER

DATA OUTPUT

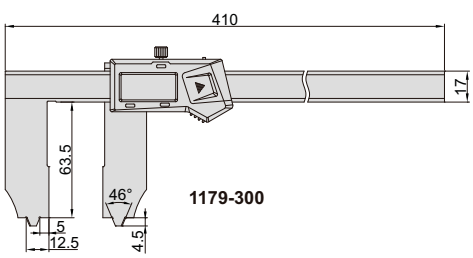
1179-300

preset buttons

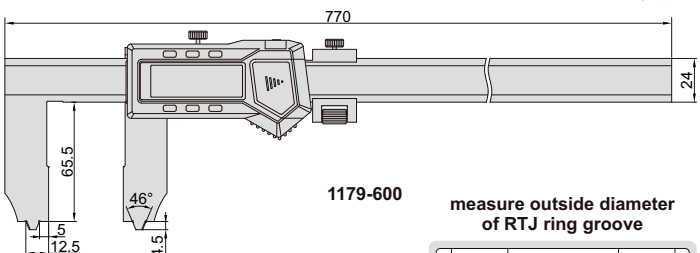


1179-600

Unit: mm



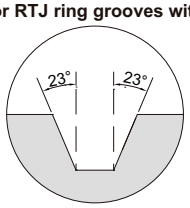

1179-300



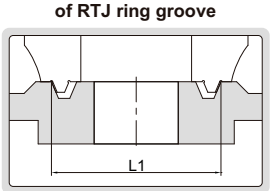

1179-600

- Measure ring grooves of flange
- Resolution: 0.01mm/0.0005"
- Button function: on/off, set, zero, mm/inch, data preset
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)

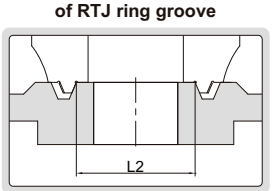
**applicable for RTJ ring grooves with angle 23°**




**measure outside diameter of RTJ ring groove**




**measure inside diameter of RTJ ring groove**




| Code | Range (inside diameter of RTJ ring groove) | Range (outside diameter of RTJ ring groove) | Angle of RTJ ring groove | Accuracy |
|---|---|---|---|---|
| **1179-300** | 10-300mm/0.4-12" | 25-300mm/1-12" | 23° | ±0.06mm |
| **1179-600** | 10-600mm/0.4-24" | 25-600mm/1-24" | 23° | ±0.07mm |

# DIGITAL CRIMP HEIGHT CALIPER

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

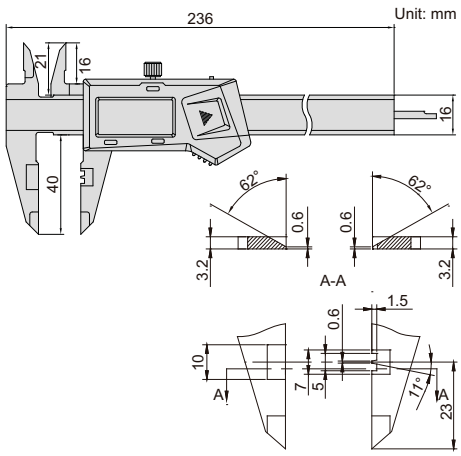
DATA OUTPUT

**1165-150A**

- 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
- Data output
- Meet DIN862
- Made of stainless steel
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)

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

Unit: mm




# DIGITAL CALIPER WITH LARGE MEASURING FACES

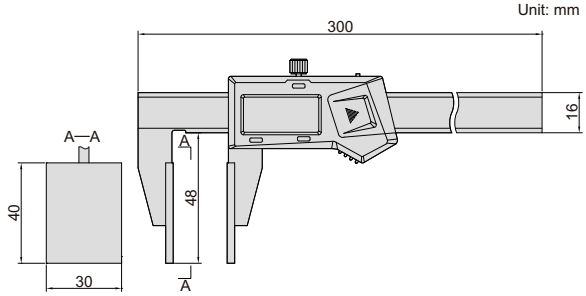
DATA OUTPUT

**1172-200**

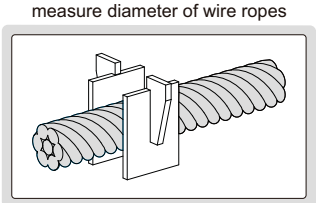
- Measure diameter of wire ropes, and thickness of soft materials like rubber, sponge, etc.
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)

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

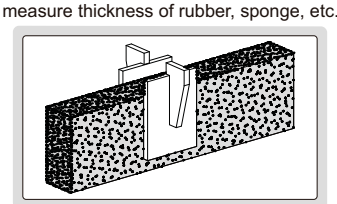
Unit: mm




measure diameter of wire ropes



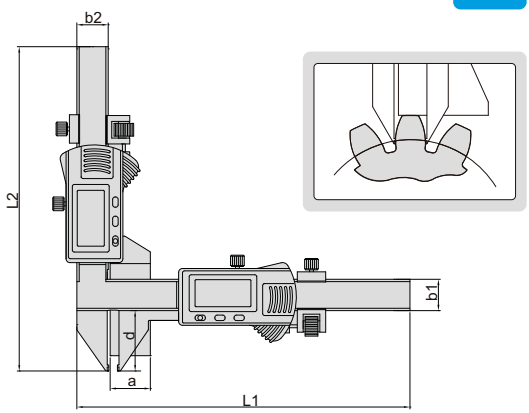
measure thickness of rubber, sponge, etc.



# DIGITAL GEAR TOOTH CALIPER

DATA OUTPUT

1181-M25A




- Resolution: 0.01mm/0.0005"
- Carbide tips
- Buttons: zero, on/off, mm/inch
- Battery LR44
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)

(mm)

| Code | Range | Accuracy | L1 | L2 | a | b1 | b2 | d |
|---|---|---|---|---|---|---|---|---|
| **1181-M25A** | M1-25mm | ±0.04mm | 170 | 165.5 | 21 | 16 | 16 | 30.5 |
| **1181-M50A** | M5-50mm | ±0.04mm | 220 | 190 | 50.5 | 16 | 16 | 55 |

# DIGITAL DISK BRAKE CALIPER

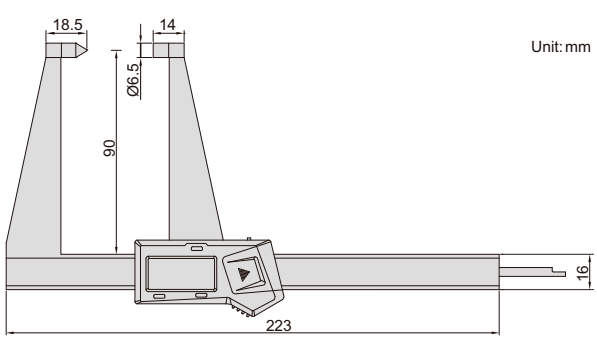
DATA OUTPUT

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

1162-125A

- 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
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)

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

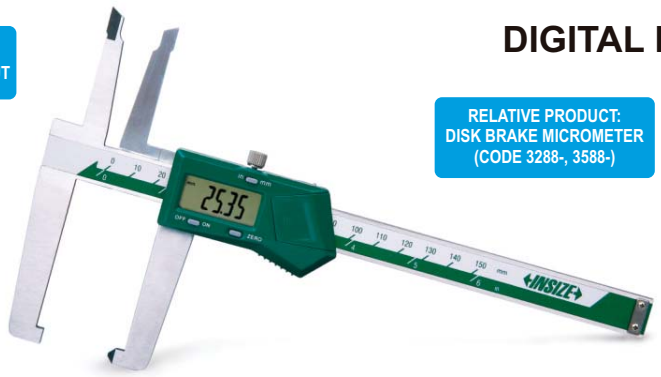



Unit: mm

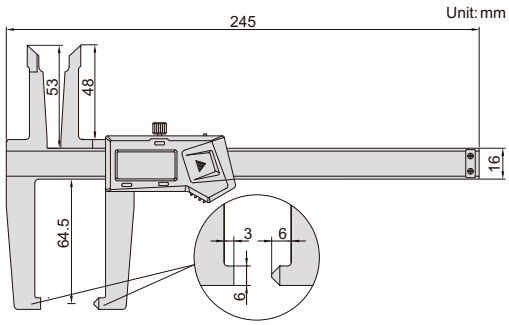
DATA OUTPUT

# DIGITAL DISK BRAKE AND PAD CALIPER

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

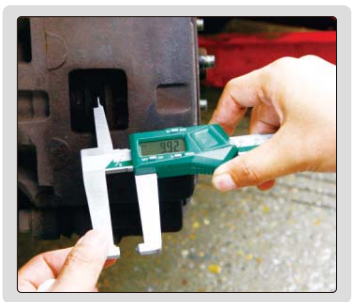


**1167-150A**




- 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
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)

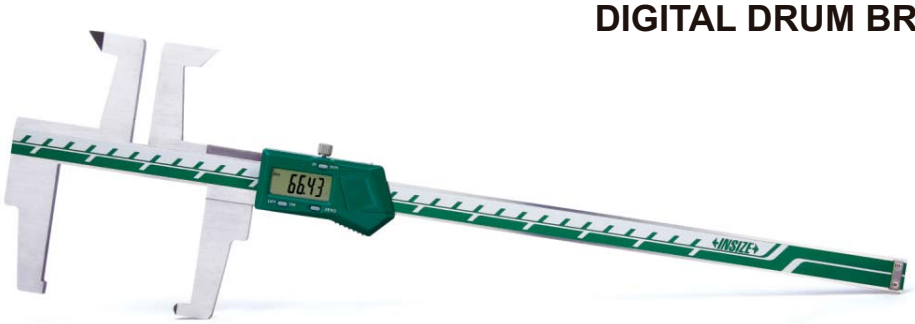
| Code | Range | Accuracy |
|---|---|---|
| **1167-150A** | 0-150mm/0-6" | ±0.07mm |



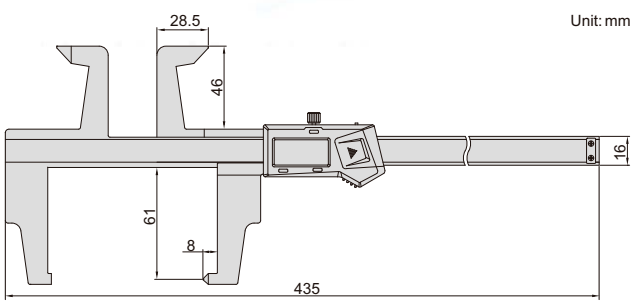
DATA OUTPUT

# DIGITAL DRUM BRAKE CALIPER

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

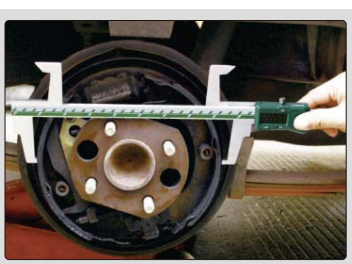


**1168-300A**




- 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
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)

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



# WATERPROOF DIGITAL DEPTH GAGE

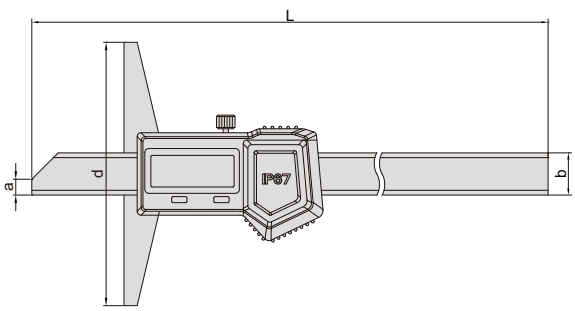
ATTENTION: NO DATA OUTPUT

IP67 WATERPROOF

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**




**(mm)**

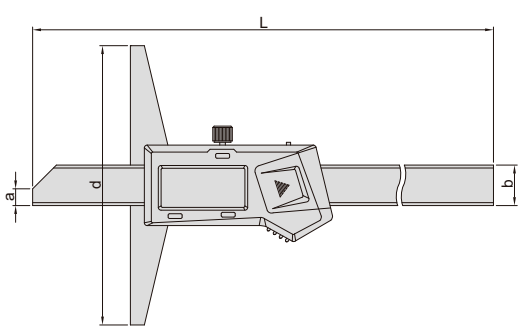
| Code | Range | Accuracy | L | a | b | d |
|---|---|---|---|---|---|---|
| **1149-150** | 0-150mm/0-6" | ±0.03mm | 240 | 6 | 16 | 100 |
| **1149-200** | 0-200mm/0-8" | ±0.03mm | 290 | 6 | 16 | 100 |
| **1149-300** | 0-300mm/0-12" | ±0.03mm | 390 | 6 | 16 | 150 |

# DIGITAL DEPTH GAGE

DATA OUTPUT

- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Meet DIN862 (except **1141-500A**)
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)

**1141-150A**




**(mm)**

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

CAN BE INSTALLED WITH EXTENSION BASE

DATA OUTPUT

# DIGITAL DEPTH GAGE

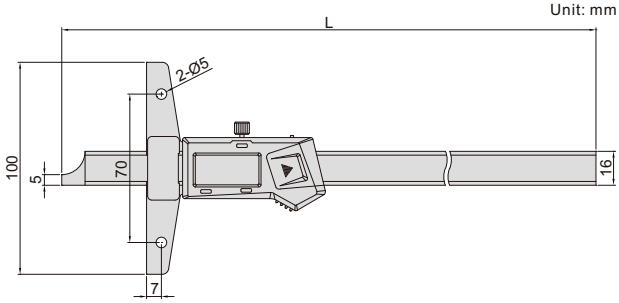
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Meet DIN862
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**), extension base (code **6141**)

**(mm)**

| Code | Range | Accuracy | L |
|---|---|---|---|
| **1147-150** | 0-150mm/0-6" | ±0.03mm | 237 |
| **1147-200** | 0-200mm/0-8" | ±0.03mm | 287 |
| **1147-300** | 0-300mm/0-12" | ±0.03mm | 403 |

**1147-300**

Unit: mm

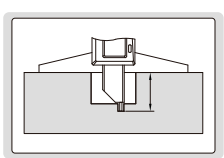



**extension base (optional)**

**6141 series**

DATA OUTPUT

# DIGITAL POINT DEPTH GAGE

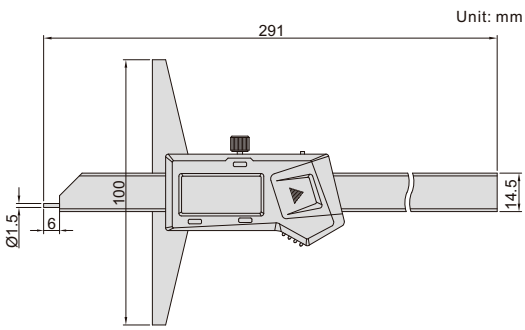


**1143-200A**

- 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
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)

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

Unit: mm



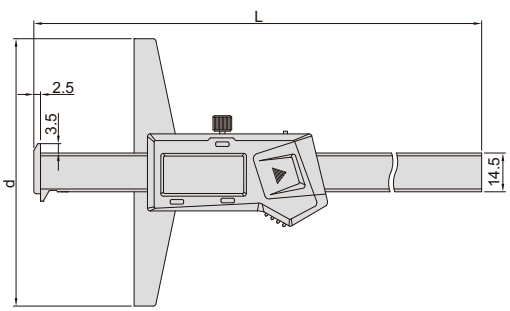
# DIGITAL DOUBLE HOOK DEPTH GAGE

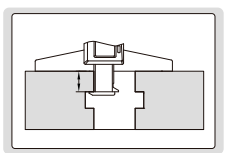
DATA OUTPUT

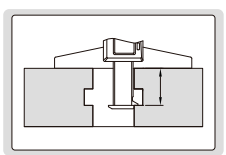
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Meet DIN862
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)

**1144-150A**

Unit: mm





**(mm)**

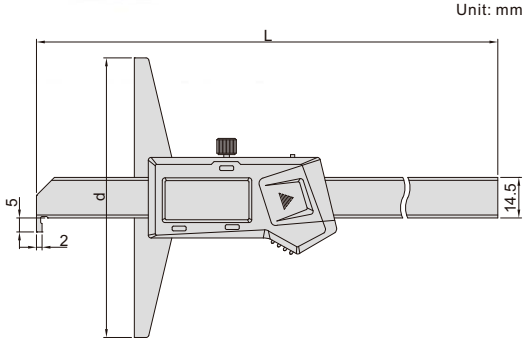
| Code | Range | Accuracy | L | d |
|---|---|---|---|---|
| **1144-150A** | 0-150mm/0-6" | ±0.03mm | 233 | 100 |
| **1144-200A** | 0-200mm/0-8" | ±0.03mm | 283 | 100 |
| **1144-300A** | 0-300mm/0-12" | ±0.03mm | 383 | 150 |

# DIGITAL HOOK DEPTH GAGE

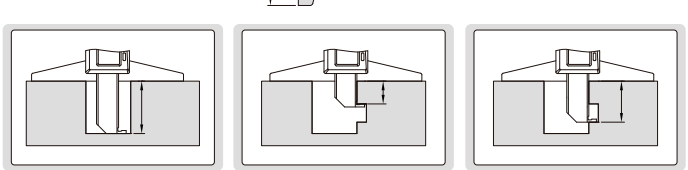
DATA OUTPUT

**1142-150A**

Unit: mm




- 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 **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)



**(mm)**

| Code | Range | Accuracy | L | d |
|---|---|---|---|---|
| **1142-150A** | 0-150mm/0-6" | ±0.03mm | 230 | 100 |
| **1142-200A** | 0-200mm/0-8" | ±0.03mm | 280 | 100 |
| **1142-300A** | 0-300mm/0-12" | ±0.04mm | 380 | 150 |

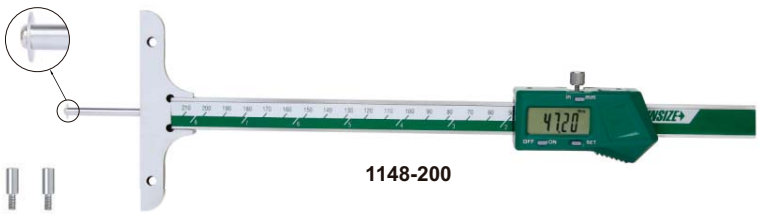
# DIGITAL DEPTH GAGE WITH ROUND DEPTH BAR

MEASURE WIDTH AND DEPTH OF GROOVES INSIDE BORE

MEASURE DEPTH OF SMALL HOLES (>Ø4mm)

DATA OUTPUT

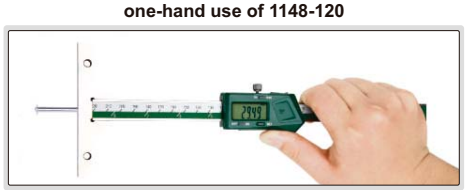
1148-100S



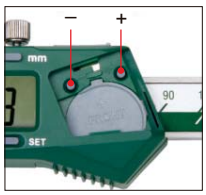
1148-200

1148-120

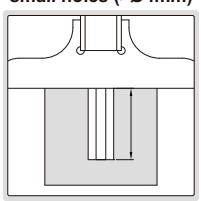
one-hand use of 1148-120



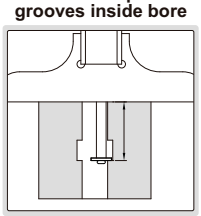
preset buttons



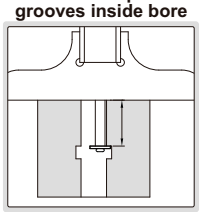
measure depth of small holes (>Ø4mm)



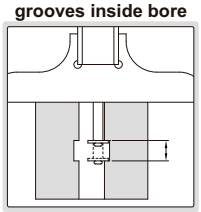
measure depth of grooves inside bore



measure depth of grooves inside bore

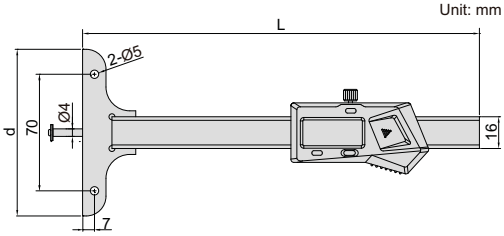


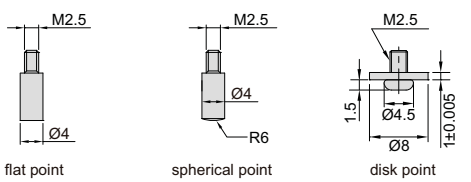
measure width of grooves inside bore



- 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
- Data output
- Made of stainless steel
- Optional accessory:
  data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**),
  disk points (see below table),
  extension base (code **6141**, for **1148-120** and **1148-200**)

Unit: mm




flat point | spherical point | disk point

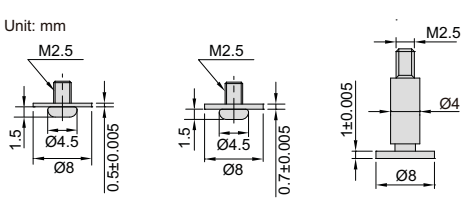
extension base for 1148-120 and 1148-200 (optional)

6141 series

1148-P101 (optional)

1148-P103 (optional)

Unit: mm




1148-P101 | 1148-P102 | 1148-P103

(mm)

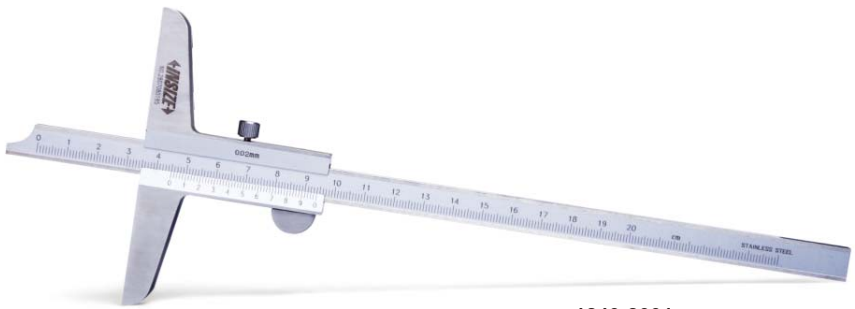
| Code | Range * | Accuracy | L | d | Remark |
|---|---|---|---|---|---|
| **1148-100S** | 0-100mm/0-4" | ±0.02mm | 200 | 45 | |
| **1148-100** | 0-100mm/0-4" | ±0.02mm | 200 | 85 | |
| **1148-120** | 0-120mm/0-4.7" | ±0.03mm | 300 | 101 | one-hand use, with clamp holes for extension base |
| **1148-200**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

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

**OPTIONAL DISK POINTS**

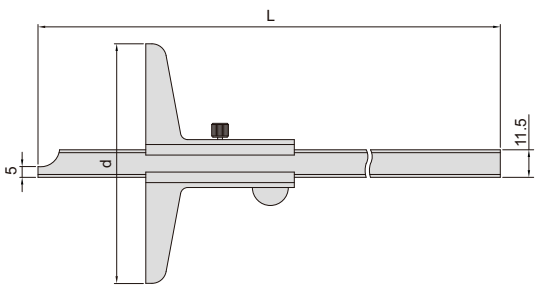
| Code | Description | Remark |
|---|---|---|
| **1148-P101** | 0.5mm disk point | for narrow grooves |
| **1148-P102** | 0.7mm disk point | for narrow grooves |
| **1148-P103** | 1mm disk point | for grooves inside blind hole |

# VERNIER DEPTH GAGE



1240-2001

Unit: mm




**Graduation 0.05mm** (mm)

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

**Graduation 0.02mm** (mm)

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

- Made of stainless steel
- Satin chrome plated reading surface

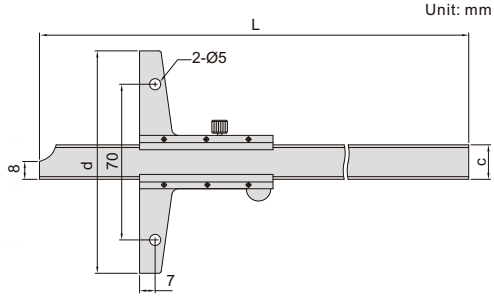
# VERNIER DEPTH GAGE

**extension base (optional)**

**6141 series**

1247-1501

Unit: mm




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

**Graduation 0.05mm**

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

**Graduation 0.02mm**

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

(mm)

| Range | L | c | d |
|---|---|---|---|
| 0-150mm | 240 | 16 | 100 |
| 0-200mm | 290 | 16 | 100 |
| 0-300mm | 390 | 16 | 100 |
| 0-600mm | 704 | 16 | 150 |
| 0-1000mm | 1124 | 18 | 200 |

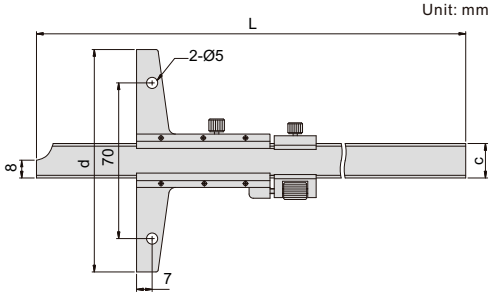
# VERNIER DEPTH GAGE

1249-1501

extension base (optional)

6141 series

Unit: mm




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

**Graduation 0.05mm**

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

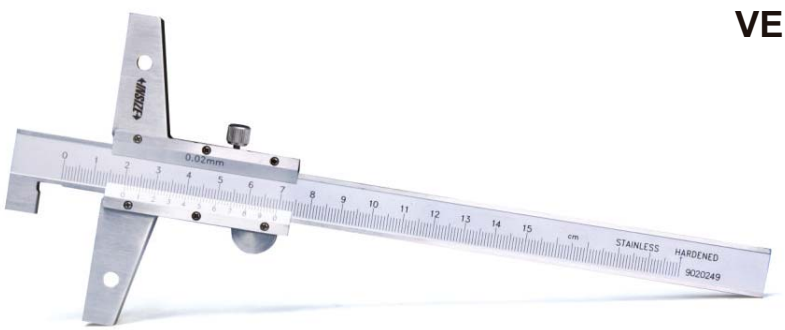
**Graduation 0.02mm**

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

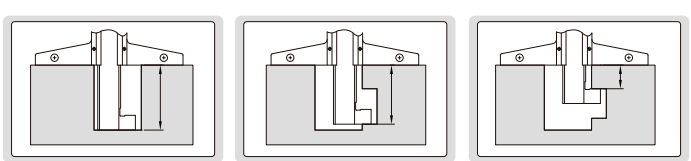
(mm)

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

# VERNIER HOOK DEPTH GAGE



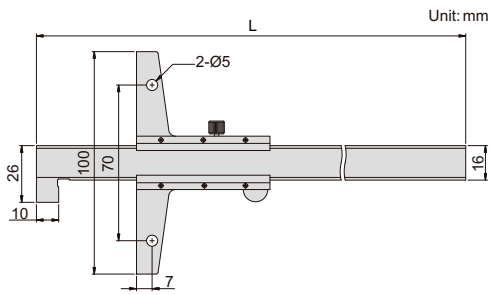
1248-1501



extension base (optional)

6141 series

Unit: mm




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

**Graduation 0.05mm**

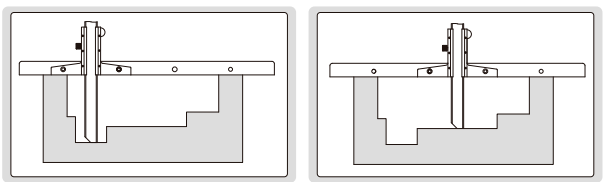
| Code | Range | Accuracy | L |
|---|---|---|---|
| **1248-150** | 0-150mm | ±0.05mm | 266mm |
| **1248-200** | 0-200mm | ±0.05mm | 316mm |
| **1248-300** | 0-300mm | ±0.08mm | 416mm |

**Graduation 0.02mm**

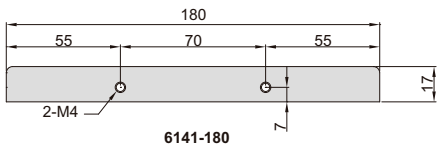
| Code | Range | Accuracy | L |
|---|---|---|---|
| **1248-1501** | 0-150mm | ±0.03mm | 266mm |
| **1248-2001** | 0-200mm | ±0.03mm | 316mm |
| **1248-3001** | 0-300mm | ±0.04mm | 416mm |

# EXTENSION BASE

**6141-260**

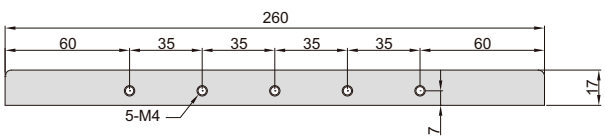


Unit: mm



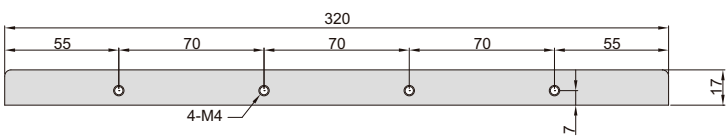

**6141-180**

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




**6141-260**

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

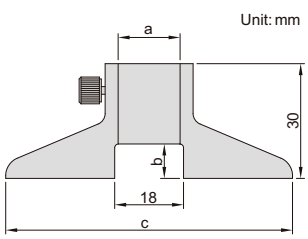



**6141-320**

# DEPTH BASE ATTACHMENT

Unit: mm

**6140**




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

**(mm)**

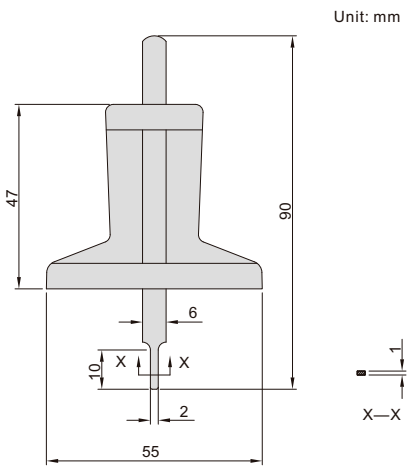
| Code | a | b | c | Application |
|---|---|---|---|---|
| **6140** | 16.5 | 9 | 75 | Suitable for digital calipers with beam width (w) 16mm |
| **6140-300** | 17 | 10 | 125 | Suitable for digital calipers with beam width (w) 17mm |

ATTENTION:
BASIC MODEL

# VERNIER DEPTH GAGE

1244-30

Unit: mm




- Graduation: 0.1mm
- Made of stainless steel

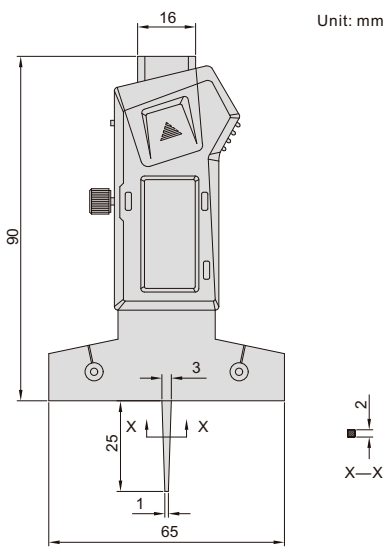
| Code | Range | Accuracy |
|---|---|---|
| **1244-30** | 0-30mm | ±0.10mm |

DATA
OUTPUT

# DIGITAL DEPTH GAGE

1145-25A

Unit: mm

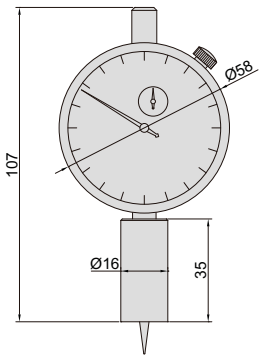



- Measure depth of small groove and hole, also measure depth of tire tread
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Supplied with zero set surface
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)

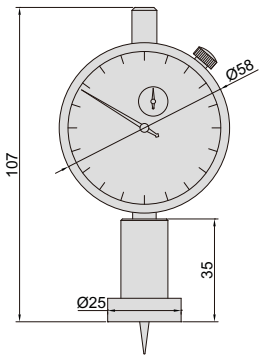
| Code | Range | Accuracy |
|---|---|---|
| **1145-25A** | 0-25mm/0-1" | ±0.03mm |

# DIAL DEPTH GAGE

Unit: mm




2343-101




2343-102

2343-102

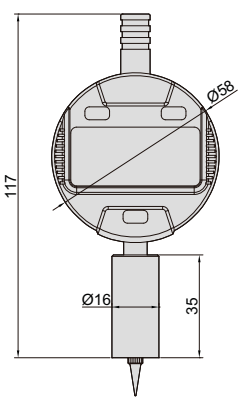
- Stainless steel base
- Pointed tip

| Code | Range | Dial indicator stroke | Dial indicator graduation | Accuracy | Base |
|---|---|---|---|---|---|
| **2343-101** | 0-10mm | 10mm | 0.01mm | ±0.017mm | Ø16mm |
| **2343-102** | 0-10mm | 10mm | 0.01mm | ±0.017mm | Ø25mm |

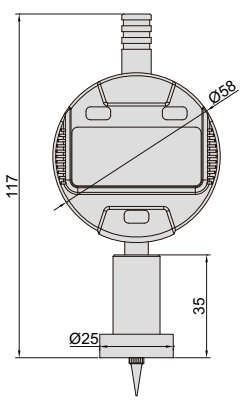
# DIGITAL DEPTH GAGE

DATA OUTPUT

Unit: mm




2142-101




2142-102

2142-102

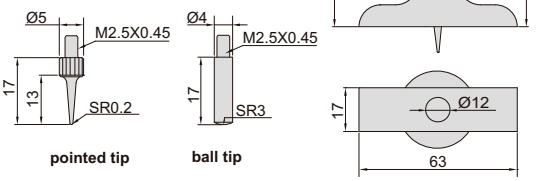
- Button function: on/off, zero, mm/inch, ABS, data preset, change measuring direction
- CR2032 battery, automatic power off
- Data ouput
- Stainless steel base
- Pointed tip
- Optional accessory: data output cable (code **7306-40, 7302-SPC3A, 7305-SPC1A**)

| 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" | ±0.02mm | Ø16mm |
| **2142-102** | 0-12.7mm/0-0.5" | 12.7mm/0.5" | 0.01mm/0.0005" | ±0.02mm | Ø25mm |

# DIAL DEPTH GAGE

- Stainless steel base
- Supplied with pointed tip and ball tip

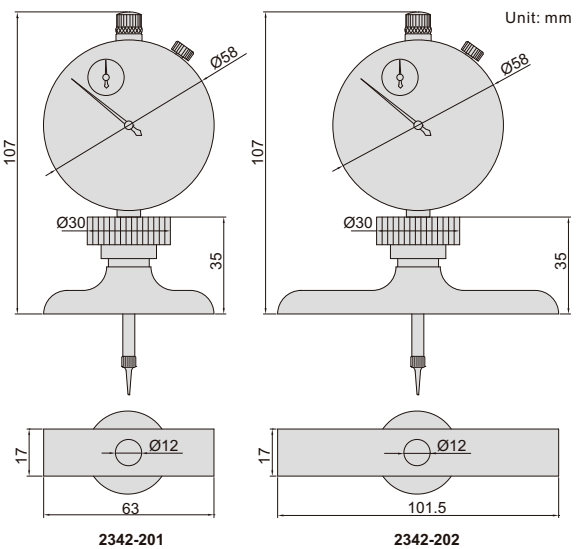
**2341-101A**




| Code | Range | Dial indicator stroke | Dial indicator graduation | Accuracy |
|---|---|---|---|---|
| **2341-101A** | 0-10mm | 10mm | 0.01mm | ±0.017mm |

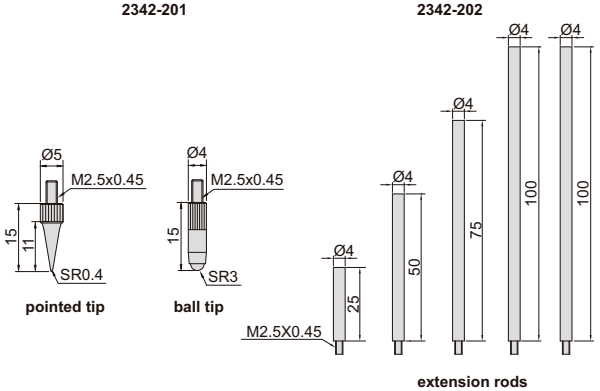
# DIAL DEPTH GAGE

**2342-202**




**2342-201** **2342-202**

- Dial indicator graduation: 0.01mm
- Accuracy: ±0.03mm
- Stainless steel base
- Extension rods: 25mm(1pc), 50mm(1pc), 75mm(1pc), 100mm(2pcs)
- Supplied with pointed tip and ball tip



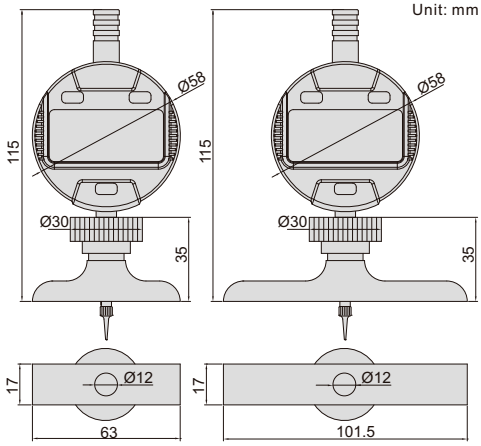

| Code | Range | Dial indicator stroke | Base |
|---|---|---|---|
| **2342-201** | 0-300mm | 30mm | 63x17mm |
| **2342-202** | 0-300mm | 30mm | 101.5x17mm |

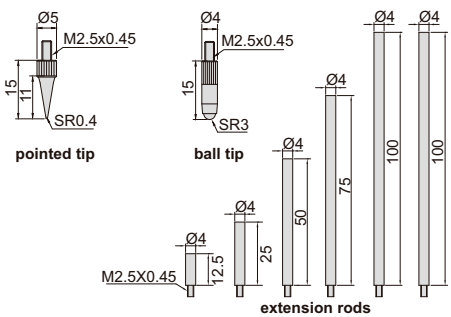
# DIGITAL DEPTH GAGE

DATA OUTPUT

2141-202A

Unit: mm



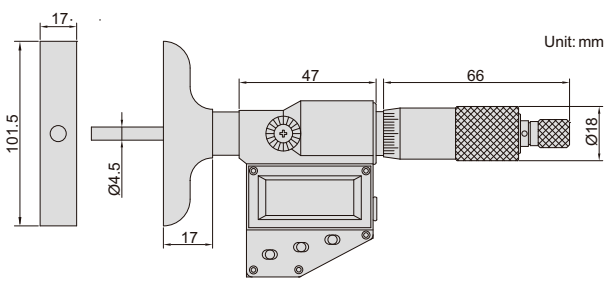

- Button function: on/off, zero, mm/inch, ABS, data preset, change measuring direction
- CR2032 battery, automatic power off
- Data ouput
- Stainless steel base
- Extension rods: 12.5mm(1pc), 25mm(1pc), 50mm(1pc), 75mm(1pc), 100mm(2pcs)
- Supplied with pointed tip and ball tip
- Optional accessory: data output cable (code **7306-40, 7302-SPC3A, 7305-SPC1A**)

| Code | Range | Digital indicator stroke | Digital indicator resolution | Accuracy | Base |
|---|---|---|---|---|---|
| **2141-201A** | 0-300mm/0-12" | 12.7mm/0.5" | 0.01mm/0.0005" | ±0.02mm | 63x17mm |
| **2141-202A** | 0-300mm/0-12" | 12.7mm/0.5" | 0.01mm/0.0005" | ±0.02mm | 101.5x17mm |

# DIGITAL DEPTH MICROMETER

IP54 WATERPROOF

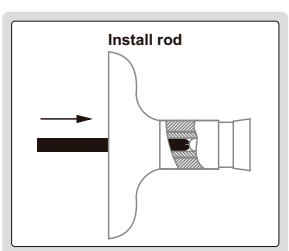
DATA OUTPUT



3540-50

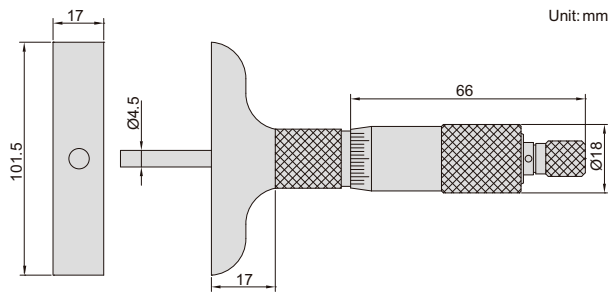
- Resolution: 0.001mm/0.00005"
- Micrometer head accuracy: +/-3μm
- Rod accuracy: +/-(2+L/75)μm, L is the measuring range in mm
- Button function: on/off, set, mm/inch, ABS/INC, data output
- IP54 dust/waterproof
- Data output
- LR44 battery, automatic power off
- Rods with flat end
- Ratchet stop
- Optional accessory: data output cable (code **7306-30, 7302-SPC2A, 7305-SPC3**)

| Code | Range | Rods |
|---|---|---|
| **3540-50** | 0-50mm/0-2" | 2pcs |
| **3540-150** | 0-150mm/0-6" | 6pcs |
| **3540-300** | 0-300mm/0-12" | 12pcs |



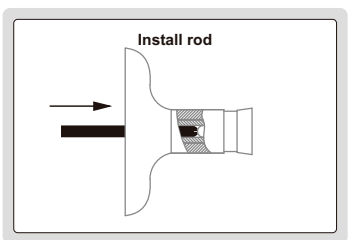
# DEPTH MICROMETER

3240-100



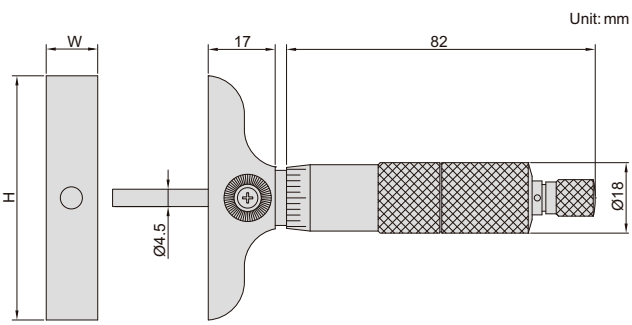

| Code | Range | Rods |
|---|---|---|
| 3240-25 | 0-25mm | 1pc |
| 3240-50 | 0-50mm | 2pcs |
| 3240-75 | 0-75mm | 3pcs |
| 3240-100 | 0-100mm | 4pcs |
| 3240-150 | 0-150mm | 6pcs |
| 3240-200 | 0-200mm | 8pcs |
| 3240-300 | 0-300mm | 12pcs |

- Graduation: 0.01mm
- Micrometer head accuracy: +/-3μm
- Rod accuracy: +/-(2+L/75)μm,
  L is the measuring range in mm
- Rods with flat end
- Ratchet stop




# DEPTH MICROMETER

3241-100



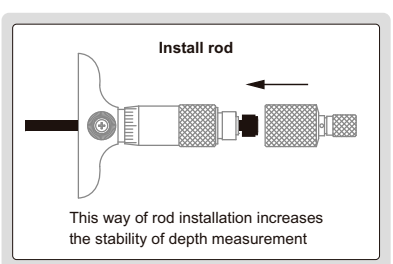

**Base: HxW=101.5x17mm**

| Code | Range | Rods |
|---|---|---|
| 3241-25 | 0-25mm | 1pc |
| 3241-50 | 0-50mm | 2pcs |
| 3241-75 | 0-75mm | 3pcs |
| 3241-100 | 0-100mm | 4pcs |
| 3241-150 | 0-150mm | 6pcs |
| 3241-200 | 0-200mm | 8pcs |
| 3241-300 | 0-300mm | 12pcs |

- Graduation: 0.01mm
- Micrometer head accuracy: +/-3μm
- Rod accuracy: +/-(2+L/75)μm,
  L is the measuring range in mm
- Rods with flat end
- Ratchet stop

**Base: HxW=63x17mm**

| Code | Range | Rods |
|---|---|---|
| 3241-B25 | 0-25mm | 1pc |



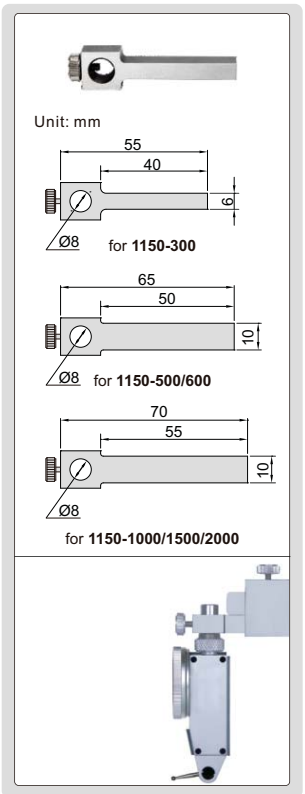
# DIGITAL HEIGHT GAGE

DATA OUTPUT

1150-1000

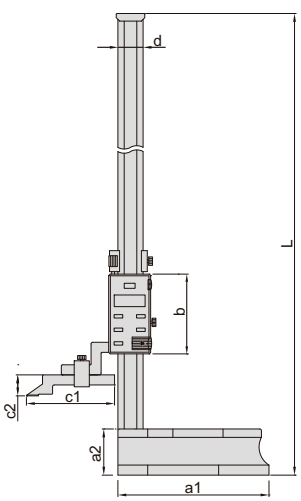
1150-500

dial test indicator holder (included)

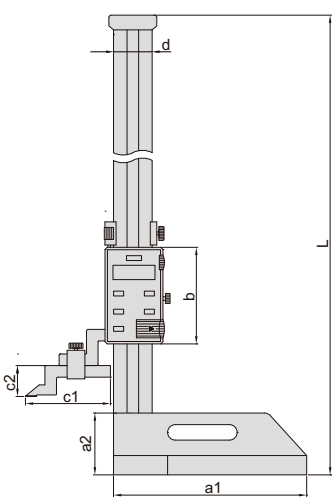





- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch, ABS/INC, data hold, TOL, set
- ABS/INC is for absolute and incremental measurement
- TOL is for tolerance measurement
- Carbide tipped scriber
- Made of stainless steel (except the base)
- LR44 battery
- Data output
- Supplied with dial test indicator holder
- Optional accessory: data output cable (code **7301-SPC5**)




type A




type B

(mm)

| Code | Range | Type | Accuracy | L | a1 | a2 | b | c1 | c2 | d |
|---|---|---|---|---|---|---|---|---|---|---|
| **1150-300** | 0-300mm/0-12" | A | ±0.04mm | 470 | 135 | 45 | 80 | 76 | 25 | 23 |
| **1150-500** | 0-500mm/0-20" | A | ±0.05mm | 720 | 180 | 55 | 95 | 103 | 25 | 30 |
| **1150-600** | 0-600mm/0-24" | A | ±0.05mm | 820 | 180 | 55 | 95 | 103 | 25 | 30 |
| **1150-1000** | 0-1000mm/0-40" | B | ±0.07mm | 1275 | 250 | 80 | 125 | 110 | 39 | 50 |
| **1150-1500** | 0-1500mm/0-60" | B | ±0.11mm | 1790 | 280 | 80 | 125 | 110 | 39 | 50 |
| **1150-2000** | 0-2000mm/0-80" | B | ±0.15mm | 2290 | 280 | 80 | 125 | 110 | 39 | 50 |

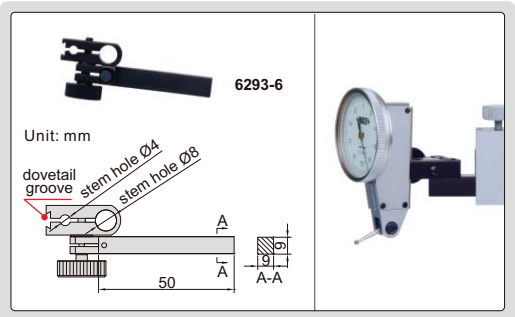
data output cable

**7301-SPC5**

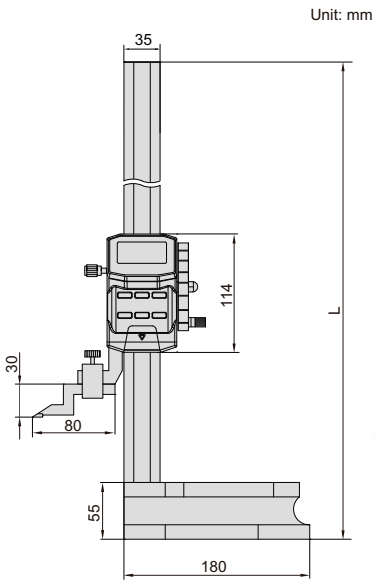
# DIGITAL HEIGHT GAGE WITH DRIVING WHEEL

DATA OUTPUT

**dial test indicator holder (optional)**




- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch, preset +, preset -, hold
- Automatic power off, move the digital unit to turn on power
- Carbide tipped scriber
- Made of stainless steel
- Battery CR2032
- Data output
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**), dial test indicator holder (code **6293-6**)



**1156-300**

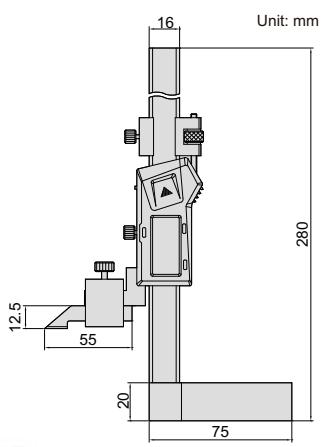
| Code | Range | Accuracy | L |
|---|---|---|---|
| **1156-300** | 0-300mm/0-12" | ±0.03mm | 515mm |
| **1156-600** | 0-600mm/0-24" | ±0.05mm | 815mm |

# DIGITAL HEIGHT GAGE

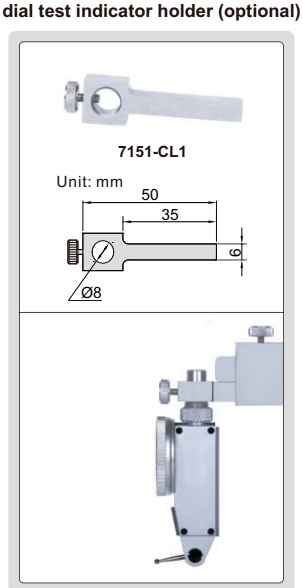
DATA OUTPUT

- 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
- Data output
- Optional accessory: data output cable, dial test indicator holder (code **7151-CL1**)

**1154-150**

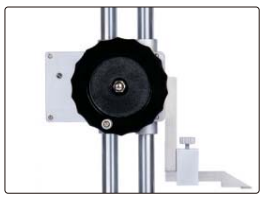



**dial test indicator holder (optional)**



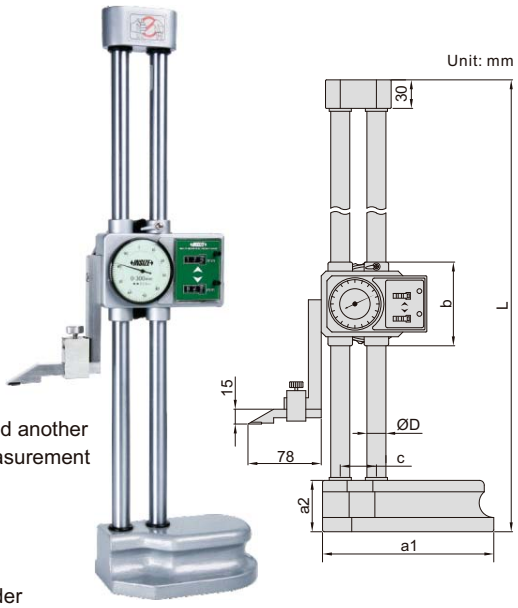

| Code | Range | Accuracy |
|---|---|---|
| **1154-150** | 0-150mm/0-6" | ±0.03mm |

# DIAL HEIGHT GAGE



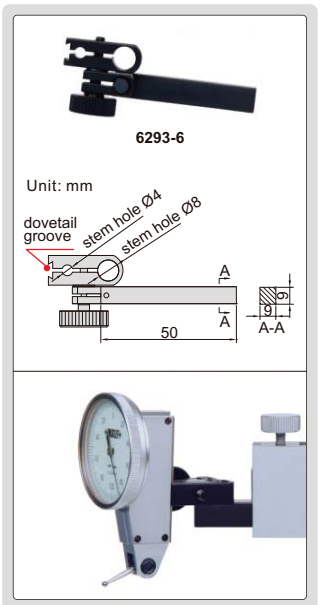
driving wheel

- 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
- Optional accessory: dial test indicator holder (code **6293-6**)




**1351-300**

**dial test indicator holder (optional)**



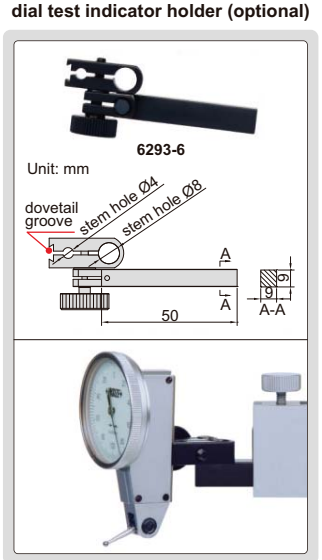

**(mm)**

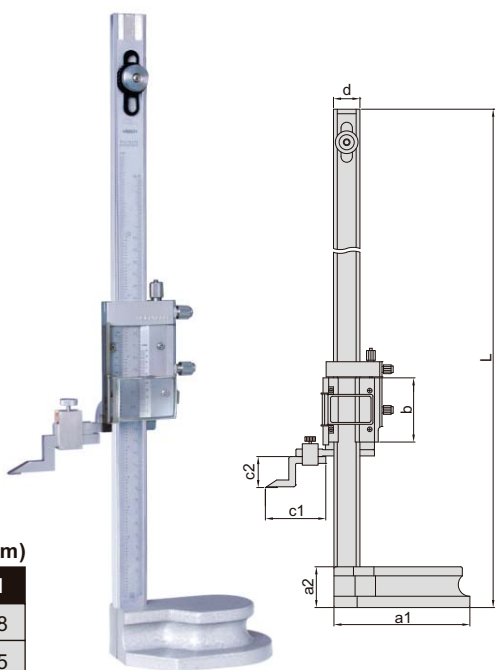
| Code | Range | Accuracy | L | a1 | a2 | b | c | ØD |
|---|---|---|---|---|---|---|---|---|
| **1351-300** | 0-300mm | ±0.04mm | 475 | 135 | 43 | 84 | 33 | 15 |
| **1351-450** | 0-450mm | ±0.05mm | 660 | 180 | 54 | 88 | 38 | 20 |
| **1351-600** | 0-600mm | ±0.05mm | 810 | 180 | 54 | 88 | 38 | 20 |

# VERNIER HEIGHT GAGE

- 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
- Optional accessory: dial test indicator holder (code **6293-6**)

**dial test indicator holder (optional)**



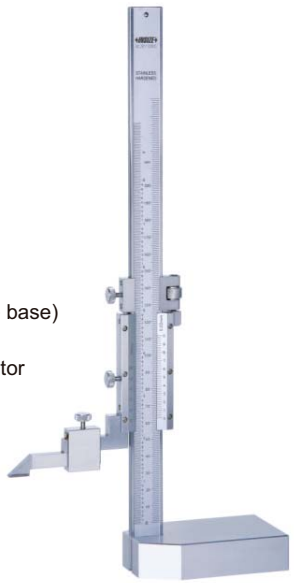

**1250-300**

**(mm)**

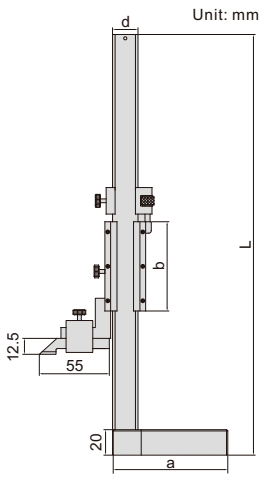
| Code | Range | Accuracy | L | a1 | a2 | b | c1 | c2 | d |
|---|---|---|---|---|---|---|---|---|---|
| **1250-300** | 0-300mm/0-12" | ±0.04mm | 545 | 135 | 43 | 75 | 80 | 30 | 28 |
| **1250-450** | 0-450mm/0-18" | ±0.05mm | 720 | 180 | 54 | 85 | 80 | 41 | 35 |
| **1250-600** | 0-600mm/0-24" | ±0.05mm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

# VERNIER HEIGHT GAGE

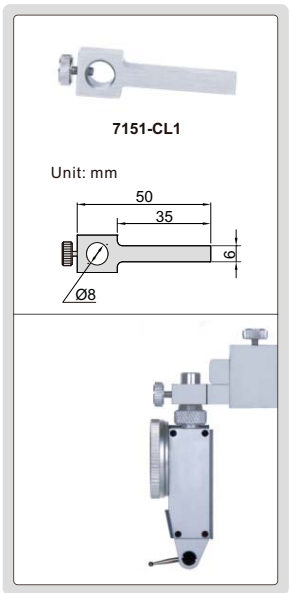
- Graduation 0.02mm/0.001"
- Carbide tipped scriber
- Made of stainless steel (except the base)
- Satin chrome plated scale
- Optional accessory: dial test indicator holder (code **7151-CL1**)



**1253-200**



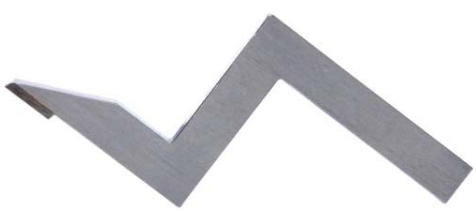

**dial test indicator holder (optional)**




**(mm)**

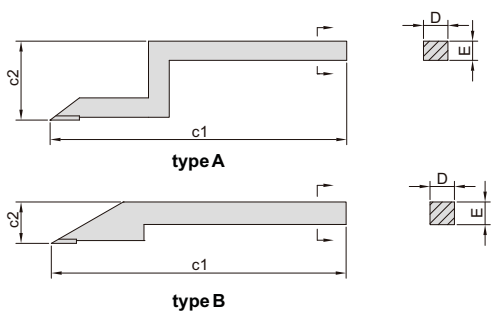
| Code | Range | Accuracy | L | a | b | d |
|---|---|---|---|---|---|---|
| **1253-150** | 0-150mm/0-6" | ±0.03mm | 265 | 75 | 57 | 16 |
| **1253-200** | 0-200mm/0-8" | ±0.03mm | 325 | 90 | 70 | 20 |

# SCRIBER FOR HEIGHT GAGES



**7150-SC1**

- Carbide tipped




**(mm)**

| Code | For height gages | Type | c1 | c2 | D | E |
|---|---|---|---|---|---|---|
| **7150-SC1** | 1150-300 | A | 76 | 25 | 6 | 8 |
| **7150-SC2** | 1150-500, 1150-600 | A | 103 | 25 | 10 | 12 |
| **7150-SC3** | 1150-1000, 1150-1500, 1150-2000 | A | 110 | 39 | 10 | 15 |
| **7150-SC4** | 1351-300, 1351-450, 1351-600 | B | 78 | 15 | 9 | 9 |
| **7150-SC6** | 1250-300, 1156-300, 1156-600 | A | 80 | 30 | 9 | 9 |
| **7150-SC7** | 1250-450, 1250-600 | A | 80 | 41 | 9 | 9 |
| **7150-SC9** | 1253-150, 1253-200, 1154-150 | B | 55 | 12.5 | 6 | 8 |

# NON-ROTATING SPINDLE DIGITAL MICROMETER

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

NON-ROTATING SPINDLE

DATA OUTPUT

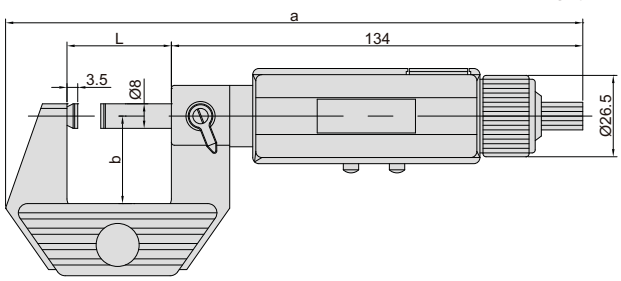
- Resolution: 0.001mm/0.00005"
- Repeatability: 1μm
- Measuring force: 5-10N
- Non-rotating spindle, suitable for cylinders
- Quick measurement: one turn of sleeve or ratchet stop makes 1mm spindle feed
- Carbide measuring faces
- Ratchet stop
- Data output
- Button function: mm/inch, max./min. value tracking, tolerance measurement, hold, on/off, zero
- CR2032 battery, automatic power off
- Supplied with setting standards (except 0-25mm/0-1")

3631-25

(mm)

| Code | Range | Accuracy | L | a | b |
|---|---|---|---|---|---|
| **3631-25** | 0-25mm/0-1" | ±2μm | 34 | 188 | 28.5 |
| **3631-50** | 25-50mm/1-2" | ±2μm | 59 | 211 | 30 |
| **3631-75** | 50-75mm/2-3" | ±3μm | 84 | 240 | 44 |
| **3631-100** | 75-100mm/3-4" | ±3μm | 109 | 264 | 56 |
| **3631-125** | 100-125mm/4-5" | ±3μm | 134 | 289 | 76 |
| **3631-150** | 125-150mm/5-6" | ±3μm | 160 | 314 | 89 |

Unit: mm




# NON-ROTATING SPINDLE DIGITAL MICROMETER

LEVER DEVICE SUITABLE FOR MASS PRODUCTION

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

NON-ROTATING SPINDLE

DATA OUTPUT

- Resolution: 0.001mm/0.00005"
- Repeatability: 1μm
- Measuring force: 5-10N
- Lever device suitable for mass production
- Non-rotating spindle, suitable for cylinders
- Quick measurement: one turn of sleeve or ratchet stop makes 1mm spindle feed
- Carbide measuring faces
- Ratchet stop
- Data output
- Button function: mm/inch, max./min. value tracking, tolerance measurement, hold, on/off, zero
- CR2032 battery, automatic power off

**lever device**

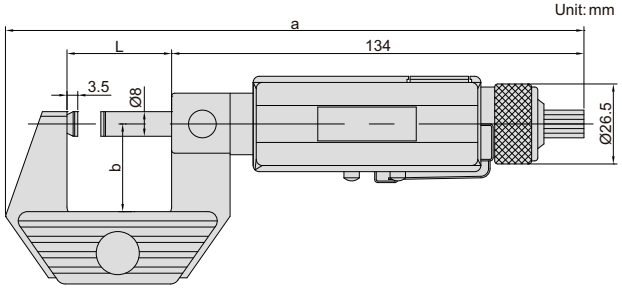
Press lever device to retract the spindle 1.5mm (max.).
Loose lever device to release the spindle to contact workpiece, measuring force is constant.

3632-25

(mm)

| Code | Range | Accuracy | L | a | b |
|---|---|---|---|---|---|
| **3632-25** | 0-25mm/0-1" | ±2μm | 34 | 188 | 28.5 |

Unit: mm



## Inspection Certificate

| | |
|---|---|
| Product name | Outside Micrometer |
| Code No. | 3203-25A |
| Measuring range | 0-25mm |
| Graduation | 0.01mm |
| Serial No. | 0910120004 |
| Standard temperature | 20 °C |
| Based on | DIN 863-1 (1999) |
| Traceable to | Germany DKD No.D-K-15190-01-00 |
| Inspector | |

Unit: μm

| Measuring Length(mm) | Permissible Error | Error |
|---|---|---|
| 0 | 4 | 0 |
| 7.7 | | +1 |
| 12.9 | | -1 |
| 17.6 | | 0 |
| 22.8 | | +1 |
| 25 | | +1 |

Judgement: Passed

**MANUFACTURER INSPECTION CERTIFICATE TRACEABLE TO DKD GERMANY, FOR MICROMETERS**

MANUFACTURER INSPECTION CERTIFICATE TRACEABLE TO DKD

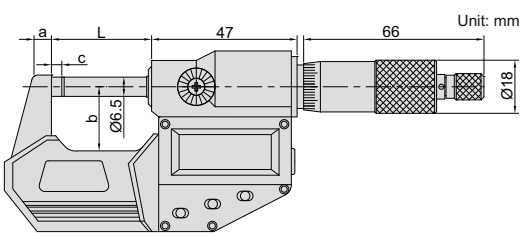
IP65 WATERPROOF

DATA OUTPUT

# DIGITAL OUTSIDE MICROMETER

- Resolution 0.001mm/0.00005" (resolution of **3101-275A** and **3101-300A** is 0.001mm/0.0001")
- IP65 dust/waterproof
- Button function: on/off, set, mm/inch, ABS/INC, data output
- Data output
- LR44 battery, 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 **7306-30, 7302-SPC2A, 7305-SPC3**)

**3101-25A**



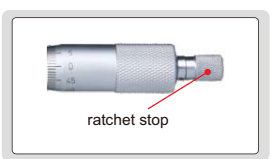

**Ratchet stop type** (mm)

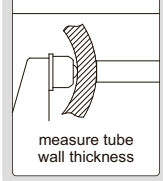
| Code | Range | Accuracy | L | a | b | c |
|---|---|---|---|---|---|---|
| **3101-25A*** | 0-25mm/0-1" | ±2μm | 32.5 | 6 | 24 | 3 |
| **3101-50A*** | 25-50mm/1-2" | ±2μm | 57.5 | 8 | 32 | 3 |
| **3101-75A*** | 50-75mm/2-3" | ±3μm | 82.5 | 8 | 44.5 | 3 |
| **3101-100A*** | 75-100mm/3-4" | ±3μm | 107.5 | 8 | 57 | 3 |
| **3101-125A** | 100-125mm/4-5" | ±3μm | 133 | 10 | 70 | 3 |
| **3101-150A** | 125-150mm/5-6" | ±3μm | 158.5 | 10 | 82 | 3 |
| **3101-175A** | 150-175mm/6-7" | ±4μm | 184 | 12 | 94.5 | 5.5 |
| **3101-200A** | 175-200mm/7-8" | ±4μm | 209.5 | 12 | 107 | 5.5 |
| **3101-225A** | 200-225mm/8-9" | ±4μm | 234 | 19.4 | 129.5 | 5.5 |
| **3101-250A** | 225-250mm/9-10" | ±4μm | 259.5 | 19.4 | 142.5 | 5.5 |
| **3101-275A** | 250-275mm/10-11" | ±5μm | 285 | 19.4 | 155 | 5.5 |
| **3101-300A** | 275-300mm/11-12" | ±5μm | 310.5 | 19.4 | 167.5 | 5.5 |

**Friction thimble type** (mm)

| Code | Range | Accuracy | L | a | b | c |
|---|---|---|---|---|---|---|
| **3101-25FA*** | 0-25mm/0-1" | ±2μm | 32.5 | 6 | 24 | 3 |

*Supplied with manufacturer inspection certificate traceable to DKD Germany



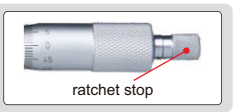


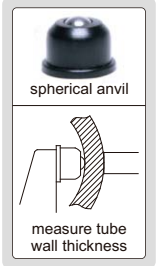
# METRIC DIGITAL OUTSIDE MICROMETER

IP54 WATERPROOF

MANUFACTURER INSPECTION CERTIFICATE TRACEABLE TO DKD

ATTENTION: NO DATA OUTPUT



3108-25A

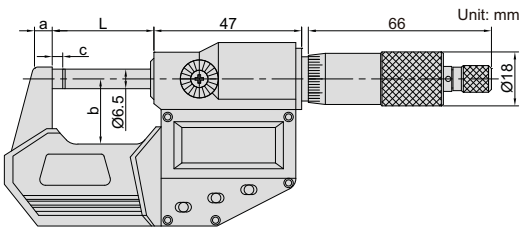
**Ratchet stop type** (mm)

| Code | Range | Accuracy | L | a | b | c |
|---|---|---|---|---|---|---|
| 3108-25A* | 0-25mm | ±2μm | 32.5 | 6 | 24 | 3 |
| 3108-50A* | 25-50mm | ±2μm | 57.5 | 8 | 32 | 3 |
| 3108-75A* | 50-75mm | ±3μm | 82.5 | 8 | 44.5 | 3 |
| 3108-100A* | 75-100mm | ±3μm | 107.5 | 8 | 57 | 3 |
| 3108-125A | 100-125mm | ±3μm | 133 | 10 | 70 | 3 |
| 3108-150A | 125-150mm | ±3μm | 158.5 | 10 | 82 | 3 |
| 3108-175A | 150-175mm | ±4μm | 184 | 12 | 94.5 | 5.5 |
| 3108-200A | 175-200mm | ±4μm | 209.5 | 12 | 107 | 5.5 |

**Friction thimble type** (mm)

| Code | Range | Accuracy | L | a | b | c |
|---|---|---|---|---|---|---|
| 3108-25FA* | 0-25mm | ±2μm | 32.5 | 6 | 24 | 3 |

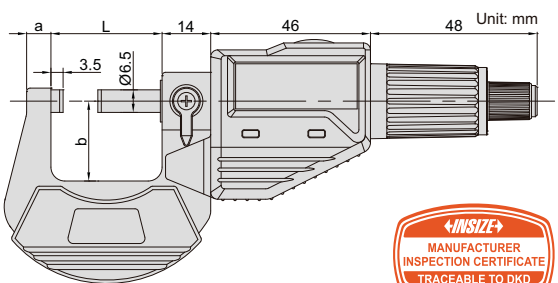
*Supplied with manufacturer inspection certificate traceable to DKD Germany



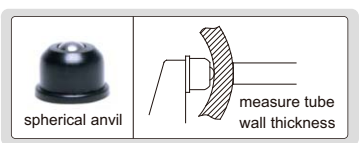

- Resolution 0.001mm
- IP54 dust/waterproof
- Button function: on/off, set, ABS/INC
- Without data output
- LR44 battery, automatic power off
- Carbide measuring faces
- Supplied with spherical anvil
- Setting standards are included (except 0-25mm)

# DIGITAL OUTSIDE MICROMETER

DATA OUTPUT




MANUFACTURER INSPECTION CERTIFICATE TRACEABLE TO DKD




3109-25B

(mm)

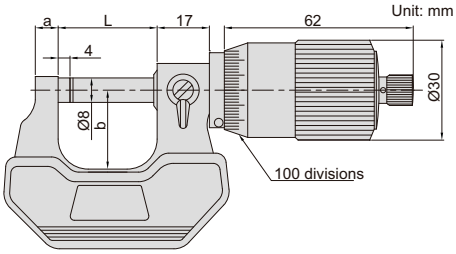
| Code | Range | Accuracy | L | a | b |
|---|---|---|---|---|---|
| 3109-25B* | 0-25mm/0-1" | ±2μm | 31.5 | 7.0 | 23 |
| 3109-50B* | 25-50mm/1-2" | ±2μm | 57.0 | 8.7 | 32 |
| 3109-75B* | 50-75mm/2-3" | ±3μm | 82.5 | 7.5 | 44 |
| 3109-100B* | 75-100mm/3-4" | ±3μm | 106.5 | 8.2 | 56 |

*Supplied with manufacturer inspection certificate traceable to DKD Germany

- Resolution 0.001mm/0.00005"
- Button function: on/off, set, mm/inch, ABS/INC
- Data output
- Battery CR2032, 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

# QUICK FEEDING OUTSIDE MICROMETER

**3208-25B**




(mm)

| Code | Range | Accuracy | L | a | b |
|---|---|---|---|---|---|
| **3208-25B** | 0-25mm | 4μm | 32 | 6 | 24 |
| **3208-50B** | 25-50mm | 4μm | 57 | 8 | 32 |
| **3208-75B** | 50-75mm | 5μm | 82 | 8 | 45 |
| **3208-100B** | 75-100mm | 5μm | 107 | 8 | 57 |

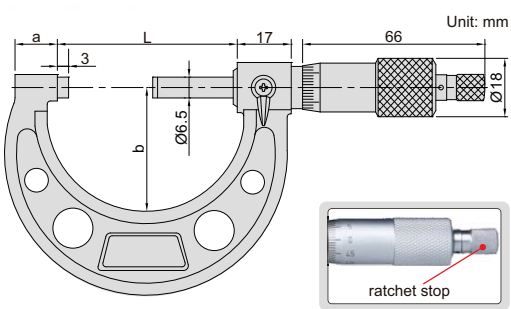
- Graduation 0.01mm
- 1mm feeding of each turn
- Friction thimble
- Carbide measuring faces
- Meet DIN863
- Supplied with setting standards (except 0-25mm)

# OUTSIDE MICROMETER

**3203-25A**

**3203-50A**

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



**Ratchet stop type** (mm)

| Code | Range | Accuracy | L | a | b |
|---|---|---|---|---|---|
| **3203-25A*** | 0-25mm | 4μm | 32 | 9 | 28 |
| **3203-50A*** | 25-50mm | 4μm | 57 | 14 | 38 |
| **3203-75A*** | 50-75mm | 5μm | 82 | 15 | 49 |
| **3203-100A*** | 75-100mm | 5μm | 107 | 15 | 60 |
| **3203-125A** | 100-125mm | 6μm | 133 | 16.5 | 73 |
| **3203-150A** | 125-150mm | 6μm | 158 | 16.5 | 85 |
| **3203-175A** | 150-175mm | 7μm | 183 | 19.4 | 104 |
| **3203-200A** | 175-200mm | 7μm | 209 | 19.4 | 117 |
| **3203-225A** | 200-225mm | 8μm | 234 | 19.4 | 130 |
| **3203-250A** | 225-250mm | 8μm | 260 | 19.4 | 142 |
| **3203-275A** | 250-275mm | 9μm | 285 | 19.4 | 155 |
| **3203-300A** | 275-300mm | 9μm | 310 | 19.4 | 168 |

**Friction thimble type** (mm)

| Code | Range | Accuracy | L | a | b |
|---|---|---|---|---|---|
| **3203-25FA*** | 0-25mm | 4μm | 32 | 9 | 28 |
| **3203-50FA*** | 25-50mm | 4μm | 57 | 14 | 38 |

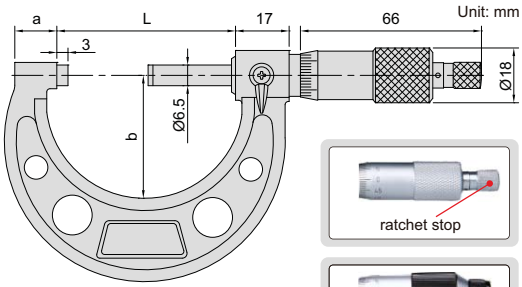
**Micrometer set (ratchet stop type)**

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

*Supplied with manufacturer inspection certificate traceable to DKD Germany

# 1μm GRADUATION OUTSIDE MICROMETER

3210-25A



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

**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 |

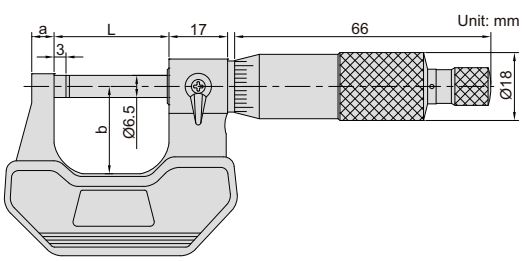
**Micrometer set (ratchet stop type)**

| 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 |

*Supplied with manufacturer inspection certificate traceable to DKD Germany

# OUTSIDE MICROMETER

3202-25A




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

(mm)

| Code | Range | Accuracy | L | a | b |
|---|---|---|---|---|---|
| 3202-25A* | 0-25mm | 4μm | 32 | 6 | 24 |
| 3202-50A* | 25-50mm | 4μm | 57 | 8 | 32 |
| 3202-75A* | 50-75mm | 5μm | 82 | 8 | 45 |
| 3202-100A* | 75-100mm | 5μm | 107 | 8 | 57 |

**Micrometer set**

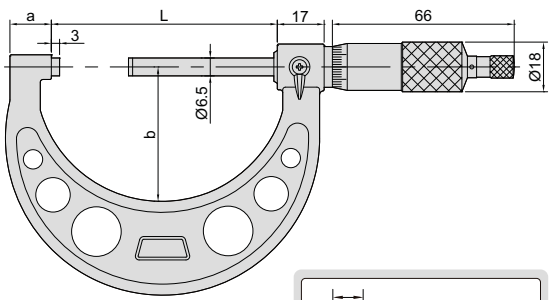
| Code | Range | Micrometers included |
|---|---|---|
| 3202-753A* | 0-75mm | 3202-25A, 3202-50A, 3202-75A |
| 3202-1004A* | 0-100mm | 3202-25A, 3202-50A, 3202-75A, 3202-100A |

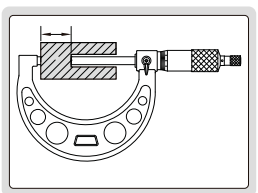
*Supplied with manufacturer inspection certificate traceable to DKD Germany

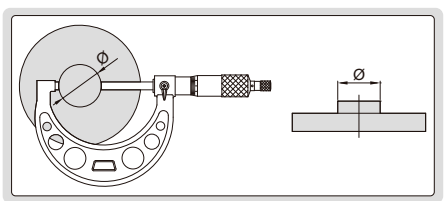
# LONG SPINDLE OUTSIDE MICROMETER

3209-25

Unit: mm






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

(mm)

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

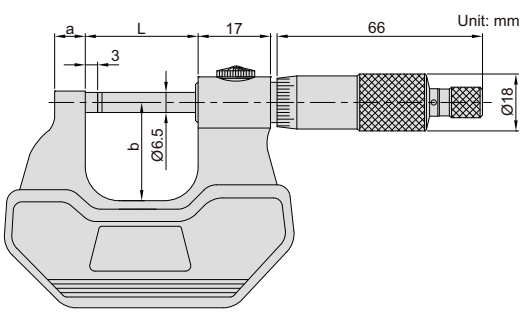
# OUTSIDE MICROMETER FOR LEFT AND RIGHT HAND

front

back

3236-25B

Unit: mm

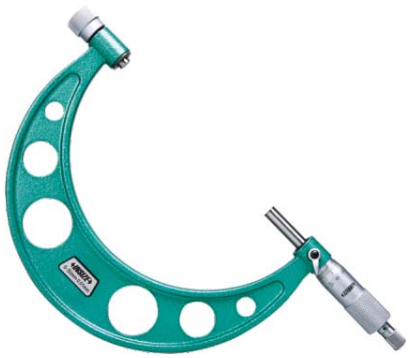



(mm)

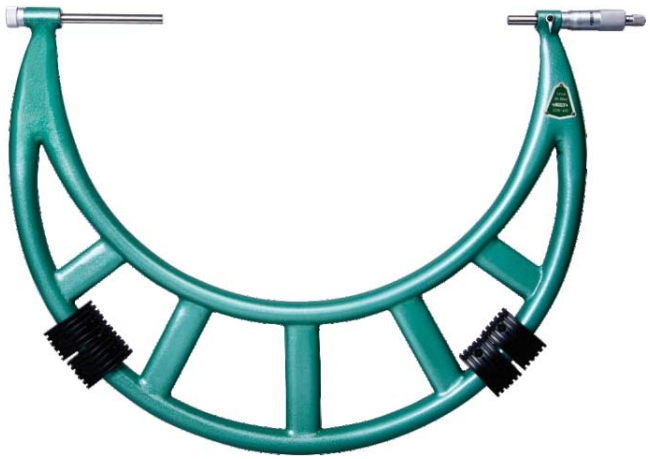
| Code | Range | Accuracy | L | a | b |
|---|---|---|---|---|---|
| **3236-25B** | 0-25mm | 4μm | 32 | 6 | 24 |
| **3236-50B** | 25-50mm | 4μm | 57 | 8 | 32 |

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

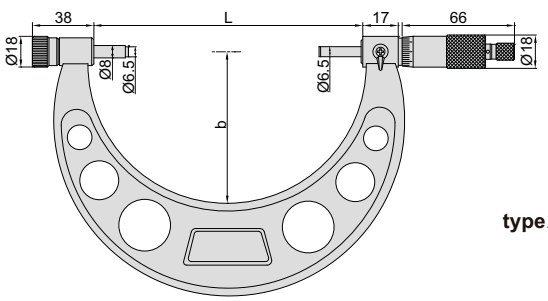
# OUTSIDE MICROMETER WITH INTERCHANGEABLE ANVILS



3206-150A

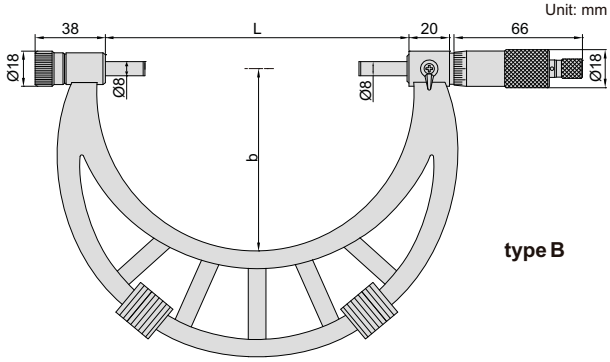


3206-400




type A

Unit: mm




type B

interchangeable anvils
for different measuring ranges

setting standard

(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 |

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

# DIGITAL OUTSIDE MICROMETER WITH INTERCHANGEABLE ANVILS

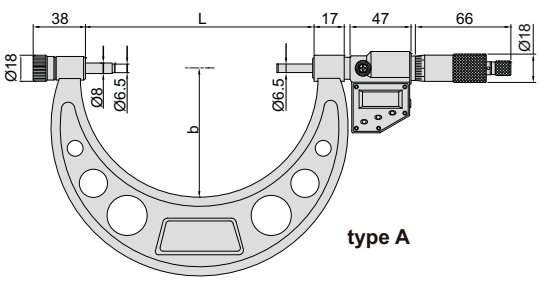
IP54 WATERPROOF

DATA OUTPUT

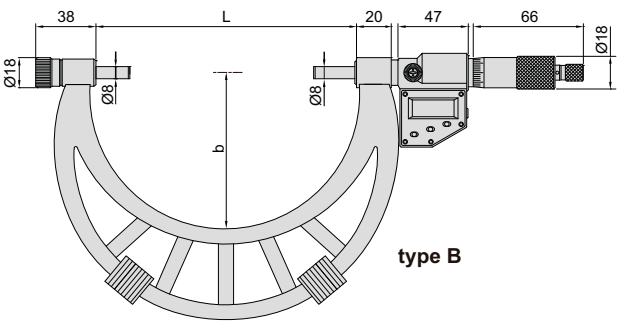
3506-100A

3506-400A

Unit: mm




type A




type B

- Resolution 0.001mm/0.0001" (resolution of **3506-100A** and **3506-150A** is 0.001mm/0.00005")
- IP54 dust/waterproof
- Button function: on/off, set, mm/inch, ABS/INC, data output
- Data output
- LR44 battery, automatic power off
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards
- Optional accessory: data output cable (code **7306-30, 7302-SPC2A, 7305-SPC3**)

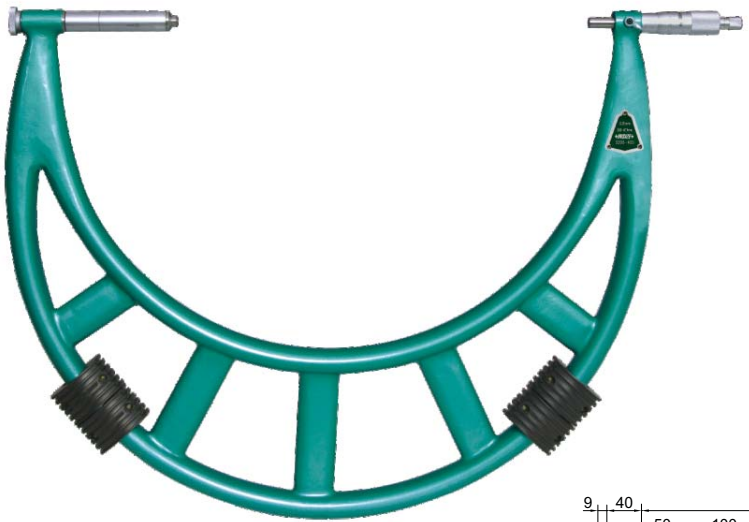
setting standard

(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 |

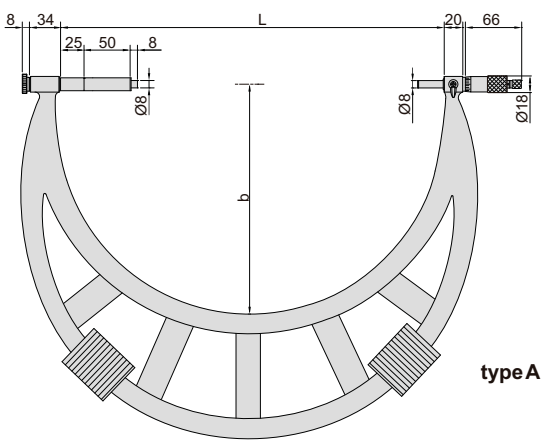
interchangeable anvils for different measuring ranges

# OUTSIDE MICROMETER WITH EXTENSION ANVIL COLLAR

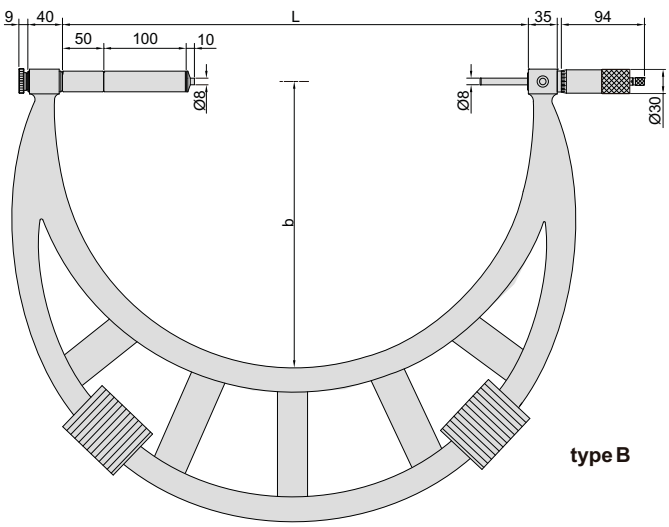


3205-400

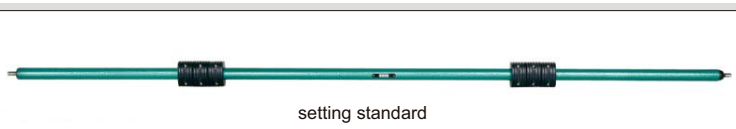
Unit: mm



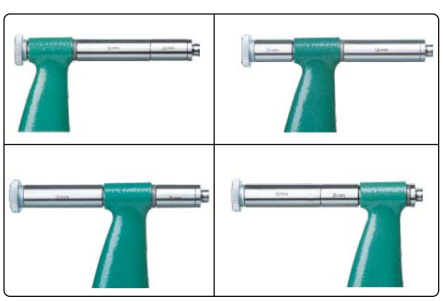

type A




type B



setting standard



adjust collars for different measuring ranges

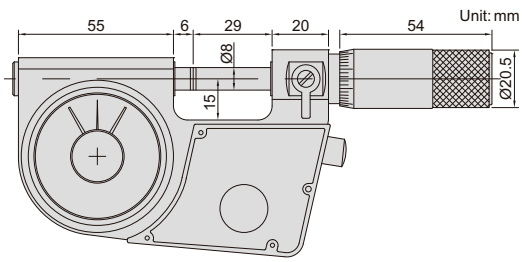
(mm)

| 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 |

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

# INDICATING MICROMETER

3333-25



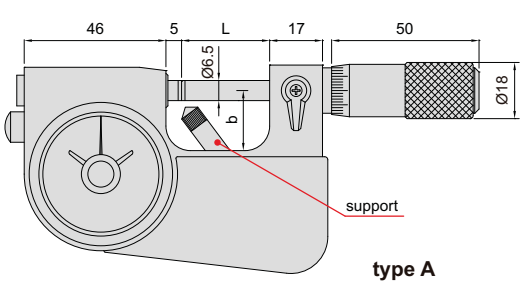

- Carbide measuring faces
- Measuring force 5-10N

| Code | Micrometer head | | | Dial indicator | | |
|---|---|---|---|---|---|---|
| | Range | Graduation | Accuracy | Range | Graduation | Accuracy |
| 3333-25 | 0-25mm | 0.01mm | 2μm | ±0.07mm | 1μm | 1μm |

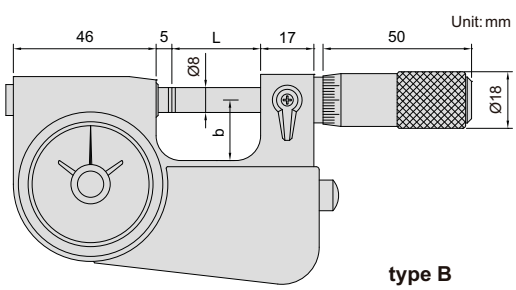
# INDICATING MICROMETER

3332-25

3332-25B




type A




type B

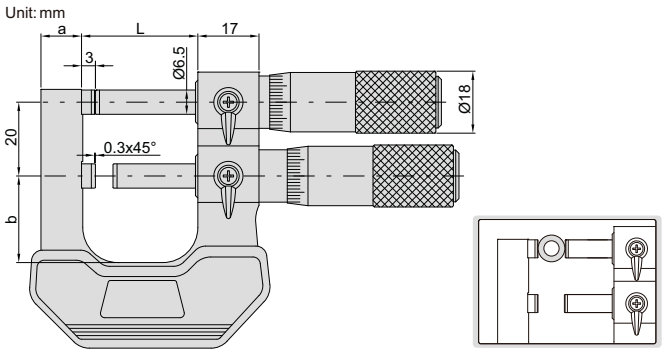
(mm)

| 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 |

- Micrometer head graduation: 0.002mm
- Dial indicator: range ±0.04mm, graduation 0.001mm, accuracy 0.001mm
- Carbide measuring faces
- Supplied with setting standards (except 0-25mm)

# LIMIT MICROMETER

3235-25A




(mm)

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

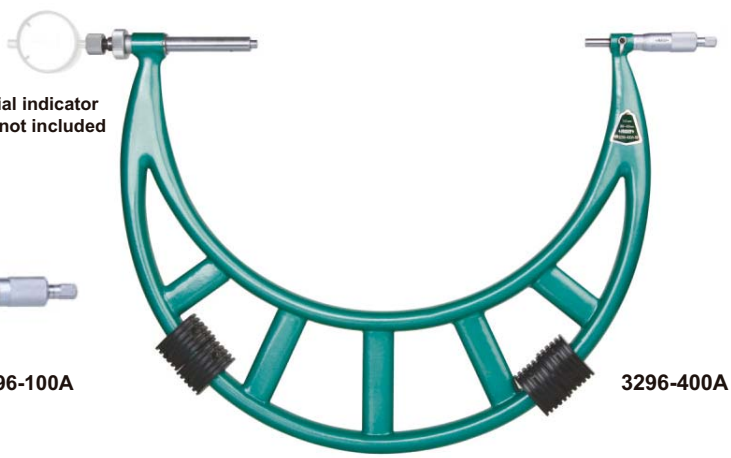
- Used as Go/No-Go gauge by setting upper and lower limits
- Graduation 0.002mm
- Carbide measuring faces
- Supplied with setting standard (except 0-25mm)

# MICROMETER WITH DIAL INDICATOR

**ATTENTION: NOT SUITABLE FOR 0.001MM INDICATORS**

dial indicator is not included

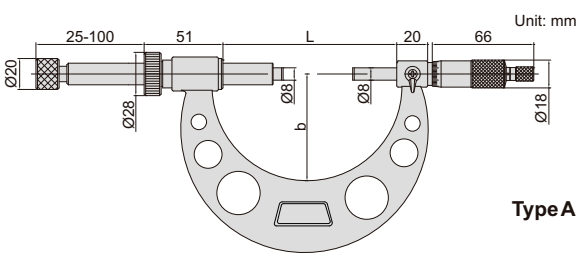
3296-100A



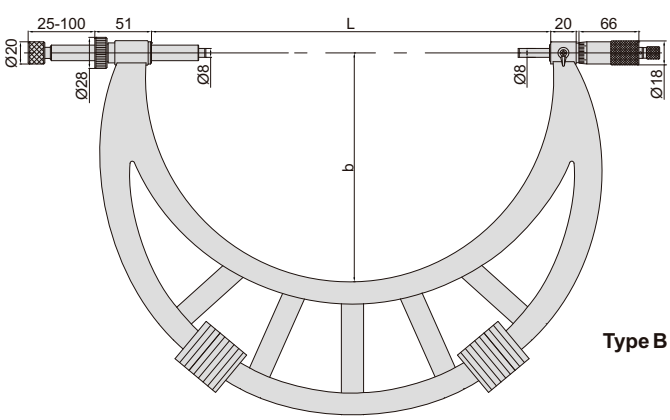
dial indicator is not included

3296-400A

- 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")




Type A




Type B

(mm)

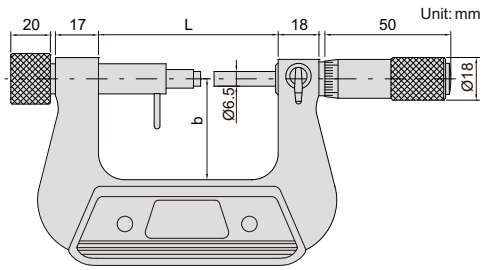
| Code | Range | Type | Accuracy | L | b |
|---|---|---|---|---|---|
| **3296-100A** | 0-100mm | A | 6μm | 115 | 68 |
| **3296-200A** | 100-200mm | A | 7μm | 215 | 120 |
| **3296-300A** | 200-300mm | A | 8μm | 315 | 170 |
| **3296-400A** | 300-400mm | B | 9μm | 415 | 225 |
| **3296-500A** | 400-500mm | 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 |

# MICROMETER WITH DIAL INDICATOR

dial indicator
is not included

3331-25A

ATTENTION: NOT SUITABLE FOR 0.001MM INDICATORS




- 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")

(mm)

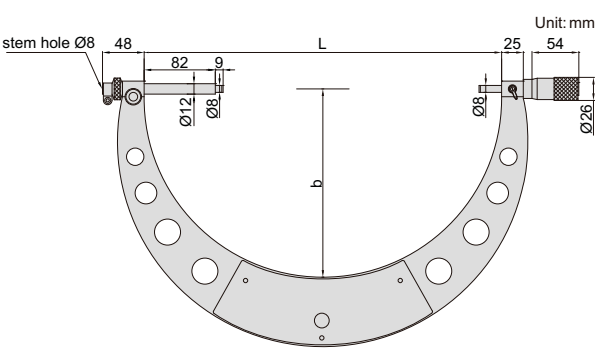
| Code | Micrometer head range | Micrometer head accuracy | L | b |
|---|---|---|---|---|
| 3331-25A | 0-25mm | 4μm | 67 | 38 |
| 3331-50A | 25-50mm | 4μm | 92.4 | 50 |
| 3331-75A | 50-75mm | 5μm | 117.6 | 62 |
| 3331-100A | 75-100mm | 5μm | 143 | 70 |
| 3331-125A | 100-125mm | 6μm | 168.2 | 82 |
| 3331-150A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

# MICROMETER WITH DIAL INDICATOR

dial indicator
is not included

3633-300

ATTENTION: SETTING STANDARDS ARE NOT INCLUDED



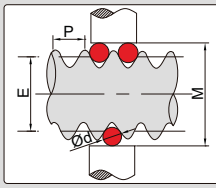

steel plate frame (0-400mm)

(mm)

| Code | Range | Frame type | L | b |
|---|---|---|---|---|
| 3633-100 | 0-100mm | steel plate | 116 | 65 |
| 3633-200 | 100-200mm | steel plate | 217 | 109 |
| 3633-300 | 200-300mm | steel plate | 317 | 159 |
| 3633-400 | 300-400mm | steel plate | 417 | 209 |
| 3633-500 | 400-500mm | steel tube | 517 | 259 |
| 3633-600 | 500-600mm | steel tube | 617 | 310 |
| 3633-700 | 600-700mm | steel tube | 717 | 360 |
| 3633-800 | 700-800mm | steel tube | 817 | 408 |
| 3633-900 | 800-900mm | steel tube | 917 | 460 |
| 3633-1000 | 900-1000mm | steel tube | 1017 | 512 |

- Micrometer head range: 25mm
- Micrometer head graduation: 0.01mm
- Adjust collars for different measuring ranges
- Anvil retracting range: 3mm
- Carbide measuring faces
- Optional accessory: dial indicators or digital indicators, setting standards

# 3-WIRES




**Formula of pitch diameter E**
**E**=M-3d+0.866025P
**M**=measured value of the micrometer
**d**=diameter of the pin gage (choose diameter of pin gage according to pitch: d=0.577P)
**P**=screw thread pitch
**The formula is suitable for 60° screw**

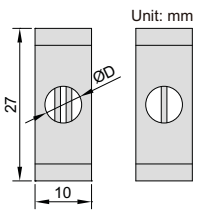
**7382-19**

**For outside micrometers with spindle Ø6.35mm (ØD)**

| Code | Pin gage diameter (Ød) | Applicable Pitch |
|---|---|---|
| **7382-11** | 0.170mm | 0.25mm |
| **7382-12** | 0.195mm | 0.35mm |
| **7382-13** | 0.220mm | 0.35mm |
| **7382-14** | 0.250mm | 0.4mm |
| **7382-15** | 0.290mm | 0.45mm, 0.5mm |
| **7382-16** | 0.335mm | 0.6mm |
| **7382-17** | 0.390mm | 0.7mm |
| **7382-18** | 0.455mm | 0.7mm, 0.75mm, 0.8mm |
| **7382-19** | 0.530mm | 0.9mm |
| **7382-110** | 0.620mm | 1mm |
| **7382-111** | 0.725mm | 1.25mm |
| **7382-112** | 0.895mm | 1.5mm |
| **7382-113** | 1.100mm | 1.75mm |
| **7382-114** | 1.350mm | 2mm |
| **7382-115** | 1.650mm | 2.5mm |
| **7382-116** | 2.050mm | 3mm,3.5mm |
| **7382-117** | 2.550mm | 4mm,4.5mm |
| **7382-118** | 3.200mm | 5mm,5.5mm |
| **7382-1S** | 18 pairs/set, including all above 3-wires | |

**For outside micrometers with spindle Ø6.50mm (ØD)**

| Code | Pin gage diameter (Ød) | Applicable Pitch |
|---|---|---|
| **7382-21** | 0.170mm | 0.25mm |
| **7382-22** | 0.195mm | 0.35mm |
| **7382-23** | 0.220mm | 0.35mm |
| **7382-24** | 0.250mm | 0.4mm |
| **7382-25** | 0.290mm | 0.45mm, 0.5mm |
| **7382-26** | 0.335mm | 0.6mm |
| **7382-27** | 0.390mm | 0.7mm |
| **7382-28** | 0.455mm | 0.7mm, 0.75mm, 0.8mm |
| **7382-29** | 0.530mm | 0.9mm |
| **7382-210** | 0.620mm | 1mm |
| **7382-211** | 0.725mm | 1.25mm |
| **7382-212** | 0.895mm | 1.5mm |
| **7382-213** | 1.100mm | 1.75mm |
| **7382-214** | 1.350mm | 2mm |
| **7382-215** | 1.650mm | 2.5mm |
| **7382-216** | 2.050mm | 3mm, 3.5mm |
| **7382-217** | 2.550mm | 4mm, 4.5mm |
| **7382-218** | 3.200mm | 5mm, 5.5mm |
| **7382-2S** | 18 pairs/set, including all above 3-wires | |




- Used with standard outside micrometers with spindle Ø6.35mm or Ø6.50mm to measure pitch diameter of screw threads
- Diameter accuracy: ±0.5μm
- Cylindricity: 1μm
- Hardness: HRC60
- Supplied with manufacturer inspection certificate

# EXTERNAL SCREW THREAD MICROMETER

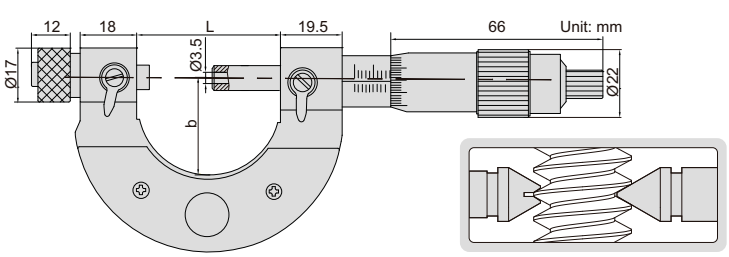
- Measure pitch diameter of screw thread
- Graduation 0.01mm
- Ratchet thimble
- Optional accessary: measuring tips for external screw thread micrometer (code **7384**)

**tips are not included**

**3639-25**

**(mm)**

| Code | Range | Accuracy | L | b |
|---|---|---|---|---|
| **3639-25** | 0-25mm | 4μm | 45 | 31 |
| **3639-50** | 25-50mm | 4μm | 70 | 35 |
| **3639-75** | 50-75mm | 5μm | 95 | 48.5 |
| **3639-100** | 75-100mm | 5μm | 120 | 60 |
| **3639-125** | 100-125mm | 6μm | 145 | 72.5 |
| **3639-150** | 125-150mm | 6μm | 170 | 80 |
| **3639-175** | 150-175mm | 7μm | 195 | 97.5 |
| **3639-200** | 175-200mm | 7μm | 220 | 110 |
| **3639-225** | 200-225mm | 8μm | 245 | 122 |



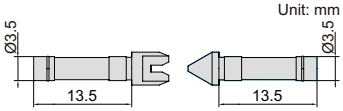
# MEASURING TIPS FOR EXTERNAL SCREW THREAD MICROMETER

TIPS FOR TRAPEZOIDAL, ACME THREAD ARE ALSO AVAILABLE

- Supplied in pair
- Made of hardened steel
- Suitable for **3639** series

7384-T108

Unit: mm




**60° thread angle**

| Code | Applicable pitch |
|---|---|
| 7384-T101 | 0.2mm |
| 7384-T102 | 0.225mm |
| 7384-T103 | 0.25mm |
| 7384-T104 | 0.3mm |
| 7384-T105 | 0.35mm |
| 7384-T106 | 0.4mm/0.45mm |
| 7384-T107 | 0.5mm/0.6mm |
| 7384-T108 | 0.7mm/0.75mm/0.8mm |
| 7384-T109 | 1mm/1.25mm |
| 7384-T110 | 1.5mm/1.75mm |
| 7384-T111 | 2.0mm/2.5mm |
| 7384-T112 | 3.0mm/3.5mm |
| 7384-T113 | 4.0mm/4.5mm/5.0mm |
| 7384-T114 | 5.5mm/6.0mm |

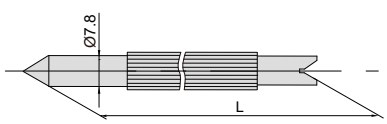
**55° thread angle**

| Code | Applicable pitch |
|---|---|
| 7384-T201 | 80TPI |
| 7384-T202 | 72TPI/64TPI |
| 7384-T203 | 60TPI/48TPI |
| 7384-T204 | 40TPI/32TPI |
| 7384-T205 | 28TPI/26TPI/24TPI/22TPI |
| 7384-T206 | 20TPI/19TPI/18TPI/16TPI |
| 7384-T207 | 14TPI/12TPI/11TPI |
| 7384-T208 | 10TPI/9TPI/8TPI |
| 7384-T209 | 7TPI/6TPI |
| 7384-T210 | 5TPI/4.5TPI/4TPI |
| 7384-T211 | 3.5TPI/3.25TPI/3TPI/2.875TPI/2.75TPI |
| 7384-T212 | 2.625TPI/2.5/2TPI |

## SETTING STANDARD FOR EXTERNAL SCREW THREAD MICROMETER

7384-A100

Unit: mm




**60° thread angle**

| Code | L | Accuracy |
|---|---|---|
| 7384-A25 | 25mm | ±1.5μm |
| 7384-A50 | 50mm | ±2μm |
| 7384-A75 | 75mm | ±2.5μm |
| 7384-A100 | 100mm | ±3μm |
| 7384-A125 | 125mm | ±3.5μm |
| 7384-A150 | 150mm | ±4μm |
| 7384-A175 | 175mm | ±4.5μm |
| 7384-A200 | 200mm | ±5μm |
| 7384-A225 | 225mm | ±5.5μm |
| 7384-A250 | 250mm | ±6μm |
| 7384-A275 | 275mm | ±6.5μm |
| 7384-A300 | 300mm | ±7μm |

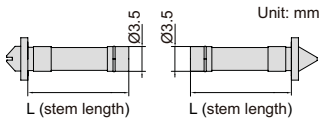
**55° thread angle**

| Code | L | Accuracy |
|---|---|---|
| 7384-B25 | 25mm | ±1.5μm |
| 7384-B50 | 50mm | ±2μm |
| 7384-B75 | 75mm | ±2.5μm |
| 7384-B100 | 100mm | ±3μm |
| 7384-B125 | 125mm | ±3.5μm |
| 7384-B150 | 150mm | ±4μm |
| 7384-B175 | 175mm | ±4.5μm |
| 7384-B200 | 200mm | ±5μm |
| 7384-B225 | 225mm | ±5.5μm |
| 7384-B250 | 250mm | ±6μm |
| 7384-B275 | 275mm | ±6.5μm |
| 7384-B300 | 300mm | ±7μm |

# MEASURING TIPS FOR INTERNAL SCREW THREAD MICROMETER

- Supplied in pair
- Made of hardened steel
- Suitable for **3640**, **3641**series

TIPS FOR TRAPEZOIDAL, ACME THREAD ARE ALSO AVAILABLE



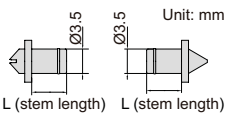

**60° thread angle**

| Code | | Applicable pitch |
|---|---|---|
| L=13.5mm | L=5mm | |
| 7385-T101A | 7385-T101B | 0.35mm |
| 7385-T102A | 7385-T102B | 0.4mm/0.45mm |
| 7385-T103A | 7385-T103B | 0.5mm/0.6mm |
| 7385-T104A | 7385-T104B | 0.7mm/0.75mm/0.8mm |
| 7385-T105A | 7385-T105B | 1mm/1.25mm |
| 7385-T106A | 7385-T106B | 1.5mm/1.75mm |
| 7385-T107A | 7385-T107B | 2.0mm/2.5mm |
| 7385-T108A | 7385-T108B | 3.0mm/3.5mm |
| 7385-T109A | 7385-T109B | 4.0mm/4.5mm/5.0mm |
| 7385-T110A | 7385-T110B | 5.5mm/6.0mm |

**55° thread angle**

| Code | | Applicable pitch |
|---|---|---|
| L=13.5mm | L=5mm | |
| 7385-T201A | 7385-T201B | 60/48TPI |
| 7385-T202A | 7385-T202B | 40/32TPI |
| 7385-T203A | 7385-T203B | 28/26/24/22TPI |
| 7385-T204A | 7385-T204B | 20/19/18/16TPI |
| 7385-T205A | 7385-T205B | 14/12/11TPI |
| 7385-T206A | 7385-T206B | 10/9/8TPI |
| 7385-T207A | 7385-T207B | 7/6TPI |
| 7385-T208A | 7385-T208B | 5/4.5/4TPI |
| 7385-T209A | 7385-T209B | 3.5/3.25/3/2.875/2.75TPI |
| 7385-T210A | 7385-T210B | 2.625/2.5/2TPI |

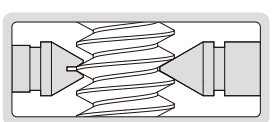
**7385-T106A**



**7385-T106B**

# SCREW THREAD MICROMETER

NON-ROTATING SPINDLE

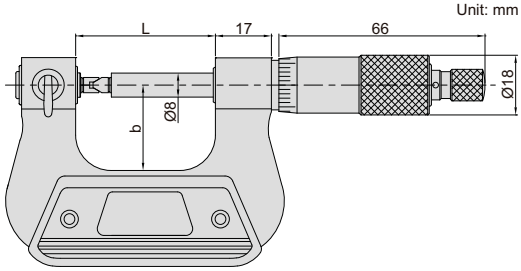


**measuring tips are not included**

**3281-25A**

- Measure pitch diameter of screw threads
- Graduation 0.01mm
- Non-rotating spindle
- Ratchet stop
- Supplied with 60° setting standards (except 0-25mm)
- Optional accessary: 55° setting standards (code **3281-SP**), measuring tips (code **7381**)

Unit: mm

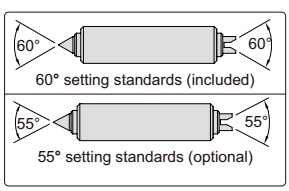



(mm)

| Code | Range | L | b |
|---|---|---|---|
| 3281-25A | 0-25mm | 42 | 26 |
| 3281-50A | 25-50mm | 67 | 38 |
| 3281-75A | 50-75mm | 92 | 50 |
| 3281-100A | 75-100mm | 117.6 | 62 |
| 3281-125A | 100-125mm | 143 | 70 |
| 3281-150A | 125-150mm | 168.2 | 82 |
| 3281-175A | 150-175mm | 192 | 94.5 |
| 3281-200A | 175-200mm | 217 | 107 |

accuracy of micrometer with tip (mm)

| Pitch | Range | | | | | |
|---|---|---|---|---|---|---|
| | 0-25 | 25-50 | 50-75 | 75-100 | 100-125 | 125-200 |
| 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 |
| 2.5~3.5 | ±0.016 | ±0.019 | ±0.021 | ±0.021 | ±0.023 | ±0.025 |
| 4.0~7.0 | – | ±0.021 | ±0.023 | ±0.023 | ±0.025 | ±0.028 |



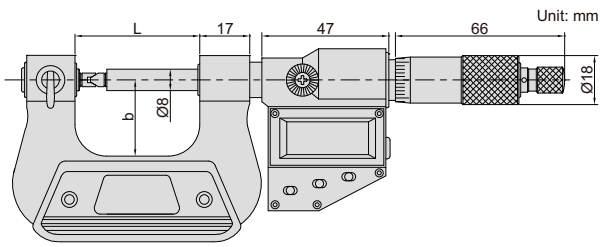
# DIGITAL SCREW THREAD MICROMETER

measuring tips are not included

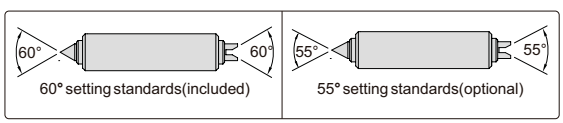
3581-25A

DATA OUTPUT

NON-ROTATING SPINDLE

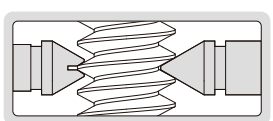



- Measure pitch diameter of screw threads
- Resolution 0.001mm/0.00005"
- Button function: on/off, set, mm/inch, ABS/INC, data output
- Data output
- LR44 battery, automatic power off
- Non- rotating spindle
- Ratchet stop
- Supplied with 60° setting standards (except 0-25mm/0-1")
- Optional accessary: 55° setting standards (code **3281-SP**), measuring tips (code **7381**), data output cable (code **7306-30, 7302-SPC2A, 7305-SPC3**)




(mm)

| Code | Range | L | b |
|---|---|---|---|
| 3581-25A | 0-25mm/0-1" | 42 | 26 |
| 3581-50A | 25-50mm/1-2" | 67 | 38 |
| 3581-75A | 50-75mm/2-3" | 92 | 50 |
| 3581-100A | 75-100mm/3-4" | 117.6 | 62 |



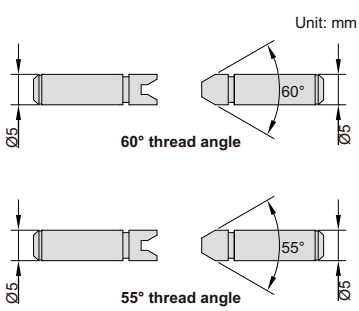
accuracy of micrometer with tip (mm)

| Pitch | Range | | | |
|---|---|---|---|---|
| | 0-25 | 25-50 | 50-75 | 75-100 |
| 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 |
| 2.5~3.5 | ±0.016 | ±0.019 | ±0.021 | ±0.021 |
| 4.0~7.0 | – | ±0.021 | ±0.023 | ±0.023 |

# MEASURING TIPS FOR SCREW THREAD MICROMETER

7381-T11

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



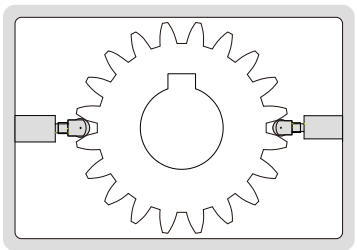

Metric and unified thread (60° thread angle)

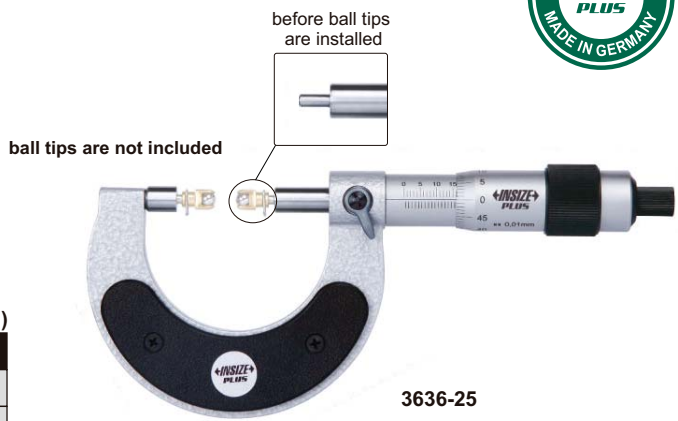
| Code | Pitch |
|---|---|
| 7381-T11 | 0.4-0.5mm/ 64-48TPI |
| 7381-T12 | 0.6-0.9mm/ 44-28TPI |
| 7381-T13 | 1-1.75mm/ 24-14TPI |
| 7381-T14 | 2-3mm/ 13-9TPI |
| 7381-T15 | 3.5-5mm/ 8-5TPI |
| 7381-T16 | 5.5-7mm/ 4.5-3.5TPI |
| 7381-TS | 6 pairs/set, including all above tips |

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 |

# EXTERNAL GEAR TOOTH MICROMETER

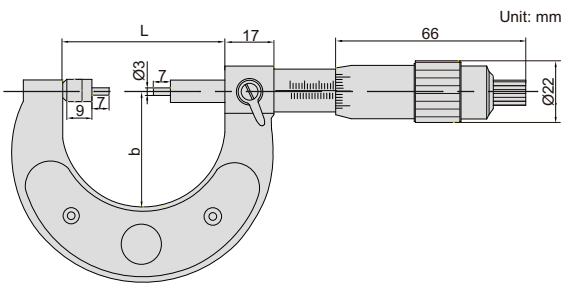





3636-25

(mm)

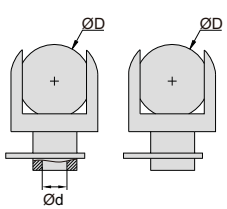
| Code | Range | Accuracy | L | b |
|---|---|---|---|---|
| **3636-25** | 0-25mm | 4μm | 56 | 40 |
| **3636-50** | 25-50mm | 4μm | 81.5 | 52 |
| **3636-75** | 50-75mm | 5μm | 106.5 | 64.5 |
| **3636-100** | 75-100mm | 5μm | 131.5 | 76 |
| **3636-125** | 100-125mm | 6μm | 156.5 | 88.5 |
| **3636-150** | 125-150mm | 6μm | 181.5 | 100 |
| **3636-175** | 150-175mm | 7μm | 242.5 | 121.5 |
| **3636-200** | 175-200mm | 7μm | 242.5 | 121.5 |
| **3636-225** | 200-225mm | 8μm | 267.5 | 134 |
| **3636-250** | 225-250mm | 8μm | 292.5 | 146.5 |
| **3636-275** | 250-275mm | 9μm | 318 | 159 |
| **3636-300** | 275-300mm | 9μm | 342.5 | 171.5 |
| **3636-325** | 300-325mm | 10μm | 367.5 | 184 |
| **3636-350** | 325-350mm | 10μm | 392.5 | 196.5 |
| **3636-375** | 350-375mm | 11μm | 417.5 | 209 |




- Measure over-pin diameter of gears
- Graduation 0.01mm
- Ratchet stop
- Optional accessary: ball tips (code **7383**)

# BALL TIPS FOR GEAR TOOTH MICROMETER

7383-8




- Supplied in pair
- Made of hardened special steel
- Suitable for **3636**, **3637**, **3638** series

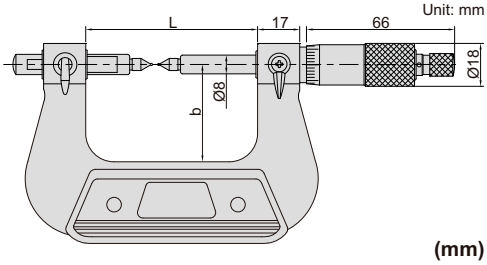
| Code | Ball dia.(D) | Accuracy of D | d |
|---|---|---|---|
| **7383-1** | SØ1mm | ±1μm | Ø3mm |
| **7383-2** | SØ2mm | ±1μm | Ø3mm |
| **7383-3** | SØ3mm | ±1μm | Ø3mm |
| **7383-4** | SØ4mm | ±1μm | Ø3mm |
| **7383-5** | SØ5mm | ±1μm | Ø3mm |
| **7383-6** | SØ6mm | ±1μm | Ø3mm |
| **7383-7** | SØ7mm | ±1μm | Ø3mm |
| **7383-8** | SØ8mm | ±1μm | Ø3mm |

| Code | Ball dia.(D) | Accuracy of D | d |
|---|---|---|---|
| **7383-9** | SØ9mm | ±1μm | Ø3mm |
| **7383-10** | SØ10mm | ±1μm | Ø3mm |
| **7383-11** | SØ11mm | ±1μm | Ø3mm |
| **7383-12** | SØ12mm | ±1μm | Ø3mm |
| **7383-13** | SØ13mm | ±1μm | Ø3mm |
| **7383-14** | SØ14mm | ±1μm | Ø3mm |
| **7383-15** | SØ15mm | ±1μm | Ø3mm |
| **7383-16** | SØ16mm | ±1μm | Ø3mm |

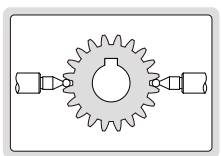
## GEAR TOOTH MICROMETER

ball tips are not included

3291-25




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



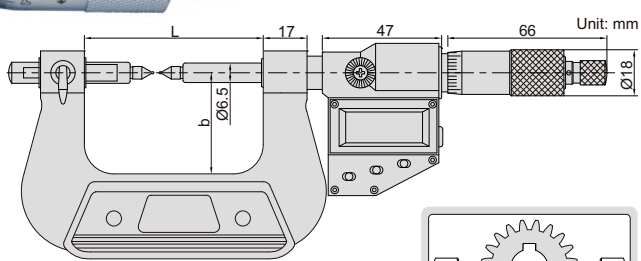
**(mm)**

| 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 |

## DIGITAL GEAR TOOTH MICROMETER

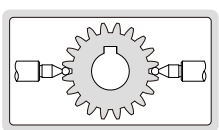
ball tips are not included

3591-25A




DATA OUTPUT

IP54 WATERPROOF



- Measure over-pin diameter of gears
- Resolution 0.001mm/0.00005"
- IP54 dust/waterproof
- Button function: on/off, set, mm/inch, ABS/INC, data output
- Data output
- LR44 battery, automatic power off
- Ratchet stop
- Supplied with setting standards (except 0-25mm/0-1")
- Optional accessary: ball tips (code **7391**), data output cable (code **7306-30, 7302-SPC2A, 7305-SPC3**)

**(mm)**

| 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 |

## BALL TIPS FOR GEAR TOOTH MICROMETER

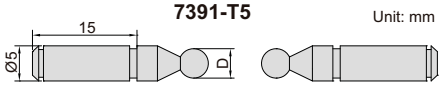
| Code | Ball dia.(D) |
|---|---|
| **7391-T1** | SØ1mm |
| **7391-T2** | SØ1.5mm |
| **7391-T3** | SØ2.0mm |
| **7391-T4** | SØ2.5mm |
| **7391-T5** | SØ3.0mm |
| **7391-T6** | SØ3.5mm |

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

| Code | Ball dia.(D) |
|---|---|
| **7391-T7** | SØ4.0mm |
| **7391-T8** | SØ4.5mm |
| **7391-T9** | SØ5.0mm |
| **7391-T10** | SØ6.0mm |
| **7391-TS** | 10 pairs/set, including all above tips |

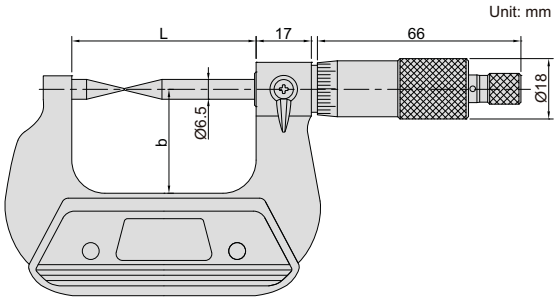
**7391-T5**

Unit: mm



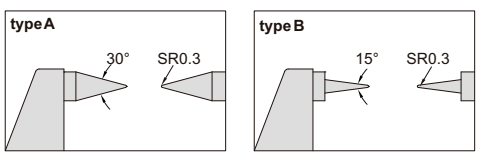
# POINT MICROMETER

3230-25A




(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 |



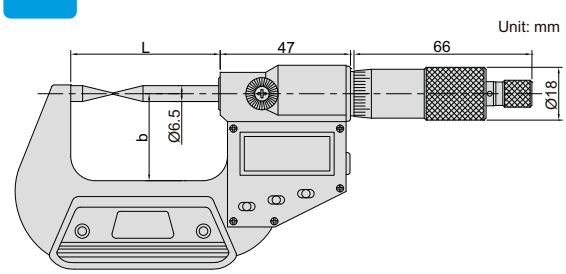

- Measure the web thickness of drills, small grooves and keyways
- Graduation 0.01mm
- Ratchet stop
- Carbide tips
- Supplied with setting standards (except 0-25mm)

# DIGITAL POINT MICROMETER

IP54 WATERPROOF

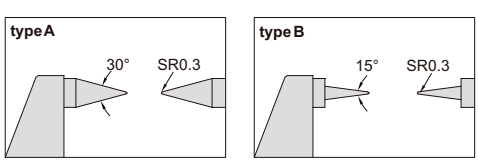
DATA OUTPUT

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 |

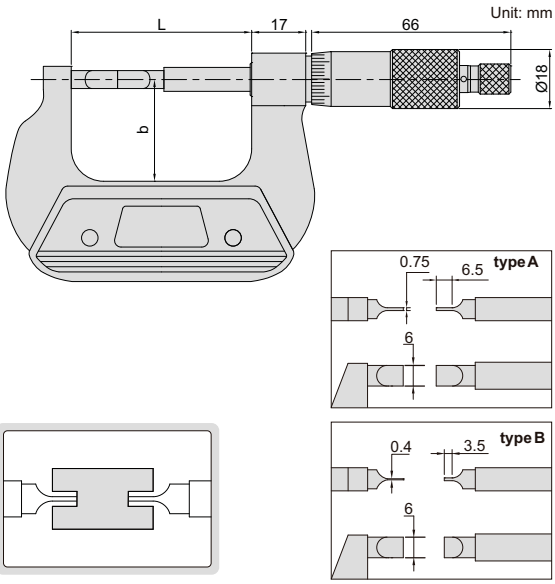



- Measure the web thickness of drills, small grooves and keyways
- Resolution 0.001mm/0.00005"
- IP54 dust/waterproof
- Button function: on/off, set, mm/inch, ABS/INC, data output
- Data output
- LR44 battery, automatic power off
- Ratchet stop
- Carbide tips
- Supplied with setting standards (except 0-25mm/0-1")
- Optional accessory: data output cable (code **7306-30, 7302-SPC2A, 7305-SPC3**)

# BLADE MICROMETER

NON-ROTATING SPINDLE

3232-25A




(mm)

| Code | Range | Type | Accuracy | L | b |
|---|---|---|---|---|---|
| **3232-25A** | 0-25mm | A | 4μm | 57 | 32 |
| **3232-50A** | 25-50mm | A | 4μm | 82 | 44.5 |
| **3232-75A** | 50-75mm | A | 5μm | 107 | 57 |
| **3232-100A** | 75-100mm | A | 5μm | 132.6 | 69.5 |
| **3232-125A** | 100-125mm | A | 6μm | 158 | 82 |
| **3232-150A** | 125-150mm | A | 6μm | 183.4 | 94.5 |
| **3232-175A** | 150-175mm | A | 7μm | 208.8 | 107 |
| **3232-25BA** | 0-25mm | B | 4μm | 57 | 32 |
| **3232-50BA** | 25-50mm | B | 4μm | 82 | 44.5 |

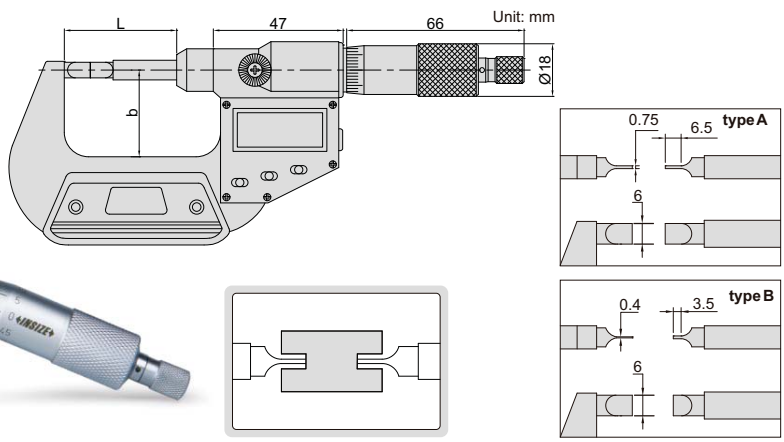
- Measure the groove diameter of shafts and keyways
- Graduation 0.01mm
- Non-rotating spindle
- Ratchet stop
- Supplied with setting standards (except 0-25mm)

# DIGITAL BLADE MICROMETER

DATA OUTPUT

NON-ROTATING SPINDLE

3532-25A




(mm)

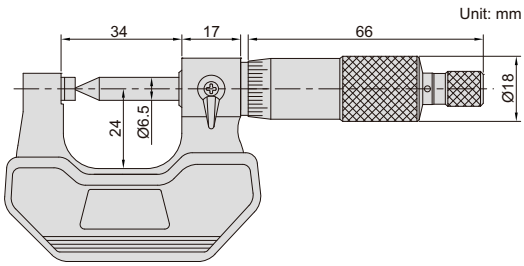
| Code | Range | Type | Accuracy | L | b |
|---|---|---|---|---|---|
| **3532-25A** | 0-25mm/0-1" | A | ±4μm | 57 | 32 |
| **3532-50A** | 25-50mm/1-2" | A | ±4μm | 82 | 44.5 |
| **3532-75A** | 50-75mm/2-3" | A | ±5μm | 107 | 57 |
| **3532-100A** | 75-100mm/3-4" | A | ±5μm | 132.6 | 69.5 |
| **3532-25BA** | 0-25mm/0-1" | B | ±4μm | 57 | 32 |
| **3532-50BA** | 25-50mm/1-2" | B | ±4μm | 82 | 44.5 |

- Measure the groove diameter of shafts and keyways
- Resolution 0.001mm/0.00005"
- Non-rotating spindle
- Button function: on/off, set, mm/inch, ABS/INC, data output
- Data output
- LR44 battery, automatic power off
- Ratchet stop
- Supplied with setting standards (except 0-25mm/0-1")
- Optional accessory: data output cable (code **7306-30, 7302-SPC2A, 7305-SPC3**)

# CRIMP HEIGHT MICROMETER

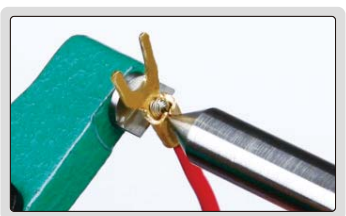
RELATIVE PRODUCT:
DIGITAL CRIMP HEIGHT CALIPER
(CODE 1165-150A)

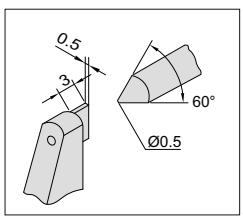
3266-25BA




- Measure the height of crimp contact
- Graduation 0.01mm
- Ratchet stop

| Code | Range | Accuracy |
|---|---|---|
| **3266-25BA** | 0-25mm | 4μm |





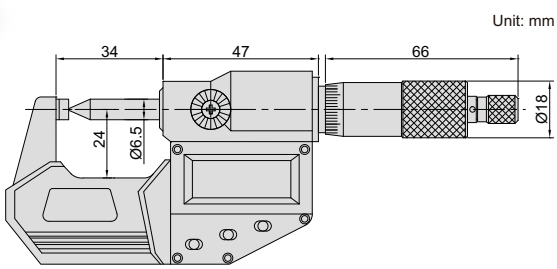

# DIGITAL CRIMP HEIGHT MICROMETER

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

IP54
WATERPROOF

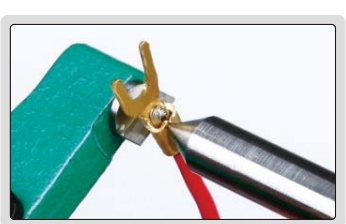
DATA
OUTPUT

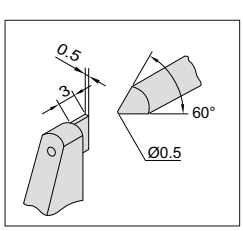
3566-25BA




- Measure the height of crimp contact
- Resolution 0.001mm/0.00005"
- IP54 dust/waterproof
- Button function: on/off, set, mm/inch, ABS/INC, data output
- Data output
- LR44 battery, automatic power off
- Ratchet stop
- Optional accessory: data output cable (code **7306-30, 7302-SPC2A, 7305-SPC3**)

| Code | Range | Accuracy |
|---|---|---|
| **3566-25BA** | 0-25mm/0-1" | ±4μm |



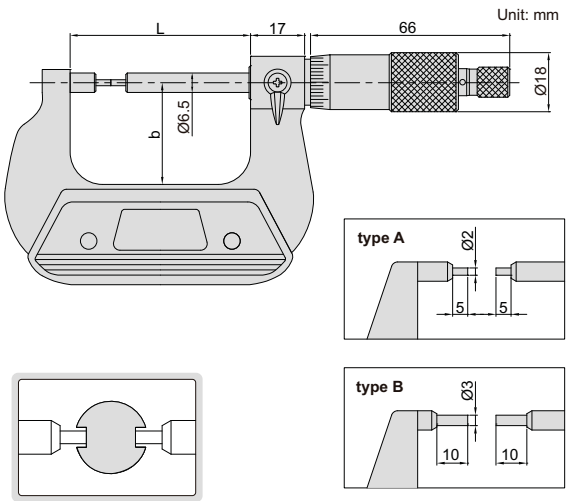


# SPLINE MICROMETER

3233-25BA

(mm)

| Code | Range | Type | Accuracy | L | b |
|---|---|---|---|---|---|
| **3233-25A** | 0-25mm | A | 4µm | 57 | 32 |
| **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 |




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

# DIGITAL SPLINE MICROMETER

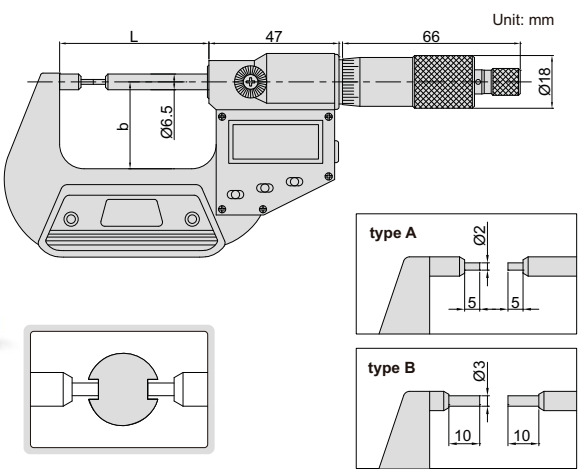
**IP54** WATERPROOF

DATA OUTPUT

3533-25BA

(mm)

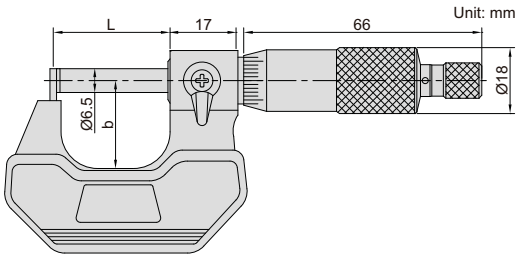
| Code | Range | Type | Accuracy | L | b |
|---|---|---|---|---|---|
| **3533-25A** | 0-25mm/0-1" | A | ±4µm | 57 | 32 |
| **3533-50A** | 25-50mm/1-2" | A | ±4µm | 82 | 44.5 |
| **3533-75A** | 50-75mm/2-3" | A | ±5µm | 107 | 57 |
| **3533-100A** | 75-100mm/3-4" | A | ±5µm | 132.6 | 69.5 |
| **3533-25BA** | 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 |

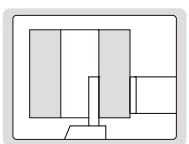


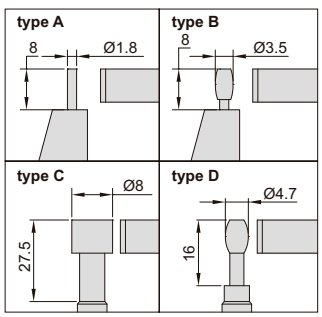

- Measure splined shafts, slots and keyways
- Resolution 0.001mm/0.00005"
- IP54 dust/waterproof
- Button function: on/off, set, mm/inch, ABS/INC, data output
- Data output
- LR44 battery, automatic power off
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards (except 0-25mm/0-1")
- Optional accessory: data output cable (code **7306-30, 7302-SPC2A, 7305-SPC3**)

# CYLINDRICAL ANVIL TUBE MICROMETER

3261-25A






(mm)

| Code | Range | Type | Accuracy | L | b |
|---|---|---|---|---|---|
| **3261-25A** | 0-25mm | A | 6μm | 31 | 24 |
| **3261-50A** | 25-50mm | A | 6μm | 57 | 32 |
| **3261-25BA** | 0-25mm | B | 6μm | 31 | 24 |
| **3261-50BA** | 25-50mm | B | 6μm | 57 | 32 |
| **3261-25CA** | 0-25mm | C | 6μm | 31 | 24 |
| **3261-25DA** | 0-25mm | D | 6μm | 31 | 24 |

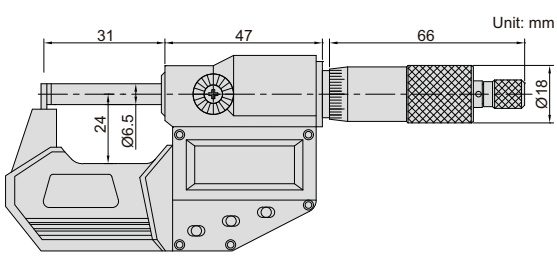
- Measure wall thickness of tubes
- Graduation 0.01mm
- Ratchet stop
- Carbide spindle tip
- Supplied with setting standards (except 0-25mm)

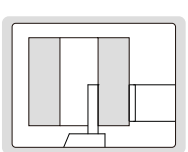
# DIGITAL CYLINDRICAL ANVIL TUBE MICROMETER

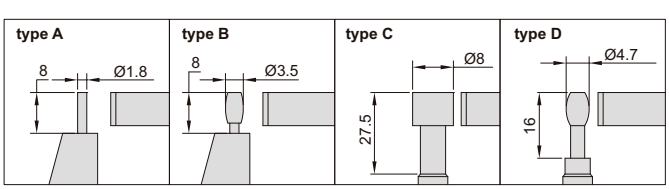
DATA OUTPUT

IP54 WATERPROOF

3561-25A



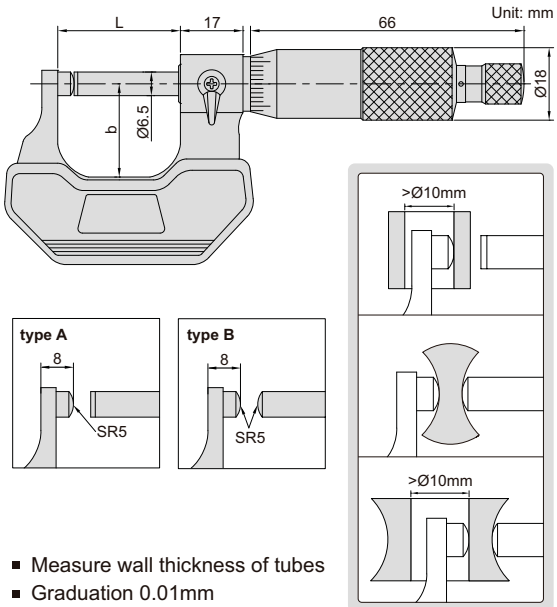



| Code | Range | Type | Accuracy |
|---|---|---|---|
| **3561-25A** | 0-25mm/0-1" | A | ±6μm |
| **3561-25BA** | 0-25mm/0-1" | B | ±6μm |
| **3561-25CA** | 0-25mm/0-1" | C | ±6μm |
| **3561-25DA** | 0-25mm/0-1" | D | ±6μm |

- Measure wall thickness of tubes
- Resolution 0.001mm/0.00005"
- IP54 dust/waterproof
- Button function: on/off, set, mm/inch, ABS/INC, data output
- Data output
- LR44 battery, automatic power off
- Ratchet stop
- Carbide spindle tip
- Supplied with setting standards (except 0-25mm/0-1")
- Optional accessory: data output cable (code **7306-30, 7302-SPC2A, 7305-SPC3**)

# SPHERICAL ANVIL TUBE MICROMETER

3260-25A




(mm)

| 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 |

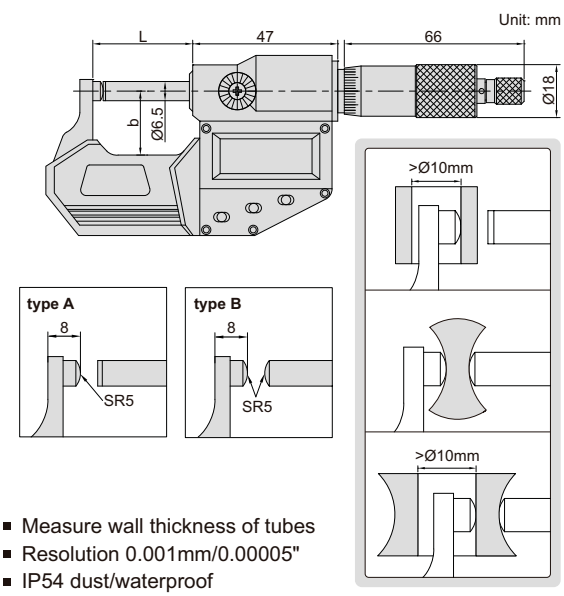
- Measure wall thickness of tubes
- Graduation 0.01mm
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards (except 0-25mm)

DATA OUTPUT

IP54 WATERPROOF

# DIGITAL SPHERICAL ANVIL TUBE MICROMETER

3560-25A




(mm)

| 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 |

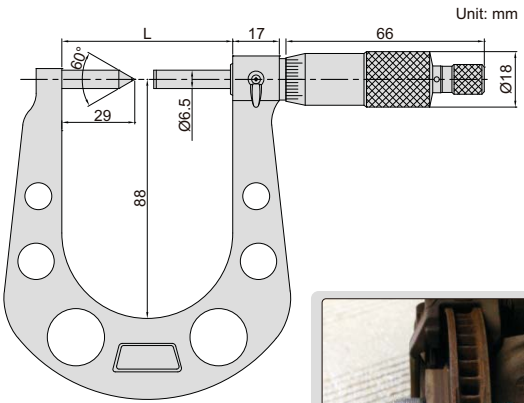
- Measure wall thickness of tubes
- Resolution 0.001mm/0.00005"
- IP54 dust/waterproof
- Button function: on/off, set, mm/inch, ABS/INC, data output
- Data output
- LR44 battery, automatic power off
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards (except 0-25mm/0-1")
- Optional accessory: data output cable (code **7306-30, 7302-SPC2A, 7305-SPC3**)

# DISK BRAKE MICROMETER

RELATIVE PRODUCT:
DIGITAL DISK BRAKE AND PAD CALIPER
DIGITAL DRUM BRAKE CALIPER
(CODE 1162-150A, 1167-150A, 1168-300A)

3288-33A

Unit: mm



(mm)

| Code | Range | Accuracy | L |
|---|---|---|---|
| **3288-33A** | 7.6-33mm | 5μm | 64.5 |
| **3288-50A** | 25-50mm | 5μm | 82 |

- Measure thickness of disk brakes
- Graduation 0.01mm
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards

# DIGITAL DISK BRAKE MICROMETER

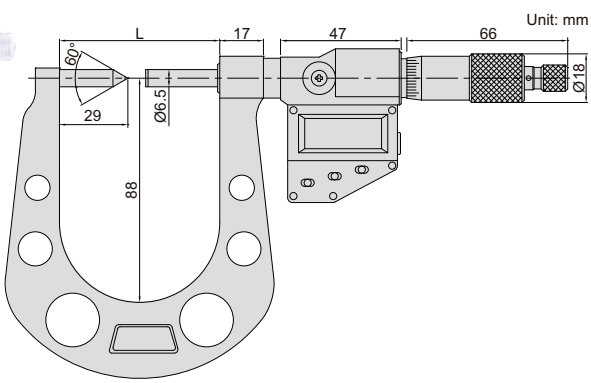
DATA OUTPUT

IP54 WATERPROOF

RELATIVE PRODUCT:
DIGITAL DISK BRAKE AND PAD CALIPER
DIGITAL DRUM BRAKE CALIPER
(CODE 1162-150A, 1167-150A, 1168-300A)

3588-33A

Unit: mm



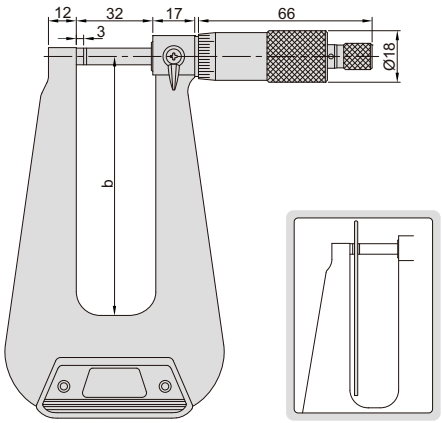

- Measure thickness of disk brakes
- Resolution 0.001mm/0.00005"
- IP54 dust/waterproof
- Button function: on/off, set, mm/inch, ABS/INC, data output
- Data output
- LR44 battery, automatic power off
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards
- Optional accessory: data output cable (code **7306-30, 7302-SPC2A, 7305-SPC3**)

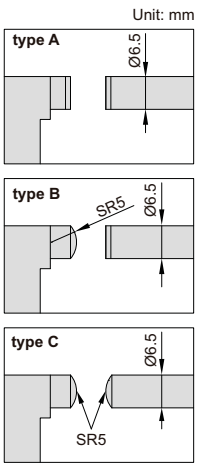
(mm)

| Code | Range | Accuracy | L |
|---|---|---|---|
| **3588-33A** | 7.6-33mm/0.3-1.3" | ±5μm | 64.5 |
| **3588-50A** | 25-50mm/1-2" | ±5μm | 82 |

# SHEET METAL MICROMETER

3239-253




(mm)

| Code | Range | Type | Accuracy | b |
|---|---|---|---|---|
| **3239-253** | 0-25mm | A | 5µm | 155 |
| **3239-253F** | 0-25mm | B | 5µm | 155 |
| **3239-254F** | 0-25mm | B | 6µm | 310 |
| **3239-253S** | 0-25mm | C | 5µm | 155 |

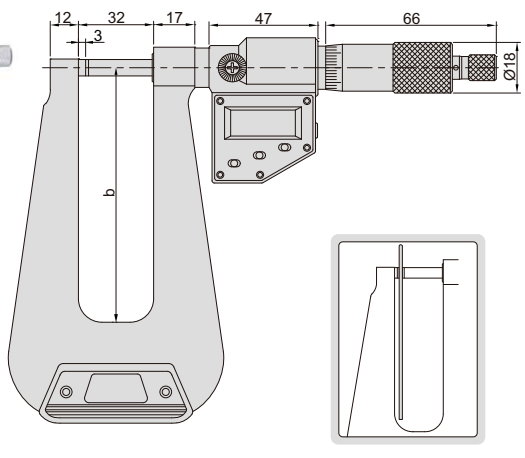
- Deep frame suitable for sheet metal, paper and plastic
- Graduation 0.01mm
- Ratchet stop
- Carbide measuring faces

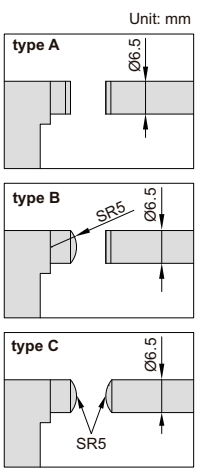
DATA OUTPUT

IP54 WATERPROOF

# DIGITAL SHEET METAL MICROMETER

3539-253A



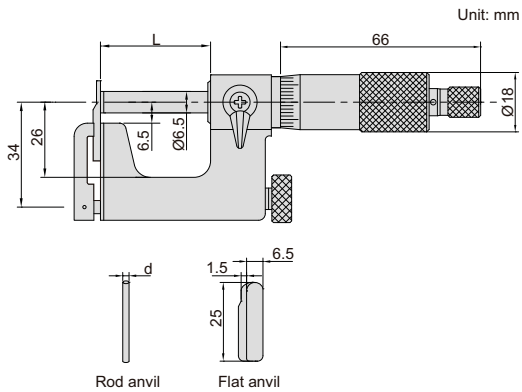

(mm)

| Code | Range | Type | Accuracy | b |
|---|---|---|---|---|
| **3539-253A** | 0-25mm/0-1" | A | ±5µm | 155 |
| **3539-253FA** | 0-25mm/0-1" | B | ±5µm | 155 |
| **3539-254FA** | 0-25mm/0-1" | B | ±6µm | 310 |
| **3539-253SA** | 0-25mm/0-1" | C | ±5µm | 155 |

- Deep frame suitable for sheet metal, paper and plastic
- Resolution 0.001mm/0.00005"
- IP54 dust/waterproof
- Button function: on/off, set, mm/inch, ABS/INC, data output
- Data output
- LR44 battery, automatic power off
- Ratchet stop
- Carbide measuring faces
- Optional accessory: data output cable (code **7306-30, 7302-SPC2A, 7305-SPC3**)

# INTERCHANGEABLE ANVIL MICROMETER

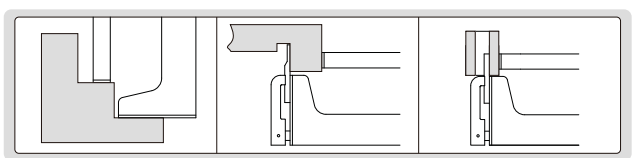
**3262-25A**




- 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)

(mm)

| Code | Range | Accuracy | L | d |
|---|---|---|---|---|
| **3262-25A** | 0-25mm | 4μm | 28.5 | Ø3 |
| **3262-50A** | 25-50mm | 4μm | 53.5 | Ø5 |

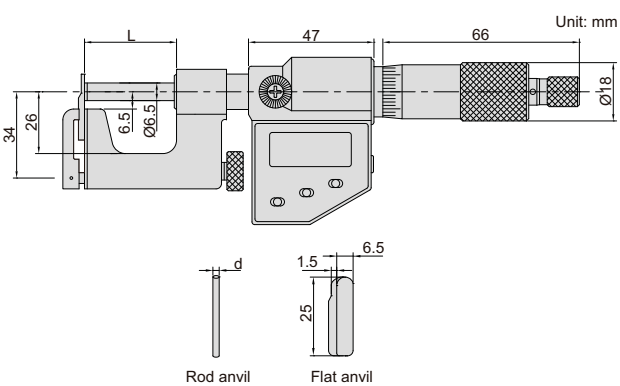


# DIGITAL INTERCHANGEABLE ANVIL MICROMETER

DATA OUTPUT

IP54 WATERPROOF

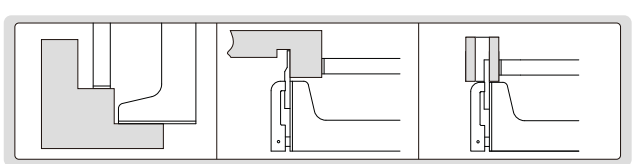
**3562-25A**




- Measure tube thickness, shoulder edge distance, rivet head height, etc.
- Supplied with flat anvil and rod anvil
- Resolution 0.001mm/0.00005"
- IP54 dust/waterproof
- Button function: on/off, set, mm/inch, ABS/INC, data output
- Data output
- LR44 battery, automatic power off
- Ratchet stop
- Carbide spindle tip
- Setting standards are included (except 0-25mm/0-1")
- Optional accessory: data output cable (code **7306-30, 7302-SPC2A, 7305-SPC3**)

(mm)

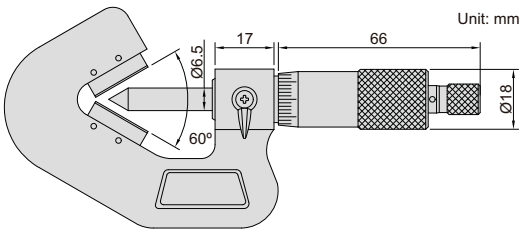
| Code | Range | Accuracy | L | d |
|---|---|---|---|---|
| **3562-25A** | 0-25mm/0-1" | ±4μm | 28.5 | Ø3 |
| **3562-50A** | 25-50mm/1-2" | ±4μm | 53.5 | Ø5 |



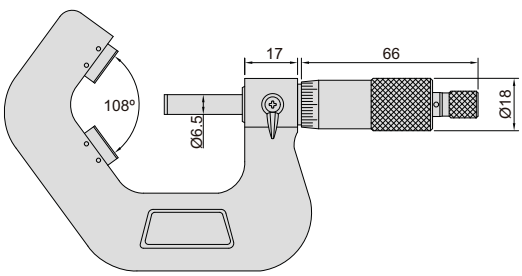
# V-ANVIL MICROMETER

3290-153A

| Code | Range | Flutes | Accuracy |
|---|---|---|---|
| **3290-153A** | 1-15mm | 3 | 4μm |
| **3290-203A** | 5-20mm | 3 | 4μm |
| **3290-353A** | 20-35mm | 3 | 5μm |
| **3290-503A** | 35-50mm | 3 | 5μm |
| **3290-653A** | 50-65mm | 3 | 6μm |
| **3290-803A** | 65-80mm | 3 | 6μm |
| **3290-953A** | 80-95mm | 3 | 7μm |
| **3290-255A** | 5-25mm | 5 | 4μm |
| **3290-455A** | 25-45mm | 5 | 5μm |
| **3290-655A** | 45-65mm | 5 | 6μm |
| **3290-855A** | 65-85mm | 5 | 7μm |




**3 flutes**




**5 flutes**

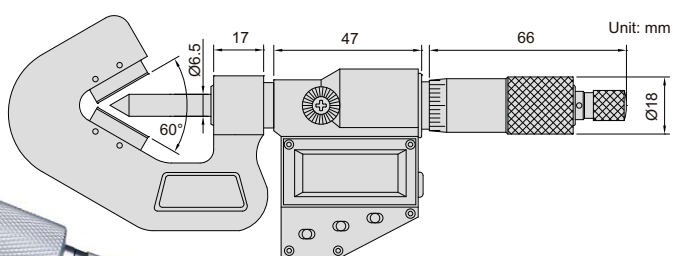
- Measure the outside diameter of cutting tools (such as taps, reamers, end mills) with 3 or 5 flutes
- Graduation 0.01mm
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards

# DIGITAL V-ANVIL MICROMETER

DATA OUTPUT

IP54 WATERPROOF

3590-153A




| Code | Range | Flutes | Accuracy |
|---|---|---|---|
| **3590-153A** | 1-15mm/0.04-0.6" | 3 | ±4μm |
| **3590-203A** | 5-20mm/0.2-0.8" | 3 | ±4μm |
| **3590-353A** | 20-35mm/0.8-1.4" | 3 | ±5μm |
| **3590-503A** | 35-50mm/1.4-2.0" | 3 | ±5μm |

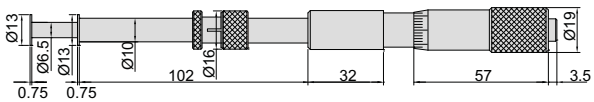
- Measure the outside diameter of cutting tools (such as taps, reamers, end mills) with 3 flutes
- Resolution 0.001mm/0.00005"
- IP54 dust/waterproof
- Button function: on/off, set, mm/inch, ABS/INC, data output
- Data output
- LR44 battery, automatic power off
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards
- Optional accessory: data output cable (code **7306-30, 7302-SPC2A, 7305-SPC3**)

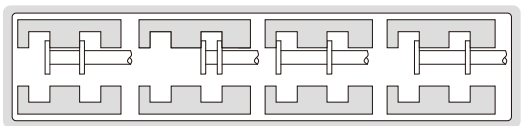
# GROOVE MICROMETER

- Graduation 0.01mm
- Measure width of grooves inside bores
- Non-rotating spindle
- Two graduations for inside and outside measurement

**3287-25A**

Unit: mm



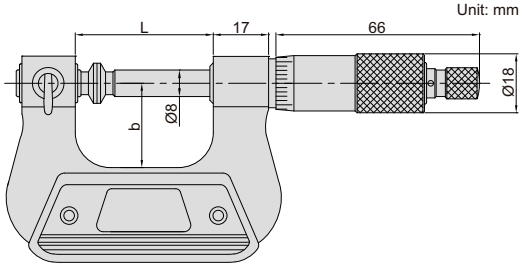
| Code | Range (outside) | Range (inside) | Accuracy |
|---|---|---|---|
| **3287-25A** | 0-25mm | 1.6-26.5mm | 10μm |
| **3287-50A** | 25-50mm | 26.5-51.5mm | 10μm |
| **3287-75A** | 50-75mm | 51.5-76.5mm | 10μm |
| **3287-100A** | 75-100mm | 76.5-101.5mm | 10μm |

# NON ROTATING SPINDLE UNIVERSAL MICROMETER

NON-ROTATING SPINDLE

**3280-25A**

Unit: mm

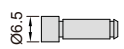
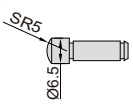
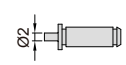
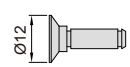
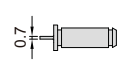
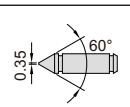
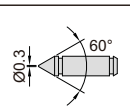



- Graduation 0.01mm
- Non-rotating spindle
- Ratchet stop
- Supplied with 7 pairs of anvil/spindle tip
- Setting standards are included (except 0-25mm)
- Optional accessary: 55° anvil/spindle tip (code **3280-SP1** and **3280-SP2**)

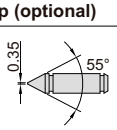
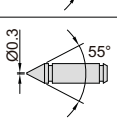
(mm)

| Code | Range | Accuracy | L | b |
|---|---|---|---|---|
| **3280-25A** | 0-25mm | 4μm | 42 | 26 |
| **3280-50A** | 25-50mm | 4μm | 67 | 38 |

**Anvil/spindle tip (included)** Unit: mm

| | | |
|---|---|---|
| Flat |   | |
| Spherical |   | |
| Spline |   | |
| Disk |   | |
| Blade |   | |
| Knife-edge |   | |
| Point |   | |

**55° anvil/spindle tip (optional)**

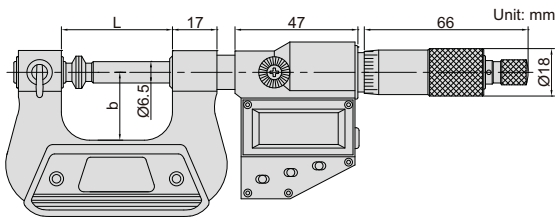
| | | |
|---|---|---|
| Code **3280-SP1** Knife-edge |   | |
| Code **3280-SP2** Point |   | |

## DIGITAL UNIVERSAL MICROMETER

DATA OUTPUT

IP54 WATERPROOF

- Resolution 0.001mm/0.00005"
- IP54 dust/waterproof
- Button function: on/off, set, mm/inch, ABS/INC, data output
- Data output
- LR44 battery, automatic power off
- Ratchet stop
- Supplied with 7 pairs of anvil/spindle tip (same as series **3280**)
- Setting standards are included (except 0-25mm/0-1")
- Optional accessary: 55° anvil/spindle tip code **3280-SP1** and **3280-SP2** (same as series **3280**), data output cable (code **7306-30, 7302-SPC2A, 7305-SPC3**)



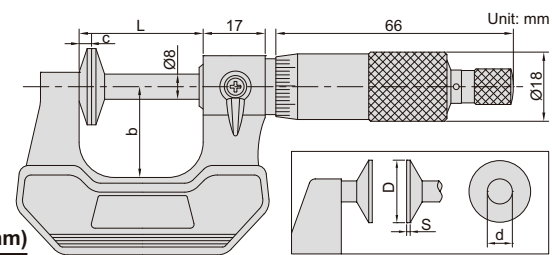
3580-25A

(mm)

| Code | Range | Accuracy | L | b |
|---|---|---|---|---|
| **3580-25A** | 0-25mm/0-1" | ±4μm | 42 | 26 |
| **3580-50A** | 25-50mm/1-2" | ±4μm | 67 | 38 |

## DISK MICROMETER

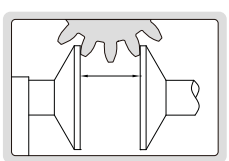
3282-25




(mm)

| Code | Range | Accuracy | Parallelism | L | b | c | D | S | d |
|---|---|---|---|---|---|---|---|---|---|
| **3282-25** | 0-25mm | 4μm | 5μm | 34 | 24 | 3.3 | Ø20 | 0.7 | Ø8 |
| **3282-50** | 25-50mm | 4μm | 5μm | 59 | 32 | 3.3 | Ø20 | 0.7 | Ø8 |
| **3282-75** | 50-75mm | 5μm | 5μm | 85 | 45 | 3.3 | Ø20 | 0.7 | Ø8 |
| **3282-100** | 75-100mm | 5μm | 5μm | 110 | 57 | 3.3 | Ø20 | 0.7 | Ø8 |

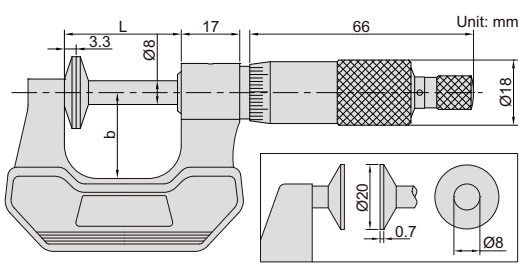
- Measure root tangent length of gear
- Graduation 0.01mm
- Ratchet stop
- Supplied with setting standards



## NON ROTATING SPINDLE DISK MICROMETER

NON-ROTATING SPINDLE

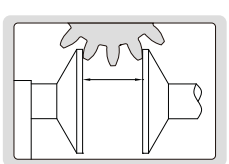
3294-25




(mm)

| Code | Range | Accuracy | Parallelism | 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 |

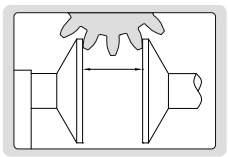
- Measure root tangent length of gear
- Graduation 0.01mm
- Non-rotating spindle
- Ratchet stop
- Supplied with setting standards



# DIGITAL NON ROTATING SPINDLE DISK MICROMETER

DATA OUTPUT

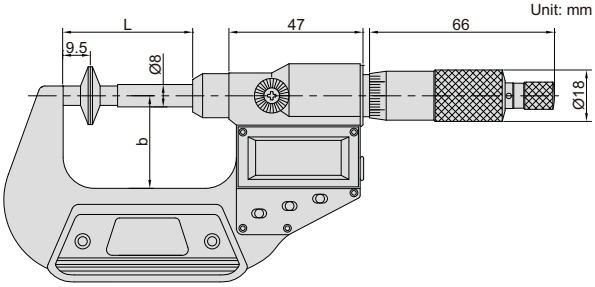
NON-ROTATING SPINDLE



- Measure root tangent length of gear
- Resolution 0.001mm/0.00005"
- Non-rotating spindle
- Button function: on/off, set, mm/inch, ABS/INC, data output
- Data output
- LR44 battery, automatic power off
- Ratchet stop
- Supplied with setting standards
- Optional accessory: data output cable (code **7306-30, 7302-SPC2A, 7305-SPC3**)

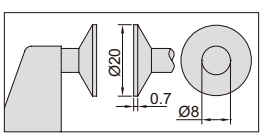
**3594-25A**

Unit: mm




**(mm)**

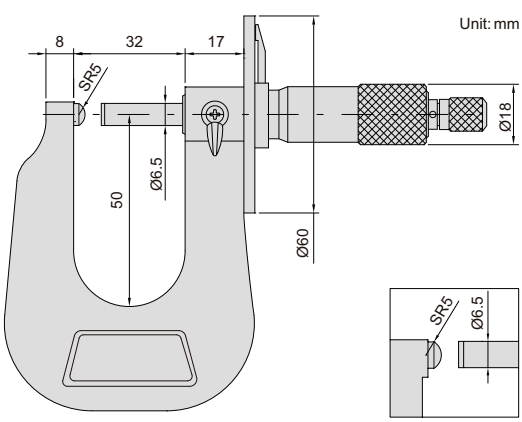
| Code | Range | Accuracy | Parallelism | L | b |
|---|---|---|---|---|---|
| **3594-25A** | 0-25mm/0-1" | ±4μm | 5μm | 43 | 32 |
| **3594-50A** | 25-50mm/1-2" | ±4μm | 5μm | 68 | 44.5 |
| **3594-75A** | 50-75mm/2-3" | ±5μm | 5μm | 93 | 57 |
| **3594-100A** | 75-100mm/3-4" | ±5μm | 5μm | 118.5 | 70 |




# SHEET METAL MICROMETER

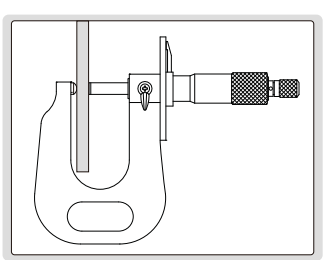
**3263-25A**

Unit: mm



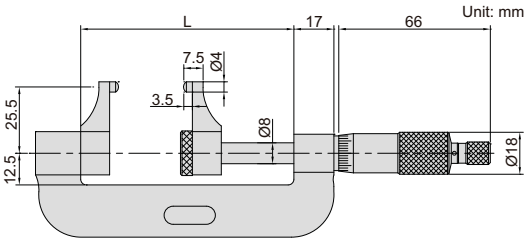

| Code | Range | Accuracy |
|---|---|---|
| **3263-25A** | 0-25mm | 4μm |

- Measure thickness of sheet metal, paper, plastic and rubber parts
- Graduation 0.01mm
- Ratchet stop
- Carbide measuring faces



# CALIPER TYPE MICROMETER

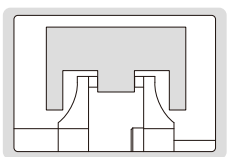
3238-25




(mm)

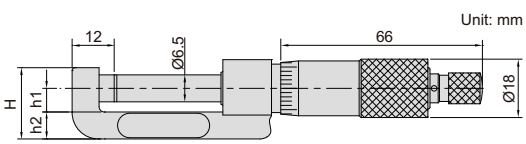
| Code | Range | Accuracy | L |
|---|---|---|---|
| 3238-25 | 0-25mm | 5μm | 56 |
| 3238-50 | 25-50mm | 6μm | 81 |

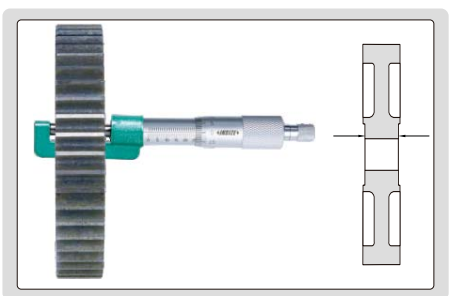
- Graduation 0.01mm
- Non-rotating spindle
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards (except 0-25mm)



# HUB MICROMETER

3292-25



(mm)

| 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 |

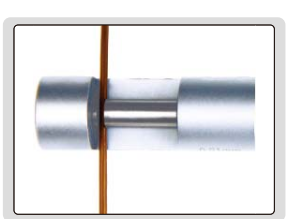
- Measure hub thickness and shoulder inside a bore
- Graduation 0.01mm
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards (except 0-25mm)

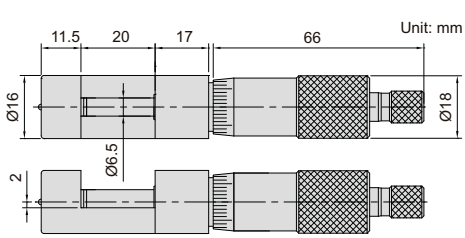
# WIRE MICROMETER

3285-10

- Measure diameter of wires and small balls
- Graduation 0.01mm
- Ratchet stop
- Carbide measuring faces

| Code | Range | Accuracy |
|---|---|---|
| 3285-10 | 0-10mm | 4μm |





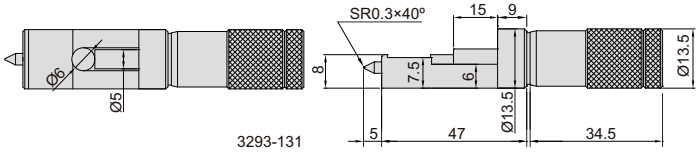
# CAN SEAM MICROMETER

3293-131

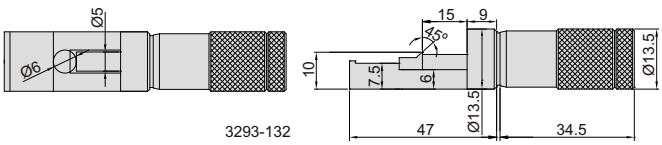
3293-132

3293-133

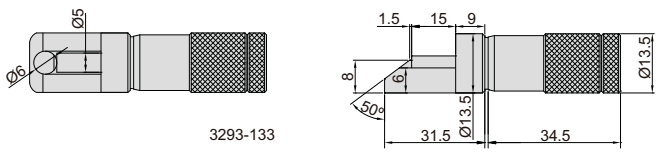
Unit: mm



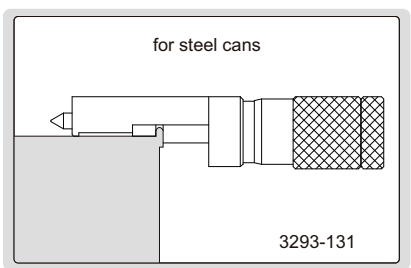

3293-131

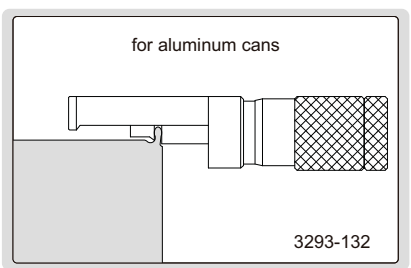


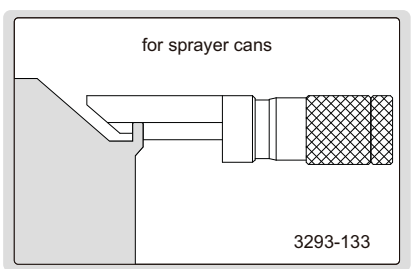

3293-132




3293-133




| Code | Range | Accuracy |
|---|---|---|
| **3293-131** | 0-13mm | 4μm |
| **3293-132** | 0-13mm | 4μm |
| **3293-133** | 0-13mm | 4μm |

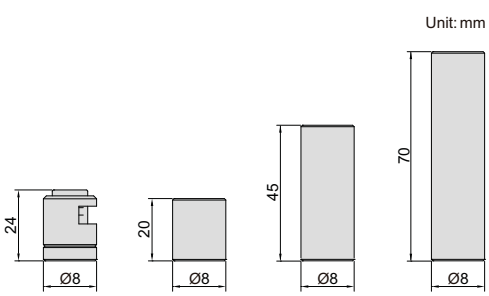
- Measure the width, height and depth of can seams
- Graduation 0.01mm

# MICROMETER MEASURING FORCE DETECTOR

6315

| Code | Measuring force |
|---|---|
| **6315** | 5-12N |

Unit: mm




- For outside micrometers 0-25mm/0-1", 25-50mm/1-2", 50-75mm/2-3" and 75-100mm/3-4"

# OPTICAL PARALLEL

4184-41A

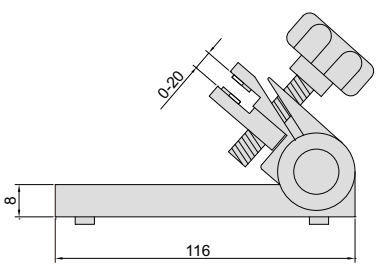
| Code | Parallels included | Applicable micrometer |
|---|---|---|
| 4184-41A | 15.62mm, 15.75mm, 15.87mm, 16.00mm | 0-25mm |
| 4184-42A | 40.62mm, 40.75mm, 40.87mm, 41.00mm | 25-50mm |
| 4184-43B | 65.62mm, 65.75mm, 65.87mm, 66.00mm | 50-75mm |
| 4184-44B | 90.62mm, 90.75mm, 90.87mm, 91.00mm | 75-100mm |

- Check the flatness and parallelism of measuring faces of micrometer

# MICROMETER STAND

6300

Unit: mm

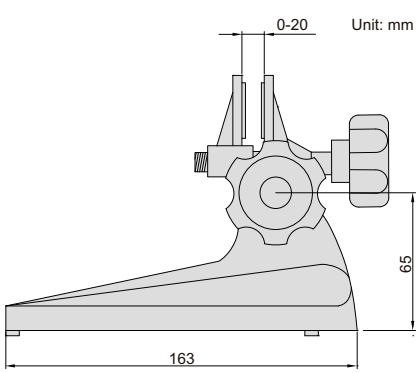


| Code |
|---|
| 6300 |

- Suitable for micrometers up to 100mm

# MICROMETER STAND

6301



| Code |
|---|
| 6301 |

- Suitable for micrometers up to 100mm

# MICROMETER SETTING STANDARD

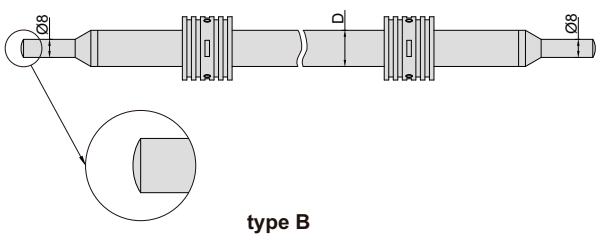
| Code | Length | Type | Accuracy | D |
|---|---|---|---|---|
| **6310-25** | 25mm | A | ±1.5μm | Ø7mm |
| **6310-50** | 50mm | A | ±2μm | Ø7mm |
| **6310-75** | 75mm | A | ±2.5μm | Ø7mm |
| **6310-100** | 100mm | A | ±3μm | Ø8mm |
| **6310-125** | 125mm | A | ±3.5μm | Ø8mm |
| **6310-150** | 150mm | A | ±4μm | Ø8mm |
| **6310-175** | 175mm | A | ±4.5μm | Ø8mm |
| **6310-200** | 200mm | A | ±5μm | Ø8mm |
| **6310-225** | 225mm | A | ±5.5μm | Ø8mm |
| **6310-250** | 250mm | A | ±6μm | Ø8mm |
| **6310-275** | 275mm | A | ±6.5μm | Ø8mm |
| **6310-300** | 300mm | B | ±7μm | Ø16mm |
| **6310-325** | 325mm | B | ±7.5μm | Ø16mm |
| **6310-350** | 350mm | B | ±8μm | Ø16mm |
| **6310-375** | 375mm | B | ±8.5μm | Ø16mm |
| **6310-400** | 400mm | B | ±9μm | Ø16mm |
| **6310-425** | 425mm | B | ±9.5μm | Ø16mm |
| **6310-450** | 450mm | B | ±10μm | Ø16mm |
| **6310-475** | 475mm | B | ±10.5μm | Ø16mm |
| **6310-500** | 500mm | B | ±11μm | Ø16mm |
| **6310-525** | 525mm | B | ±11.5μm | Ø16mm |
| **6310-575** | 575mm | B | ±12.5μm | Ø16mm |
| **6310-625** | 625mm | B | ±13.5μm | Ø16mm |
| **6310-675** | 675mm | B | ±14.5μm | Ø16mm |
| **6310-725** | 725mm | B | ±15.5μm | Ø16mm |
| **6310-775** | 775mm | B | ±16.5μm | Ø16mm |
| **6310-825** | 825mm | B | ±17.5μm | Ø16mm |
| **6310-875** | 875mm | B | ±18.5μm | Ø16mm |
| **6310-925** | 925mm | B | ±19.5μm | Ø16mm |
| **6310-975** | 975mm | B | ±20.5μm | Ø16mm |
| **6310-1050** | 1050mm | B | ±22μm | Ø23mm |
| **6310-1150** | 1150mm | B | ±24μm | Ø23mm |
| **6310-1250** | 1250mm | B | ±26μm | Ø23mm |
| **6310-1350** | 1350mm | B | ±28μm | Ø23mm |
| **6310-1450** | 1450mm | B | ±30μm | Ø23mm |
| **6310-1550** | 1550mm | B | ±32μm | Ø23mm |
| **6310-1650** | 1650mm | B | ±34μm | Ø23mm |
| **6310-1750** | 1750mm | B | ±36μm | Ø23mm |
| **6310-1850** | 1850mm | B | ±38μm | Ø23mm |
| **6310-1950** | 1950mm | B | ±40μm | Ø23mm |

**6310-100**

**type A**

**6310-300**

Unit: mm




**type B**

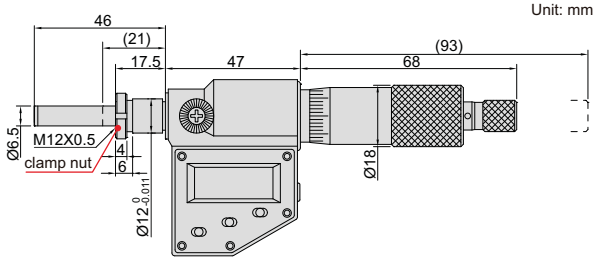
DATA OUTPUT

IP54 WATERPROOF

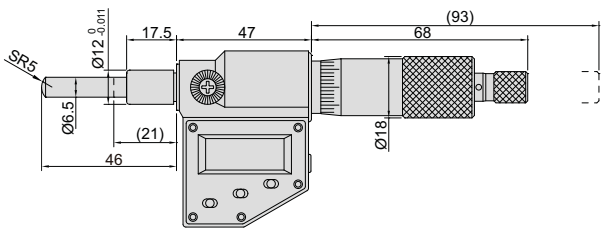
# DIGITAL MICROMETER HEAD

**6353-25W**

Unit: mm

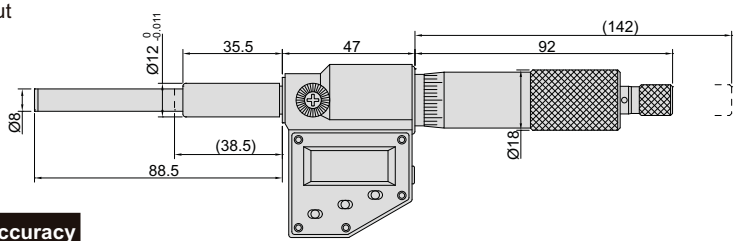



6353-25




6353-25WS

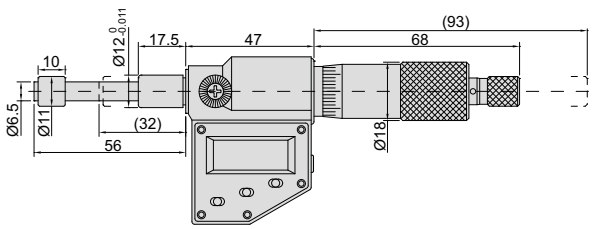
- Resolution 0.001mm/0.00005"
- IP54 dust/waterproof
- Button function: on/off, set, mm/inch, ABS/INC, data output
- Data output
- LR44 battery, automatic power off
- Ratchet stop
- Optional accessory: data output cable (code **7306-30, 7302-SPC2A, 7305-SPC3**)




6353-50W

**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 |




6354-25W

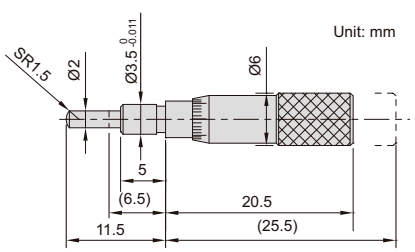
**Non-rotating spindle**

| Code | Range | Stem | Spindle tip | Accuracy |
|---|---|---|---|---|
| **6354-25W** | 0-25mm/0-1" | plain | flat (carbide) | ±2μm |

# SMALL MICROMETER HEAD

**6372-5WS**

Unit: mm




- Graduation 0.02mm

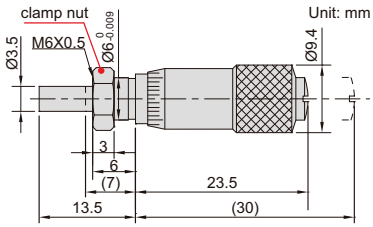
| Code | Range | Stem | Spindle tip | Accuracy |
|---|---|---|---|---|
| **6372-5WS** | 0-5mm | plain | spherical (SR1.5) | 5μm |

## SMALL MICROMETER HEAD

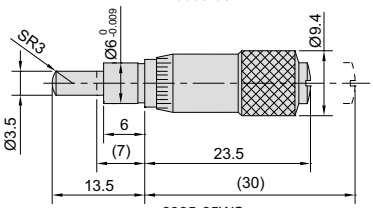
6385-65W

- Graduation 0.01mm

| Code | Range | Stem | Spindle tip | Accuracy |
|---|---|---|---|---|
| **6385-65** | 0-6.5mm | with clamp nut | flat (carbide) | 5μm |
| **6385-65W** | 0-6.5mm | plain | flat (carbide) | 5μm |
| **6385-65S** | 0-6.5mm | with clamp nut | spherical (SR3) | 5μm |
| **6385-65WS** | 0-6.5mm | plain | spherical (SR3) | 5μm |




6385-65

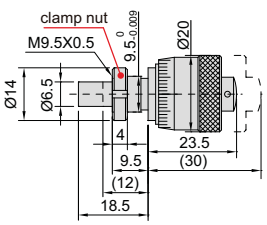



6385-65WS

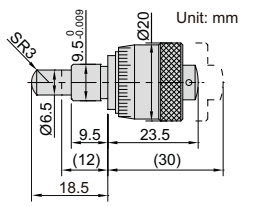
## LARGE THIMBLE MICROMETER HEAD

6373-65

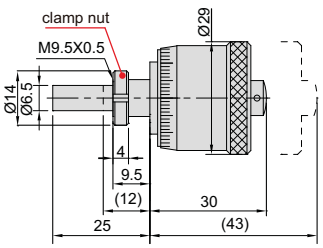
6373-13



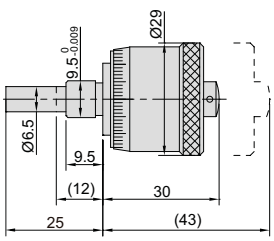

6373-65




6373-65WS




6373-13




6373-13W

| Code | Range | Stem | Spindle tip | Accuracy |
|---|---|---|---|---|
| **6373-65** | 0-6.5mm | with clamp nut | flat (carbide) | 3μm |
| **6373-65W** | 0-6.5mm | plain | flat (carbide) | 3μm |
| **6373-65S** | 0-6.5mm | with clamp nut | spherical (SR3) | 3μm |
| **6373-65WS** | 0-6.5mm | plain | spherical (SR3) | 3μm |
| **6373-13** | 0-13mm | with clamp nut | flat (carbide) | 3μm |
| **6373-13W** | 0-13mm | plain | flat (carbide) | 3μm |

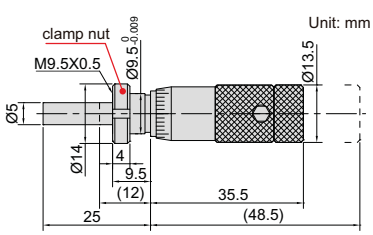
- Large thimble diameter for easy reading
- Graduation 0.01mm

## MICROMETER HEAD WITH ZERO ADJUSTABLE THIMBLE

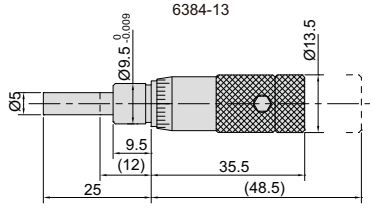
6384-13W

- Graduation 0.01mm
- The thimble can be set to zero at any position

| Code | Range | Stem | Spindle tip | Accuracy |
|---|---|---|---|---|
| **6384-13** | 0-13mm | with clamp nut | flat (carbide) | 3μm |
| **6384-13W** | 0-13mm | plain | flat (carbide) | 3μm |




6384-13

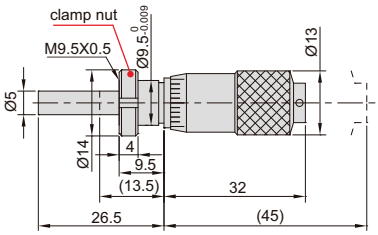



6384-13W

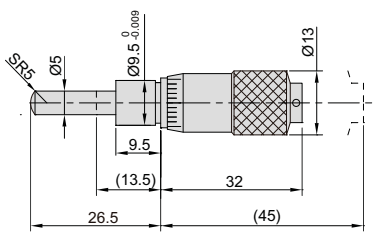
# MICROMETER HEAD

6386-13W

Unit: mm

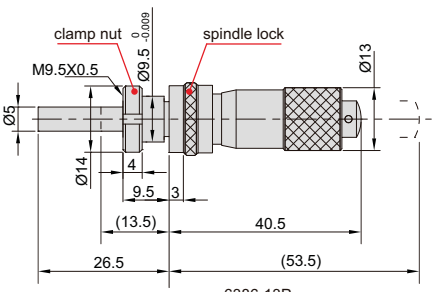



6386-13

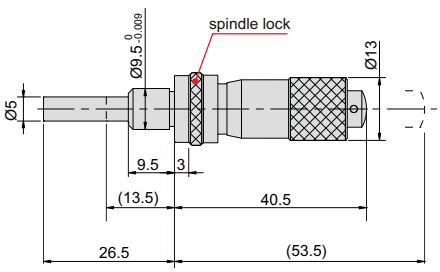



6386-13WS

6386-13P




6386-13P




6386-13WP

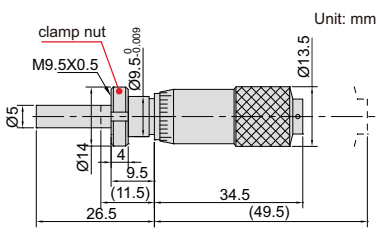
- Graduation 0.01mm

| Code | Range | Stem | Spindle tip | Remark | Accuracy |
|---|---|---|---|---|---|
| **6386-13** | 0-13mm | with clamp nut | flat (carbide) | | 3μm |
| **6386-13W** | 0-13mm | plain | flat (carbide) | | 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 (carbide) | with spindle lock | 3μm |
| **6386-13WP** | 0-13mm | plain | flat (carbide) | with spindle lock | 3μm |

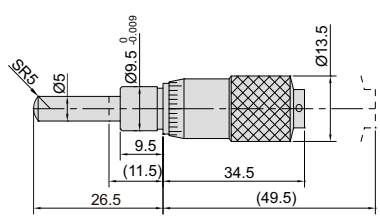
# MICROMETER HEAD

6387-15WS

Unit: mm




6387-15



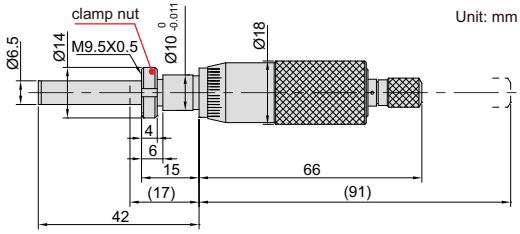

6387-15WS

- Graduation 0.01mm

| Code | Range | Stem | Spindle tip | Accuracy |
|---|---|---|---|---|
| **6387-15** | 0-15mm | with clamp nut | flat (carbide) | 3μm |
| **6387-15W** | 0-15mm | plain | flat (carbide) | 3μm |
| **6387-15S** | 0-15mm | with clamp nut | spherical (SR5) | 3μm |
| **6387-15WS** | 0-15mm | plain | spherical (SR5) | 3μm |

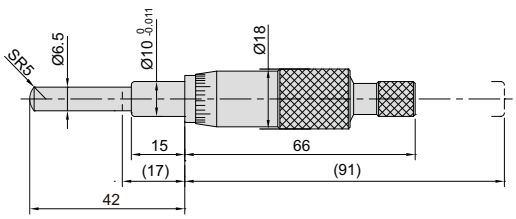
# MICROMETER HEAD

6381-25

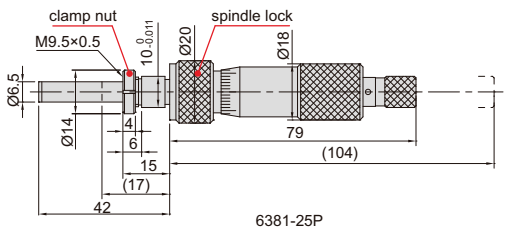



6381-25

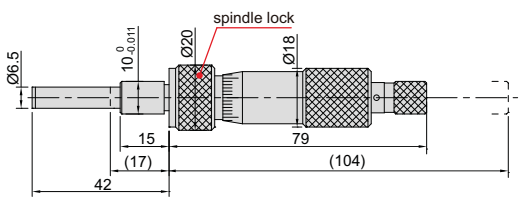
6381-25P




6381-25WS




6381-25P



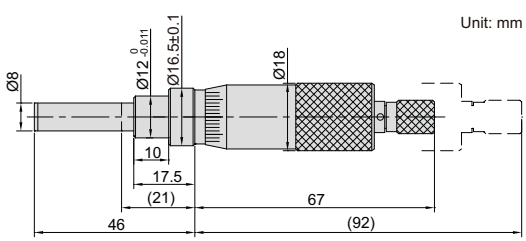

6381-25WP

| 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 |

- Graduation 0.01mm
- Ratchet stop

# NON ROTATING SPINDLE MICROMETER HEAD

6377-25W

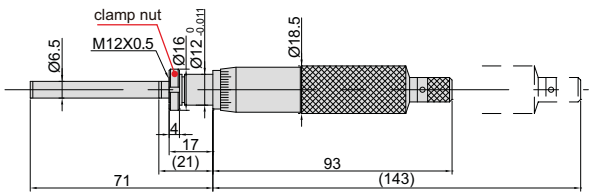



- Graduation 0.01mm
- Ratchet stop
- Non rotating spindle

| Code | Range | Stem | Spindle tip | Accuracy |
|---|---|---|---|---|
| **6377-25W** | 0-25mm | plain | flat (carbide) | 3μm |

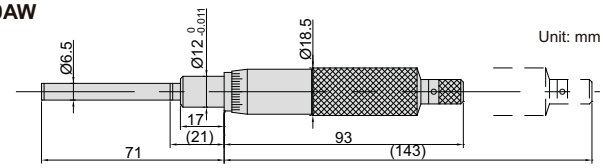
# LARGE MICROMETER HEAD

6388-50AW




6388-50A

Unit: mm




6388-50AW

| Code | Range | Stem | Spindle tip | Accuracy |
|---|---|---|---|---|
| **6388-50A** | 0-50mm | with clamp nut | flat (carbide) | 5μm |
| **6388-50AW** | 0-50mm | plain | flat (carbide) | 5μm |

- Graduation 0.01mm
- Ratchet stop

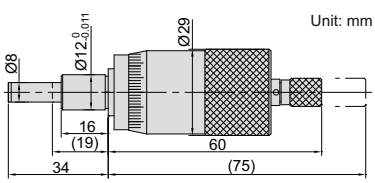
# QUICK SPINDLE FEEDING MICROMETER HEAD

6375-15W

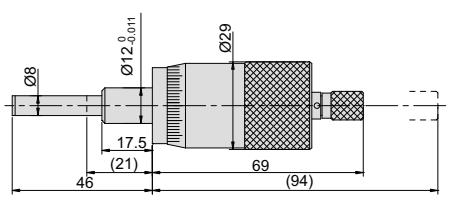
6375-25W

6375-50W

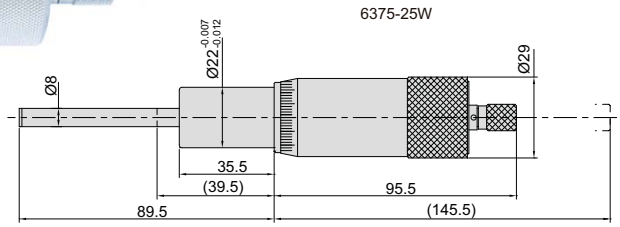
Unit: mm




6375-15W




6375-25W




6375-50W

| Code | Range | Stem | Spindle tip | Accuracy |
|---|---|---|---|---|
| **6375-15W** | 0-15mm | plain | flat (carbide) | 3μm |
| **6375-25W** | 0-25mm | plain | flat (carbide) | 3μm |
| **6375-50W** | 0-50mm | plain | flat (carbide) | 5μm |

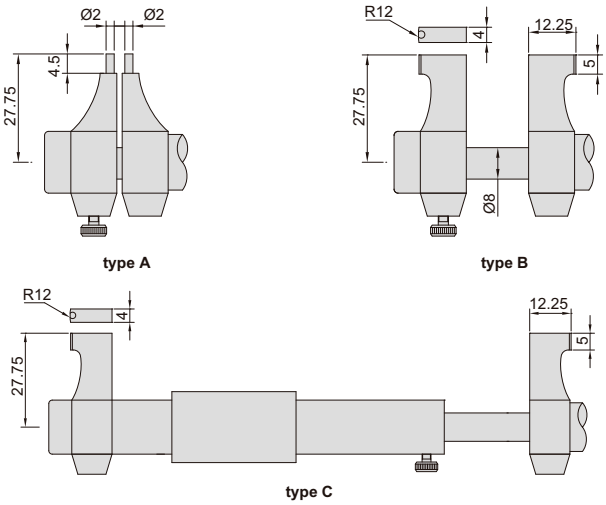
- Graduation 0.01mm
- Quick spindle feed of 1mm/rev.
- Ratchet stop

# INSIDE MICROMETER

3220-50

- Graduation 0.01mm
- Ratchet stop
- Carbide measuring faces
- Optional accessary: setting ring (code **6312**)

Unit: mm



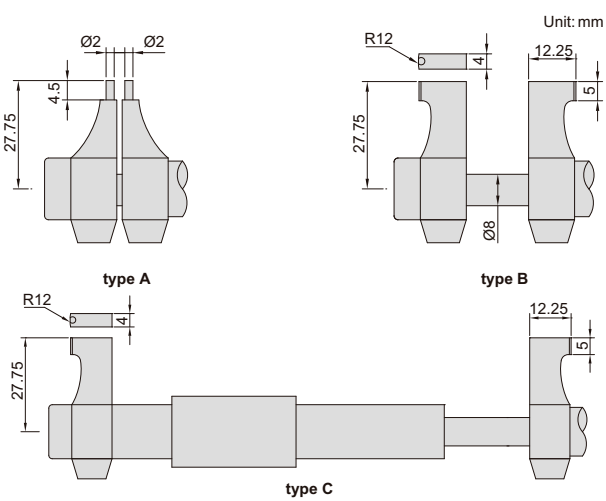

| Code | Range | Type | Setting ring | Accuracy |
|---|---|---|---|---|
| **3220-30** | 5-30mm | A | 5mm(included) | 7μm |
| **3220-50** | 25-50mm | B | 25mm(included) | 8μm |
| **3220-75** | 50-75mm | B | 50mm(optional) | 9μm |
| **3220-100** | 75-100mm | C | 75mm(optional) | 10μm |

# DIGITAL INSIDE MICROMETER

DATA OUTPUT

3520-30

Unit: mm



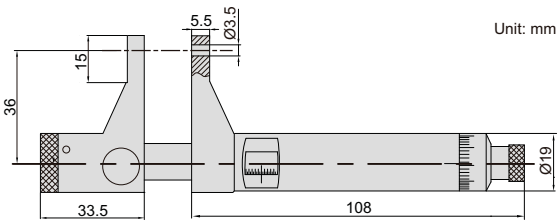

| Code | Range | Type | Setting ring | Accuracy |
|---|---|---|---|---|
| **3520-30** | 5-30mm/0.2-1.2" | A | 5mm(included) | ±5μm |
| **3520-50** | 25-50mm/1-2" | B | 25mm(included) | ±6μm |
| **3520-75** | 50-75mm/2-3" | B | 50mm(optional) | ±7μm |
| **3520-100** | 75-100mm/3-4" | C | 75mm(optional) | ±8μm |

- Resolution 0.001mm/0.00005"
- Button function: on/off, set, mm/inch, ABS/INC, data output
- Data output
- LR44 battery, automatic power off
- Ratchet stop
- Carbide measuring faces
- Optional accessary: data output cable (code **7306-30, 7302-SPC2A, 7305-SPC3**), setting ring (code **6312**)

# INTERNAL SCREW THREAD MICROMETER

tips are not included

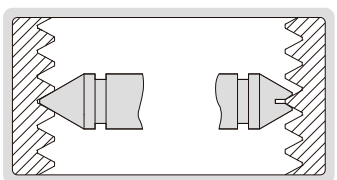
**3640-45**




Unit: mm

- Measure pitch diameter of screw thread
- Graduation 0.01mm
- Ratchet stop
- Optional accessary: measuring tips for internal screw thread micrometer (code **7385**)

| Code | Range | Accuracy | Applicable tips |
|---|---|---|---|
| **3640-45** | 20-45mm | 4μm | stem length L=5mm |
| **3640-70** | 45-70mm | 5μm | stem length L=5mm |
| **3640-95** | 70-95mm | 5μm | stem length L=13.5mm |
| **3640-120** | 95-120mm | 6μm | stem length L=13.5mm |



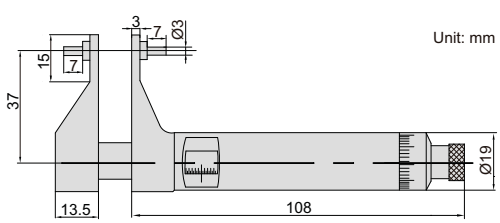
# INTERNAL GEAR TOOTH MICROMETER

before ball tips are installed

ball tips are not included

**3637-50**

RELATIVE PRODUCT:
GEAR BORE GAGE (CODE 2428)

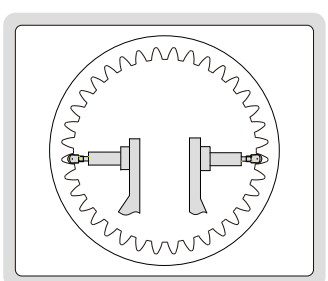



Unit: mm

- Measure over-pin diameter of gears
- Graduation 0.01mm
- Ratchet stop
- Optional accessary: ball tips (code **7383**)

**(mm)**

| Code | Range | Accuracy |
|---|---|---|
| **3637-50** | 25-50mm | 4μm |
| **3637-75** | 50-75mm | 5μm |



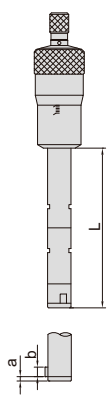
# THREE POINTS INTERNAL MICROMETER

MANUFACTURER INSPECTION CERTIFICATE

**3227- 8**

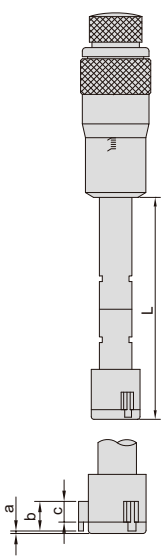
**3227- 16**

**3227- 125**



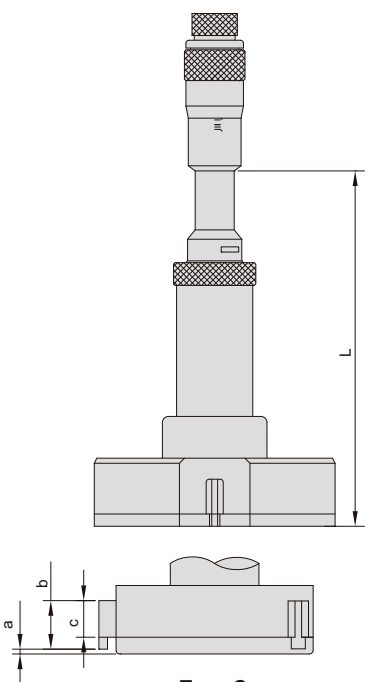

**Type A**

6-12mm, steel measuring points




**Type B**

12-50mm, carbide measuring points




**Type C**

50-300mm, carbide measuring points

**setting ring**

6-100mm: included
100-300mm: optional

**extension rod**

included

**interchangeable jaws**

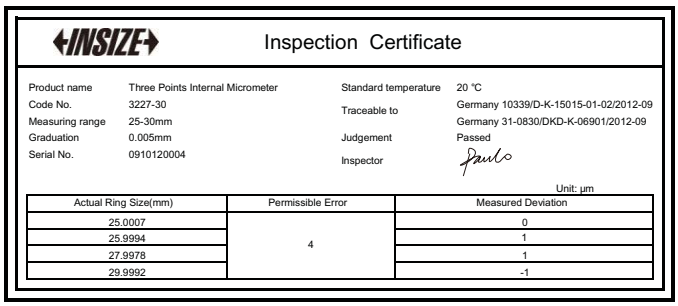
100-300mm: have two sets of jaws for different measuring range(For example, 3227-125 has 100-112.5mm and 112.5-125mm jaws)

To be continued

Continued from previous page

- 6-12mm: graduation 0.001mm
  12-300mm: graduation 0.005mm
- Ratchet stop
- Optional accessory: setting rings (code **6312**)

## Manufacturer Inspection Certificate



INSIZE Inspection Certificate

| | | | |
|---|---|---|---|
| Product name | Three Points Internal Micrometer | Standard temperature | 20 °C |
| Code No. | 3227-30 | Traceable to | Germany 10339/D-K-15015-01-02/2012-09 |
| Measuring range | 25-30mm | | Germany 31-0830/DKD-K-06901/2012-09 |
| Graduation | 0.005mm | Judgement | Passed |
| Serial No. | 0910120004 | Inspector | Paulo |

Unit: μm

| Actual Ring Size(mm) | Permissible Error | Measured Deviation |
|---|---|---|
| 25.0007 | 4 | 0 |
| 25.9994 | | 1 |
| 27.9978 | | 1 |
| 29.9992 | | -1 |

**Individual** **(mm)**

| Code | Range | Type | Accuracy | Setting ring | Extension rod (included) | L | a | b | c |
|---|---|---|---|---|---|---|---|---|---|
| **3227-8** * | 6-8mm | A | 4μm | Ø6mm(included) | 100mm | 54.5 | 1.5 | 2.5 | — |
| **3227-10** * | 8-10mm | A | 4μm | Ø8mm(included) | 100mm | 54.5 | 1.5 | 2.5 | — |
| **3227-12** * | 10-12mm | A | 4μm | Ø10mm(included) | 100mm | 54.5 | 1.5 | 2.5 | — |
| **3227-16** * | 12-16mm | B | 4μm | Ø16mm(included) | 150mm | 80 | 0.5 | 6 | 4.5 |
| **3227-20** * | 16-20mm | B | 4μm | Ø16mm(included) | 150mm | 80 | 0.5 | 6 | 4.5 |
| **3227-25** * | 20-25mm | B | 4μm | Ø25mm(included) | 150mm | 90 | 0.5 | 8 | 6 |
| **3227-30** * | 25-30mm | B | 4μm | Ø25mm(included) | 150mm | 90 | 0.5 | 8 | 6 |
| **3227-40** * | 30-40mm | B | 4μm | Ø40mm(included) | 150mm | 97 | 0.5 | 14 | 12 |
| **3227-50** * | 40-50mm | B | 5μm | Ø40mm(included) | 150mm | 97 | 0.5 | 14 | 12 |
| **3227-63** * | 50-63mm | C | 5μm | Ø62mm(included) | 150mm | 114 | 0.5 | 17.5 | 14.5 |
| **3227-75** * | 62-75mm | C | 5μm | Ø62mm(included) | 150mm | 114 | 0.5 | 17.5 | 14.5 |
| **3227-88** * | 75-88mm | C | 5μm | Ø87mm(included) | 150mm | 114 | 0.5 | 17.5 | 14.5 |
| **3227-100** * | 87-100mm | C | 5μm | Ø87mm(included) | 150mm | 114 | 0.5 | 17.5 | 14.5 |
| **3227-125** * | 100-125mm | C | 5μm | Ø112.5mm(optional) | 150mm | 145 | 0.5 | 19.5 | 14.5 |
| **3227-150** * | 125-150mm | C | 5μm | Ø137.5mm(optional) | 150mm | 145 | 0.5 | 19.5 | 14.5 |
| **3227-175** * | 150-175mm | C | 5μm | Ø162.5mm(optional) | 150mm | 145 | 0.5 | 19.5 | 14.5 |
| **3227-200** * | 175-200mm | C | 5μm | Ø187.5mm(optional) | 150mm | 145 | 0.5 | 19.5 | 14.5 |
| **3227-225** | 200-225mm | C | 7μm | Ø212.5mm(optional) | 150mm | 145 | 0.5 | 19.5 | 14.5 |
| **3227-250** | 225-250mm | C | 7μm | Ø237.5mm(optional) | 150mm | 145 | 0.5 | 19.5 | 14.5 |
| **3227-275** | 250-275mm | C | 7μm | Ø262.5mm(optional) | 150mm | 145 | 0.5 | 19.5 | 14.5 |
| **3227-300** | 275-300mm | C | 7μm | Ø287.5mm(optional) | 150mm | 145 | 0.5 | 19.5 | 14.5 |

**Set**

| Code | Range | Micrometers included | Setting ring (included) | Extension rod (included) |
|---|---|---|---|---|
| **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 THREE POINTS INTERNAL MICROMETER

MANUFACTURER INSPECTION CERTIFICATE

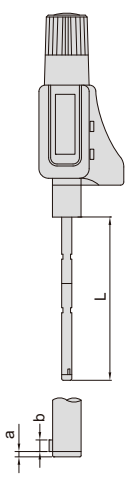
DATA OUTPUT

IP54 WATERPROOF

**3127-12**

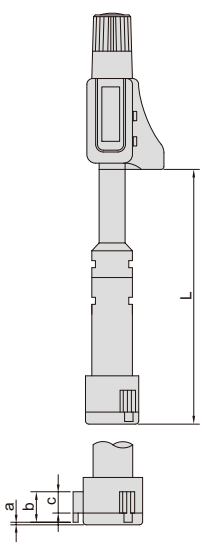
**3127-40**

**3127-125**



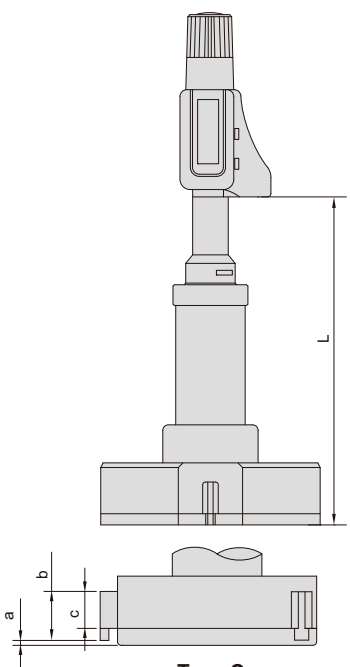

**Type A**

6-12mm, steel measuring points




**Type B**

12-50mm, carbide measuring points




**Type C**

50-300mm, carbide measuring points

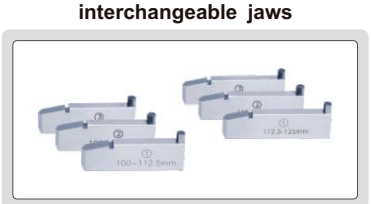
**setting ring**

6-100mm: included
100-300mm: optional

**extension rod**

included

**interchangeable jaws**



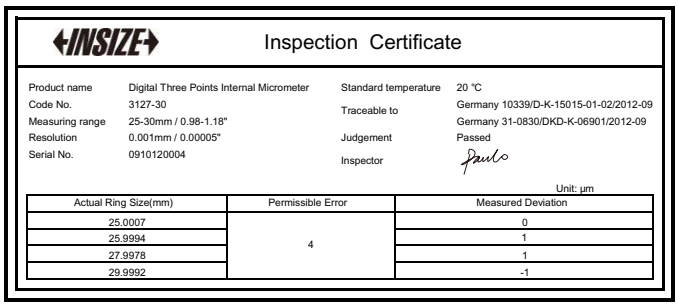
100-300mm: have two sets of jaws for different measuring range(For example, 3127-125 has 100-112.5mm and 112.5-125mm jaws)

To be continued

Continued from previous page

- Resolution 0.001mm/0.00005"
- IP54 dust/waterproof
- Buttons: on/off, set, mm/inch, ABS/INC
- Data output
- LR44 battery, automatic power off
- Ratchet stop
- Optional accessary: data output cable (code **7306-30, 7302-SPC2A, 7305-SPC3**), setting ring (code **6312**)

## Manufacturer Inspection Certificate



INSIZE Inspection Certificate

| | | | |
|---|---|---|---|
| Product name | Digital Three Points Internal Micrometer | Standard temperature | 20 °C |
| Code No. | 3127-30 | Traceable to | Germany 10339/D-K-15015-01-02/2012-09 |
| Measuring range | 25-30mm / 0.98-1.18" | | Germany 31-0830/DKD-K-06901/2012-09 |
| Resolution | 0.001mm / 0.00005" | Judgement | Passed |
| Serial No. | 0910120004 | Inspector | Paulo |

Unit: μm

| Actual Ring Size(mm) | Permissible Error | Measured Deviation |
|---|---|---|
| 25.0007 | 4 | 0 |
| 25.9994 | | 1 |
| 27.9978 | | 1 |
| 29.9992 | | -1 |

**Individual** **(mm)**

| Code | Range | Type | Accuracy | Setting ring | Extension rod (included) | L | a | b | c |
|---|---|---|---|---|---|---|---|---|---|
| **3127-8** * | 6-8mm/0.24-0.31" | A | 4μm | Ø6mm(included) | 100mm | 54.5 | 1.5 | 2.5 | — |
| **3127-10** * | 8-10mm/0.31-0.39" | A | 4μm | Ø8mm(included) | 100mm | 54.5 | 1.5 | 2.5 | — |
| **3127-12** * | 10-12mm/0.39-0.47" | A | 4μm | Ø10mm(included) | 100mm | 54.5 | 1.5 | 2.5 | — |
| **3127-16** * | 12-16mm/0.47-0.63" | B | 4μm | Ø16mm(included) | 150mm | 80 | 0.5 | 6 | 4.5 |
| **3127-20** * | 16-20mm/0.63-0.79" | B | 4μm | Ø16mm(included) | 150mm | 80 | 0.5 | 6 | 4.5 |
| **3127-25** * | 20-25mm/0.79-0.98" | B | 4μm | Ø25mm(included) | 150mm | 90 | 0.5 | 8 | 6 |
| **3127-30** * | 25-30mm/0.98-1.18" | B | 4μm | Ø25mm(included) | 150mm | 90 | 0.5 | 8 | 6 |
| **3127-40** * | 30-40mm/1.18-1.57" | B | 4μm | Ø40mm(included) | 150mm | 97 | 0.5 | 14 | 12 |
| **3127-50** * | 40-50mm/1.57-1.97" | B | 5μm | Ø40mm(included) | 150mm | 97 | 0.5 | 14 | 12 |
| **3127-63** * | 50-63mm/1.97-2.48" | C | 5μm | Ø62mm(included) | 150mm | 114 | 0.5 | 17.5 | 14.5 |
| **3127-75** * | 62-75mm/2.44-2.95" | C | 5μm | Ø62mm(included) | 150mm | 114 | 0.5 | 17.5 | 14.5 |
| **3127-88** * | 75-88mm/2.95-3.46" | C | 5μm | Ø87mm(included) | 150mm | 114 | 0.5 | 17.5 | 14.5 |
| **3127-100** * | 87-100mm/3.43-3.94" | C | 5μm | Ø87mm(included) | 150mm | 114 | 0.5 | 17.5 | 14.5 |
| **3127-125** * | 100-125mm/3.94-4.92" | C | 5μm | Ø112.5mm(optional) | 150mm | 150 | 0.5 | 19.5 | 14.5 |
| **3127-150** * | 125-150mm/4.92-5.91" | C | 5μm | Ø137.5mm(optional) | 150mm | 150 | 0.5 | 19.5 | 14.5 |
| **3127-175** * | 150-175mm/5.91-6.89" | C | 5μm | Ø162.5mm(optional) | 150mm | 150 | 0.5 | 19.5 | 14.5 |
| **3127-200** * | 175-200mm/6.89-7.87" | C | 5μm | Ø187.5mm(optional) | 150mm | 150 | 0.5 | 19.5 | 14.5 |
| **3127-225** | 200-225mm/7.87-8.86" | C | 7μm | Ø212.5mm(optional) | 150mm | 150 | 0.5 | 19.5 | 14.5 |
| **3127-250** | 225-250mm/8.86-9.84" | C | 7μm | Ø237.5mm(optional) | 150mm | 150 | 0.5 | 19.5 | 14.5 |
| **3127-275** | 250-275mm/9.84-10.83" | C | 7μm | Ø262.5mm(optional) | 150mm | 150 | 0.5 | 19.5 | 14.5 |
| **3127-300** | 275-300mm/10.83-11.81" | C | 7μm | Ø287.5mm(optional) | 150mm | 150 | 0.5 | 19.5 | 14.5 |

**Set**

| Code | Range | Micrometers included | Setting ring (included) | Extension rod (included) |
|---|---|---|---|---|
| **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 |

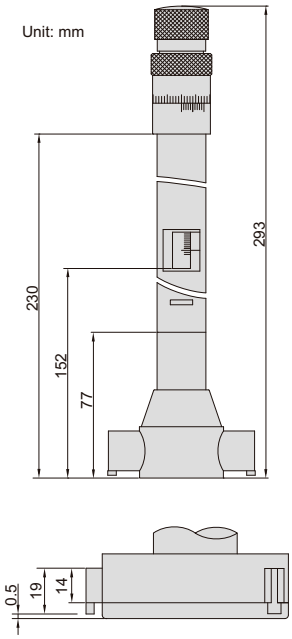
*Supplied with manufacturer inspection certificate

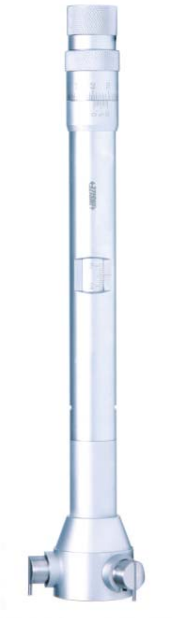
# WIDE RANGE THREE POINTS INTERNAL MICROMETER

MANUFACTURER INSPECTION CERTIFICATE

- Graduation 0.001mm
- Carbide measuring faces
- Ratchet stop
- Setting rings are included (except 200-300mm)

setting ring





3228-70

| 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

# DIGITAL WIDE RANGE THREE POINTS INTERNAL MICROMETER

MANUFACTURER INSPECTION CERTIFICATE

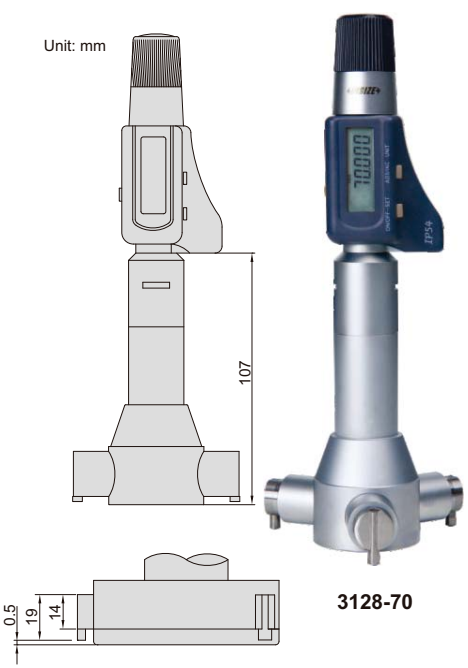
IP54 WATERPROOF

DATA OUTPUT

- Resolution 0.001mm/0.00005"
- IP54 dust/waterproof
- Buttons: on/off, set, mm/inch, ABS/INC
- Data output
- LR44 battery, automatic power off
- Carbide measuring faces
- Ratchet stop
- Supplied with extension rods
- Setting rings are included (except 200-300mm)
- Optional accessary: data output cable (code **7306-30, 7302-SPC2A, 7305-SPC3**)

setting ring

extension rod





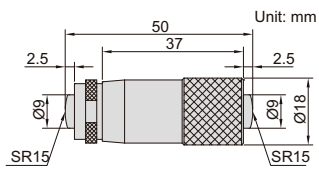
3128-70

| 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

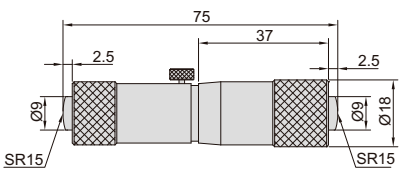
# TUBULAR INSIDE MICROMETER

**3229-225**

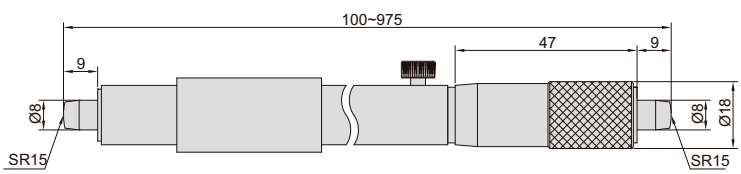



**type A**

- Graduation 0.01mm
- Carbide measuring faces




**type B**




**type C**

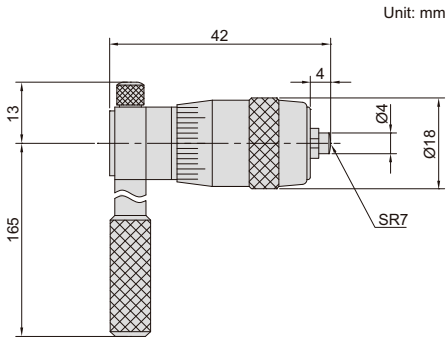
| Code | Range | Type | Accuracy |
|---|---|---|---|
| **3229-75** | 50-75mm | A | 5μm |
| **3229-100** | 75-100mm | B | 5μm |
| **3229-125** | 100-125mm | C | 6μm |
| **3229-150** | 125-150mm | C | 6μm |
| **3229-175** | 150-175mm | C | 7μm |
| **3229-200** | 175-200mm | C | 7μm |
| **3229-225** | 200-225mm | 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 |

| Code | Range | Type | Accuracy |
|---|---|---|---|
| **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 |
| **3229-725** | 700-725mm | C | 13μm |
| **3229-750** | 725-750mm | C | 14μm |

| Code | Range | Type | Accuracy |
|---|---|---|---|
| **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 MICROMETER

3221-200

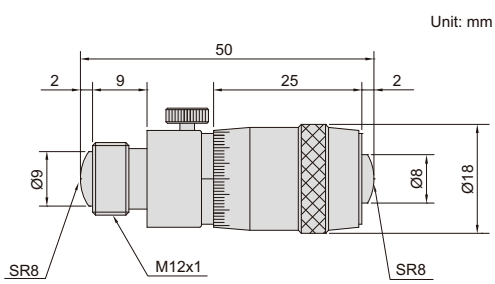



| Code | Range | Travel of micrometer head | Extension rods |
|---|---|---|---|
| **3221-32** | 25-32mm | 7mm | — |
| **3221-50** | 25-50mm | 7mm | 2pcs |
| **3221-63** | 50-63mm | 13mm | — |
| **3221-200** | 50-200mm | 13mm | 6pcs |
| **3221-300** | 50-300mm | 13mm | 10pcs |
| **3221-225** | 200-225mm | 25mm | — |
| **3221-500** | 200-500mm | 25mm | 3pcs |
| **3221-1000** | 200-1000mm | 25mm | 8pcs |

- Graduation 0.01mm
- Accuracy: (6+L/50)μm
  L=maximum measuring length (mm)
- Optional accessary: setting ring (code **6312**)

# TUBULAR INSIDE MICROMETER

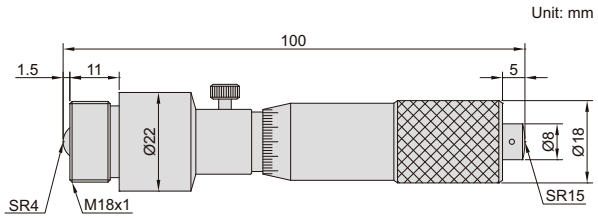
3222-150




- Graduation 0.01mm
- Accuracy: (3+n+L/50)μm
  n=number of rods, L=maximum measuring length(mm)
- Supplied with setting standards
- Carbide measuring faces

| 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 (2pcs), 100mm |
| **3222-500** | 50-500mm | 13mm | 13mm, 25mm, 50mm (2pcs), 100mm, 200mm |
| **3222-600** | 50-600mm | 13mm | 13mm, 25mm, 50mm, 100mm, 150mm, 200mm |
| **3222-1000** | 50-1000mm | 13mm | 13mm, 25mm, 50mm (2pcs), 100mm, 200mm (2pcs), 300mm |
| **3222-1500** | 50-1500mm | 13mm | 13mm, 25mm, 50mm (2pcs), 100mm, 200mm (3pcs), 300mm (2pcs) |

# TUBULAR INSIDE MICROMETER



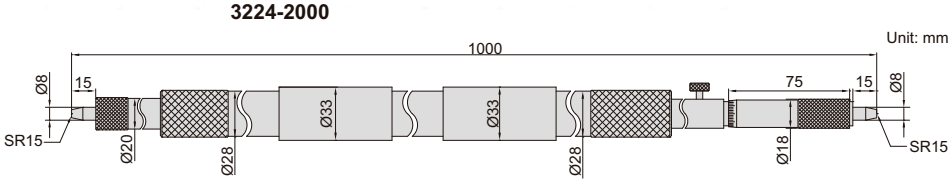
3225-500

- Graduation 0.01mm
- Accuracy: (3+n+L/50)μm
  n=number of rods, L=maximum measuring length(mm)
- Supplied with setting standards
- Carbide measuring faces

| Code | Range | Travel of micrometer head | Extension rods |
|---|---|---|---|
| **3225-125** | 100-125mm | 25mm | — |
| **3225-500** | 100-500mm | 25mm | 25mm, 50mm, 100mm, 200mm |
| **3225-900** | 100-900mm | 25mm | 25mm, 50mm, 100mm, 200mm, 400mm |
| **3225-1300** | 100-1300mm | 25mm | 25mm, 50mm, 100mm, 200mm, 400mm (2pcs) |
| **3225-1700** | 100-1700mm | 25mm | 25mm, 50mm, 100mm, 200mm, 400mm (3pcs) |
| **3225-2100** | 100-2100mm | 25mm | 25mm, 50mm, 100mm, 200mm, 400mm (4pcs) |

# TUBULAR INSIDE MICROMETER

3224-2000




- Graduation 0.01mm
- Accuracy: (7+n+L/50)μm
  n=number of rods, L=maximum measuring length(mm)
- Carbide measuring faces

| Code | Range | Travel of micrometer head | Extension rods |
|---|---|---|---|
| **3224-2000** | 1000-2000mm | 50mm | 50mm, 100mm (2pcs), 200mm, 500mm |
| **3224-3000** | 1000-3000mm | 50mm | 50mm, 100mm (2pcs), 200mm, 500mm, 1000mm |
| **3224-4000** | 1000-4000mm | 50mm | 50mm, 100mm (2pcs), 200mm, 500mm, 1000mm (2pcs) |
| **3224-5000** | 1000-5000mm | 50mm | 50mm, 100mm (2pcs), 200mm, 500mm, 1000mm (3pcs) |

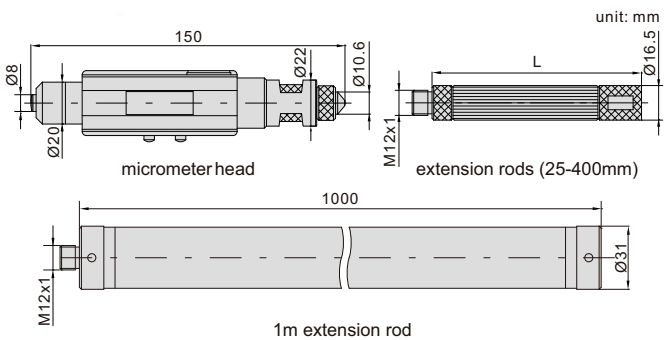
# DIGITAL NON-ROTATING SPINDLE TUBULAR INSIDE MICROMETER

SPRING LOADED MEASURING POINT

NON-ROTATING SPINDLE

DATA OUTPUT

3635-950



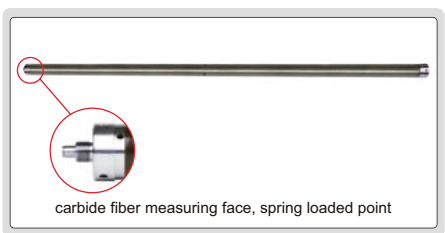

micrometer head

extension rods (25-400mm)

1m extension rod

**non-rotating spindle, spring loaded point and max./min. value tracking make it easy to find the right measuring position**

**1m carbon fiber extension rod, light weight, no deform**




- 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, tolerance measurement, hold, on/off, zero
- CR2032 battery, automatic power off

**Micrometer head**

| Range | Resolution | Accuracy | Repeatability | Measuring force | Weight |
|---|---|---|---|---|---|
| 150-175mm | 0.01mm/0.0005"<br>0.001mm/0.00005"<br>(switchable) | ±4μm | 1μm | 5-10N | 275g |

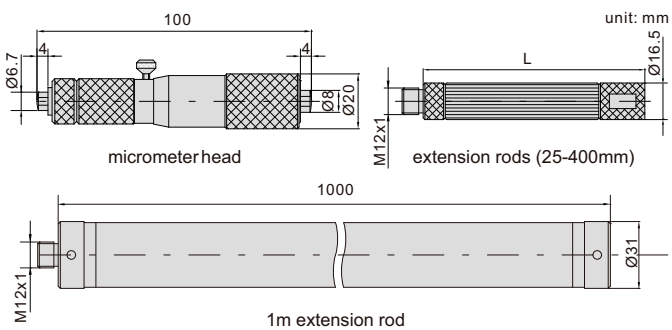
**Extension rods**

| 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 |

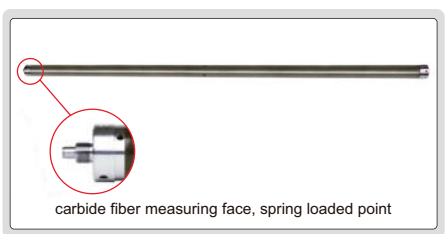
| Code | Range | Micrometer head | Extension rods |
|---|---|---|---|
| **3635-350** | 150-350mm | 150-175mm | 25mm, 50mm, 100mm |
| **3635-550** | 150-550mm | 150-175mm | 25mm, 50mm, 100mm, 200mm |
| **3635-950** | 150-950mm | 150-175mm | 25mm, 50mm, 100mm, 200mm, 400mm |
| **3635-1550** | 150-1550mm | 150-175mm | 25mm, 50mm, 100mm, 200mm(2pcs ), 400mm(2pcs ) |
| **3635-2150** | 150-2150mm | 150-175mm | 25mm, 50mm, 100mm, 200mm, 400mm(4pcs ) |
| **3635-3150** | 150-3150mm | 150-175mm | 25mm, 50mm, 100mm, 200mm(2pcs ), 400mm, 1000mm(2pcs ) |
| **3635-4150** | 150-4150mm | 150-175mm | 25mm, 50mm, 100mm, 200mm(2pcs ), 400mm, 1000mm(3pcs ) |
| **3635-5150** | 150-5150mm | 150-175mm | 25mm, 50mm, 100mm, 200mm(2pcs ), 400mm, 1000mm(4pcs ) |
| **3635-6150** | 150-6150mm | 150-175mm | 25mm, 50mm, 100mm, 200mm(2pcs ), 400mm, 1000mm(5pcs ) |

# TUBULAR INSIDE MICROMETER

3634-1300




**1m carbon fiber extension rod, light weight, no deform**




- Carbide measuring faces for micrometer head and extension rods
- Points of extension rods are spring loaded

**Micrometer head**

| Range | Graduation | Accuracy | Weight |
|---|---|---|---|
| 100-125mm | 0.01mm | ±4μm | 154g |

**Extension rods**

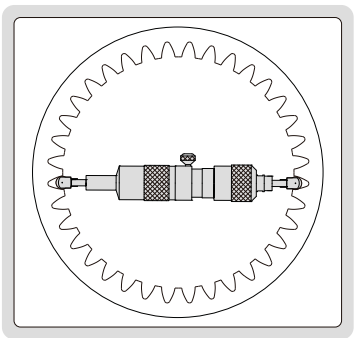
| Length (L) | Accuracy | Weight | Material |
|---|---|---|---|
| 25mm | ±1.25μm | 37g | steel |
| 50mm | ±1.25μm | 65g | steel |
| 100mm | ±2μm | 113g | steel |
| 200mm | ±3.5μm | 208g | steel |
| 400mm | ±4.5μm | 402g | steel |
| 1000mm | ±7.5μm | 909g | carbon fiber |

| Code | Range | Micrometer head | Extension rods |
|---|---|---|---|
| **3634-350** | 100-350mm | 100-125mm | 25mm, 50mm, 50mm, 100mm |
| **3634-500** | 100-500mm | 100-125mm | 25mm, 50mm, 100mm, 200mm |
| **3634-1300** | 100-1300mm | 100-125mm | 25mm, 50mm, 100mm, 200mm, 400mm(2pcs ) |
| **3634-1500** | 100-1500mm | 100-125mm | 25mm, 50mm, 100mm, 200mm(2pcs ), 400mm(2pcs ) |
| **3634-2100** | 100-2100mm | 100-125mm | 25mm, 50mm, 100mm, 200mm, 400mm(4pcs ) |
| **3634-3100** | 100-3100mm | 100-125mm | 25mm, 50mm, 100mm, 200mm(2pcs ), 400mm, 1000mm(2pcs ) |
| **3634-4100** | 100-4100mm | 100-125mm | 25mm, 50mm, 100mm, 200mm(2pcs ), 400mm, 1000mm(3pcs ) |
| **3634-5100** | 100-5100mm | 100-125mm | 25mm, 50mm, 100mm, 200mm(2pcs ), 400mm, 1000mm(4pcs ) |
| **3634-6100** | 100-6100mm | 100-125mm | 25mm, 50mm, 100mm, 200mm(2pcs ), 400mm, 1000mm(5pcs ) |

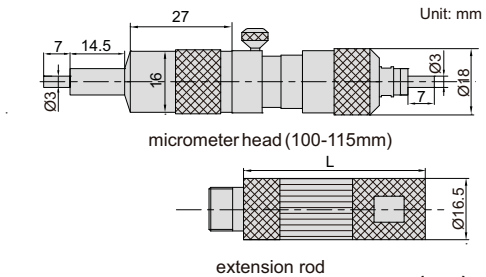
# INTERNAL GEAR TOOTH MICROMETER

3638-200

ball tips are not included



- Measure over-pin diameter of gears
- Points of extension rods are spring loaded
- Optional accessary: ball tips (code **7383**)




RELATIVE PRODUCT:
GEAR BORE GAGE (CODE 2428)

(mm)

| Code | Range | Micrometer head | Extension rod (L) |
|---|---|---|---|
| **3638-200** | 100-205mm | 100-115mm | 15, 25, 30 |
| **3638-500** | 100-505mm | 100-115mm | 15, 25, 50, 100, 200 |
| **3638-900** | 100-905mm | 100-115mm | 15, 25, 50, 100, 200, 400 |
| **3638-1100** | 150-1150mm | 150-175mm | 25, 50, 100, 200, 200, 400 |

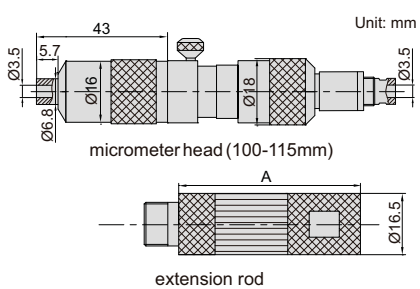
**Micrometer head**

| Range | Graduation | Accuracy |
|---|---|---|
| 100-115mm | 0.01mm | ±4μm |
| 150-175mm | 0.01mm | ±4μm |

**Extension rod**

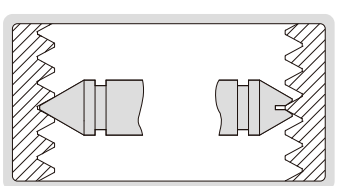
| Length (L) | Accuracy |
|---|---|
| 15mm | ±1μm |
| 25mm | ±1.25μm |
| 30mm | ±1.25μm |
| 50mm | ±1.25μm |
| 100mm | ±2μm |
| 200mm | ±3.5μm |
| 400mm | ±4.5μm |

# INTERNAL SCREW THREAD MICROMETER



3641-200

tips are not included



- Measure pitch diameter of screw thread
- Points of extension rods are spring loaded
- Optional accessary: measuring tips for internal screw thread micrometer (code **7385**)

| Code | Range | Micrometer head | Extension rod (A) | Applicable tips |
|---|---|---|---|---|
| **3641-200** | 100-205mm | 100-115mm | 15, 25, 50mm | stem length L=13.5mm |
| **3641-500** | 100-505mm | 100-115mm | 15, 25, 50, 100, 200mm | stem length L=13.5mm |
| **3641-900** | 100-905mm | 100-115mm | 15, 25, 50, 100, 200, 400mm | stem length L=13.5mm |
| **3641-1100** | 150-1150mm | 150-175mm | 25, 50, 100, 200, 200, 400mm | stem length 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 |

# INTERNAL SCREW THREAD MICROMETER

- Graduation: 0.01mm
- Optional accessory: measuring tips for internal screw thread micrometer (code **7321**), zero block (code **3226-SP**)

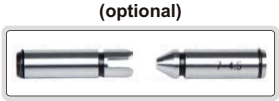
tips are not included

tips are not included

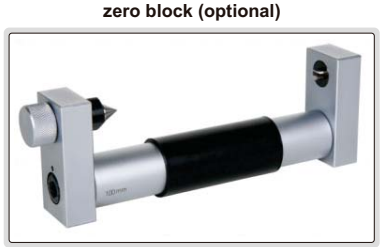
**3226-1001**

| Code | Range | Zero Block (optional) |
|---|---|---|
| **3226-1001** | 75-100mm | 100mm (code **3226-SP100**) |
| **3226-1251** | 100-125mm | 100mm (code **3226-SP100**) |
| **3226-1501** | 125-150mm | 150mm (code **3226-SP150**) |
| **3226-1751** | 150-175mm | 150mm (code **3226-SP150**) |
| **3226-2001** | 175-200mm | 200mm (code **3226-SP200**) |
| **3226-2251** | 200-225mm | 200mm (code **3226-SP200**) |
| **3226-2501** | 225-250mm | 250mm (code **3226-SP250**) |
| **3226-2751** | 250-275mm | 250mm (code **3226-SP250**) |
| **3226-3001** | 275-300mm | 300mm (code **3226-SP300**) |

**measuring tips for internal screw thread micrometer (optional)**



**zero block (optional)**



# MEASURING TIPS FOR INTERNAL SCREW THREAD MICROMETER

**Metric and unified screw (60° thread angle)**

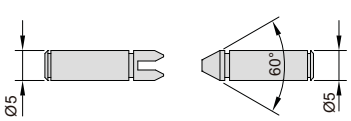
| Code | Pitch |
|---|---|
| **7321-T11** | 0.4-0.5mm/64-48TPI |
| **7321-T12** | 0.6-0.9mm/44-28TPI |
| **7321-T13** | 1-1.75mm/24-14TPI |
| **7321-T14** | 2-3mm/13-9TPI |
| **7321-T15** | 3.5-5mm/8-5TPI |
| **7321-T16** | 5.5-7mm/4.5-3.5TPI |
| **7321-T1S** | 6 pairs/set, including all above tips |

**Whitworth screw (55° thread angle)**

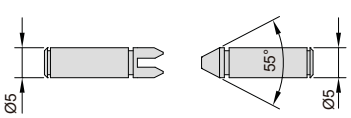
| Code | Pitch |
|---|---|
| **7321-T21** | 60-48TPI |
| **7321-T22** | 48-40TPI |
| **7321-T23** | 40-32TPI |
| **7321-T24** | 32-24TPI |
| **7321-T25** | 24-18TPI |
| **7321-T26** | 18-14TPI |
| **7321-T27** | 14-10TPI |
| **7321-T28** | 10-7TPI |
| **7321-T29** | 7-4.5TPI |
| **7321-T210** | 4.5-3.5TPI |
| **7321-T2S** | 10 pairs/set, including all above tips |

**7321-T1S**

Unit: mm




**60° thread angle**




**55° thread angle**

- Supplied in pair
- Suitable for **3226** series

# BORE GAGE FOR SMALL HOLES

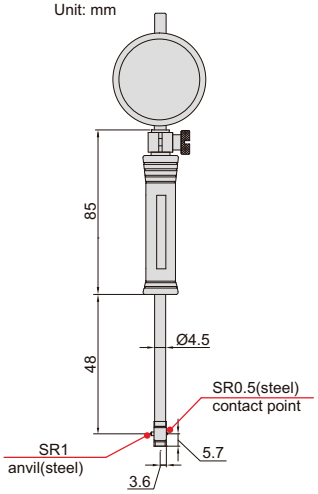
**ATTENTION: NOT SUITABLE FOR 0.001MM DIAL INDICATORS**

**2852-10**

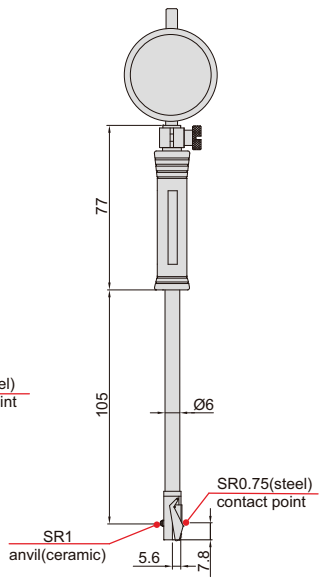
**2152-18**

DATA OUTPUT

Unit: mm

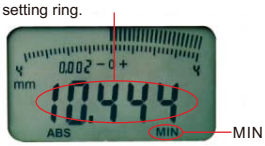



**6-10mm**

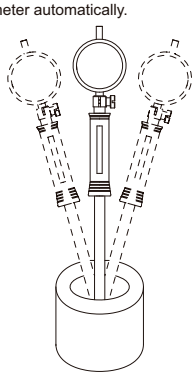


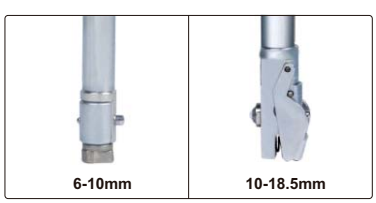

**10-18.5mm**

Read the diameter directly, after imputing the size of setting ring.




The minimum value tracking function can find the diameter automatically.





**6-10mm** | **10-18.5mm**

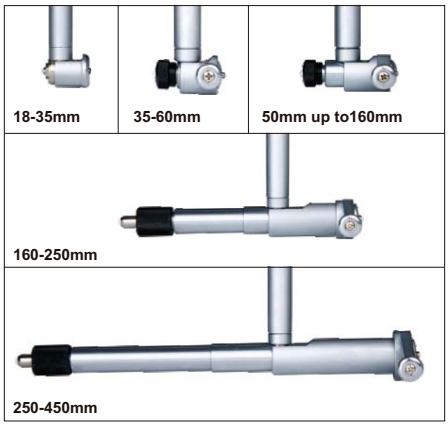
- Optional accessory: setting ring (code **6312**)

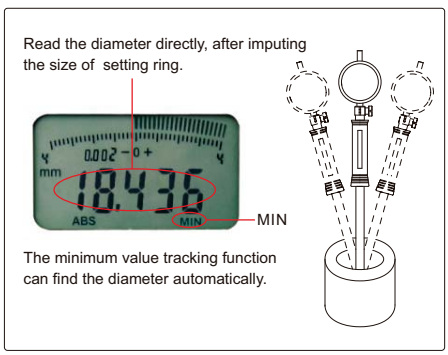
| Code | Range | Indicator | Accuracy | Repeatability |
|---|---|---|---|---|
| **2852-10** | 6-10mm | dial indicator, range 3mm, graduation 0.01mm(code **2311-3F**) | ±0.012mm | 0.003mm |
| **2852-18** | 10-18.5mm | | ±0.012mm | 0.003mm |

| Code | Range | Indicator | Accuracy | Repeatability |
|---|---|---|---|---|
| **2152-10** | 6-10mm | digital indicator, range 12.7mm/0.5", resolution 0.002mm/0.0001" (code **2108-10F**) | ±0.012mm | 0.003mm |
| **2152-18** | 10-18.5mm | | ±0.012mm | 0.003mm |

# BORE GAGE

ATTENTION: NOT SUITABLE FOR 0.001MM DIAL INDICATORS



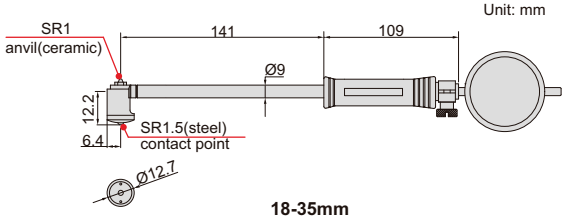




- Optional accessory:
  setting ring (code **6312**), long handle (code **7351**)

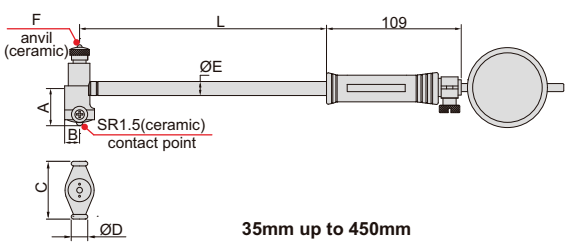
| Code | Range | Indicator | Accuracy | Repeatability |
|---|---|---|---|---|
| **2322-35A** | 18-35mm | dial indicator, range 10mm, graduation 0.01mm (code **2308-10FA**) | ±0.015mm | 0.003mm |
| **2322-60A** | 35-60mm | | ±0.018mm | 0.003mm |
| **2322-100A** | 50-100mm | | ±0.018mm | 0.003mm |
| **2322-160A** | 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 |

| Code | Range | Indicator | Accuracy | Repeatability |
|---|---|---|---|---|
| **2122-35A** | 18-35mm | digital indicator, range 12.7mm/0.5", resolution 0.002mm/0.0001" (code **2108-10F**) | ±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 |

Unit: mm




**18-35mm**




**35mm up to 450mm**

(mm)

| Range | A | B | C | ØD | ØE | F | L |
|---|---|---|---|---|---|---|---|
| 35-60mm | 12.2 | 6.4 | 27 | 13 | 12.8 | SR2 | 141 |
| 50-100mm | 26 | 9 | 27 | 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 |

# BORE GAGE SET

**ATTENTION: NOT SUITABLE FOR 0.001MM DIAL INDICATORS**

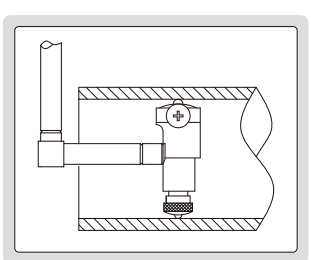
**2824-S3**

- Optional accessory: setting ring (code **6312**)

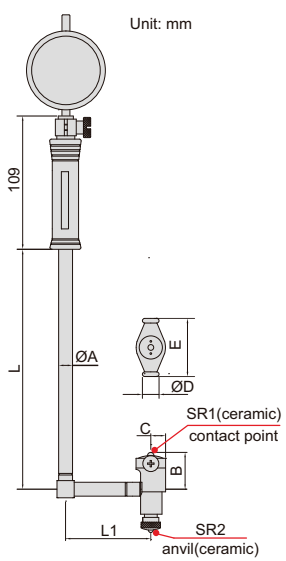
| Code | Range | Indicator | Bore gages included | Accuracy | Repeatability |
|---|---|---|---|---|---|
| **2824-S3** | 18-160mm | dial indicator code **2308-10FA** range 10mm, graduation 0.01mm | 18-35mm<br>35-60mm<br>50-160mm | 18-35mm ±0.015mm<br>35-60mm ±0.018mm<br>50-160mm ±0.018mm | 0.003mm |

# BORE GAGE

**ATTENTION: NOT SUITABLE FOR 0.001MM DIAL INDICATORS**



**2827-160A**




- Optional accessory: setting ring (code **6312**)

| Code | Range | Indicator | Accuracy | Repeatability |
|---|---|---|---|---|
| **2827-160A** | 50-160mm | dial indicator code **2308-10FA** range 10mm, graduation 0.01mm | ±0.018mm | 0.003mm |
| **2827-250A** | 160-250mm | | ±0.018mm | 0.003mm |
| **2827-450A** | 250-450mm | | ±0.018mm | 0.003mm |

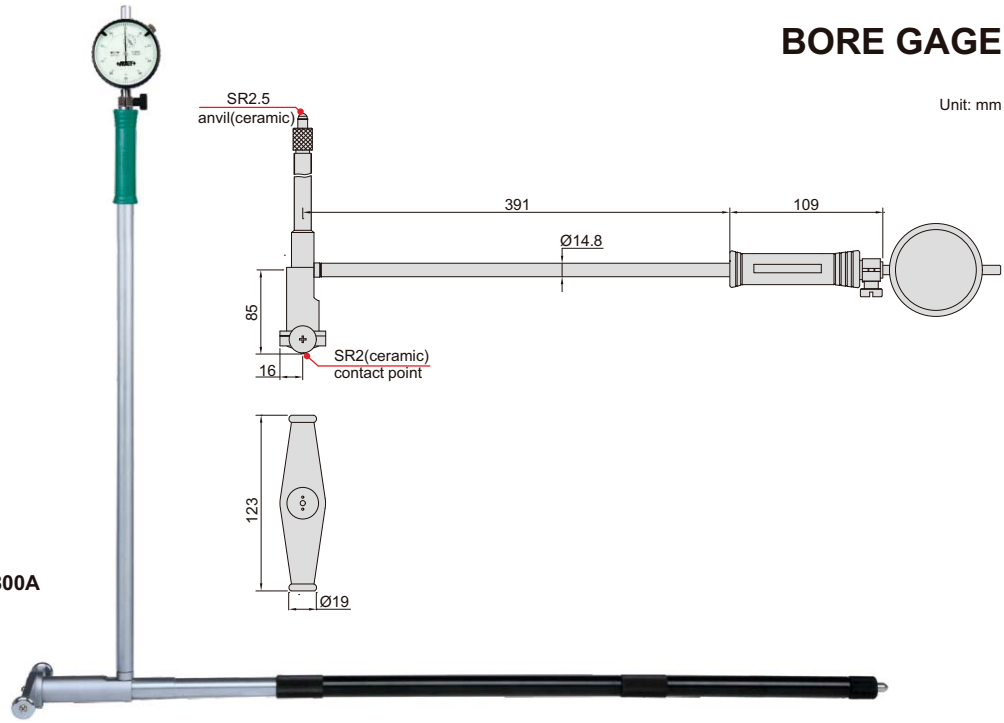
(mm)

| Range | ØA | B | C | ØD | E | L | L1 |
|---|---|---|---|---|---|---|---|
| 50-160mm | 12.8 | 28.5 | 9.2 | 13 | 35 | 141 | 76.2 |
| 160-250mm | 14.5 | 62.0 | 12.7 | 13 | 74.5 | 391 | 100 |
| 250-450mm | 14.5 | 91.5 | 15.0 | 15 | 101.5 | 391 | 100 |

# BORE GAGE

**ATTENTION: NOT SUITABLE FOR 0.001MM DIAL INDICATORS**

Unit: mm




| Code | Range | Indicator | Accuracy | Repeatability |
|---|---|---|---|---|
| **2828-800A** | 400-800mm | dial indicator code **2308-10FA** range 10mm, graduation 0.01mm | ±0.025mm | 0.003mm |

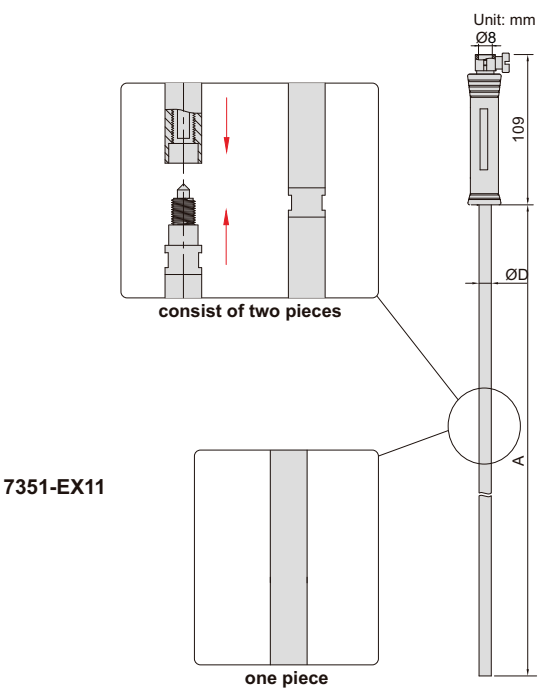
# LONG HANDLE

- To assist deep-hole measurement
- Can be used for bore gages **2322** and **2122**

(mm)

| Code | Applicable bore gages | A | ØD | Remark |
|---|---|---|---|---|
| **7351-EX11** | 35-60mm, 50-100mm, 50-160mm, 100-160mm | 475 | 13 | one piece |
| **7351-EX12** | | 980 | 13 | |
| **7351-EX13** | | 1480 | 14.5 | consist of two pieces |
| **7351-EX14** | | 1980 | 14.5 | |
| **7351-EX21** | 160-250mm, 250-450mm | 480 | 14.5 | one piece |
| **7351-EX22** | | 980 | 14.5 | |
| **7351-EX23** | | 1480 | 14.5 | consist of two pieces |
| **7351-EX24** | | 1980 | 14.5 | |

Unit: mm



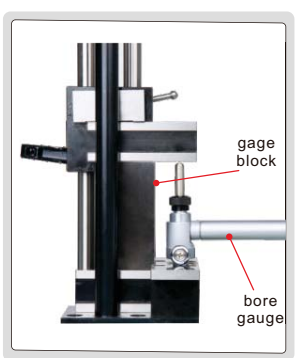
# ANVIL FOR BORE GAGES

- For 2852, 2152, 2322, 2122, 2824, 2827

**7350-160**

| Code | Applicable bore gages | Material of measuring face | Quantity per set | Measuring range of anvil (mm) |
|---|---|---|---|---|
| **7350-10** | 6-10mm | steel | 9pcs | 6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10 |
| **7350-18** | 10-18.5mm | ceramic | 9pcs | 10, 11, 12, 13, 14, 15, 16, 17, 18 |
| **7350-35** | 18-35mm | ceramic | 9pcs | 18, 20, 22, 24, 26, 28, 30, 32, 34 |
| **7350-60** | 35-60mm | ceramic | 6pcs | 35, 40, 45, 50, 55, 60 |
| **7350-100** | 50-100mm | ceramic | 11pcs | 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100 |
| **7350-160** | 50-160mm | ceramic | 12pcs | 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105 |
| **7350-161** | 100-160mm | ceramic | 12pcs | 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105 |
| **7350-250** | 160-250mm | ceramic | 5pcs | 160, 170, 180, 190, 200 |
| **7350-450** | 250-450mm | ceramic | 5pcs | 250, 260, 270, 280, 290 |

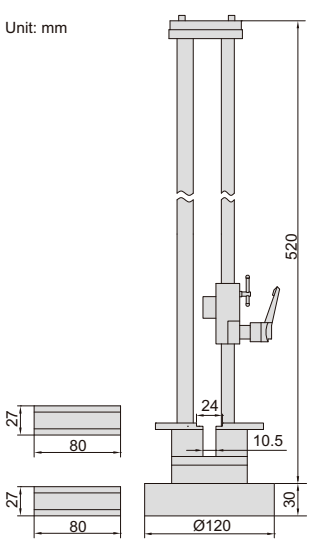
# BORE GAGE SETTER




- Used together with gage blocks to set bore gages

**2395-400**

Unit: mm




| Code | Setting range |
|---|---|
| **2395-400** | 18-400mm |

# SETTING RING

6312-20

- For zero setting of inside micrometers, three points internal micrometers and bore gages
- Deviation (difference between the ordered size and the size marked on the setting ring when supplied): For example, the ordered size is Ø10.125mm, the size marked on the setting ring when supplied may be Ø10.127mm
- Meet DIN2250-1:2008

CAN SUPPLY CUSTOM SETTING RING FROM Ø1.500MM TO Ø315.000MM, FOR EXAMPLE, Ø17.085MM

INSIZE MANUFACTURER INSPECTION CERTIFICATE

**Manufacturer Inspection Certificate**

INSIZE **Inspection Certificate**

Unit: mm

| | |
|---|---|
| Product name | Setting Ring |
| Code No. | 6312-20 |
| Serial No. | 0512110112 |
| Standard temperature | 20° |
| Traceable to | Germany 10339/D-K-15015-01-02/2012-09 |
| Judgement | Passed |
| Inspector | |

| Marked Size | 19.998 | |
|---|---|---|
| Calibration Results | Diameter | at 0° | at 90° |
| | Top | 19.9987 | 19.9985 |
| | Middle | 19.9984 | 19.9985 |
| | Bottom | 19.9985 | 19.9986 |
| | Average | 19.9985 | |
| | Cylindricity | 0.0003 | |
| | Roundness | 0.0002 | |

| Diameter** | Deviation | Roundness and cylindricity |
|---|---|---|
| Ø1.5-3mm | ±2.0μm | 0.3μm |
| Ø3-10mm | ±2.0μm | 0.4μm |
| Ø10-18mm | ±3.0μm | 0.5μm |
| Ø18-25mm | ±3.0μm | 0.6μm |
| Ø25-30mm | ±4.0μm | 0.6μm |
| Ø30-50mm | ±4.0μm | 0.7μm |
| Ø50-80mm | ±4.0μm | 0.8μm |
| Ø80-100mm | ±4.0μm | 1.0μm |
| Ø100-120mm | ±5.0μm | 1.0μm |
| Ø120-180mm | ±6.0μm | 1.2μm |
| Ø180-250mm | ±7.0μm | 1.4μm |
| Ø250-315mm | ±8.0μm | 1.6μm |

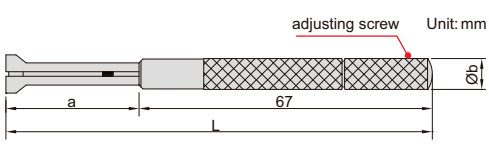
**For example Ø3-10mm means Ø3mm<Ød≤Ø10mm

| Code | Size | Code | Size | Code | Size | Code | Size | Code | Size |
|---|---|---|---|---|---|---|---|---|---|
| 6312-1D5* | Ø1.5mm | 6312-15* | Ø15mm | 6312-29* | Ø29mm | 6312-43* | Ø43mm | 6312-80* | Ø80mm |
| 6312-2* | Ø2mm | 6312-16* | Ø16mm | 6312-30* | Ø30mm | 6312-44* | Ø44mm | 6312-85* | Ø85mm |
| 6312-3* | Ø3mm | 6312-17* | Ø17mm | 6312-31* | Ø31mm | 6312-45* | Ø45mm | 6312-87* | Ø87mm |
| 6312-4* | Ø4mm | 6312-18* | Ø18mm | 6312-32* | Ø32mm | 6312-46* | Ø46mm | 6312-90* | Ø90mm |
| 6312-5* | Ø5mm | 6312-19* | Ø19mm | 6312-33* | Ø33mm | 6312-47* | Ø47mm | 6312-95* | Ø95mm |
| 6312-6* | Ø6mm | 6312-20* | Ø20mm | 6312-34* | Ø34mm | 6312-48* | Ø48mm | 6312-100* | Ø100mm |
| 6312-7* | Ø7mm | 6312-21* | Ø21mm | 6312-35* | Ø35mm | 6312-49* | Ø49mm | 6312-125* | Ø125mm |
| 6312-8* | Ø8mm | 6312-22* | Ø22mm | 6312-36* | Ø36mm | 6312-50* | Ø50mm | 6312-150* | Ø150mm |
| 6312-9* | Ø9mm | 6312-23* | Ø23mm | 6312-37* | Ø37mm | 6312-55* | Ø55mm | 6312-175* | Ø175mm |
| 6312-10* | Ø10mm | 6312-24* | Ø24mm | 6312-38* | Ø38mm | 6312-60* | Ø60mm | 6312-200* | Ø200mm |
| 6312-11* | Ø11mm | 6312-25* | Ø25mm | 6312-39* | Ø39mm | 6312-62* | Ø62mm | 6312-225* | Ø225mm |
| 6312-12* | Ø12mm | 6312-26* | Ø26mm | 6312-40* | Ø40mm | 6312-65* | Ø65mm | 6312-250* | Ø250mm |
| 6312-13* | Ø13mm | 6312-27* | Ø27mm | 6312-41* | Ø41mm | 6312-70* | Ø70mm | 6312-275* | Ø275mm |
| 6312-14* | Ø14mm | 6312-28* | Ø28mm | 6312-42* | Ø42mm | 6312-75* | Ø75mm | 6312-300* | Ø300mm |

*Supplied with manufacturer inpection certificate

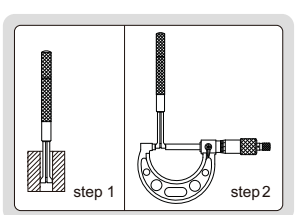
# SMALL HOLE GAGE SET

4208-1




- 4 gages per set
- For small holes, slots and grooves, etc.
- Satin chrome finish

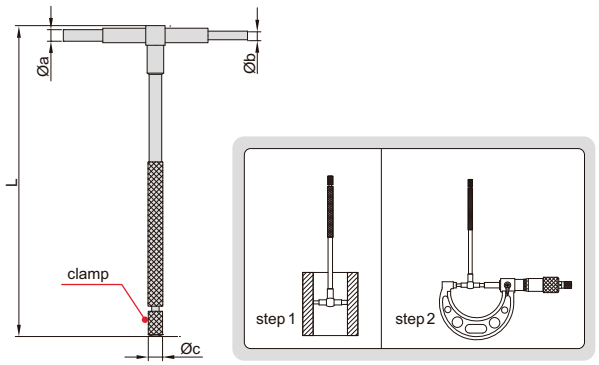
| Code | Total range | Gages included |
|---|---|---|
| 4208-1 | 3-13mm | 3-5mm, 5-7.5mm, 7.5-10mm, 10-13mm |




(mm)

| Range | L | a | Øb |
|---|---|---|---|
| 3-5mm | 90 | 22.5 | 5.5 |
| 5-7.5mm | 97.6 | 30 | 5.5 |
| 7.5-10mm | 102.8 | 35 | 8.5 |
| 10-13mm | 108 | 40 | 8.5 |

# TELESCOPING GAGE SET



4206-1

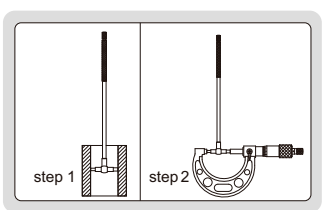
(mm)

| 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 |

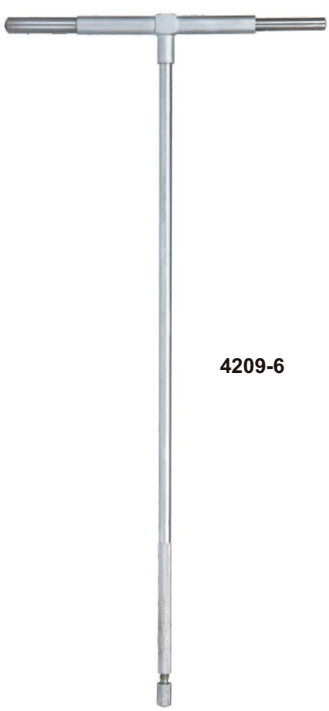
| Code | Total range | Gages included |
|---|---|---|
| **4206-1** | 8-150mm | 8-12.7mm,12.7-19mm<br>19-32mm, 32-54mm<br>54-90mm, 90-150mm |

- 6 gages per set
- For quick measurement of inside diameter of holes and width of slots
- Satin chrome finish

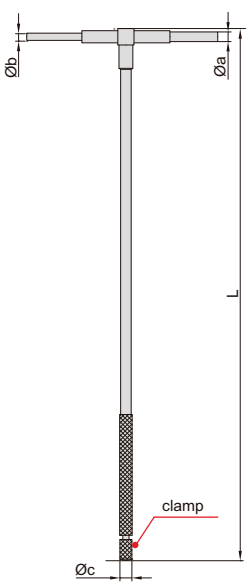
# LONG HANDLE TELESCOPING GAGE




- For quick measurement of inside diameter of deep holes and width of slots
- Satin chrome finish



4209-6



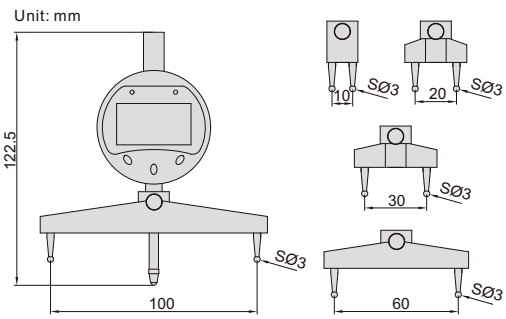

(mm)

| Code | Range | L | Øa | Øb | Øc |
|---|---|---|---|---|---|
| **4209-1** | 8-12.7mm | 250 | 3.9 | 2.9 | 6.2 |
| **4209-2** | 12.7-19mm | 250 | 5.3 | 3.8 | 6.2 |
| **4209-3** | 19-32mm | 250 | 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 |

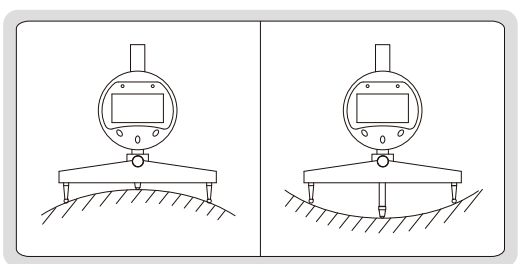
ATTENTION:
NO DATA OUTPUT

# DIGITAL RADIUS GAGE

2183




- Measure radius of internal and external arcs
- Supplied with 5 jaws for different sizes of arc
- Battery CR2032



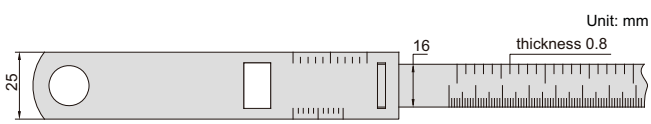
| Code | Range of radius (R) | Resolution | Accuracy (mm) |
|---|---|---|---|
| 2183 | 5-700mm/0.2-27.5" | 0.005mm/0.00005" | ±0.01R* |

*R is the radius to be measured

ATTENTION:
BASIC MODEL

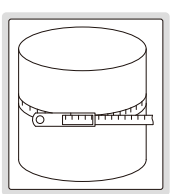
# CIRCUMFERENCE TAPE

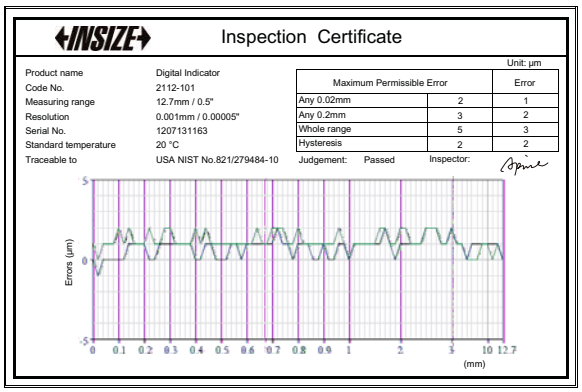
7114-950




- Measure diameter and circumference of pipes, trees, tires, etc.
- Laser engraved scale
- Made of stainless steel

| Code | Circumference range | Diameter range | Graduation | Accuracy | |
|---|---|---|---|---|---|
| | | | | Circumference | Diameter |
| 7114-950 | 60-950mm | Ø20-300mm | 0.1mm | ±1.5mm | ±0.5mm |
| 7114-2200 | 940-2200mm | Ø300-700mm | 0.1mm | ±1.5mm | ±0.5mm |
| 7114-3460 | 2190-3460mm | Ø700-1100mm | 0.1mm | ±1.5mm | ±0.5mm |





Inspection Certificate

Unit: μm

| | |
|---|---|
| Product name | Digital Indicator |
| Code No. | 2112-101 |
| Measuring range | 12.7mm / 0.5" |
| Resolution | 0.001mm / 0.00005" |
| Serial No. | 1207131163 |
| Standard temperature | 20 °C |
| Traceable to | USA NIST No.821/279484-10 |

| Maximum Permissible Error | | Error |
|---|---|---|
| Any 0.02mm | 2 | 1 |
| Any 0.2mm | 3 | 2 |
| Whole range | 5 | 3 |
| Hysteresis | 2 | 2 |

Judgement: Passed Inspector:

Errors (μm)

(mm)

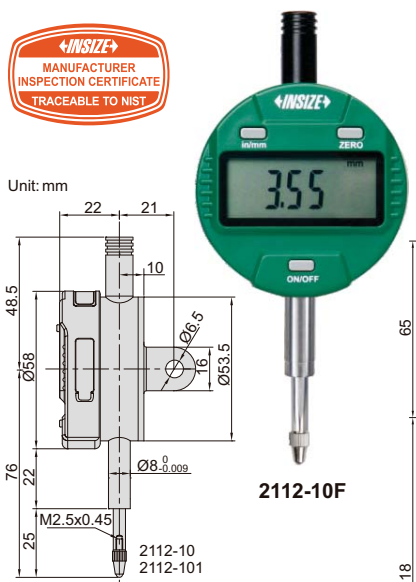
## MANUFACTURER INSPECTION CERTIFICATE TRACEABLE TO NIST USA, FOR DIAL INDICATORS, DIGITAL INDICATORS AND DIAL TEST INDICATORS

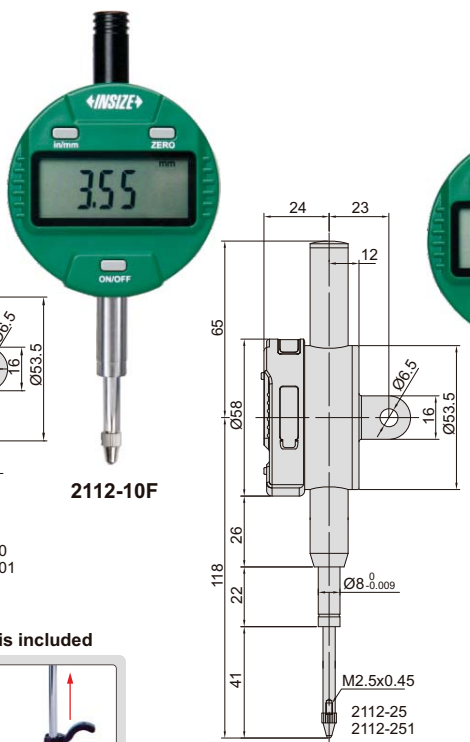
# DIGITAL INDICATOR

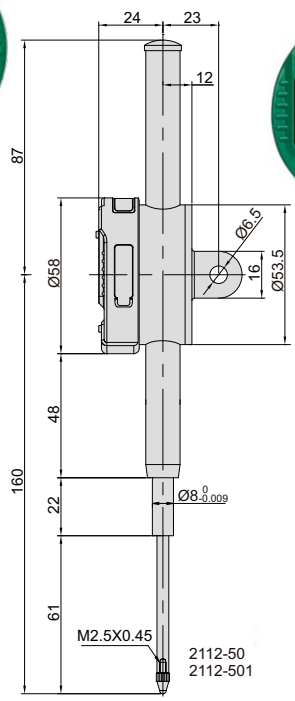
DATA OUTPUT

MANUFACTURER INSPECTION CERTIFICATE TRACEABLE TO NIST

Unit: mm







**2112-10F**

**2112-251F**

**2112-501F**

**spindle lift knob is included**

- Button function: on/off, inch/mm, zero
- CR2032 battery, automatic power off
- Data output
- Optional accessory: data output cable (code **7306-40, 7302-SPC3A, 7305-SPC1A**), backs (page 135), contact points (page 131~134)

**Resolution 0.001mm/0.00005"**

| Code | Range | Accuracy | Hysteresis | Remark |
|---|---|---|---|---|
| **2112-101F*** | 12.7mm/0.5" | 5μm | 2μm | flat back |
| **2112-251F*** | 25.4mm/1" | 5μm | 3μm | flat back |
| **2112-501F*** | 50.8mm/2" | 6μm | 3μm | flat back |
| **2112-101*** | 12.7mm/0.5" | 5μm | 2μm | lug back |
| **2112-251*** | 25.4mm/1" | 5μm | 3μm | lug back |
| **2112-501*** | 50.8mm/2" | 6μm | 3μm | lug back |

**Resolution 0.01mm/0.0005"**

| Code | Range | Accuracy | Hysteresis | Remark |
|---|---|---|---|---|
| **2112-10F*** | 12.7mm/0.5" | 20μm | 10μm | flat back |
| **2112-25F*** | 25.4mm/1" | 20μm | 10μm | flat back |
| **2112-50F*** | 50.8mm/2" | 30μm | 10μm | flat back |
| **2112-10*** | 12.7mm/0.5" | 20μm | 10μm | lug back |
| **2112-25*** | 25.4mm/1" | 20μm | 10μm | lug back |
| **2112-50*** | 50.8mm/2" | 30μm | 10μm | lug back |

*Supplied with manufacturer inspection certificate traceable to NIST USA

# DIGITAL INDICATOR

MANUFACTURER INSPECTION CERTIFICATE TRACEABLE TO NIST

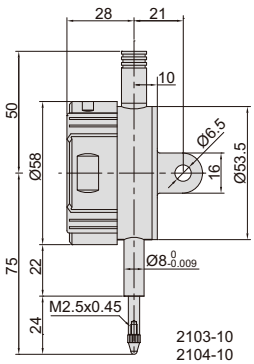
DATA OUTPUT

2103-10F

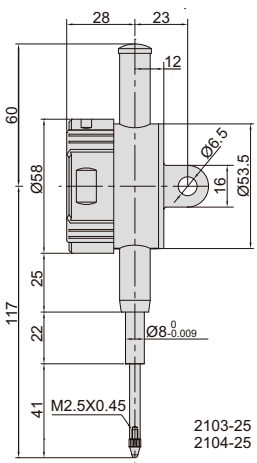
2104-25F

2103-50F

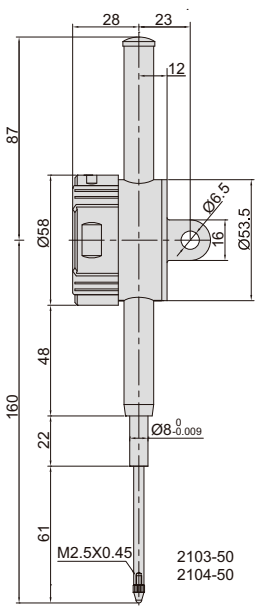
Unit: mm




2103-10
2104-10




2103-25
2104-25




2103-50
2104-50

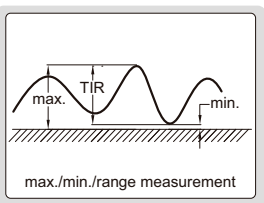
**Resolution 0.001mm/0.00005"**

| Code | Range | Accuracy | Hysteresis | Remark |
|---|---|---|---|---|
| **2103-10F*** | 12.7mm/0.5" | 5μm | 2μm | flat back |
| **2103-25F*** | 25.4mm/1" | 5μm | 3μm | flat back |
| **2103-50F*** | 50.8mm/2" | 6μm | 3μm | flat back |
| **2103-10*** | 12.7mm/0.5" | 5μm | 2μm | lug back |
| **2103-25*** | 25.4mm/1" | 5μm | 3μm | lug back |
| **2103-50*** | 50.8mm/2" | 6μm | 3μm | lug back |

**Resolution 0.01mm/0.0005"**

| Code | Range | Accuracy | Hysteresis | Remark |
|---|---|---|---|---|
| **2104-10F*** | 12.7mm/0.5" | 20μm | 10μm | flat back |
| **2104-25F*** | 25.4mm/1" | 20μm | 10μm | flat back |
| **2104-50F*** | 50.8mm/2" | 30μm | 10μm | flat back |
| **2104-10*** | 12.7mm/0.5" | 20μm | 10μm | lug back |
| **2104-25*** | 25.4mm/1" | 20μm | 10μm | lug back |
| **2104-50*** | 50.8mm/2" | 30μm | 10μm | lug back |

*Supplied with manufacturer inspection certificate traceable to NIST USA




max./min./range measurement

**spindle lift knob is included**

display can be rotated by 320°

- Reading in digit 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
- CR2032 battery, automatic power off
- Data output
- Optional accessory: data output cable (code **7306-40, 7302-SPC3A, 7305-SPC1A**), backs (page 135), contact points (page 131~134)

# METRIC DIGITAL INDICATOR

DATA OUTPUT

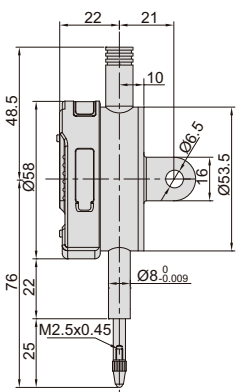
MANUFACTURER INSPECTION CERTIFICATE TRACEABLE TO NIST

**2116-10F**

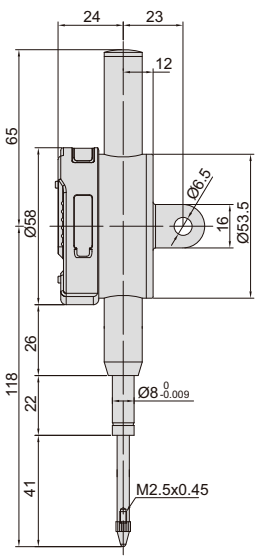
**2116-251F**

**2116-501F**

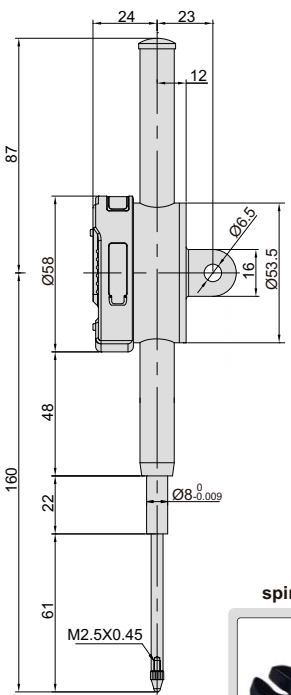
Unit: mm




2116-10
2116-101




2116-25
2116-251




2116-50
2116-501

**spindle lift knob is included**

- Button function: on/off, +/-, zero
- CR2032 battery, automatic power off
- Data output
- Optional accessory: data output cable (code **7306-40, 7302-SPC3A, 7305-SPC1A**), backs (page 135), contact points (page 131~134)

**Resolution 0.001mm**

| Code | Range | Accuracy | Hysteresis | Remark |
|---|---|---|---|---|
| **2116-101F*** | 12.7mm | 5μm | 2μm | flat back |
| **2116-251F*** | 25.4mm | 5μm | 3μm | flat back |
| **2116-501F*** | 50.8mm | 6μm | 3μm | flat back |
| **2116-101*** | 12.7mm | 5μm | 2μm | lug back |
| **2116-251*** | 25.4mm | 5μm | 3μm | lug back |
| **2116-501*** | 50.8mm | 6μm | 3μm | lug back |

**Resolution 0.01mm**

| Code | Range | Accuracy | Hysteresis | Remark |
|---|---|---|---|---|
| **2116-10F*** | 12.7mm | 20μm | 10μm | flat back |
| **2116-25F*** | 25.4mm | 20μm | 10μm | flat back |
| **2116-50F*** | 50.8mm | 30μm | 10μm | flat back |
| **2116-10*** | 12.7mm | 20μm | 10μm | lug back |
| **2116-25*** | 25.4mm | 20μm | 10μm | lug back |
| **2116-50*** | 50.8mm | 30μm | 10μm | lug back |

*Supplied with manufacturer inspection certificate traceable to NIST USA

# WATERPROOF DIGITAL INDICATOR

MANUFACTURER INSPECTION CERTIFICATE TRACEABLE TO NIST

DATA OUTPUT

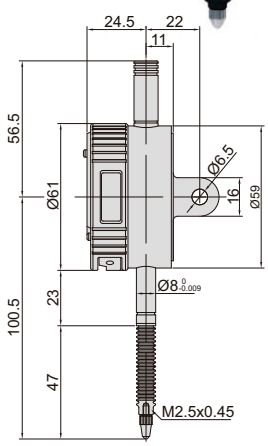
WATERPROOF

2115-10F

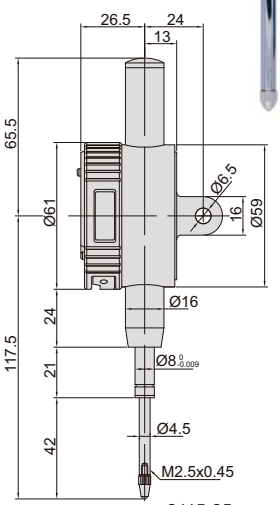
2115-25F

2115-50F

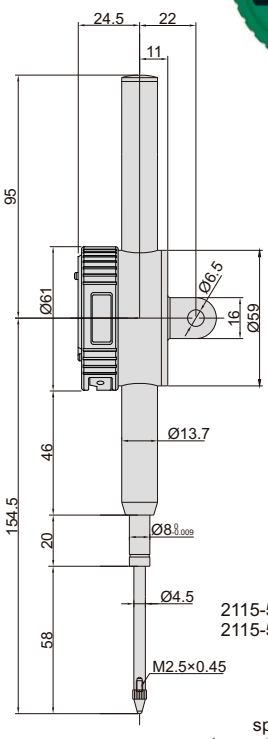
Unit: mm




2115-10
2115-101




2115-25
2115-251




2115-50
2115-501

**Resolution 0.001mm/0.00005"**

| Code | Range | Dust/waterproof | Accuracy | Hysteresis | Remark |
|---|---|---|---|---|---|
| **2115-101F*** | 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 |
| **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 |

**Resolution 0.01mm/0.0005"**

| Code | Range | Dust/waterproof | Accuracy | Hysteresis | Remark |
|---|---|---|---|---|---|
| **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 |
| **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 |

*Supplied with manufacturer inspection certificate traceable to NIST USA

spindle lift knob is included
(except **2115-101/101F, 2115-10/10F**)

- Dust/waterproof
- Button function: on/off, zero, mm/inch
- CR2032 battery, automatic power off
- Data output
- Optional accessory: data output cable (code **7306-40**, **7302-SPC3A**, **7305-SPC1A**), backs (page 135), contact points (page 131~134)

# NO AUTO POWER OFF DIGITAL INDICATOR

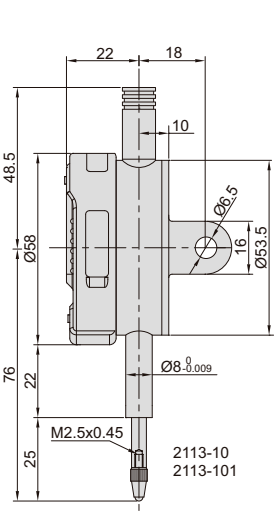
ONE BATTERY FOR 4000 WORKING HOURS

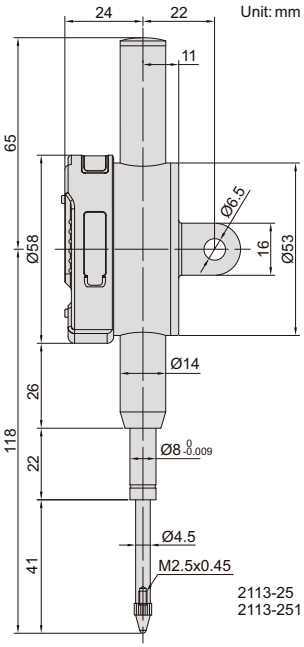
DATA OUTPUT

2113-10F

2113-251F

- No auto power off, tracking the deformation of mould and steel structure for a long time
- Low power consumption
- Button function: on/off, zero, inch/mm
- CR2032 battery
- Data output
- Optional accessory: backs (page 135), contact points (page 131~134), data output cable (code **7305-SPC1A**)




**spindle lift knob is included**

**data output cable (optional)**

**Resolution 0.001mm/0.00005"**

| Code | Range | Accuracy | Hysteresis | Remark |
|---|---|---|---|---|
| **2113-101F*** | 12.7mm/0.5" | 5μm | 2μm | flat back |
| **2113-251F*** | 25.4mm/1" | 5μm | 3μm | flat back |
| **2113-101*** | 12.7mm/0.5" | 5μm | 2μm | lug back |
| **2113-251*** | 25.4mm/1" | 5μm | 3μm | lug back |

**Resolution 0.01mm/0.0005"**

| Code | Range | Accuracy | Hysteresis | Remark |
|---|---|---|---|---|
| **2113-10F *** | 12.7mm/0.5" | 20μm | 10μm | flat back |
| **2113-25F *** | 25.4mm/1" | 20μm | 10μm | flat back |
| **2113-10 *** | 12.7mm/0.5" | 20μm | 10μm | lug back |
| **2113-25 *** | 25.4mm/1" | 20μm | 10μm | lug back |

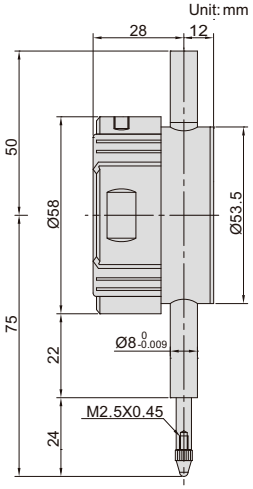
*Supplied with manufacturer inspection certificate traceable to NIST USA

# DIGITAL INDICATOR FOR BORE GAGES

- Specially designed for bore gages
- The minimum value tracking function can find the diameter automatically
- Read the diameter directly, after imputing the size of setting ring
- Reading in digit and analog
- Display can be rotated by 320°
- Button function: minimum value tracking, calibration, data preset, inch/metric conversion, absolute/incremental measurement
- CR2032 battery, automatic power off
- Data output
- Optional accessory: data output cable (code **7306-40, 7302-SPC3A, 7305-SPC1A**), backs (page 135), contact points (page 131~134)

2108-10F

DATA OUTPUT




| Code | Range | Resolution | Accuracy | Hysteresis | Remark |
|---|---|---|---|---|---|
| **2108-10F*** | 12.7mm/0.5" | 0.002mm/0.0001" | 20μm | 10μm | flat back |
| **2108-101F*** | 12.7mm/0.5" | 0.001mm/0.00005" | 5μm | 2μm | flat back |

*Supplied with manufacturer inspection certificate traceable to NIST USA

# COMPACT DIGITAL INDICATOR

MANUFACTURER INSPECTION CERTIFICATE TRACEABLE TO NIST

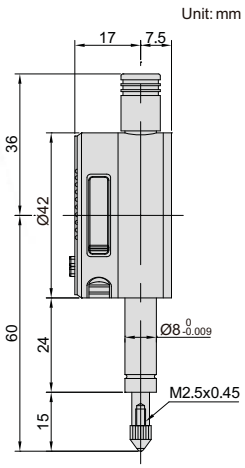
DATA OUTPUT

- 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
- CR1632 battery, automatic power off
- Data output
- Optional accessory: data output cable (code **7306-40, 7302-SPC3A, 7305-SPC1A**), contact points (page 131~134)

| 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 traceable to NIST USA

**2114-51F**




# LARGE STROKE DIGITAL INDICATOR

DATA OUTPUT

**spindle lift knob is included**

- Button function: on/off, zero, mm/inch
- CR2032 battery, automatic power off
- Data output
- Optional accessory: data output cable (code **7306-40**, **7302-SPC3A**, **7305-SPC1A**), backs (page 135), contact points (page 131~134)

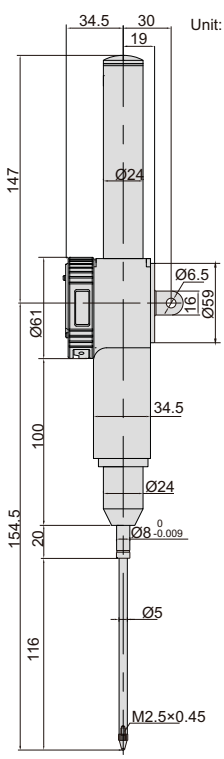
**Resolution 0.01mm/0.0005"**

| Code | Range | Accuracy | Hysteresis | Remark |
|---|---|---|---|---|
| **2117-100** | 100mm/4" | 30μm | 10μm | lug back |

**Resolution 0.001mm/0.00005"**

| Code | Range | Accuracy | Hysteresis | Remark |
|---|---|---|---|---|
| **2117-1001** | 100mm/4" | 9μm | 3μm | lug back |

**2117-100**

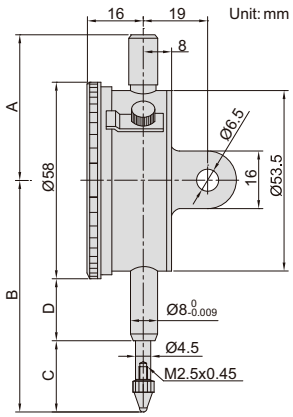


# PRECISION DIAL INDICATOR

MANUFACTURER INSPECTION CERTIFICATE TRACEABLE TO NIST

JEWELED BEARING

2313-1FA




- Graduation: 0.001mm
- Jeweled bearing
- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 135), contact points (page 131~134)

(mm)

| 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 | 8μm | 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 | 8μm | 2.5μm | 0.2mm | 0-100-0 | lug back | 45 | 62.5 | 19.5 | 15 |

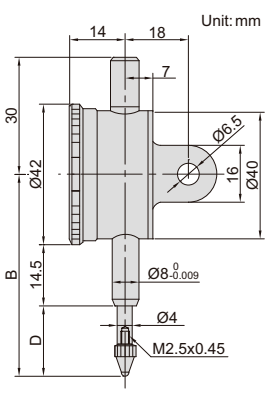
*Supplied with manufacturer inspection certificate traceable to NIST USA

# COMPACT DIAL INDICATOR

MANUFACTURER INSPECTION CERTIFICATE TRACEABLE TO NIST

JEWELED BEARING

2311-5F




- Jeweled bearing
- Supplied with limit pointers
- Optional accessory: backs (page 135), contact points (page 131~134)

(mm)

| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading | Remark | B | D |
|---|---|---|---|---|---|---|---|---|---|
| **2311-3F*** | 3mm | 0.01mm | 14μm | 3μm | 0.5mm | 0-50 | flat back | 46 | 10.5 |
| **2311-5F*** | 5mm | 0.01mm | 16μm | 3μm | 0.5mm | 0-50 | flat back | 48 | 12.5 |
| **2311-3*** | 3mm | 0.01mm | 14μm | 3μm | 0.5mm | 0-50 | lug back | 46 | 10.5 |
| **2311-5*** | 5mm | 0.01mm | 16μm | 3μm | 0.5mm | 0-50 | lug back | 48 | 12.5 |

*Supplied with manufacturer inspection certificate traceable to NIST USA

# DIAL INDICATOR

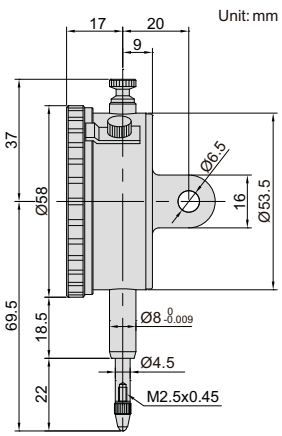
carton box

2301-10

ATTENTION:
PROMOTION MODEL

MANUFACTURER INSPECTION CERTIFICATE TRACEABLE TO NIST

- Jeweled bearing
- Supplied with limit hands and bezel clamp
- Packed in carton box
- Optional accessory: backs (page 135), contact points (page 131~134)




| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading | Remark |
|---|---|---|---|---|---|---|---|
| **2301-10*** | 10mm | 0.01mm | 17μm | 3μm | 1mm | 0-100 | lug back |
| **2301-10F*** | 10mm | 0.01mm | 17μm | 3μm | 1mm | 0-100 | flat back |

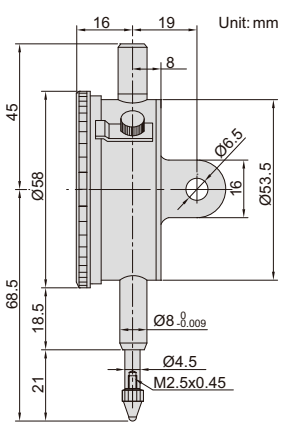
*Supplied with manufacturer inspection certificate traceable to NIST USA

# DIAL INDICATOR

MANUFACTURER INSPECTION CERTIFICATE TRACEABLE TO NIST

JEWELED BEARING

2308-10FA




- Jeweled bearing
- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 135), contact points (page 131~134)

| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading | Remark |
|---|---|---|---|---|---|---|---|
| **2308-3FA*** | 3mm | 0.01mm | 14μm | 3μm | 1mm | 0-100 | flat back |
| **2308-5FA*** | 5mm | 0.01mm | 16μm | 3μm | 1mm | 0-100 | flat back |
| **2308-10FA*** | 10mm | 0.01mm | 17μm | 3μm | 1mm | 0-100 | flat back |
| **2308-3A*** | 3mm | 0.01mm | 14μm | 3μm | 1mm | 0-100 | lug back |
| **2308-5A*** | 5mm | 0.01mm | 16μm | 3μm | 1mm | 0-100 | lug back |
| **2308-10A*** | 10mm | 0.01mm | 17μm | 3μm | 1mm | 0-100 | lug back |

*Supplied with manufacturer inspection certificate traceable to NIST USA

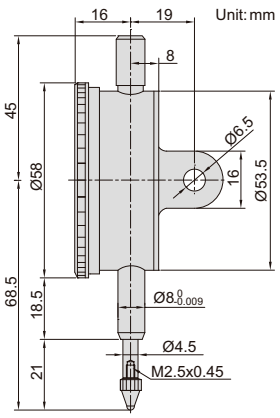
# SHOCKPROOF DIAL INDICATOR

MANUFACTURER INSPECTION CERTIFICATE TRACEABLE TO NIST

SHOCK PROOF

JEWELED BEARING

**2314-10FA**




- Shockproof
- Jeweled bearing
- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 135), contact points (page 131~134)

| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading | Remark |
|---|---|---|---|---|---|---|---|
| **2314-3FA*** | 3mm | 0.01mm | 14μm | 3μm | 1mm | 0-100 | flat back |
| **2314-5FA*** | 5mm | 0.01mm | 16μm | 3μm | 1mm | 0-100 | flat back |
| **2314-10FA*** | 10mm | 0.01mm | 20μm | 3μm | 1mm | 0-100 | flat back |
| **2314-3A*** | 3mm | 0.01mm | 14μm | 3μm | 1mm | 0-100 | lug back |
| **2314-5A*** | 5mm | 0.01mm | 16μm | 3μm | 1mm | 0-100 | lug back |
| **2314-10A*** | 10mm | 0.01mm | 20μm | 3μm | 1mm | 0-100 | lug back |

*Supplied with manufacturer inspection certificate traceable to NIST USA

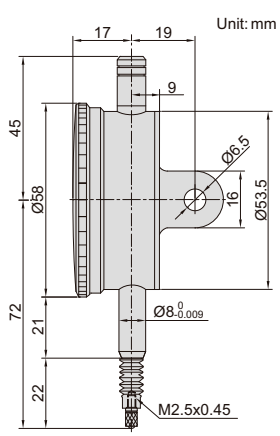
# WATERPROOF DIAL INDICATOR

MANUFACTURER INSPECTION CERTIFICATE TRACEABLE TO NIST

IP54 WATERPROOF

JEWELED BEARING

**2324-10F**




- IP54 dust/waterproof
- Jeweled bearing

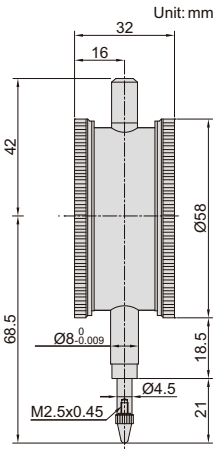
| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading | Remark |
|---|---|---|---|---|---|---|---|
| **2324-10F*** | 10mm | 0.01mm | 17μm | 3μm | 1mm | 0-100 | flat back |
| **2324-10*** | 10mm | 0.01mm | 17μm | 3μm | 1mm | 0-100 | lug back |

*Supplied with manufacturer inspection certificate traceable to NIST USA

# DOUBLE FACE DIAL INDICATOR

front back

**2328-10**



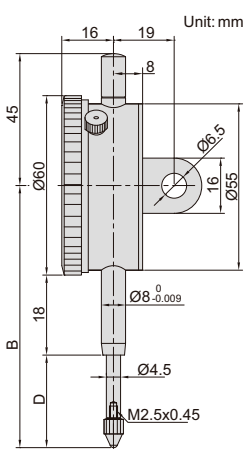

- Read from both sides
- Jeweled bearing
- Supplied with limit pointers
- Optional accessory: contact points (page 131~134)

| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading |
|---|---|---|---|---|---|---|
| **2328-10*** | 10mm | 0.01mm | 17μm | 3μm | 1mm | 0-100 |

*Supplied with manufacturer inspection certificate traceable to NIST USA

# DIAL INDICATOR

**2318-30F**




- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 135), contact points (page 131~134)

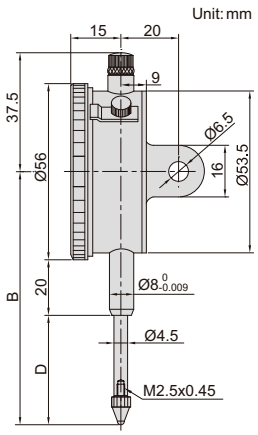
**(mm)**

| 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 INDICATOR

MANUFACTURER INSPECTION CERTIFICATE TRACEABLE TO NIST

2310-30FA




- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 135), contact points (page 131~134)

| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading | Remark | B | D |
|---|---|---|---|---|---|---|---|---|---|
| **2310-20FA*** | 20mm | 0.01mm | 25μm | 5μm | 1mm | 0-100 | flat back | 83mm | 35mm |
| **2310-30FA*** | 30mm | 0.01mm | 35μm | 7μm | 1mm | 0-100 | flat back | 88mm | 40mm |
| **2310-20A*** | 20mm | 0.01mm | 25μm | 5μm | 1mm | 0-100 | lug back | 83mm | 35mm |
| **2310-30A*** | 30mm | 0.01mm | 35μm | 7μm | 1mm | 0-100 | lug back | 88mm | 40mm |

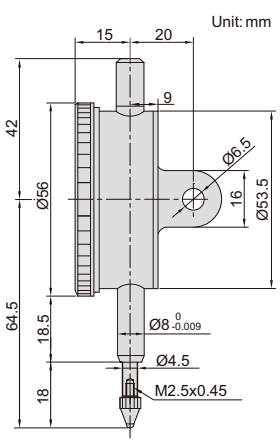
*Supplied with manufacturer inspection certificate traceable to NIST USA

# ONE REVOLUTION DIAL INDICATOR

SHOCK PROOF

MANUFACTURER INSPECTION CERTIFICATE TRACEABLE TO NIST

2316-05F




- Shock proof
- Optional accessory: backs (page 135), contact points (page 131~134)

| Code | Range | Graduation | Accuracy | Hysteresis | Dial reading | Remark |
|---|---|---|---|---|---|---|
| **2316-05F*** | 0.5mm | 0.01mm | 9μm | 3μm | 25-0-25 | flat back |
| **2316-1F*** | 1mm | 0.01mm | 9μm | 3μm | 50-0-50 | flat back |
| **2316-05*** | 0.5mm | 0.01mm | 9μm | 3μm | 25-0-25 | lug back |
| **2316-1*** | 1mm | 0.01mm | 9μm | 3μm | 50-0-50 | lug back |

*Supplied with manufacturer inspection certificate traceable to NIST USA

JEWELED BEARING

SHOCK PROOF

# DIAL INDICATOR

MANUFACTURER INSPECTION CERTIFICATE TRACEABLE TO NIST

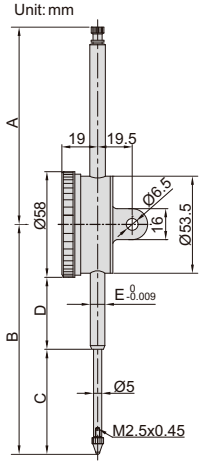
**2309-50**

- Shockproof
- Jeweled bearing
- Supplied with limit pointers
- Optional accessory: backs (page 135), contact points (page 131~134)

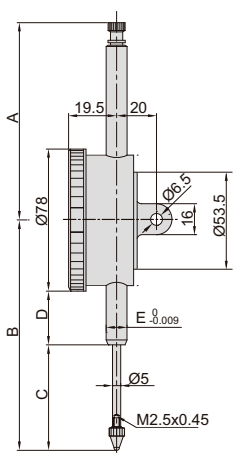
back of type B

stem clamp Ø10mm for 2309-100D

Unit: mm




type A




type B

(mm)

| Code | Type | A | B | C | D | E |
|---|---|---|---|---|---|---|
| 2309-30 | A | 37.5 | 89.5 | 40.9 | 19.5 | Ø8 |
| 2309-30F | 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 |

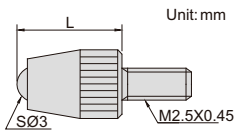
| Code | Range | Graduation | Type | Accuracy | Hysteresis | Range/rev | Dial reading | Remark |
|---|---|---|---|---|---|---|---|---|
| 2309-30F* | 30mm | 0.01mm | A | 35μm | 7μm | 1mm | 0-100 | flat back |
| 2309-30* | 30mm | 0.01mm | A | 35μm | 7μm | 1mm | 0-100 | lug back |
| 2309-50* | 50mm | 0.01mm | 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 135)

*Supplied with manufacturer inspection certificate traceable to NIST USA

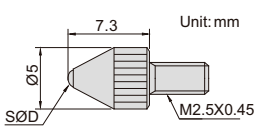
## BALL POINT

**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 |
| **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 |

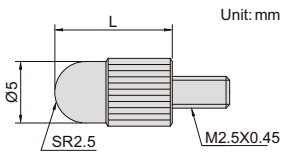
**6282-0303**




| 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 POINT

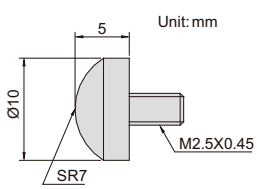
**6282-0202**




| Code | Material of measuring face | L (mm) |
|---|---|---|
| **6282-0202** | steel | 5 |
| **6282-0203** | steel | 10 |
| **6282-0205** | steel | 15 |
| **6282-0207** | steel | 20 |
| **6282-0208** | steel | 25 |
| **6282-0210** | steel | 30 |

## SPHERICAL POINT

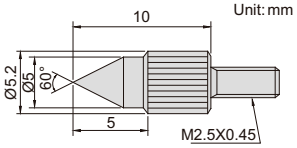
**6282-0401**



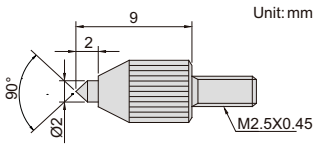

| Code | Material of measuring face |
|---|---|
| **6282-0401** | steel |

## CONICAL POINT

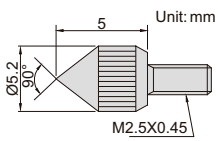
**6282-0601**



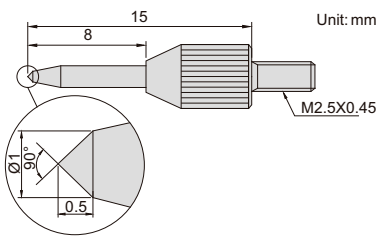
**6282-0801**

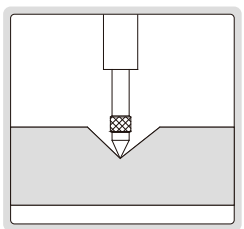


**6282-0701**



**6282-0901**

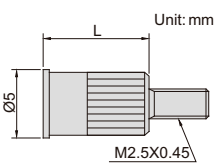


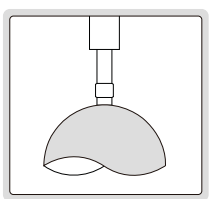



| Code | Material of measuring face |
|---|---|
| 6282-0601 | steel |
| 6282-0701 | steel |
| 6282-0801 | steel |
| 6282-0901 | steel |

## FLAT POINT

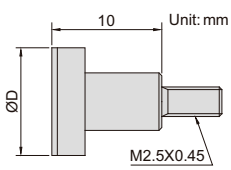
**6282-1101**



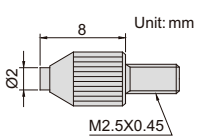
| Code | Material of measuring face | L (mm) |
|---|---|---|
| 6282-1101 | steel | 8 |
| 6282-1102 | steel | 10 |

**6282-1201**




| Code | Material of measuring face | ØD (mm) |
|---|---|---|
| 6282-1201 | steel | 10 |
| 6282-1202 | steel | 15 |
| 6282-1203 | steel | 20 |
| 6282-1204 | steel | 25 |
| 6282-1205 | steel | 30 |

**6282-1301**




| Code | Material of measuring face |
|---|---|
| 6282-1301 | carbide |

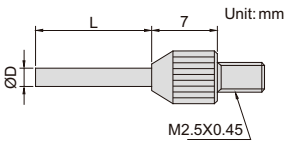
## NEEDLE POINT

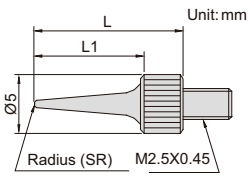
(mm)

| 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 |
| 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 |

6282-1711

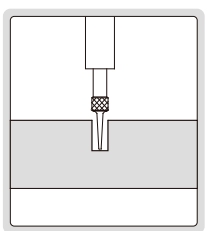
6282-1601



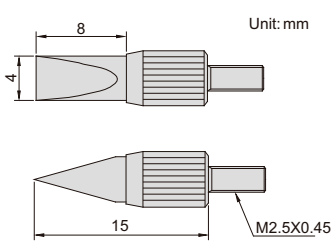

(mm)

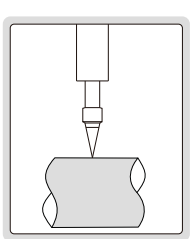
| Code | Material of measuring face | L1 | L | SR |
|---|---|---|---|---|
| 6282-1601 | steel | 11 | 15 | 0.4 |
| 6282-1602 | steel | 13 | 17 | 0.2 |
| 6282-1603 | steel | 21 | 25 | 0.4 |
| 6282-1604 | steel | 31 | 35 | 0.4 |



## KNIFE EDGE POINT

6282-1001

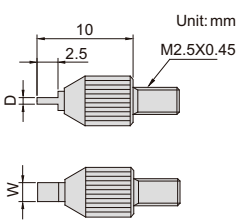


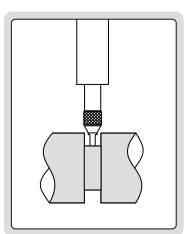



| Code | Material of measuring face |
|---|---|
| 6282-1001 | steel |

## BLADE POINT

6282-1801



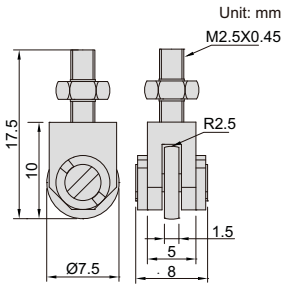



(mm)

| Code | Material of measuring face | D | W |
|---|---|---|---|
| 6282-1801 | steel | 0.4 | 2 |
| 6282-1802 | steel | 0.6 | 2 |
| 6282-1803 | steel | 1 | 4 |

## ROLLER POINT

6282-1901




| Code | Material of measuring face |
|---|---|
| 6282-1901 | steel |

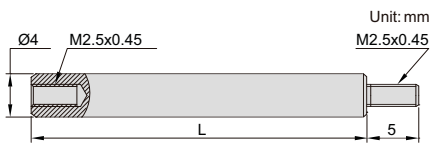
## EXTENSION ROD

(mm)

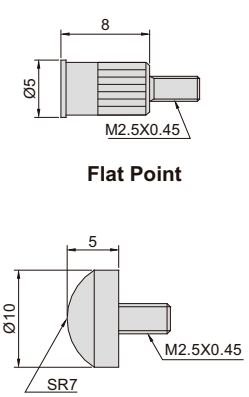
| Code | Material | L |
|---|---|---|
| 6282-2001 | steel | 10 |
| 6282-2002 | steel | 15 |
| 6282-2003 | steel | 20 |
| 6282-2004 | steel | 25 |
| 6282-2005 | steel | 30 |
| 6282-2006 | steel | 35 |
| 6282-2007 | steel | 40 |
| 6282-2008 | steel | 45 |
| 6282-2009 | steel | 50 |

| Code | Material | L |
|---|---|---|
| 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 |
| | | |

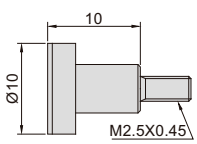
6282-2010



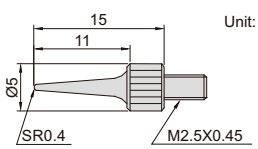

## POINT SET




Flat Point



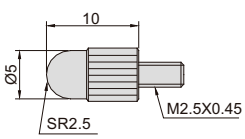

Flat Point



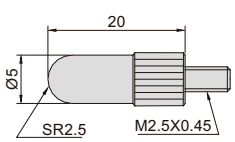

Needle Point




Spherical Point




Shell Type Point




Shell Type Point

6282-S6

| Code | Material of measuring face |
|---|---|
| 6282-S6 | steel |

## SPINDLE LIFT KNOB

| Code |
|---|
| 7332 |

7332

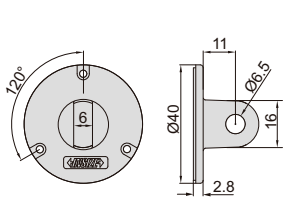
- For dial/digital indicators with spindle diameter Ø4.5mm or Ø5mm

## LUG BACK

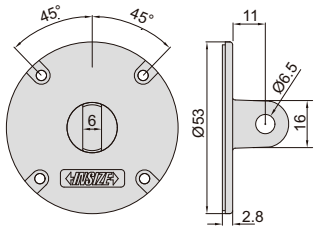
| Code | For digital/dial indicators | Page |
|---|---|---|
| **7330-L1** | 2311 | 125 |
| **7330-L2** | 2301 | 126 |
| | 2308 | 126 |
| | 2309 (except 2309-30, 2309-30F) | 130 |
| | 2313 | 125 |
| | 2314 | 127 |
| | 2316 | 129 |
| **7330-L5** | 2103 | 120 |
| | 2104 | 120 |
| | 2108 | 123 |
| | 2112 | 119 |
| | 2113 | 123 |
| | 2115 | 122 |
| | 2116 | 121 |
| | 2117 | 124 |
| **7330-L6** | 2318 | 128 |
| **7330-L10** | 2310 | 129 |

**7330-L2**

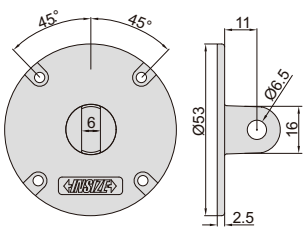
Unit: mm



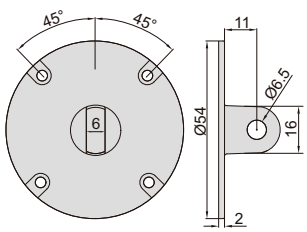

7330-L1




7330-L2 and 7330-L10




7330-L5



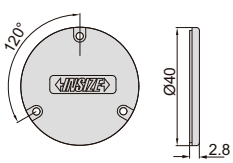

7330-L6

## FLAT BACK

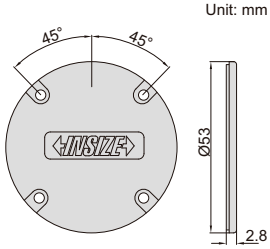
| Code | For digital/dial indicators | Page |
|---|---|---|
| **7330-F1** | 2311 | 125 |
| **7330-F2** | 2301 | 126 |
| | 2308 | 126 |
| | 2309 (except 2309-30, 2309-30F) | 130 |
| | 2313 | 125 |
| | 2314 | 127 |
| | 2316 | 129 |
| **7330-F5** | 2103 | 120 |
| | 2104 | 120 |
| | 2108 | 123 |
| | 2112 | 119 |
| | 2113 | 123 |
| | 2115 | 122 |
| | 2116 | 121 |
| | 2117 | 124 |
| **7330-F6** | 2318 | 128 |
| **7330-F10** | 2310 | 129 |

**7330-F2**

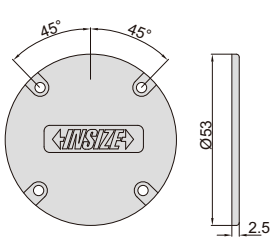
Unit: mm



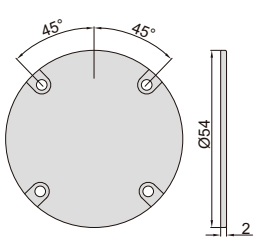

7330-F1




7330-F2 and 7330-F10




7330-F5



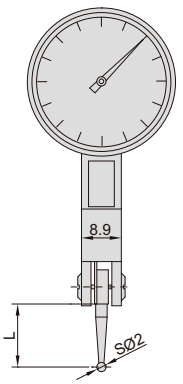

7330-F6

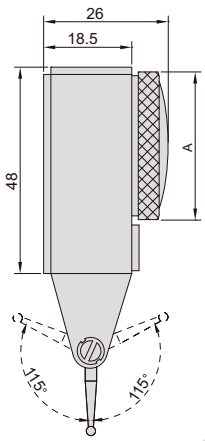
# DIAL TEST INDICATOR

MANUFACTURER INSPECTION CERTIFICATE TRACEABLE TO NIST

2380-08

Unit: mm

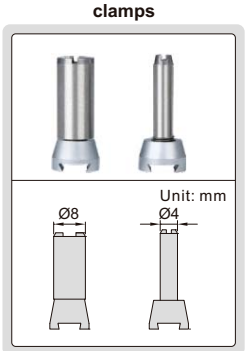



JEWELED BEARING

- Jeweled bearing
- Carbide contact point
- Two measuring directions
- Anti magnetic body
- Supplied with two clamps: diameter Ø4mm and Ø8mm
- Optional accessory: styli (page 138)

clamps




(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 | Ø37.5 | 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 | Ø37.5 | 12.5 |

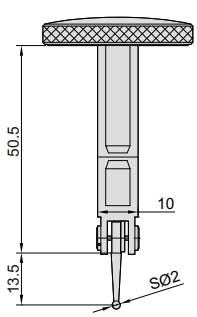
*Supplied with manufacturer inspection certificate traceable to NIST USA

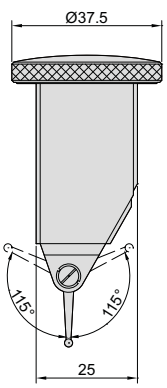
# BACK PLUNGER TYPE DIAL TEST INDICATOR

MANUFACTURER INSPECTION CERTIFICATE TRACEABLE TO NIST

2398-08

Unit: mm

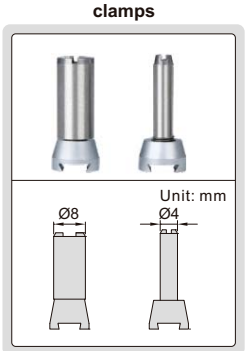



JEWELED BEARING

- Jeweled bearing
- Carbide contact point
- Two measuring directions
- Anti magnetic body
- Supplied with two clamps: diameter Ø4mm and Ø8mm
- Optional accessory: styli (page 138)

clamps

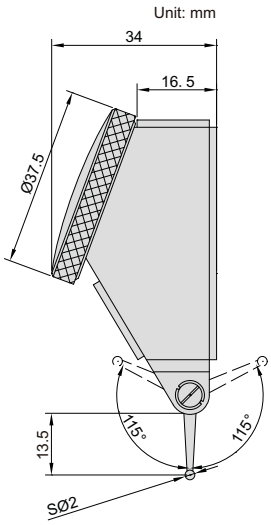



| Code | Range | Graduation | Accuracy | Hysteresis | Dial Reading |
|---|---|---|---|---|---|
| **2398-08*** | 0.8mm | 0.01mm | 13µm | 3µm | 0-40-0 |

*Supplied with manufacturer inspection certificate traceable to NIST USA

# DIAL TEST INDICATOR

2399-08

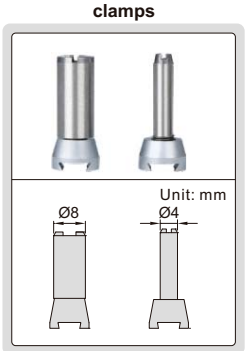



MANUFACTURER INSPECTION CERTIFICATE TRACEABLE TO NIST

JEWELED BEARING

- Jeweled bearing
- Carbide contact point
- Two measuring directions
- Anti magnetic body
- Supplied with two clamps: diameter Ø4mm and Ø8mm
- Optional accessory: styli (page 138)

clamps




| Code | Range | Graduation | Accuracy | Hysteresis | Dial Reading |
|---|---|---|---|---|---|
| **2399-08*** | 0.8mm | 0.01mm | 13µm | 3µm | 0-40-0 |

*Supplied with manufacturer inspection certificate traceable to NIST USA

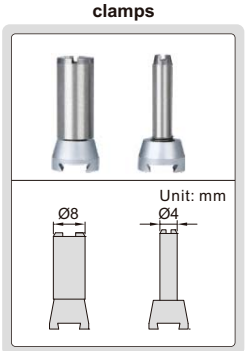
# LARGE RANGE DIAL TEST INDICATOR

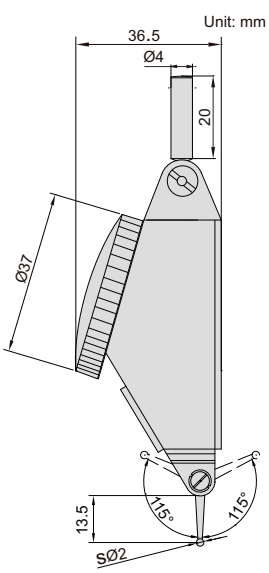
JEWELED BEARING

MANUFACTURER INSPECTION CERTIFICATE TRACEABLE TO NIST

2386-16A

clamps




- Jeweled bearing
- Carbide contact point
- Two measuring directions
- Anti magnetic body
- Supplied with two clamps: diameter Ø4mm and Ø8mm
- Optional accessory: styli (page 138)

| Code | Range | Graduation | Accuracy | Hysteresis | Dial reading |
|---|---|---|---|---|---|
| **2386-16A*** | 1.6mm | 0.01mm | 25µm | 8µm | 0-40-0 |

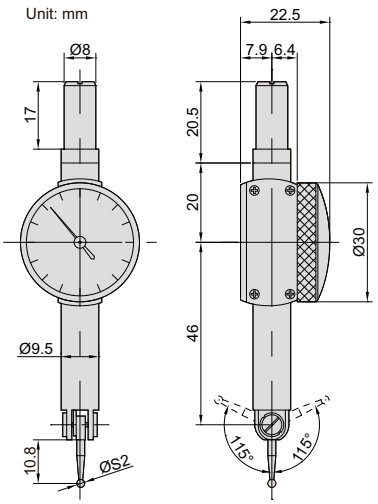
*Supplied with manufacturer inspection certificate traceable to NIST USA

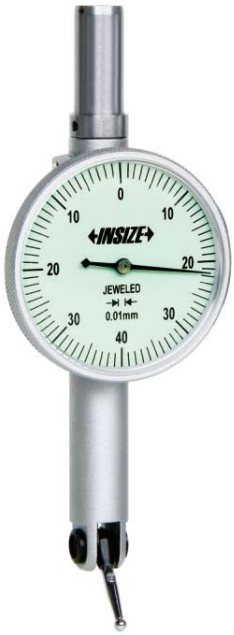
# ROUND BODY DIAL TEST INDICATOR

MANUFACTURER INSPECTION CERTIFICATE TRACEABLE TO NIST

JEWELED BEARING

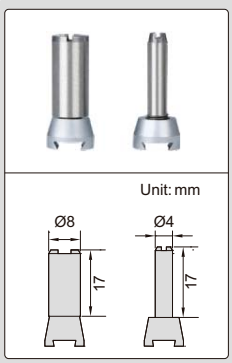
- Jeweled bearing
- Carbide contact point
- Adjustable two measuring directions
- Anti magnetic body
- Supplied with two clamps: diameter Ø4mm and Ø8mm
- Optional accessory: styli (page 138)




2391-08

clamps




| Code | Range | Graduation | Accuracy | Hysteresis | Dial reading |
|---|---|---|---|---|---|
| **2391-08** * | 0.8mm | 0.01mm | 13µm | 3µm | 0-40-0 |

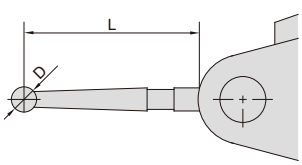
*Supplied with manufacturer inspection certificate traceable to NIST USA

# STYLI FOR DIAL TEST INDICATORS

(mm)

| Code | For dial test indicator | Material of contact point | L | D |
|---|---|---|---|---|
| **6284-1** | 2380-08, 2398-08 2381-08, 2399-08 | steel | 13.5 | SØ1 |
| **6284-3** | | carbide | 13.5 | SØ2 |
| **6284-4** | | ruby | 13.5 | SØ2 |
| **6284-8** | | carbide | 13.5 | SØ3 |
| **6284-21** | 2380-02 2381-02 | steel | 12.5 | SØ1 |
| **6284-22** | | carbide | 12.5 | SØ2 |
| **6284-23** | | carbide | 12.5 | SØ3 |
| **6284-44** | 2880-02 2880-02R 2895-08 2897-02 2898-08 | carbide | 11.7 | SØ0.4 |
| **6284-41** | | carbide | 11.7 | SØ1 |
| **6284-42** | | carbide | 11.7 | SØ2 |
| **6284-45** | | ruby | 11.7 | SØ2 |
| **6284-43** | | carbide | 11.7 | SØ3 |
| **6284-51** | 2896-05 2899-05 | carbide | 34.6 | SØ1 |
| **6284-52** | | carbide | 34.6 | SØ2 |
| **6284-55** | | ruby | 34.6 | SØ2 |
| **6284-53** | | carbide | 34.6 | SØ3 |
| **6284-71** | 2391-08 | carbide | 10.8 | SØ2 |

**6284-3**

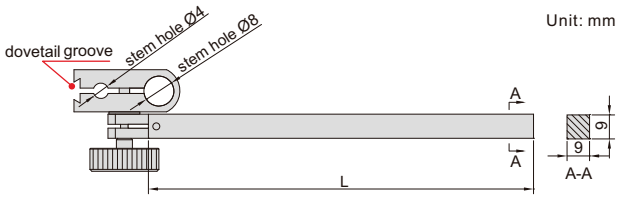


# DIAL TEST INDICATOR HOLDER

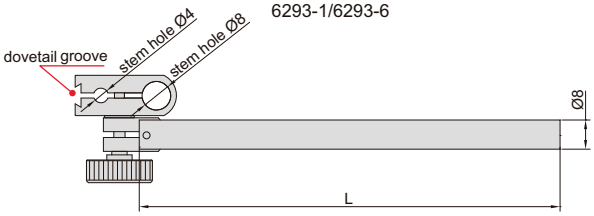
6293-1

6293-2

Unit: mm




6293-1/6293-6




6293-2

| Code | Stem section | Stem length (L) |
|---|---|---|
| 6293-1 | 9x9mm | 100mm |
| 6293-6 | 9x9mm | 50mm |
| 6293-2 | Ø8mm | 115mm |

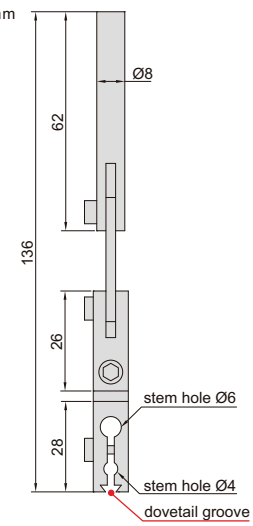
# DIAL TEST INDICATOR HOLDER

6296-1

- Supplied with fixing spanner

| Code |
|---|
| 6296-1 |

Unit: mm



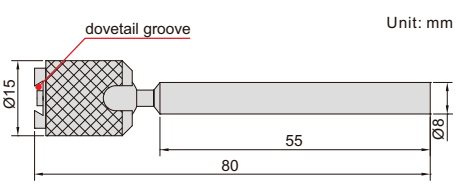
# DIAL TEST INDICATOR UNIVERSAL HOLDER

6297-1

| Code |
|---|
| 6297-1 |

- Set the indicators at the desired attitude to the workpiece

Unit: mm

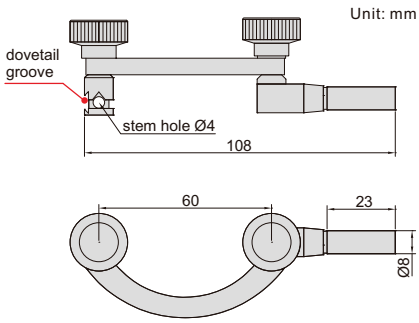


## DIAL TEST INDICATOR CENTERING HOLDER

6291-1

| Code |
| --- |
| 6291-1 |

- Center cylinders or holes on machine tools

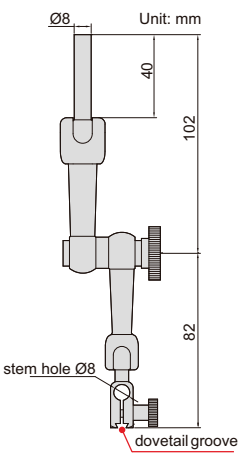



## DIAL TEST INDICATOR CENTERING HOLDER

- Center cylinders or holes on machine tools
- Can be used with dial test indicators

| Code |
| --- |
| 6295-1A |

6295-1A

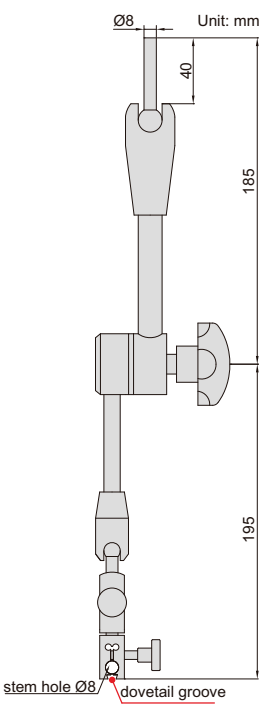



## INDICATOR CENTERING HOLDER

| Code |
| --- |
| 6294-1A |

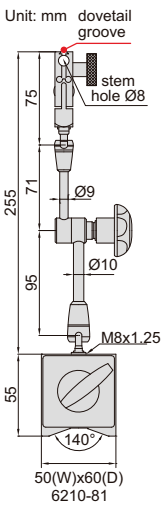
- Center cylinders or holes on machine tools
- Can be used with dial test indicators or dial indicators

6294-1A

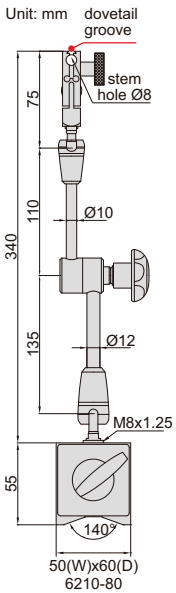


# UNIVERSAL MAGNETIC STAND

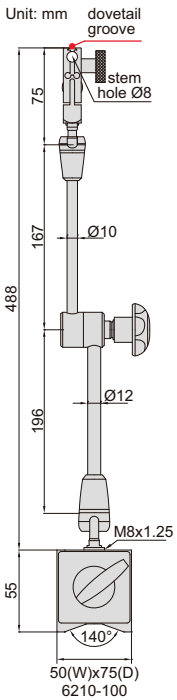
6210-81



6210-80



6210-100



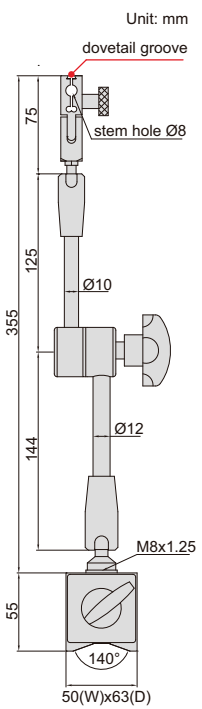

- For digital/dial indicators and dial test indicators

| 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 |

# UNIVERSAL MAGNETIC STAND

**ATTENTION: LOW LOCKING FORCE**

6208-80A




- 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

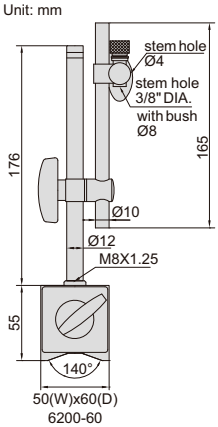
6200-60

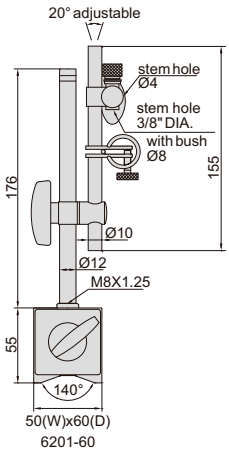
6201-60

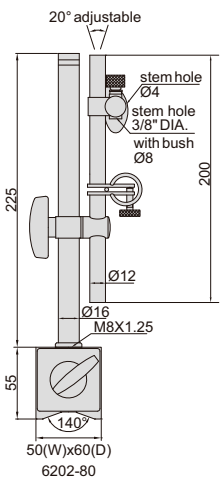
6202-80

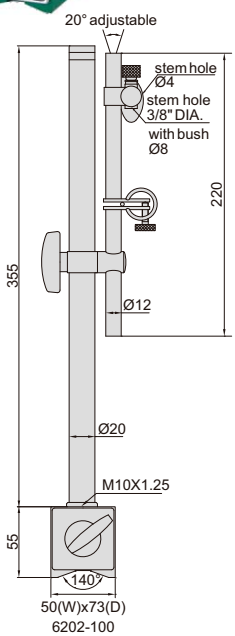
6202-100

Unit: mm



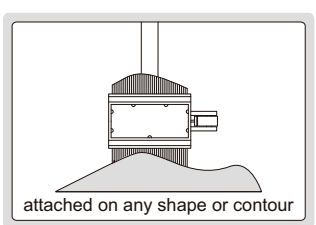




| Code | Magnetic force | Applicable holding stem | Remark |
|---|---|---|---|
| **6200-60** | 60kgf | Ø8mm, Ø4mm, 3/8" DIA. | without fine adjustment |
| **6201-60** | 60kgf | Ø8mm, Ø4mm, 3/8" DIA. | with fine adjustment |
| **6202-80** | 80kgf | Ø8mm, Ø4mm, 3/8" DIA. | with fine adjustment |
| **6202-100** | 100kgf | Ø8mm, Ø4mm, 3/8" DIA. | with fine adjustment |

- For digital/dial indicators and dial test indicators

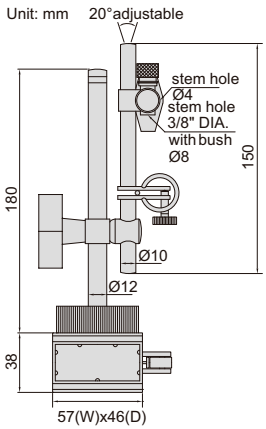
# MAGNETIC STAND FOR UNEVEN SURFACE




- For digital/dial indicators and dial test indicators
- With fine adjustment

| Code | Magnetic force | Applicable holding stem |
|---|---|---|
| **6215-60** | 60kgf | Ø8mm, Ø4mm, 3/8" DIA. |

Unit: mm

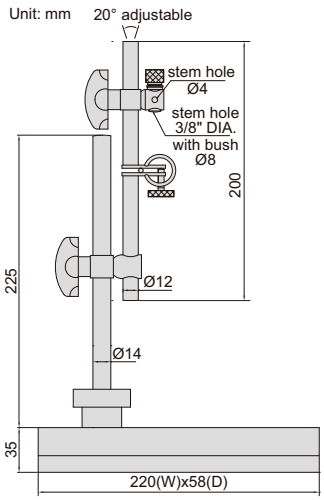


6215-60

## UNIVERSAL STAND

- For digital/dial indicators and dial test indicators
- With fine adjustment

| Code | Applicable holding stem |
|---|---|
| 6214-A | Ø8mm, Ø4mm, 3/8" DIA. |

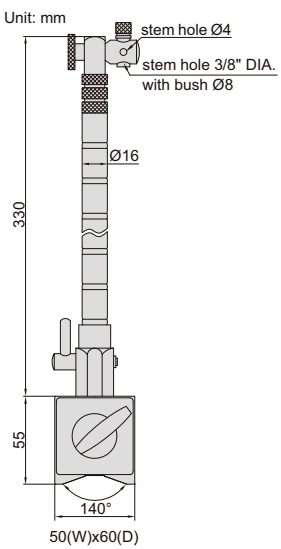


6214-A

## FLEX ARM MAGNETIC STAND

- For dial test indicators

| Code | Magnetic force | Applicable holding stem |
|---|---|---|
| 6207-80A | 80kgf | Ø8mm, Ø4mm, 3/8" DIA. |

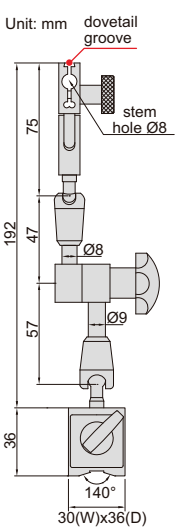


6207-80A

## MINI MAGNETIC STAND

- For dial test indicators
- With fine adjustment and dovetail groove

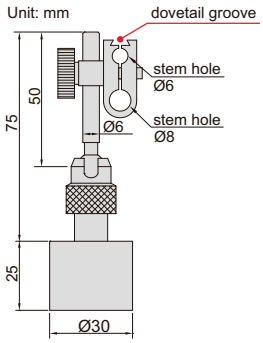
| Code | Magnetic force | Applicable holding stem |
|---|---|---|
| 6224-40 | 40kgf | Ø8mm |



6224-40

## MINI MAGNETIC STAND

6211-10

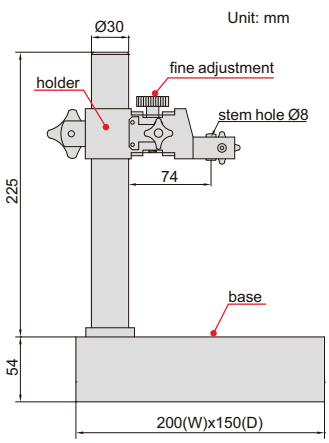



- For dial test indicators
- With dovetail groove

| Code | Magnetic force | Applicable holding stem |
|---|---|---|
| 6211-10 | 10kgf | Ø6mm, Ø8mm |

## GRANITE DIAL INDICATOR STAND

6866-150

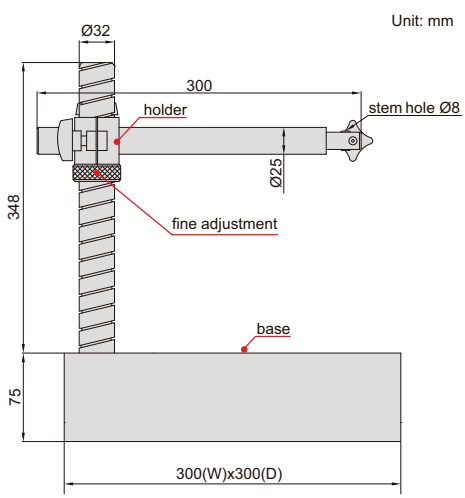



- Vertical travel of holder: 150mm
- Fine adjustment range: 2mm

| Code | Applicable holding stem | Base |
|---|---|---|
| 6866-150 | Ø8mm | flatness 2.5μm |

## GRANITE DIAL INDICATOR STAND

6867-250




- Vertical travel of holder: 250mm
- Fine adjustment range: entire stroke

| Code | Applicable holding stem | Base |
|---|---|---|
| 6867-250 | Ø8mm | flatness 2.8μm |

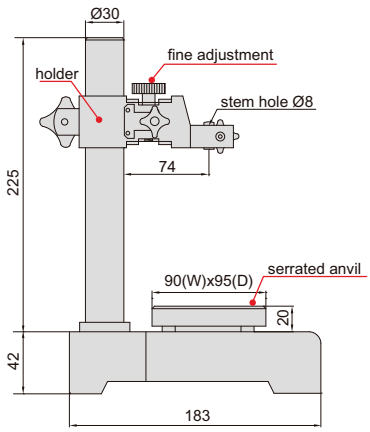
## DIAL INDICATOR STAND

- Vertical travel of holder: 150mm
- Fine adjustment range: 2mm

| Code | Applicable holding stem | Anvil |
|---|---|---|
| **6863-150** | Ø8mm | serrated, flatness 1.5μm, hardness HRC60±2 |

**6863-150**

Unit: mm



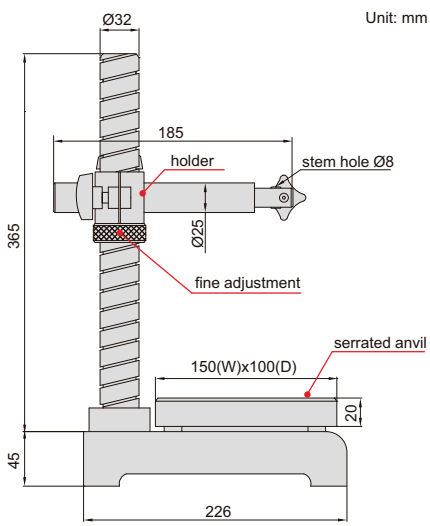

## DIAL INDICATOR STAND

- Vertical travel of holder: 250mm
- Fine adjustment range: entire stroke

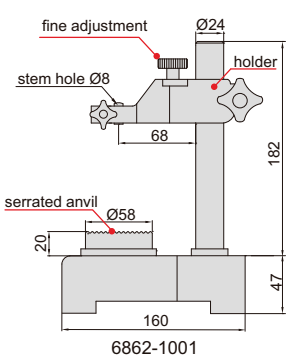
| Code | Applicable holding stem | Anvil |
|---|---|---|
| **6864-250** | Ø8mm | serrated, flatness 1.5μm, hardness HRC60±2 |

**6864-250**

Unit: mm

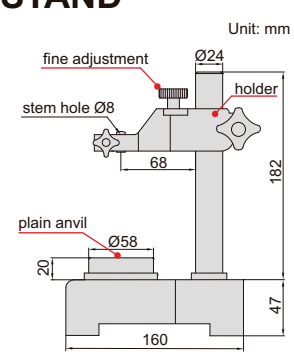



## DIAL INDICATOR STAND




6862-1001

Unit: mm




6862-1002

**6862-1001**

**6862-1002**

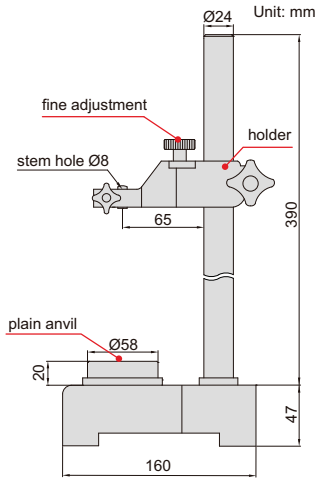
- Vertical travel of holder: 100mm
- Fine adjustment range: 2mm

| Code | Applicable holding stem | Anvil |
|---|---|---|
| **6862-1001** | Ø8mm | serrated, flatness 1.5μm, hardness HRC60±2 |
| **6862-1002** | Ø8mm | plain, flatness 1.5μm, hardness HRC60±2 |

# TRANSFER STAND

- Vertical travel of holder: 335mm
- Fine adjustment range: 2mm

**Application**



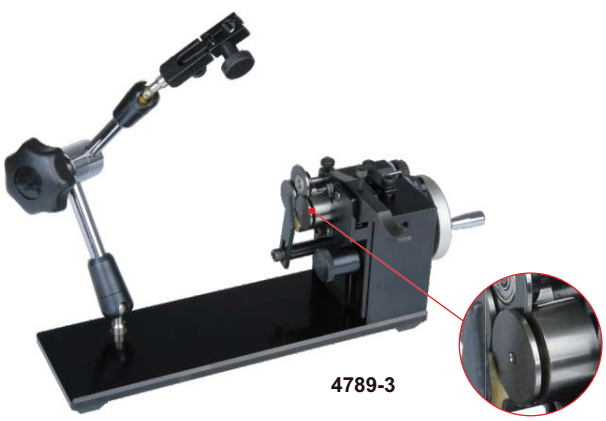
**6865-300**

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)

| Code | Applicable holding stem | Anvil |
|---|---|---|
| **6865-300** | Ø8mm | plain, flatness 1.5μm, hardness HRC60±2 |

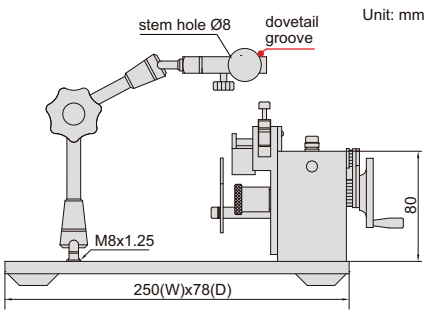
# CONCENTRICITY GAGE

**4789-1**



**4789-3**

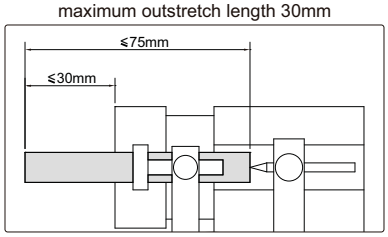
Unit: mm




- Accuracy 2μm
- Optional accessory: dial test indicator, mini magnetic stand (code **6224-40**)

| Code | Applicable diameter |
|---|---|
| **4789-1** | Ø3.5mm - 25mm |
| **4789-3** | Ø1mm - 25mm |

maximum workpiece length 75mm,
maximum outstretch length 30mm

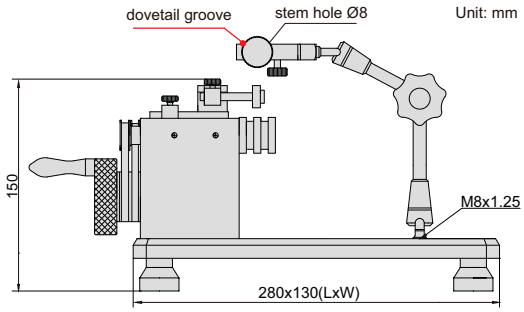


# CONCENTRICITY GAGE

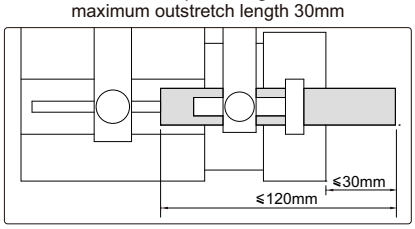
HIGH STABILITY, LONG WORKING LIFE

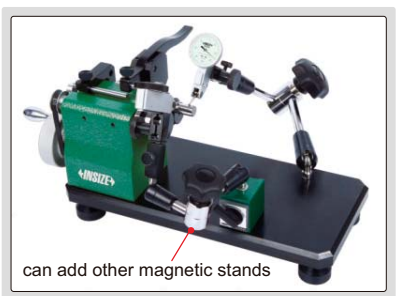
**dial test indicator is not included**

**4725-45**




maximum workpiece length 120mm,
maximum outstretch length 30mm



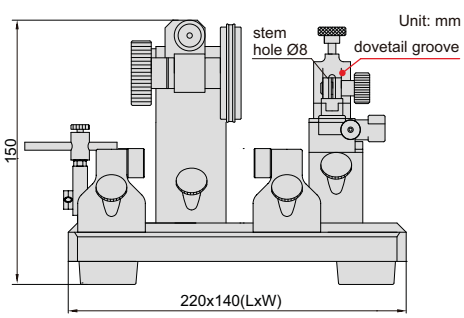




- With ball bearing
- High stability, long working life

| Code | Accuracy | Diameter range | Load |
|---|---|---|---|
| **4725-45** | 2μm | 3-45mm | 6kg |

# CONCENTRICITY GAGE

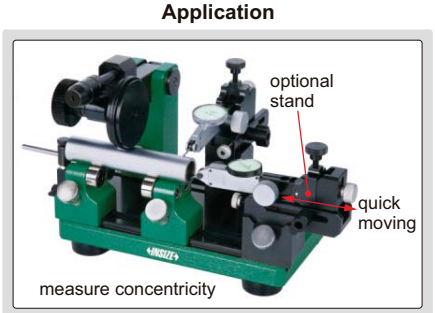
**dial test indicator is not included**



**4724-25**

| Code | Accuracy | Diameter range | Workpiece length | | Load |
|---|---|---|---|---|---|
| | | | Without optional stand | With optional stand | |
| **4724-25** | 3μm | 3-25mm | 0-220mm | 0-120mm | 5kg |

**Application**



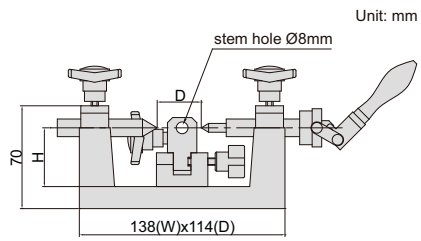

**Stand (optional)**

| Code |
|---|
| **4724-STAND** |

**4724-STAND**

# MINI BENCH CENTER

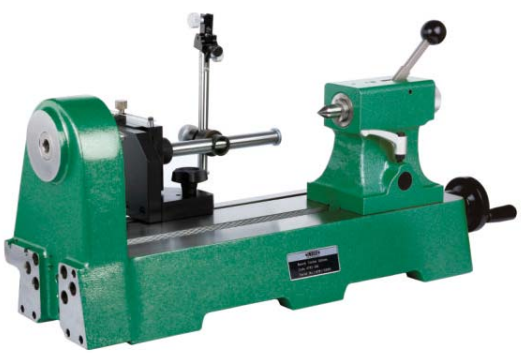
4721-75



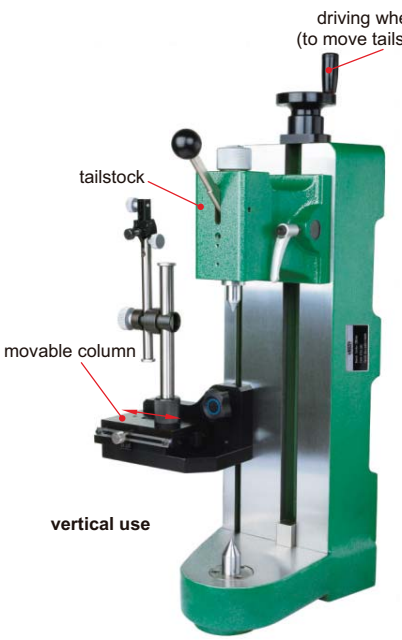

(mm)

| Code | Horizontal parallelism | Vertical parallelism | Center height (H) | Distance between two centers (D) | Taper of center | Weight | Load |
|---|---|---|---|---|---|---|---|
| **4721-75** | 0.003mm | 0.003mm | 40 | 75 | MT1 | 3.7kgs | 4kg |

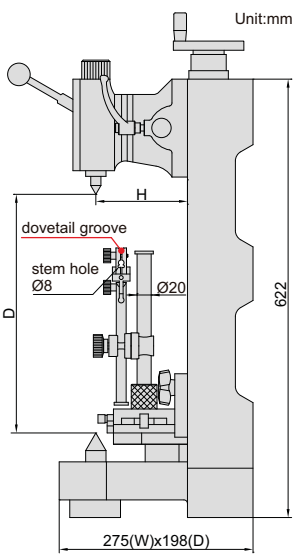
# VERTICAL AND HORIZONTAL BENCH CENTER



horizontal use




vertical use




4783-380

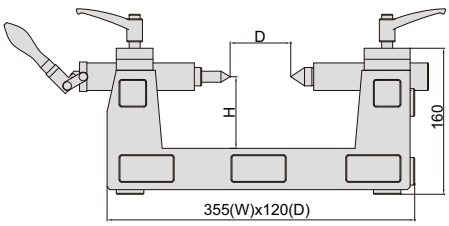
- For vertical and horizontal use
- Move tailstock via driving wheel

(mm)

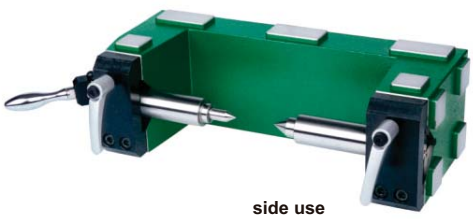
| Code | Horizontal parallelism | Vertical parallelism | Center height (H) | Distance between two centers(D) | Taper of upper center | Taper of lower center | Weight | Load |
|---|---|---|---|---|---|---|---|---|
| **4783-380** | 0.01mm | 0.01mm | 130 | 380 | MT2 | MT3 | 80kg | 60kg |

# VERTICAL AND HORIZONTAL BENCH CENTER

Unit: mm



horizontal use



side use

vertical use

- For vertical, side and horizontal use

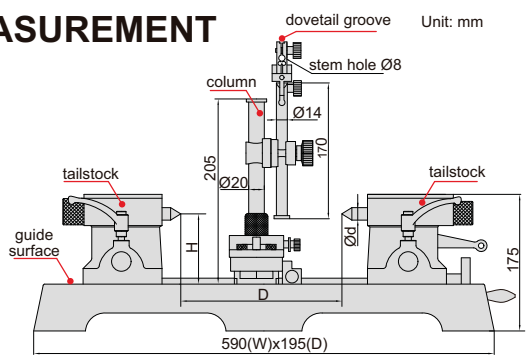
**4722-200**

(mm)

| Code | Horizontal parallelism | Vertical parallelism | Center height (H) | Distance between two centers (D) | Taper of center | Weight | Load |
|---|---|---|---|---|---|---|---|
| **4722-200** | 0.004mm | 0.005mm | 80 | 200 | MT1/MT3 | 22kg | 25kg |

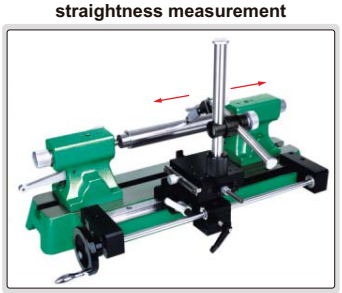
# BENCH CENTER WITH STRAIGHTNESS MEASUREMENT

Unit: mm



**4723-300**

straightness measurement

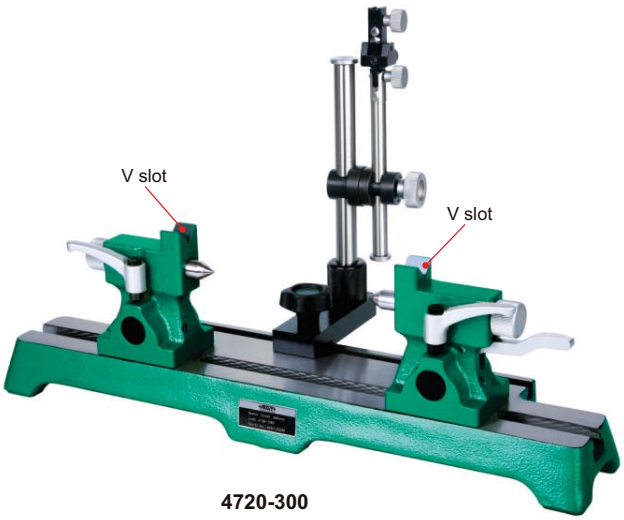


- Hardened cast-iron guide surface

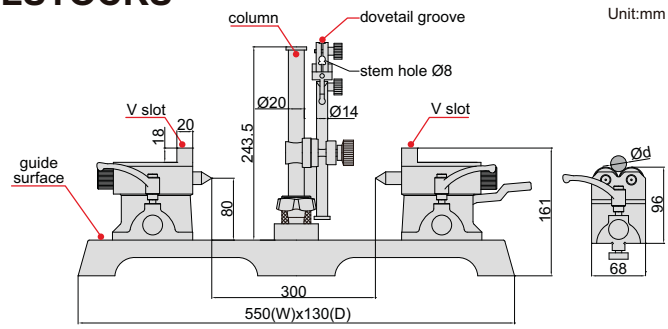
(mm)

| Code | Horizontal parallelism | Vertical parallelism | Accuracy of straightness measurement | Center height(H) | Distance between two centers(D) | Diameter of center(Ød) | Taper of center | Weight | Load |
|---|---|---|---|---|---|---|---|---|---|
| **4723-300** | 0.004mm | 0.006mm | 0.01mm | 90 | 300 | 12.3 | MT1 | 38kg | 25kg |

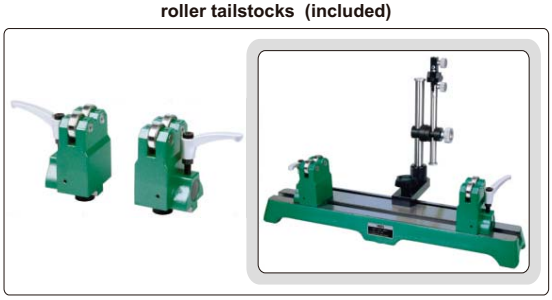
# BENCH CENTER WITH ROLLER TAILSTOCKS




**4720-300**




**roller tailstocks (included)**

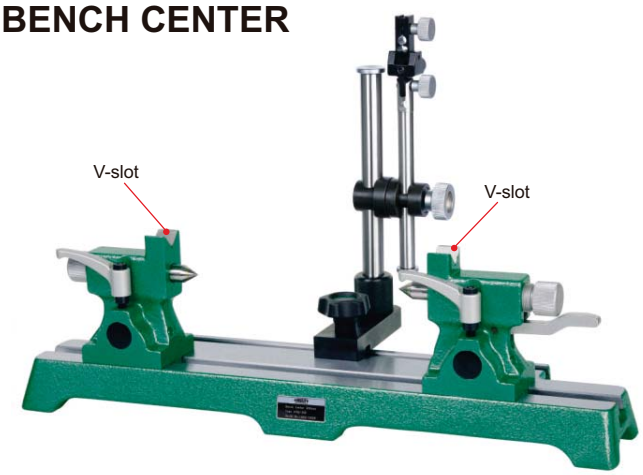


- Hardened cast-iron guide surface
- Supplied with V slot/center tailstocks and roller tailstocks
- V slot for cylinder Ø4 ~ Ø22mm
- Roller for cylinder Ø5 ~ Ø100mm

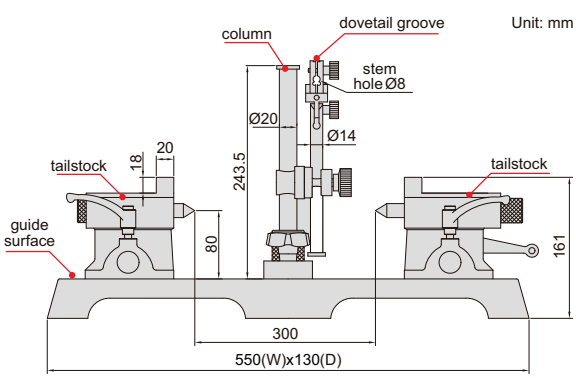
**(mm)**

| Code | Horizontal parallelism | Vertical parallelism | Center height | Distance between two centers | Taper of center | Load |
|---|---|---|---|---|---|---|
| **4720-300** | 0.01mm | 0.015mm | 80 | 300 | MT1 | 25kg (40kg for roller tailstocks) |

# BENCH CENTER




**4782-300**




- Hardened cast-iron guide surface
- Movable column
- V slot for cylinder Ø4 ~ Ø22mm

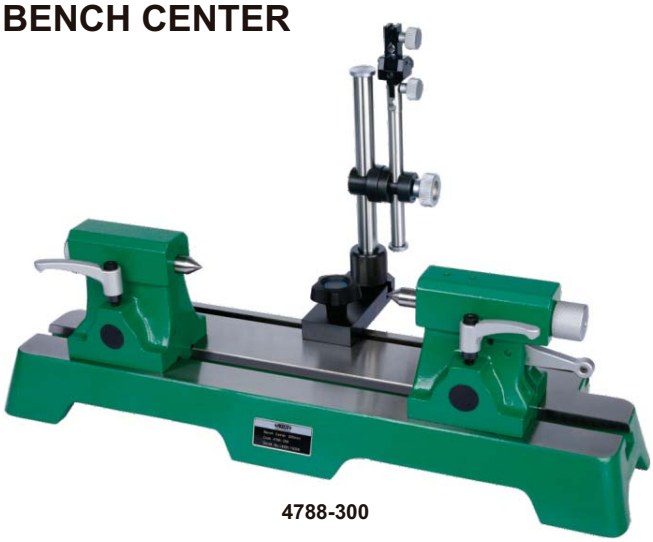
**(mm)**

| Code | Horizontal parallelism | Vertical parallelism | Center height | Distance between two centers | Taper of center | Load |
|---|---|---|---|---|---|---|
| **4782-300** | 0.01mm | 0.015mm | 80 | 300 | MT1 | 25kg |

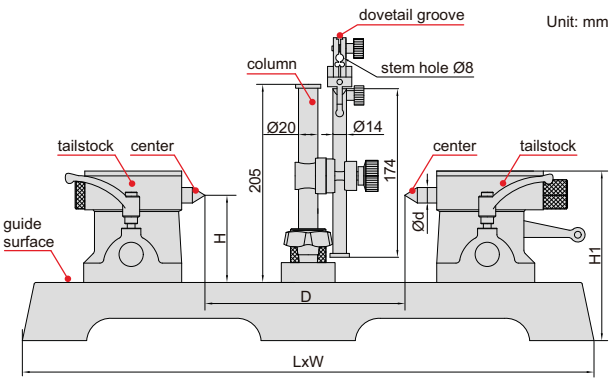
# BENCH CENTER

HIGH PRECISION

HEAVY DUTY



4788-300

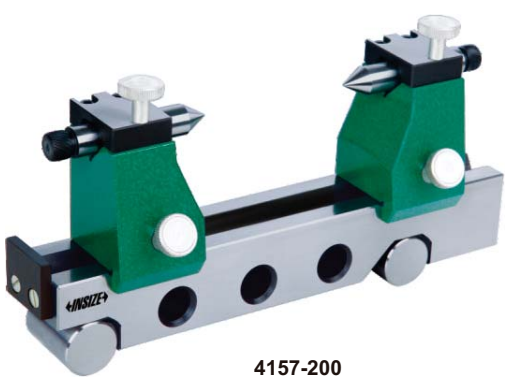



- Hardened cast-iron guide surface
- Movable column

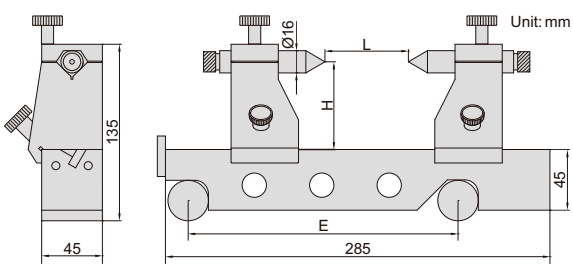
(mm)

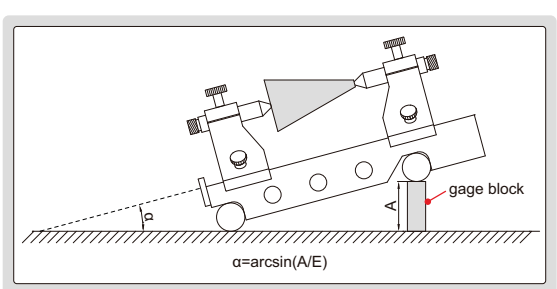
| Code | Horizontal parallelism | Vertical parallelism | Center height(H) | Distance between two centers(D) | Length (L) | Width (W) | Height (H1) | Diameter of center(Ød) | Taper of center | Weight | Load |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **4788-300** | 0.01mm | 0.01mm | 90 | 300 | 590 | 192 | 175 | 12.2 | MT2 | 34kg | 25kg |
| **4788-400** | 0.01mm | 0.01mm | 130 | 400 | 770 | 206 | 241 | 18.0 | MT3 | 66kg | 60kg |
| **4788-600** | 0.01mm | 0.01mm | 130 | 600 | 930 | 220 | 250 | 18.0 | MT3 | 90kg | 60kg |
| **4788-600H2** | 0.01mm | 0.01mm | 200 | 600 | 930 | 220 | 325 | 24.1 | MT3 | 105kg | 60kg |
| **4788-1000** | 0.01mm | 0.01mm | 130 | 1000 | 1330 | 220 | 262 | 18.0 | MT3 | 112kg | 60kg |
| **4788-1000H2** | 0.01mm | 0.01mm | 200 | 1000 | 1330 | 220 | 337 | 24.1 | MT3 | 125kg | 85kg |
| **4788-1000H3** | 0.01mm | 0.01mm | 300 | 1000 | 1330 | 220 | 442 | 31.6 | MT3 | 165kg | 85kg |

# SINE BENCH CENTER



4157-200



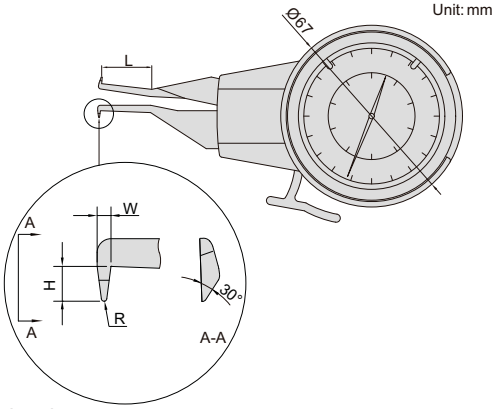

- Check taper or runout of taper bars
- Sine bar accuracy (α=30°): ±5 seconds

| Code | Accuracy | Center height (H) | Center distance (L) |
|---|---|---|---|
| **4157-200** | 0.01mm | 65mm | 200mm |

# INTERNAL DIAL CALIPER GAGE

2222-15

Unit: mm



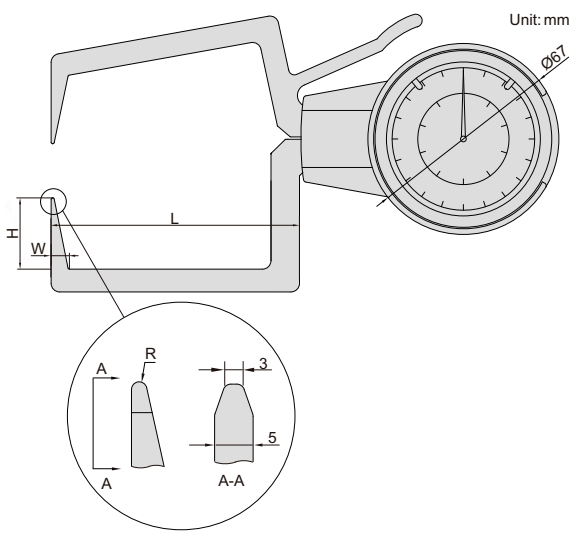

(mm)

| Code | Range | Graduation | Accuracy | L | H | W | R |
|---|---|---|---|---|---|---|---|
| **2222-15** | 5-15mm | 0.01mm | ±0.03mm | 20 | 2 | 2.5 | 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 |

# EXTERNAL DIAL CALIPER GAGE

2333-401

Unit: mm

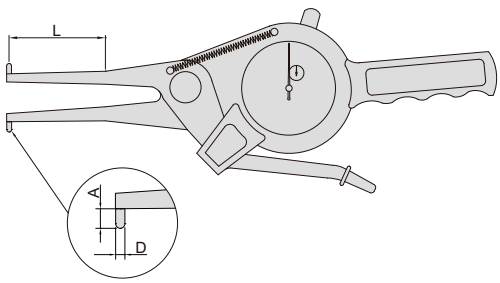



(mm)

| 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 |

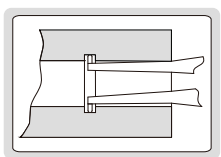
# INTERNAL DIAL CALIPER GAGE

2321-35




(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 |

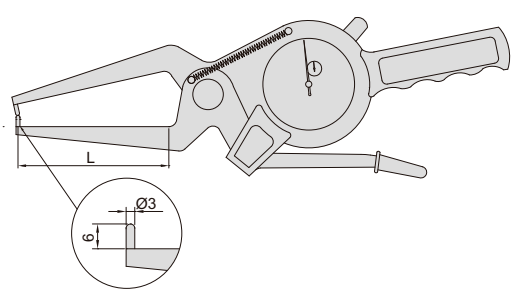


- Carbide measuring tips

# EXTERNAL DIAL CALIPER GAGE

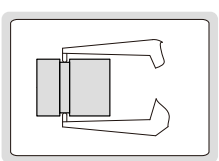
2332-20

Unit: mm




| Code | Range | Graduation | Accuracy | L (mm) |
|---|---|---|---|---|
| **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 |

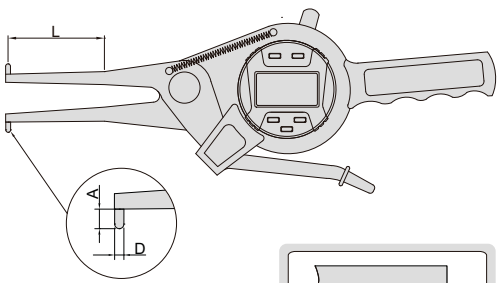
- Carbide measuring tips

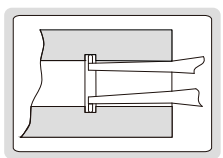


DATA OUTPUT

# DIGITAL INTERNAL CALIPER GAGE

2151-35



(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 |

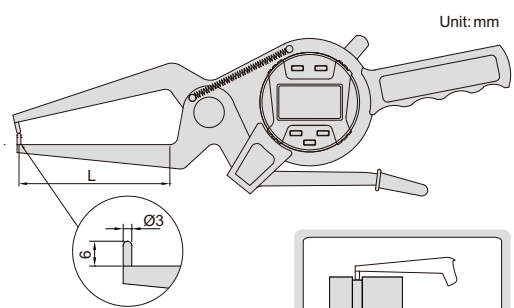
- Carbide measuring tips
- Reading in digit and analog
- Display can be rotated by 320º
- Button function: tolerance Go and No-Go display, data preset, measuring direction change, max./min./range measurement, inch/metric conversion, absolute/incremental measurement
- CR2032 battery, automatic power off
- Data output
- Optional accessory: data output cable (code **7306-40, 7302-SPC3A, 7305-SPC1A**)

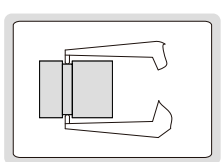
DATA OUTPUT

# DIGITAL EXTERNAL CALIPER GAGE

2132-20

Unit: mm



| Code | Range | Resolution | Accuracy | L(mm) |
|---|---|---|---|---|
| **2132-20** | 0-20mm/0-0.8" | 0.01mm/0.0005" | ±0.04mm | 60 |
| **2132-40** | 20-40mm/0.8-1.6" | 0.01mm/0.0005" | ±0.04mm | 60 |
| **2132-60** | 40-60mm/1.6-2.4" | 0.01mm/0.0005" | ±0.04mm | 55 |
| **2132-80** | 60-80mm/2.4-3.2" | 0.01mm/0.0005" | ±0.04mm | 55 |
| **2132-100** | 80-100mm/3.2-4" | 0.01mm/0.0005" | ±0.04mm | 55 |

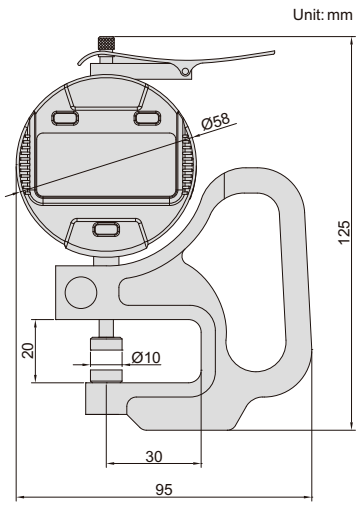
- Carbide measuring tips
- Reading in digit and analog
- Display can be rotated by 320º
- Button function: tolerance Go and No-Go display, data preset, measuring direction change, max./min./range measurement, inch/metric conversion, absolute/incremental measurement
- CR2032 battery, automatic power off
- Data output
- Optional accessory: data output cable (code **7306-40, 7302-SPC3A, 7305-SPC1A**)

## DIGITAL THICKNESS GAGE

DATA OUTPUT

**2871-101**

Unit: mm



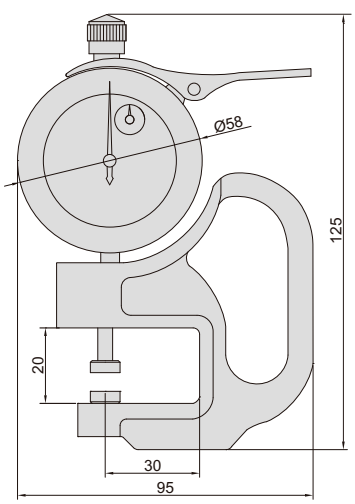

- Ceramic spindle tip and anvil
- Buttons: on/off, zero, mm/inch
- Battery CR2032, automatic power off
- Data output
- Optional accessory: data output cable (code **7306-40, 7302-SPC3A, 7305-SPC1A**)

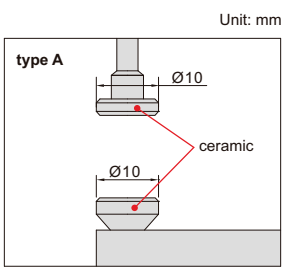
| Code | Range | Resolution | Accuracy |
|---|---|---|---|
| **2871-10** | 0-10mm/0-0.4" | 0.01mm/0.0005" | ±0.02mm |
| **2871-101** | 0-10mm/0-0.4" | 0.001mm/0.00005" | ±0.005mm |

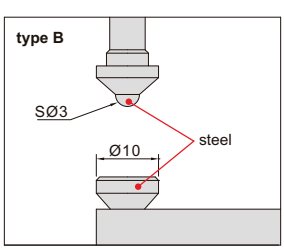
## THICKNESS GAGE

**2364-10**

Unit: mm



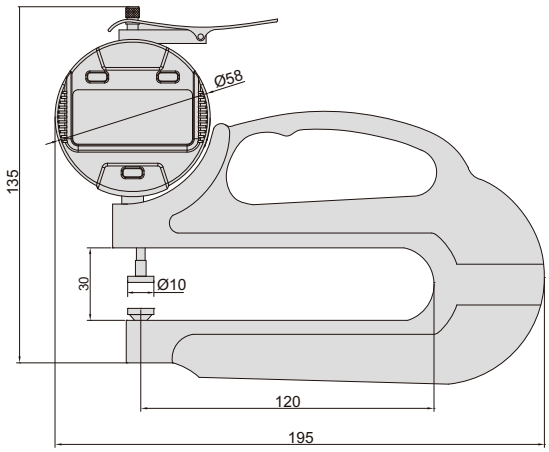

| Code | Range | Graduation | Accuracy | Type |
|---|---|---|---|---|
| **2364-10** | 0-10mm | 0.01mm | ±0.02mm | A |
| **2364-10B** | 0-10mm | 0.01mm | ±0.02mm | B |

DATA OUTPUT

# DIGITAL THICKNESS GAGE

2872-10

Unit: mm



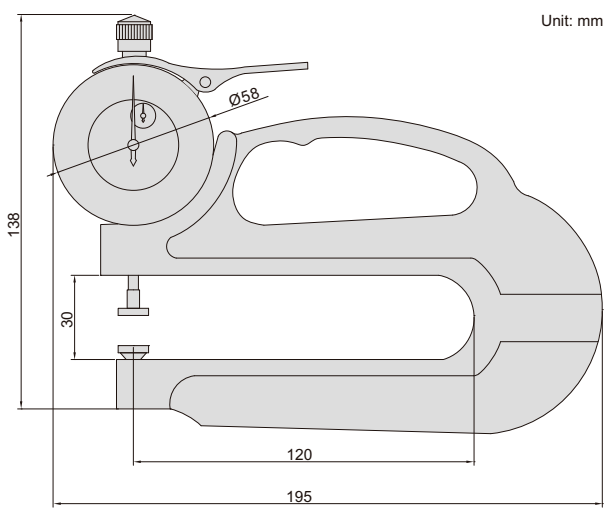

| Code | Range | Resolution | Accuracy |
|---|---|---|---|
| 2872-10 | 0-10mm/0-0.4" | 0.01mm/0.0005" | ±0.02mm |

- Ceramic spindle tip and anvil
- Buttons: on/off, zero, mm/inch
- Battery CR2032, automatic power off
- Data output
- Optional accessory: data output cable (code **7306-40**, **7302-SPC3A**, **7305-SPC1A**)

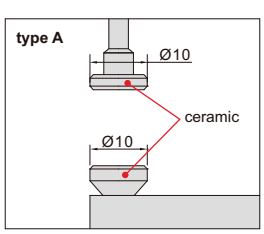
# THICKNESS GAGE

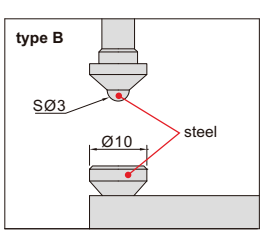
2365-10

Unit: mm




| 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 |

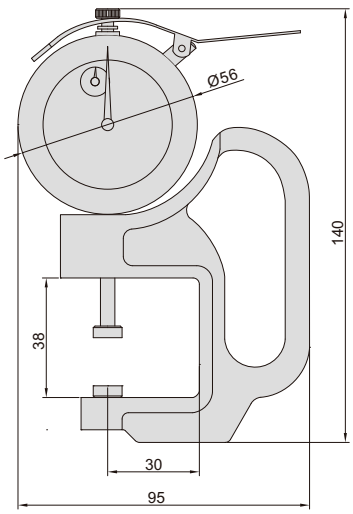


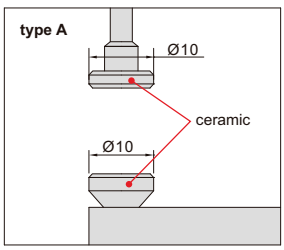



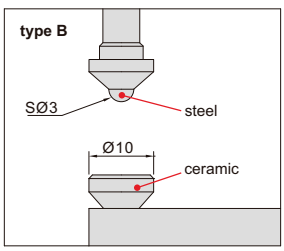
# THICKNESS GAGE

2366-30

Unit: mm



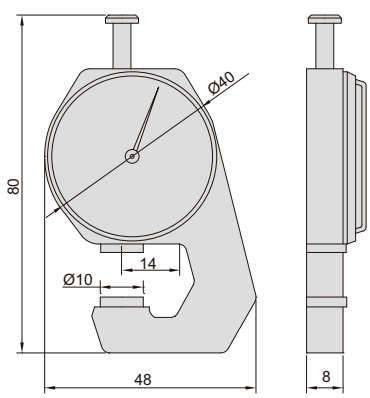

| Code | Range | Graduation | Accuracy | Type |
|---|---|---|---|---|
| **2366-30** | 0-30mm | 0.01mm | ±0.035mm | A |
| **2366-30B** | 0-30mm | 0.01mm | ±0.035mm | B |

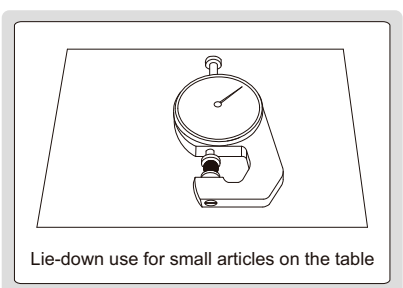
# THICKNESS GAGE

SUITABLE FOR JEWELLERY

2361-10

Unit: mm



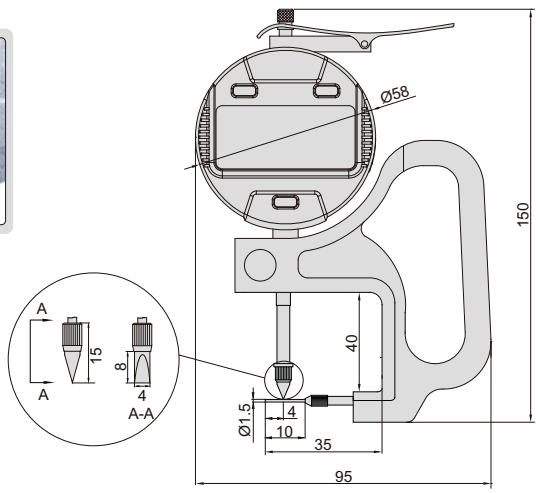
Lie-down use for small articles on the table

| Code | Range | Graduation | Accuracy |
|---|---|---|---|
| **2361-10** | 0-10mm | 0.1mm | ±0.05mm |

DATA OUTPUT

# DIGITAL TUBE THICKNESS GAGE

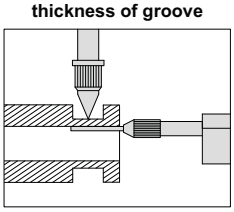
Unit: mm




**2873-10**

- Buttons: on/off, zero, mm/inch
- Battery CR2032, automatic power off
- Data output
- Optional accessory: data output cable (code **7306-40**, **7302-SPC3A**, **7305-SPC1A**)

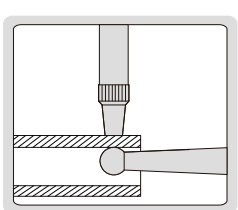
**measure wall thickness of groove**

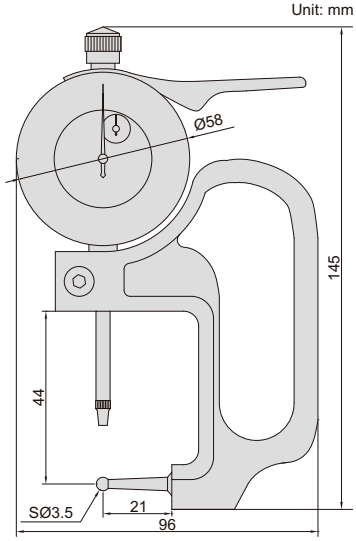


| Code | Range | Resolution | Accuracy |
|---|---|---|---|
| **2873-10** | 0-10mm/0-0.4" | 0.01mm/0.0005" | ±0.02mm |

# TUBE THICKNESS GAGE

Unit: mm





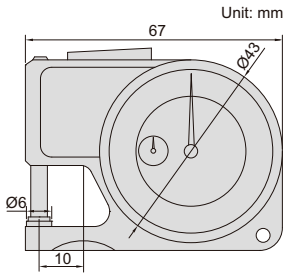

- Measure tube wall thickness

| Code | Range | Graduation | Accuracy |
|---|---|---|---|
| **2367-10A** | 0-10mm | 0.01mm | ±0.02mm |

**2367-10A**

## THICKNESS GAGE

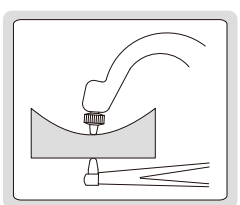
- Stainless steel spindle tip and anvil

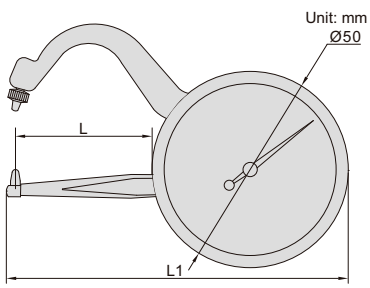


2363-10

| Code | Range | Graduation | Accuracy |
|---|---|---|---|
| **2363-10** | 0-10mm | 0.01mm | ±0.03mm |

## THICKNESS GAGE



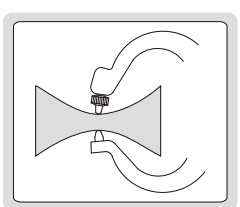


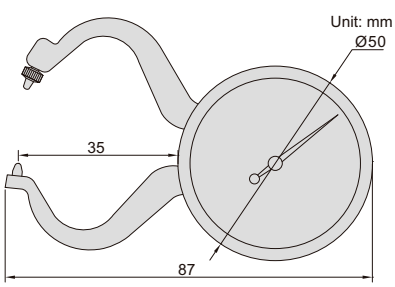
2862-101

(mm)

| Code | Range | Graduation | Accuracy | L | L1 |
|---|---|---|---|---|---|
| **2862-101** | 0-10mm | 0.05mm | ±0.1mm | 35 | 85 |
| **2862-102** | 0-10mm | 0.05mm | ±0.1mm | 60 | 110 |

## THICKNESS GAGE

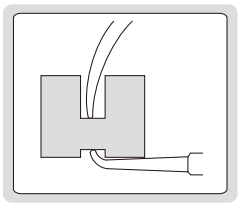




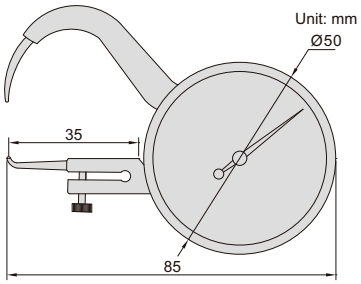
2863-10

| Code | Range | Graduation | Accuracy |
|---|---|---|---|
| **2863-10** | 0-10mm | 0.05mm | ±0.1mm |

# THICKNESS GAGE WITH POINTED TIPS



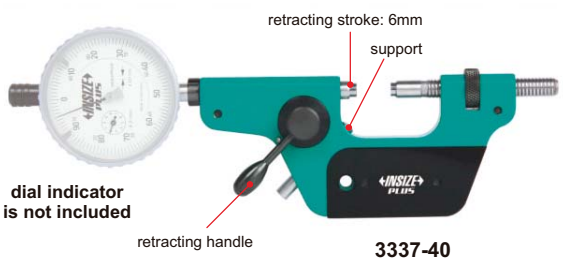
- Pointed tips fit into small grooves and recesses



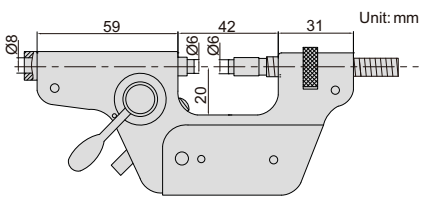
2866-10

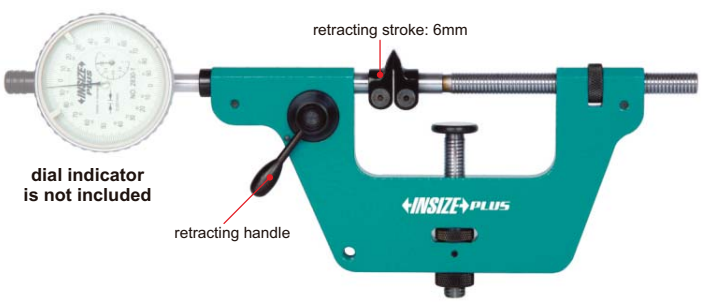
| Code | Range | Graduation | Accuracy |
|---|---|---|---|
| 2866-10 | 0-10mm | 0.05mm | ±0.1mm |

# DIAL SNAP GAGE

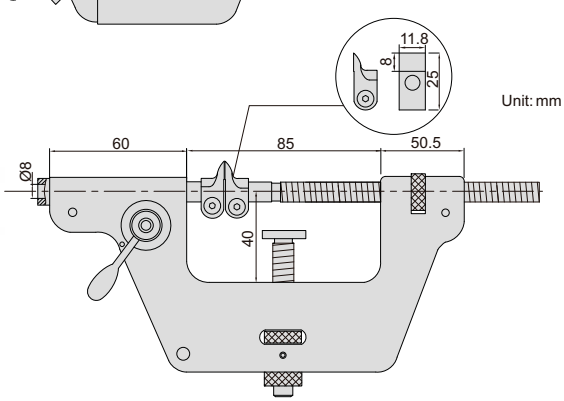



3337-40




3337-60



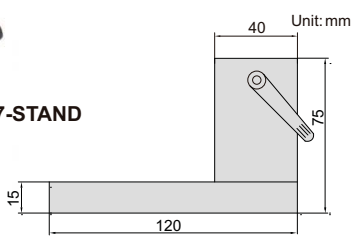

- For quick Go/No-Go judgement
- Carbide measuring faces
- Height of support is adjustable
- Optional accessory: dial indicators (graduation 0.001mm) and digital indicators (resolution 0.001mm)

| Code | Range | Parallelism of measuring faces | Retracting stroke | Remark |
|---|---|---|---|---|
| 3337-40 | 0-40mm | 1μm | 6mm | |
| 3337-60 | 0-60mm | 3μm | 6mm | jaw type measuring tips |

Stand (optional)

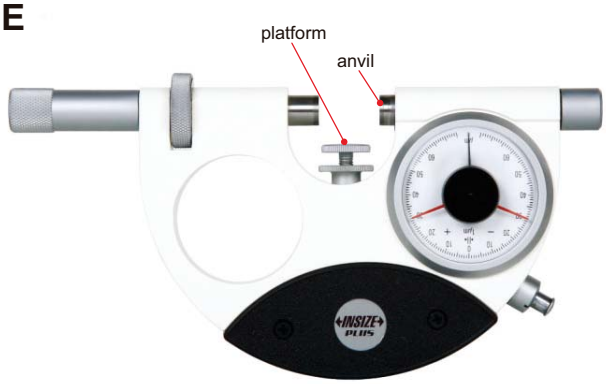
| Code |
|---|
| 3337-STAND |

3337-STAND

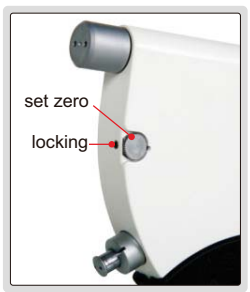


# DIAL SNAP GAGE

IP54
WATERPROOF

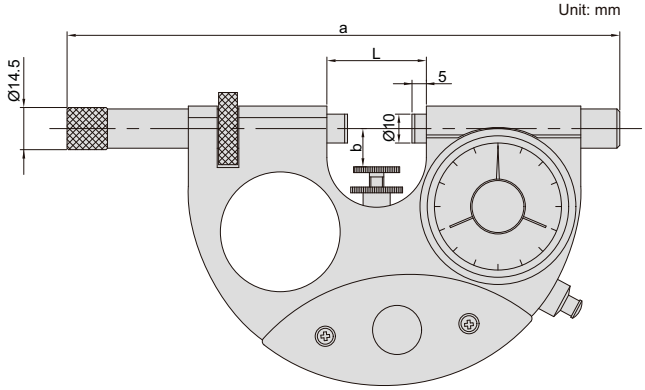



3335-25




- 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

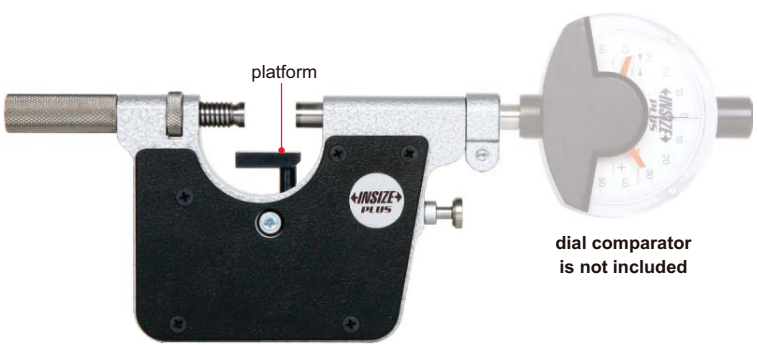
Unit: mm




(mm)

| Code | Range | L | a | b |
|---|---|---|---|---|
| **3335-25** | 0-25mm | 35 | 191 | <15 |
| **3335-50** | 25-50mm | 60 | 215 | <25 |
| **3335-75** | 50-75mm | 84 | 239 | <37.5 |
| **3335-100** | 75-100mm | 110 | 265 | <50 |

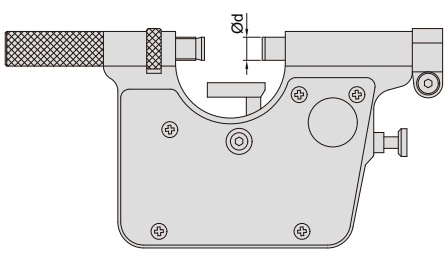
# DIAL SNAP GAGE




**dial comparator is not included**

**3336-25**

- Quick Go/No-Go judgement for mass production
- Carbide measuring faces
- Adjustable platform height
- Optional accessory: dial comparator (code **2881-01**)




(mm)

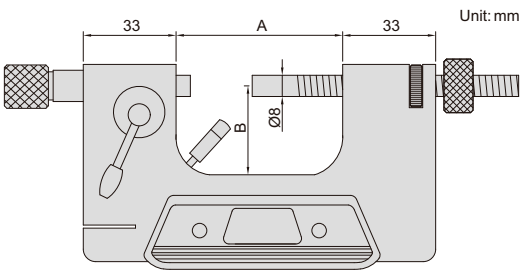
| Code | Range | Diameter of measuring faces(Ød) |
|---|---|---|
| **3336-25** | 0-25mm | 8 |
| **3336-50** | 25-50mm | 8 |
| **3336-100** | 50-100mm | 15 |

ATTENTION: NOT SUITABLE FOR 0.001MM INDICATORS

# DIAL SNAP GAGE

dial indicator is not included

2184-50W




(mm)

| Code | Range | A | B |
|---|---|---|---|
| **2184-25W** | 0-25mm | 34 | 18 |
| **2184-50W** | 0-50mm | 62 | 32 |
| **2184-100W** | 50-100mm | 112 | 62 |
| **2184-150W** | 100-150mm | 162 | 85 |
| **2184-200W** | 150-200mm | 212 | 110 |

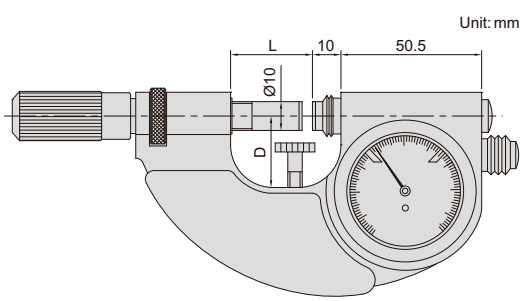
- For quick Go/No-Go judgment of diameter of cylinders and shafts
- Anvil retracting stroke: 3mm
- Measuring force: 6-9N
- Carbide measuring faces
- Optional accessory: dial indicators (graduation 0.01mm), digital indicators (resolution 0.01mm/0.0005")

ATTENTION: BASIC MODEL

IP54 WATERPROOF

# DIAL SNAP GAGE

3334-25




(mm)

| Code | Range | L | D |
|---|---|---|---|
| **3334-25** | 0-25mm | 28.5 | 25 |
| **3334-50** | 25-50mm | 53.5 | 35 |
| **3334-75** | 50-75mm | 78.5 | 47.5 |
| **3334-100** | 75-100mm | 103.5 | 60 |

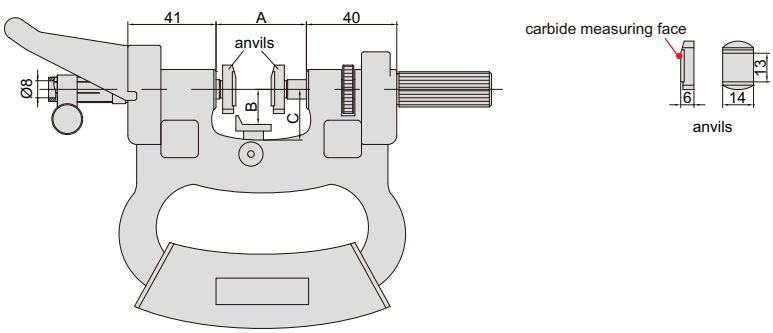
- Go/No-Go judgement for mass production
- Dial indicator: range ±0.04mm, graduation 0.001mm, accuracy 0.001mm
- IP54 dust/waterproof
- Measuring force: 5-10N
- Carbide measuring faces
- Supplied with setting standards (except 0-25mm)

# DIAL SNAP GAGE

2186-25

- For quick Go/No-Go judgement of diameter of cylinders and shafts
- Left anvil retracting stroke: 2mm
- Measuring force: 6-8N
- Flatness of anvil: 1.5μm
- Repeatability: 1μm
- 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)

Unit: mm



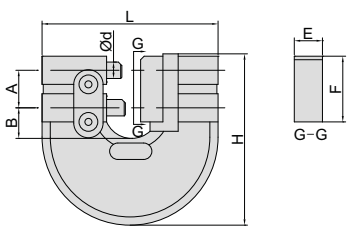

(mm)

| Code | Range | Parallelism of measuring faces | A | B | C |
|---|---|---|---|---|---|
| **2186-25** | 0-25mm | 4μm | 42 | 11-18 | 20 |
| **2186-50** | 25-50mm | 4μm | 69 | 11-32 | 41 |
| **2186-75** | 50-75mm | 5μm | 94 | 17-41 | 51 |
| **2186-100** | 75-100mm | 6μm | 119 | 31-55 | 65 |
| **2186-125** | 100-125mm | 6μm | 144 | 42-70 | 75 |
| **2186-150** | 125-150mm | 8μm | 169 | 55-82 | 90 |
| **2186-175** | 150-175mm | 8μm | 194 | 68-95 | 100 |
| **2186-200** | 175-200mm | 10μm | 219 | 85-110 | 115 |
| **2186-225** | 200-225mm | 10μm | 244 | 95-120 | 130 |
| **2186-250** | 225-250mm | 10μm | 269 | 110-135 | 145 |
| **2186-275** | 250-275mm | 12μm | 294 | 120-150 | 160 |
| **2186-300** | 275-300mm | 12μm | 319 | 128-160 | 170 |

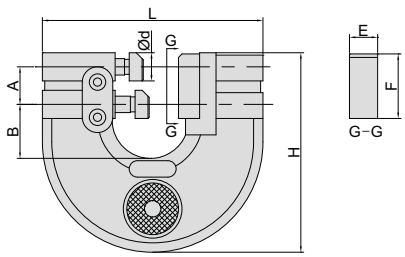
# ADJUSTABLE SNAP GAGE

2187-6

2187-19




0-6mm




over 6mm

- 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

(mm)

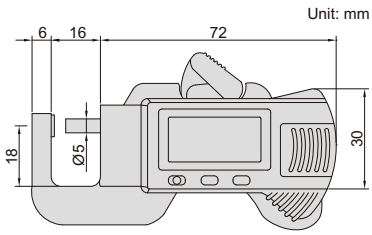
| Code | Range | L | A | B | E | F | H | Ød |
|---|---|---|---|---|---|---|---|---|
| **2187-6** | 0-6mm | 74 | 15 | 23.5 | 12.2 | 27.2 | 71.5 | 7 |
| **2187-13** | 6-13mm | 85 | 15 | 26 | 12.2 | 27.2 | 79.5 | 12.3 |
| **2187-19** | 13-19mm | 93 | 15 | 30 | 12.2 | 27.2 | 83 | 12.3 |
| **2187-25** | 19-25mm | 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 | 51 | 15.2 | 35.2 | 119 | 15.3 |
| **2187-63** | 57-63mm | 143 | 18 | 54.5 | 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 | 73 | 15.2 | 35.2 | 154 | 15.3 |
| **2187-108** | 101-108mm | 198 | 24 | 79 | 15.2 | 35.2 | 166 | 15.3 |
| **2187-114** | 108-114mm | 204 | 24 | 81 | 15.2 | 39.2 | 172 | 15.3 |

| Code | Range | L | A | B | E | F | H | Ød |
|---|---|---|---|---|---|---|---|---|
| **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 | 144.7 | 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 |

## DIGITAL SNAP GAGE

DATA OUTPUT

2166-12



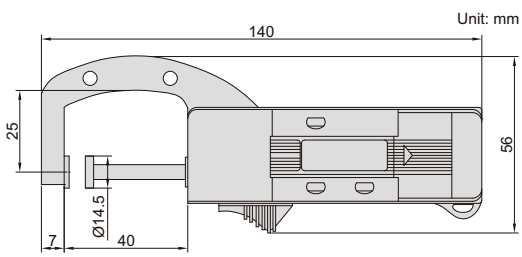

| Code | Range | Resolution | Accuracy |
|---|---|---|---|
| **2166-12** | 0-12mm/0-0.5" | 0.01mm/0.0005" | ±0.03mm |

- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)

## DIGITAL SNAP GAGE

ATTENTION: NO DATA OUTPUT

2167-25

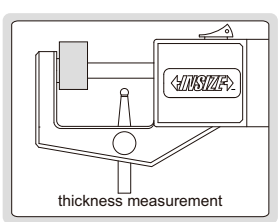


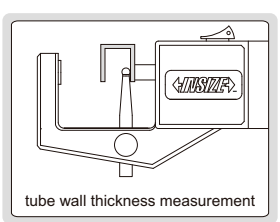

| Code | Range | Resolution | Accuracy |
|---|---|---|---|
| **2167-25** | 0-25mm/0-1" | 0.01mm/0.0005" | ±0.03mm |

## DIGITAL SNAP GAGE

DATA OUTPUT

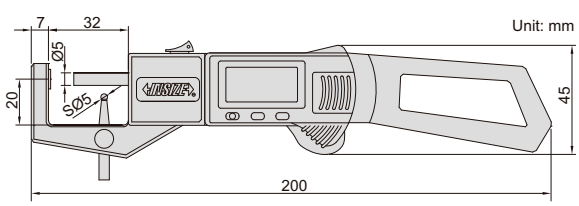
2163-25




- Resolution: 0.01mm/0.0005"
- Accuracy: ±0.04mm
- For thickness and tube wall thickness measurement
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)

| Code | Thickness range | Tube wall thickness range |
|---|---|---|
| **2163-25** | 0-25mm/0-1" | 0-2mm/0.08" |

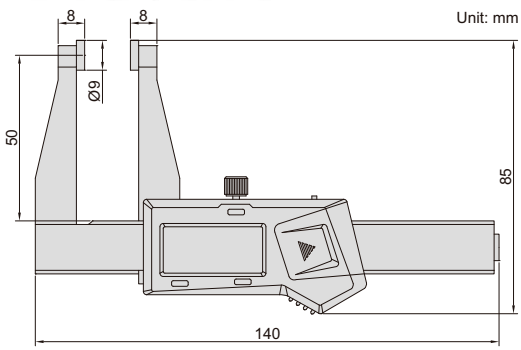


DATA OUTPUT

# DIGITAL SNAP GAGE

**1163-50A**

- 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 **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)



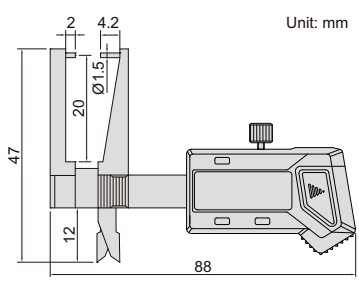

| Code | Range | Resolution | Accuracy |
|---|---|---|---|
| **1163-50A** | 0-50mm/0-2" | 0.01mm/0.0005" | ±0.03mm |

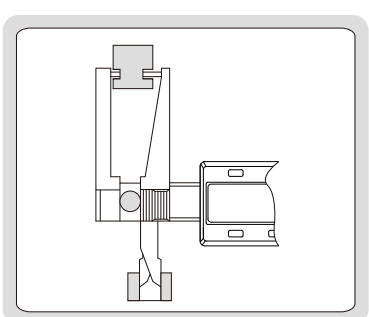
SUITABLE FOR JEWELLERY

ATTENTION: NO DATA OUTPUT

# DIGITAL 3-PURPOSE SNAP GAGE

**2164-25A**



- Buttons: zero, mm/inch, on/off
- Battery LR44
- Made of stainless steel

| Code | Range | Resolution | Accuracy |
|---|---|---|---|
| **2164-25A** | 0-25mm/0-1" | 0.01mm/0.0005" | ±0.03mm |

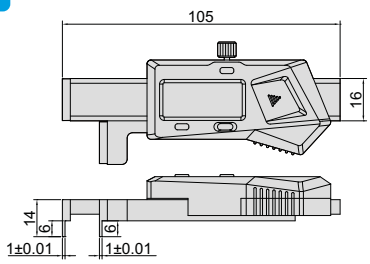
# STEP AND GAP GAGE

DATA OUTPUT

front

back

Unit: mm

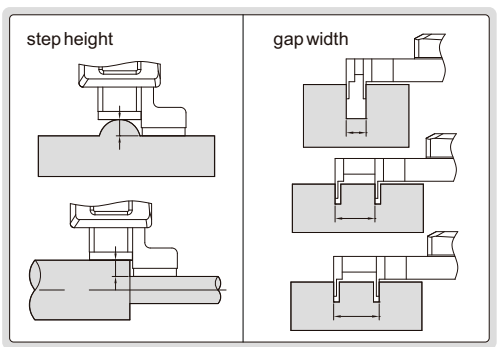



**2168-12**

- Measure step height and gap 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
- Supplied with zero setting block
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)

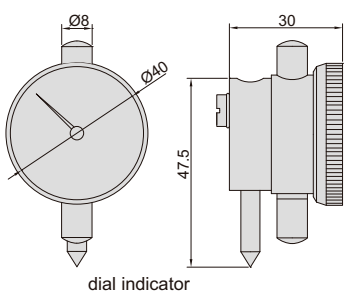
| Code | Range | Accuracy |
|---|---|---|
| **2168-12** | 0-12.7mm/0-0.5" | ±0.03mm |

**zero setting block**

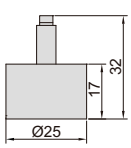



# CRANKSHAFT TESTER

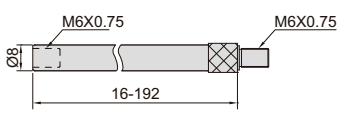
Unit: mm




dial indicator

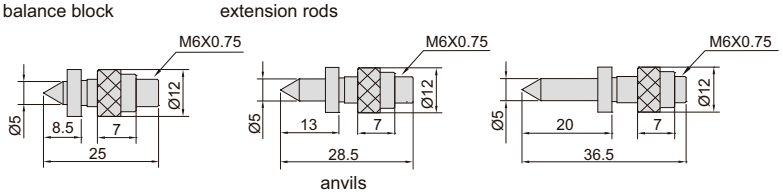



balance block

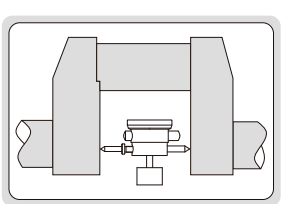



extension rods

**2841-500**




anvils



- 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 |

# GAGE BLOCKS

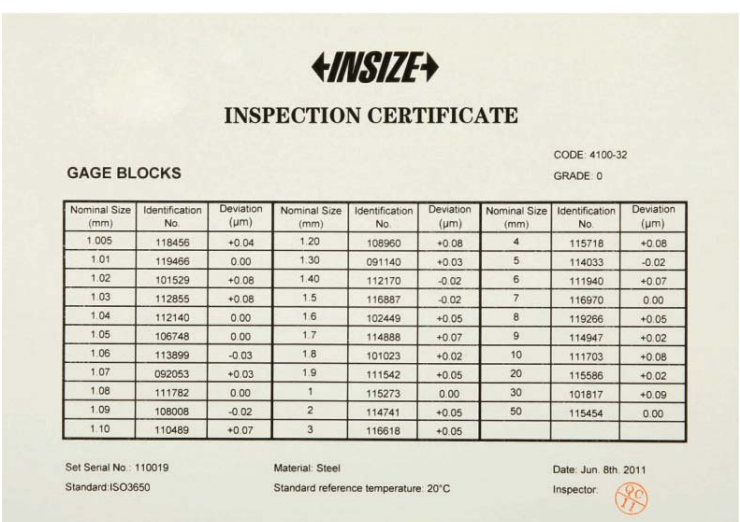
**Accuracy according to ISO3650**

| 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. |

**Inspection certificate**



INSIZE

INSPECTION CERTIFICATE

CODE: 4100-32

GRADE: 0

GAGE BLOCKS

| Nominal Size (mm) | Identification No. | Deviation (μm) | Nominal Size (mm) | Identification No. | Deviation (μm) | Nominal Size (mm) | Identification No. | Deviation (μm) |
|---|---|---|---|---|---|---|---|---|
| 1.005 | 118456 | +0.04 | 1.20 | 108960 | +0.08 | 4 | 115718 | +0.08 |
| 1.01 | 119466 | 0.00 | 1.30 | 091140 | +0.03 | 5 | 114033 | -0.02 |
| 1.02 | 101529 | +0.08 | 1.40 | 112170 | -0.02 | 6 | 111940 | +0.07 |
| 1.03 | 112855 | +0.08 | 1.5 | 116887 | -0.02 | 7 | 116970 | 0.00 |
| 1.04 | 112140 | 0.00 | 1.6 | 102449 | +0.05 | 8 | 119266 | +0.05 |
| 1.05 | 106748 | 0.00 | 1.7 | 114888 | +0.07 | 9 | 114947 | +0.02 |
| 1.06 | 113899 | -0.03 | 1.8 | 101023 | +0.02 | 10 | 111703 | +0.08 |
| 1.07 | 092053 | +0.03 | 1.9 | 111542 | +0.05 | 20 | 115586 | +0.02 |
| 1.08 | 111782 | 0.00 | 1 | 115273 | 0.00 | 30 | 101817 | +0.09 |
| 1.09 | 108008 | -0.02 | 2 | 114741 | +0.05 | 50 | 115454 | 0.00 |
| 1.10 | 110489 | +0.07 | 3 | 116618 | +0.05 | | | |

Set Serial No.: 110019

Standard:ISO3650

Material: Steel

Standard reference temperature: 20°C

Date: Jun. 8th. 2011

Inspector:

# CERAMIC GAGE BLOCK SET

MANUFACTURER INSPECTION CERTIFICATE

4105-87

- Made of ceramic, extremely wear resistance and corrosion resistance, excellent dimension stability
- Meet ISO3650
- Supplied with manufacturer inspection certificate

| Blocks per set | 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 | 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 | | |
| | 10 | | 1 | | |
| 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 | | |
| 8 | 125-175 | 25 | 3 | 4105-8 | 4105-18 |
| | 200-250 | 50 | 2 | | |
| | 300-500 | 100 | 3 | | |

# CARBIDE GAGE BLOCK SET

- Made of carbide, extremely wear resistance and corrosion resistance, excellent dimension stability
- Meet ISO3650
- Supplied with manufacturer inspection certificate

4164-32

| Blocks per set | 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 | 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 | | |
| | 25-100 | 25 | 4 | | |
| 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 | | |
| | 50 | | 1 | | |

# STEEL GAGE BLOCK SET

MANUFACTURER INSPECTION CERTIFICATE

4100-87

- Made of alloy steel
- Meet ISO3650
- Supplied with manufacturer inspection certificate

| Blocks per set | Blocks included in set | | | Code | | |
|---|---|---|---|---|---|---|
| | Size (mm) | Step (mm) | Quantity | Grade 0 | Grade 1 | Grade 2 |
| 122 | 1.0005 | | 1 | 4100-122 | 4100-1122 | 4100-2122 |
| | 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 | 4100-112 | 4100-1112 | 4100-2112 |
| | 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 | 4100-103 | 4100-1103 | 4100-2103 |
| | 1.01-1.49 | 0.01 | 49 | | | |
| | 0.5-24.5 | 0.5 | 49 | | | |
| | 25-100 | 25 | 4 | | | |
| 88 | 1.0005 | | 1 | 4100-88 | 4100-188 | 4100-288 |
| | 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 | 4100-87 | 4100-187 | 4100-287 |
| | 1.01-1.49 | 0.01 | 49 | | | |
| | 0.5-9.5 | 0.5 | 19 | | | |
| | 10-100 | 10 | 10 | | | |
| 83 | 0.5 | | 1 | 4100-83 | 4100-183 | 4100-283 |
| | 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 | | | |

To be continued

Continued from previous page

| Blocks per set | Blocks included in set | | | Code | | |
|---|---|---|---|---|---|---|
| | Size (mm) | Step (mm) | Quantity | Grade 0 | Grade 1 | Grade 2 |
| 76 | 1.005 | | 1 | 4100-76 | 4100-176 | 4100-276 |
| | 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 | 4100-56 | 4100-156 | 4100-256 |
| | 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 | 4100-47A | 4100-147A | 4100-247A |
| | 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 | 4100-47 | 4100-147 | 4100-247 |
| | 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 | 4100-46 | 4100-146 | 4100-246 |
| | 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 | 4100-34 | 4100-134 | 4100-234 |
| | 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 | 4100-32 | 4100-132 | 4100-232 |
| | 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 | 4100-9 | 4100-19 | 4100-29 |
| 9 | 0.991-0.999 | 0.001 | 9 | 4100-9A | 4100-19A | 4100-29A |
| 8 | 125-175 | 25 | 3 | 4100-8 | 4100-18 | 4100-28 |
| | 200-250 | 50 | 2 | | | |
| | 300-500 | 100 | 3 | | | |

# INDIVIDUAL CERAMIC GAGE BLOCK

MANUFACTURER INSPECTION CERTIFICATE

4106-A80

**Code explanation:**

4106-X□□□□□

- A for grade 0
- B for grade 1

**Code examples:**

| Size | Grade | Code |
|---|---|---|
| 0.5mm | 0 | 4106-AD5 |
| 10mm | 1 | 4106-B10 |

- Made of ceramic, extremely wear resistance and corrosion resistance
- Meet ISO3650
- Supplied with manufacturer inspection certificate

| Size | Code |
|---|---|
| 0.5mm | 4106-XD5 |
| 1mm | 4106-X1 |
| 1.0005mm | 4106-X1D0005 |
| 1.001mm | 4106-X1D001 |
| 1.002mm | 4106-X1D002 |
| 1.003mm | 4106-X1D003 |
| 1.004mm | 4106-X1D004 |
| 1.005mm | 4106-X1D005 |
| 1.006mm | 4106-X1D006 |
| 1.007mm | 4106-X1D007 |
| 1.008mm | 4106-X1D008 |
| 1.009mm | 4106-X1D009 |
| 1.01mm | 4106-X1D01 |
| 1.02mm | 4106-X1D02 |
| 1.03mm | 4106-X1D03 |
| 1.04mm | 4106-X1D04 |
| 1.05mm | 4106-X1D05 |
| 1.06mm | 4106-X1D06 |
| 1.07mm | 4106-X1D07 |
| 1.08mm | 4106-X1D08 |
| 1.09mm | 4106-X1D09 |
| 1.1mm | 4106-X1D1 |
| 1.11mm | 4106-X1D11 |
| 1.12mm | 4106-X1D12 |
| 1.13mm | 4106-X1D13 |
| 1.14mm | 4106-X1D14 |
| 1.15mm | 4106-X1D15 |
| 1.16mm | 4106-X1D16 |
| 1.17mm | 4106-X1D17 |
| 1.18mm | 4106-X1D18 |
| 1.19mm | 4106-X1D19 |
| 1.2mm | 4106-X1D2 |
| 1.21mm | 4106-X1D21 |
| 1.22mm | 4106-X1D22 |

| Size | Code |
|---|---|
| 1.23mm | 4106-X1D23 |
| 1.24mm | 4106-X1D24 |
| 1.25mm | 4106-X1D25 |
| 1.26mm | 4106-X1D26 |
| 1.27mm | 4106-X1D27 |
| 1.28mm | 4106-X1D28 |
| 1.29mm | 4106-X1D29 |
| 1.3mm | 4106-X1D3 |
| 1.31mm | 4106-X1D31 |
| 1.32mm | 4106-X1D32 |
| 1.33mm | 4106-X1D33 |
| 1.34mm | 4106-X1D34 |
| 1.35mm | 4106-X1D35 |
| 1.36mm | 4106-X1D36 |
| 1.37mm | 4106-X1D37 |
| 1.38mm | 4106-X1D38 |
| 1.39mm | 4106-X1D39 |
| 1.4mm | 4106-X1D4 |
| 1.41mm | 4106-X1D41 |
| 1.42mm | 4106-X1D42 |
| 1.43mm | 4106-X1D43 |
| 1.44mm | 4106-X1D44 |
| 1.45mm | 4106-X1D45 |
| 1.46mm | 4106-X1D46 |
| 1.47mm | 4106-X1D47 |
| 1.48mm | 4106-X1D48 |
| 1.49mm | 4106-X1D49 |
| 1.5mm | 4106-X1D5 |
| 1.6mm | 4106-X1D6 |
| 1.7mm | 4106-X1D7 |
| 1.8mm | 4106-X1D8 |
| 1.9mm | 4106-X1D9 |
| 2mm | 4106-X2 |
| 2.5mm | 4106-X2D5 |

| Size | Code |
|---|---|
| 3mm | 4106-X3 |
| 3.5mm | 4106-X3D5 |
| 4mm | 4106-X4 |
| 4.5mm | 4106-X4D5 |
| 5mm | 4106-X5 |
| 5.1mm | 4106-X5D1 |
| 5.5mm | 4106-X5D5 |
| 6mm | 4106-X6 |
| 6.5mm | 4106-X6D5 |
| 7mm | 4106-X7 |
| 7.5mm | 4106-X7D5 |
| 7.7mm | 4106-X7D7 |
| 8mm | 4106-X8 |
| 8.5mm | 4106-X8D5 |
| 9mm | 4106-X9 |
| 9.5mm | 4106-X9D5 |
| 10mm | 4106-X10 |
| 10.3mm | 4106-X10D3 |
| 10.5mm | 4106-X10D5 |
| 11mm | 4106-X11 |
| 11.5mm | 4106-X11D5 |
| 12mm | 4106-X12 |
| 12.5mm | 4106-X12D5 |
| 12.9mm | 4106-X12D9 |
| 13mm | 4106-X13 |
| 13.5mm | 4106-X13D5 |
| 14mm | 4106-X14 |
| 14.5mm | 4106-X14D5 |
| 15mm | 4106-X15 |
| 15.5mm | 4106-X15D5 |
| 16mm | 4106-X16 |
| 16.5mm | 4106-X16D5 |
| 17mm | 4106-X17 |
| 17.5mm | 4106-X17D5 |

| Size | Code |
|---|---|
| 17.6mm | 4106-X17D6 |
| 18mm | 4106-X18 |
| 18.5mm | 4106-X18D5 |
| 19mm | 4106-X19 |
| 19.5mm | 4106-X19D5 |
| 20mm | 4106-X20 |
| 20.2mm | 4106-X20D2 |
| 20.5mm | 4106-X20D5 |
| 21mm | 4106-X21 |
| 21.5mm | 4106-X21D5 |
| 22mm | 4106-X22 |
| 22.5mm | 4106-X22D5 |
| 22.8mm | 4106-X22D8 |
| 23mm | 4106-X23 |
| 23.5mm | 4106-X23D5 |
| 24mm | 4106-X24 |
| 24.5mm | 4106-X24D5 |
| 25mm | 4106-X25 |
| 30mm | 4106-X30 |
| 40mm | 4106-X40 |
| 41.3mm | 4106-X41D3 |
| 50mm | 4106-X50 |
| 60mm | 4106-X60 |
| 70mm | 4106-X70 |
| 75mm | 4106-X75 |
| 80mm | 4106-X80 |
| 90mm | 4106-X90 |
| 100mm | 4106-X100 |
| 125mm | 4106-X125 |
| 131.4mm | 4106-X131D4 |
| 150mm | 4106-X150 |

# INDIVIDUAL STEEL GAGE BLOCK

**CUSTOM-MADE**

CAN SUPPLY ANY SIZES WITHIN 0.5 ~ 1000MM, SUCH AS 72.672MM
SIZE<100MM: MOQ 6PCS PER SIZE
SIZE>100MM: MOQ 3PCS PER SIZE

INSIZE MANUFACTURER INSPECTION CERTIFICATE

**Code explanation:**

4101-X□□□□□

- A for grade 0
- B for grade 1
- C for grade 2

**Code examples:**

| Size | Grade | Code |
|---|---|---|
| 0.5mm | 0 | 4101-AD5 |
| 1mm | 1 | 4101-B1 |
| 10.5mm | 2 | 4101-C10D5 |

4101-A70

- Made of alloy steel
- Meet ISO3650
- Supplied with manufacturer inspection certificate

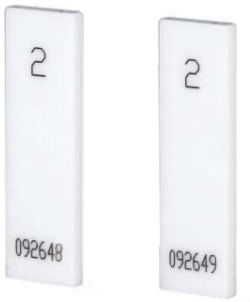
| Size | Code |
|---|---|
| 0.5mm | 4101-XD5 |
| 0.991mm | 4101-XD991 |
| 0.992mm | 4101-XD992 |
| 0.993mm | 4101-XD993 |
| 0.994mm | 4101-XD994 |
| 0.995mm | 4101-XD995 |
| 0.996mm | 4101-XD996 |
| 0.997mm | 4101-XD997 |
| 0.998mm | 4101-XD998 |
| 0.999mm | 4101-XD999 |
| 1mm | 4101-X1 |
| 1.0005mm | 4101-X1D0005 |
| 1.001mm | 4101-X1D001 |
| 1.002mm | 4101-X1D002 |
| 1.003mm | 4101-X1D003 |
| 1.004mm | 4101-X1D004 |
| 1.005mm | 4101-X1D005 |
| 1.006mm | 4101-X1D006 |
| 1.007mm | 4101-X1D007 |
| 1.008mm | 4101-X1D008 |
| 1.009mm | 4101-X1D009 |
| 1.01mm | 4101-X1D01 |
| 1.02mm | 4101-X1D02 |
| 1.03mm | 4101-X1D03 |
| 1.04mm | 4101-X1D04 |
| 1.05mm | 4101-X1D05 |
| 1.06mm | 4101-X1D06 |
| 1.07mm | 4101-X1D07 |
| 1.08mm | 4101-X1D08 |
| 1.09mm | 4101-X1D09 |
| 1.1mm | 4101-X1D1 |
| 1.11mm | 4101-X1D11 |
| 1.12mm | 4101-X1D12 |
| 1.13mm | 4101-X1D13 |
| 1.14mm | 4101-X1D14 |
| 1.15mm | 4101-X1D15 |
| 1.16mm | 4101-X1D16 |
| 1.17mm | 4101-X1D17 |
| 1.18mm | 4101-X1D18 |

| Size | Code |
|---|---|
| 1.19mm | 4101-X1D19 |
| 1.2mm | 4101-X1D2 |
| 1.21mm | 4101-X1D21 |
| 1.22mm | 4101-X1D22 |
| 1.23mm | 4101-X1D23 |
| 1.24mm | 4101-X1D24 |
| 1.25mm | 4101-X1D25 |
| 1.26mm | 4101-X1D26 |
| 1.27mm | 4101-X1D27 |
| 1.28mm | 4101-X1D28 |
| 1.29mm | 4101-X1D29 |
| 1.3mm | 4101-X1D3 |
| 1.31mm | 4101-X1D31 |
| 1.32mm | 4101-X1D32 |
| 1.33mm | 4101-X1D33 |
| 1.34mm | 4101-X1D34 |
| 1.35mm | 4101-X1D35 |
| 1.36mm | 4101-X1D36 |
| 1.37mm | 4101-X1D37 |
| 1.38mm | 4101-X1D38 |
| 1.39mm | 4101-X1D39 |
| 1.4mm | 4101-X1D4 |
| 1.41mm | 4101-X1D41 |
| 1.42mm | 4101-X1D42 |
| 1.43mm | 4101-X1D43 |
| 1.44mm | 4101-X1D44 |
| 1.45mm | 4101-X1D45 |
| 1.46mm | 4101-X1D46 |
| 1.47mm | 4101-X1D47 |
| 1.48mm | 4101-X1D48 |
| 1.49mm | 4101-X1D49 |
| 1.5mm | 4101-X1D5 |
| 1.6mm | 4101-X1D6 |
| 1.7mm | 4101-X1D7 |
| 1.8mm | 4101-X1D8 |
| 1.9mm | 4101-X1D9 |
| 2mm | 4101-X2 |
| 2.5mm | 4101-X2D5 |
| 3mm | 4101-X3 |

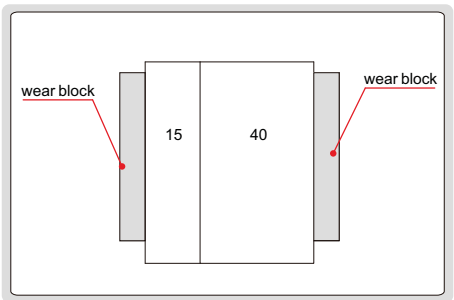
| Size | Code |
|---|---|
| 3.5mm | 4101-X3D5 |
| 4mm | 4101-X4 |
| 4.5mm | 4101-X4D5 |
| 5mm | 4101-X5 |
| 5.1mm | 4101-X5D1 |
| 5.5mm | 4101-X5D5 |
| 6mm | 4101-X6 |
| 6.5mm | 4101-X6D5 |
| 7mm | 4101-X7 |
| 7.5mm | 4101-X7D5 |
| 7.7mm | 4101-X7D7 |
| 8mm | 4101-X8 |
| 8.5mm | 4101-X8D5 |
| 9mm | 4101-X9 |
| 9.5mm | 4101-X9D5 |
| 10mm | 4101-X10 |
| 10.3mm | 4101-X10D3 |
| 10.5mm | 4101-X10D5 |
| 11mm | 4101-X11 |
| 11.5mm | 4101-X11D5 |
| 12mm | 4101-X12 |
| 12.5mm | 4101-X12D5 |
| 12.9mm | 4101-X12D9 |
| 13mm | 4101-X13 |
| 13.5mm | 4101-X13D5 |
| 14mm | 4101-X14 |
| 14.5mm | 4101-X14D5 |
| 15mm | 4101-X15 |
| 15.5mm | 4101-X15D5 |
| 16mm | 4101-X16 |
| 16.5mm | 4101-X16D5 |
| 17mm | 4101-X17 |
| 17.5mm | 4101-X17D5 |
| 17.6mm | 4101-X17D6 |
| 18mm | 4101-X18 |
| 18.5mm | 4101-X18D5 |
| 19mm | 4101-X19 |
| 19.5mm | 4101-X19D5 |
| 20mm | 4101-X20 |

| Size | Code |
|---|---|
| 20.2mm | 4101-X20D2 |
| 20.5mm | 4101-X20D5 |
| 21mm | 4101-X21 |
| 21.5mm | 4101-X21D5 |
| 22mm | 4101-X22 |
| 22.5mm | 4101-X22D5 |
| 22.8mm | 4101-X22D8 |
| 23mm | 4101-X23 |
| 23.5mm | 4101-X23D5 |
| 24mm | 4101-X24 |
| 24.5mm | 4101-X24D5 |
| 25mm | 4101-X25 |
| 30mm | 4101-X30 |
| 35mm | 4101-X35 |
| 40mm | 4101-X40 |
| 41.3mm | 4101-X41D3 |
| 45mm | 4101-X45 |
| 50mm | 4101-X50 |
| 60mm | 4101-X60 |
| 70mm | 4101-X70 |
| 75mm | 4101-X75 |
| 80mm | 4101-X80 |
| 90mm | 4101-X90 |
| 100mm | 4101-X100 |
| 125mm | 4101-X125 |
| 131.4mm | 4101-X131D4 |
| 150mm | 4101-X150 |
| 175mm | 4101-X175 |
| 200mm | 4101-X200 |
| 250mm | 4101-X250 |
| 300mm | 4101-X300 |
| 400mm | 4101-X400 |
| 500mm | 4101-X500 |
| 600mm | 4101-X600 |
| 700mm | 4101-X700 |
| 750mm | 4101-X750 |
| 800mm | 4101-X800 |
| 900mm | 4101-X900 |
| 1000mm | 4101-X1000 |

## WEAR BLOCK SET




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** |

- Protect the measuring surfaces of gage blocks from excessive wear
- Meet ISO3650
- Supplied with manufacturer inspection certificate

## MICROMETER INSPECTION GAGE BLOCK SET

4107-10

- One piece of optical flat is included in **4107-10, 4107-101**
- Meet ISO3650/grade 0
- Supplied with manufacturer inspection certificate

| Code | Material | Blocks included in set | Applicable micrometer | Optical flat |
|---|---|---|---|---|
| **4107-10** | ceramic | 2.5mm, 5.1mm, 7.7mm, 10.3mm, 12.9mm, 15mm, 17.6mm, 20.2mm, 22.8mm, 25mm, optical flat | 0-25mm | included |
| **4107-101** | alloy steel | 2.5mm, 5.1mm, 7.7mm, 10.3mm, 12.9mm, 15mm, 17.6mm, 20.2mm, 22.8mm, 25mm, optical flat | 0-25mm | included |
| **4107-112** | alloy steel | 25mm, 27.5mm, 30.1mm, 32.7mm, 35.3mm, 37.9mm, 40mm, 42.6mm, 45.2mm, 47.8mm, 50mm | 25-50mm | not included |
| **4107-113** | alloy steel | 50mm, 52.5mm, 55.1mm, 57.7mm, 60.3mm, 62.9mm, 65mm, 67.6mm, 70.2mm, 72.8mm, 75mm | 50-75mm | not included |
| **4107-114** | alloy steel | 75mm, 77.5mm, 80.1mm, 82.7mm, 85.3mm, 87.9mm, 90mm, 92.6mm, 95.2mm, 97.8mm, 100mm | 75-100mm | not included |

# CALIPER INSPECTION GAGE BLOCK SET

4108-3005

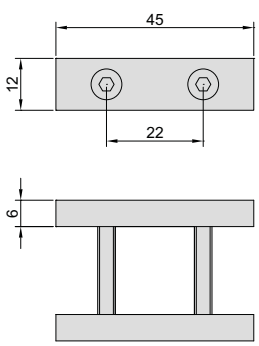
- Meet ISO3650/grade 2
- Supplied with manufacturer inspection certificate

| Code | Material | Blocks per set | Blocks included in set (mm) | Applicable caliper (mm) |
|---|---|---|---|---|
| **4108-3005** | alloy steel | 5 | 30, 41.3, 131.4, 243.5, 281.2 | 0-150, 0-200, 0-300 |

# GAGE BLOCK HOLDER

6883-4

Unit: mm



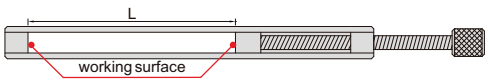

- Made of aluminum
- To be used with individual steel gage block (code **4101**) as Go and No-Go gage

| 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 |

**To be used as Go and No-Go gage**

# GAGE BLOCK ACCESSORY

6881-A3

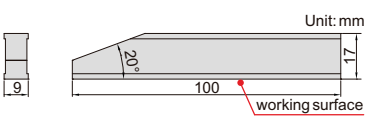



| Code | Name | Clamping range*(L) |
|---|---|---|
| 6881-A1 | holder | 0-25mm |
| 6881-A2 | holder | 25-50mm |
| 6881-A3 | holder | 50-100mm |
| 6881-A4 | holder | 100-200mm |
| 6881-A5 | holder | 200-300mm |
| 6881-A6** | holder | 300-500mm |

*The actural clamping range should deduct the width of jaws

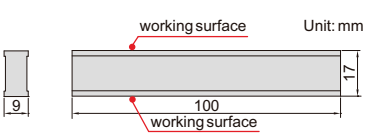
**Not suitable for base **6881-B**

6881-C




| Code | Name | Remark |
|---|---|---|
| 6881-C | plain jaw | made of carbide, supplied in pair |

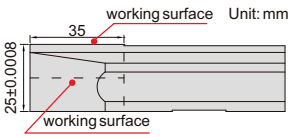
6881-D



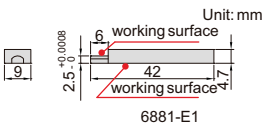

| Code | Name | Remark |
|---|---|---|
| 6881-D | parallel jaw | made of carbide |

6881-B

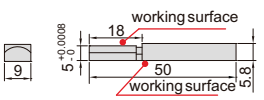
| Code | Name |
|---|---|
| 6881-B | base |



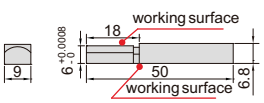
6881-E2




6881-E1



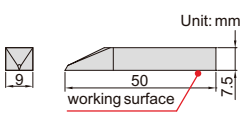

6881-E2




6881-E3

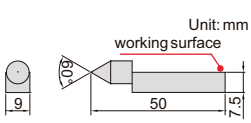
| Code | Name | Size | Remark |
|---|---|---|---|
| 6881-E1 | half round jaw | 2.5mm | made of carbide, supplied in pair |
| 6881-E2 | half round jaw | 5.0mm | made of carbide, supplied in pair |
| 6881-E3 | half round jaw | 6.0mm | made of carbide, supplied in pair |

6881-F




| Code | Name | Remark |
|---|---|---|
| 6881-F | scriber | made of carbide |

6881-G




| Code | Name | Remark |
|---|---|---|
| 6881-G | centre point | the tip is made of carbide |

To be continued

Continued from previous page

## GAGE BLOCK ACCESSORY SET

| Code | Mark |
|---|---|
| 6881-S17 | 17pcs (including the below items) |

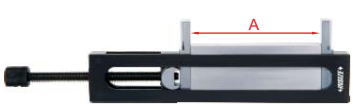
| | |
|---|---|
| holder, 0-25mm (code 6881-A1) | 1pc |
| holder, 25-50mm (code 6881-A2) | 1pc |
| holder, 50-100mm (code 6881-A3) | 1pc |
| holder, 100-200mm (code 6881-A4) | 1pc |
| holder, 200-300mm (code 6881-A5) | 1pc |
| base (code 6881-B) | 1pc |
| plain jaw (code 6881-C) | 1 pair |
| parallel jaw (code 6881-D) | 1pc |
| 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 |
| scriber (code 6881-F) | 1pc |
| centre point (code 6881-G) | 1pc |

6881-S17

**application**

(plain jaw+holder)
set zero

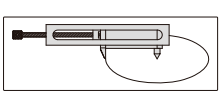
(base+holder+scriber)
measure height or scribe




(half round jaw+holder)
measure size A

(plain jaw+parallel jaw+holder)
Go and No Go inspection

(half round jaw+holder)
measure inside diameter



(scriber+centre point+holder)
scribe circle

# CYLINDER GAGE BLOCK

**CUSTOM-MADE**
**CAN SUPPLY ANY LENGTH, SUCH AS 80.672MM**

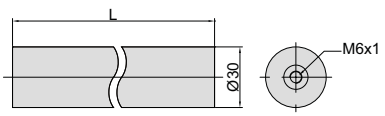
MANUFACTURER INSPECTION CERTIFICATE

| 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

- 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

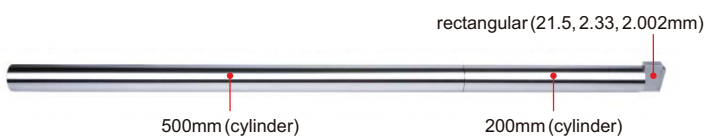
Unit: mm



**can be combined to any sizes up to 4m**

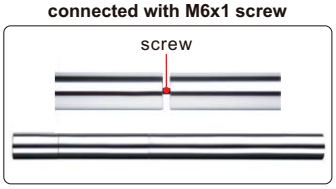
Combination 1: combined by several standard size cylinder gage blocks and one custom size cylinder gage block
For example: 500 (standard) + 200 (standard) + 25.832 (custom)=725.832mm
Note: in order to reduce cost, custom size should be within 100mm

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




**high stability in vertical position, suitable for checking height gages**

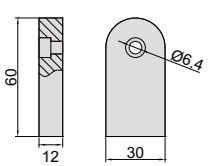
**connected with M6x1 screw**




## INTERNAL BLOCKS

**4001-A**

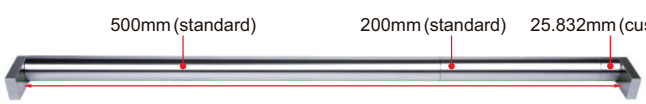
Unit: mm



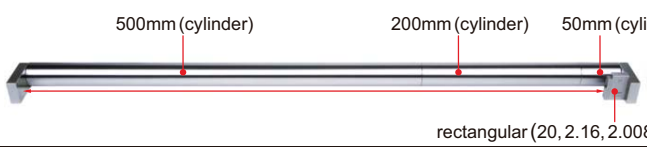

- Can be attached to cylinder and rectangular gage blocks
- Made of special alloy steel, hardness HRC64, high stability, wear resistance and easy combination
- Supplied in a matched pair

| 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



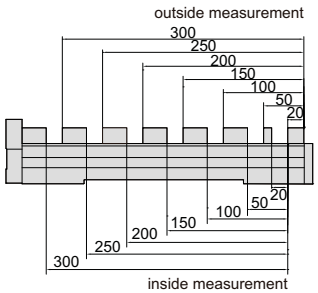
# CALIPER/HEIGHT GAGE CHECKER

MANUFACTURER INSPECTION CERTIFICATE

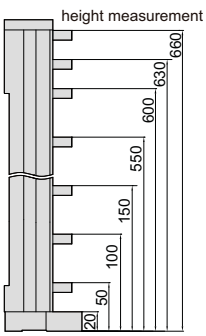
horizontal

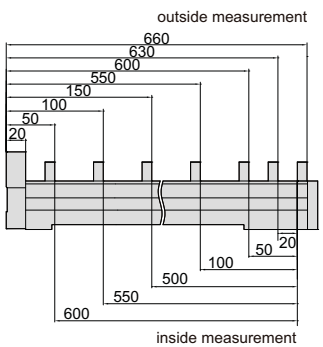
vertical

Unit: mm

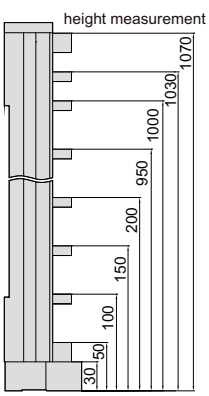


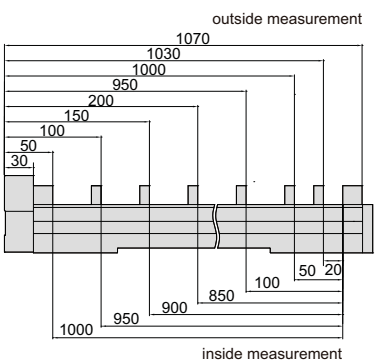

6884-300




6884-600

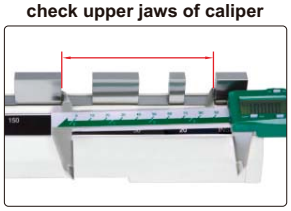


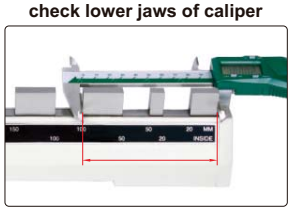

6884-1000

**6884-300**

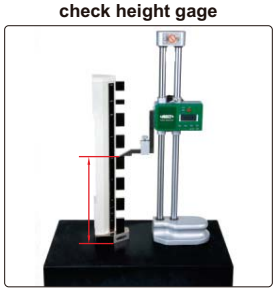
**check upper jaws of caliper**



**check lower jaws of caliper**



**check height gage**



- To check calipers and height gages
- Constructed with steel gage blocks

**(mm)**

| Code | Size | Range of inside measurement | Range of outside measurement | Range of height measurement | Accuracy |
|---|---|---|---|---|---|
| **6884-300*** | 0-300mm | 20,50,100,150,200,250,300 | 20, 50, 100, 150, 200, 250, 300 | 20,50,100,150,200,250,300,330,370 | ±5μm |
| **6884-600*** | 0-600mm | 20,50,100,150,200,250,300, 350,400,450,500,550,600 | 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 | ±7μm |
| **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 | 30,50,100,150,200,250,300,350,400, 450,500,550,600,650,700,750,800, 850,900,950,1000,1030,1070 | 30,50,100,150,200,250,300,350,400, 450,500,550,600,650,700,750,800, 850,900,950,1000,1030,1070 | ±7μm |

*Supplied with manufacturer inspection certificate

## INSIDE MICROMETER ACCESSORY

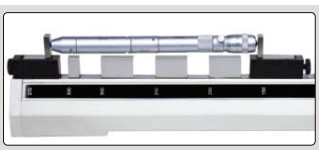
**6884-A3**

- Supplied with a pair of 5mm carbide gage blocks, ISO3650 grade 0

| Code | Applicable caliper/height gage checker |
|---|---|
| **6884-A3*** | 0-300mm |
| **6884-A6*** | 0-600mm |
| **6884-A10*** | 0-1000mm |

*Supplied with manufacturer inspection certificate

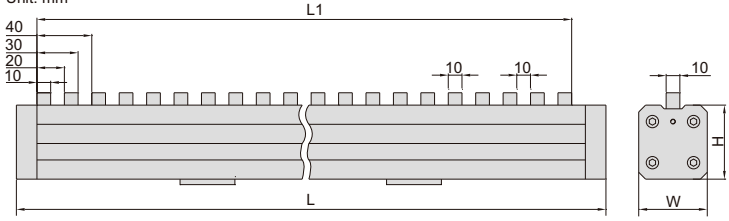
**set inside micrometer**



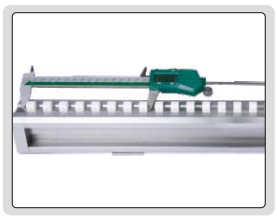
# CHECK MASTER

MANUFACTURER INSPECTION CERTIFICATE

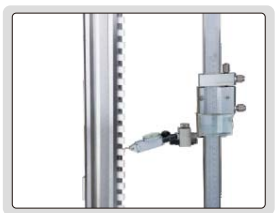
Unit: mm




horizontal orientation



vertical orientation



6882-600A

- To check the accuracy of table movement of machine tools, to calibrate height gages and CMMs
- Ceramic gage blocks
- Can be used in either vertical and horizontal orientation
- Supplied with manufacturer inspection certificate

(mm)

| Code | Range | Step | Accuracy | Parallelism of blocks | L | L1 | H | W |
|---|---|---|---|---|---|---|---|---|
| **6882-300A** | 300mm | 10mm | ±2.5μm | 1.2μm | 350 | 310 | 49 | 45 |
| **6882-450A** | 450mm | 10mm | ±3.5μm | 1.5μm | 510 | 470 | 54 | 50 |
| **6882-600A** | 600mm | 10mm | ±3.5μm | 1.5μm | 650 | 610 | 54 | 50 |

# ANGLE GAGE BLOCK SET

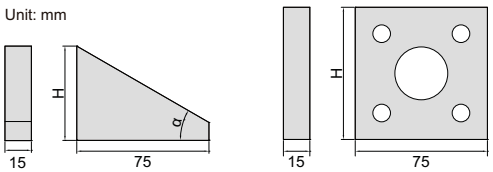
| Code | Blocks per set | Angle | Step | Quantity |
|---|---|---|---|---|
| **4109-7A** | 7 | 15°10' | | 1 |
| | | 30°20' | | 1 |
| | | 45°30' | | 1 |
| | | 50° | | 1 |
| | | 60°40' | | 1 |
| | | 75°50' | | 1 |
| | | 90°/90°/90°/90° | | 1 |
| **4109-36A** | 36 | 10°-20° | 1° | 11 |
| | | 30°-70° | 10° | 5 |
| | | 45° | | 1 |
| | | 15°10'-15°50' | 10' | 5 |
| | | 15°1'-15°9' | 1' | 9 |
| | | 10°00'30" | | 1 |
| | | 80°/81°/100°/99° | | 1 |
| | | 89°10'/89°20'/90°50'/90°40' | | 1 |
| | | 89°30'/89°40'/90°30'/90°20' | | 1 |
| | | 90°/90°/90°/90° | | 1 |

4109-7A

- Standard for angle measurement
- Accuracy ±10"

# ANGLE GAGE BLOCK

Unit: mm




- Accuracy: ±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°)

4002-15

**Individual**

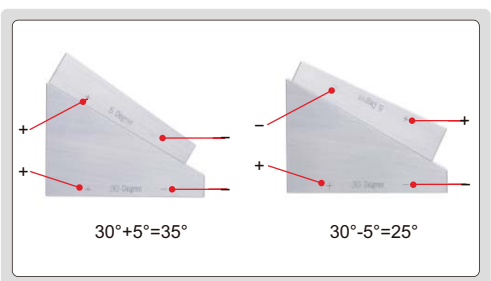
| Code | Angle (α) | H(mm) |
|---|---|---|
| 4002-A1 * | 1° | 11.5 |
| 4002-A3 * | 3° | 14.0 |
| 4002-A5 * | 5° | 16.5 |
| 4002-A9 * | 9° | 22.0 |
| 4002-A15 * | 15° | 30. 5 |
| 4002-A27 * | 27° | 48.0 |
| 4002-A30 * | 30° | 53.5 |
| 4002-A41 * | 41° | 75.0 |
| 4002-A45 * | 45° | 84.0 |
| 4002-B1 * | 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 |

**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 |

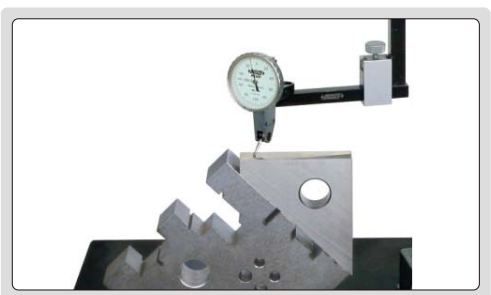
*Supplied with manufacturer inspection certificate

**combination**



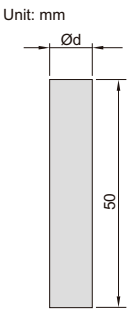

**set angle of plate**

**inspect angle**



# PIN GAGE SET

4166-6D




- Made of alloy steel
- Hardness HRC62-65
- Diameter accuracy: ±1μm

| Code | Diameter Ød (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 Ød (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 Ød (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 |

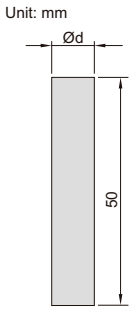
| Code | Diameter Ød (mm) | Step | Pin gages per set |
|---|---|---|---|
| 4166-10D | 10.00, 10.01, 10.02, ····10.50 | 0.01mm | 51 |
| 4166-11 | 10.50, 10.51, 10.52, ····11.00 | 0.01mm | 51 |
| 4166-11D | 11.00, 11.01, 11.02, ····11.50 | 0.01mm | 51 |
| 4166-12 | 11.50, 11.51, 11.52, ····12.00 | 0.01mm | 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 |

# INDIVIDUAL PIN GAGE

- Diameter range: Ø0.20 - Ø20.00mm
- Diameter accuracy: ±1μm
- Made of alloy steel
- Hardness HRC62-65
- Optional accessory: wooden box

| Diameter Ød (mm) | Diameter Ød (mm) |
|---|---|
| 0.20, 0.21, 0.22, 0.23, ···· 1.00 | 10.01, 10.02, 10.03, 10.04, ···· 11.00 |
| 1.01, 1.02, 1.03, 1.04, ···· 2.00 | 11.01, 11.02, 11.03, 11.04, ···· 12.00 |
| 2.01, 2.02, 2.03, 2.04, ···· 3.00 | 12.01, 12.02, 12.03, 12.04, ···· 13.00 |
| 3.01, 3.02, 3.03, 3.04, ···· 4.00 | 13.01, 13.02, 13.03, 13.04, ···· 14.00 |
| 4.01, 4.02, 4.03, 4.04, ···· 5.00 | 14.01, 14.02, 14.03, 14.04, ···· 15.00 |
| 5.01, 5.02, 5.03, 5.04, ···· 6.00 | 15.01, 15.02, 15.03, 15.04, ···· 16.00 |
| 6.01, 6.02, 6.03, 6.04, ···· 7.00 | 16.01, 16.02, 16.03, 16.04, ···· 17.00 |
| 7.01, 7.02, 7.03, 7.04, ···· 8.00 | 17.01, 17.02, 17.03, 17.04, ···· 18.00 |
| 8.01, 8.02, 8.03, 8.04, ···· 9.00 | 18.01, 18.02, 18.03, 18.04, ···· 19.00 |
| 9.01, 9.02, 9.03, 9.04, ···· 10.00 | 19.01, 19.02, 19.03, 19.04, ···· 20.00 |

**4110-9D98**




| Code |
|---|
| 4110-xxxx |

Ordering examples:

| Diameter | Code |
|---|---|
| 0.21mm | 4110-0D21 |
| 5.56mm | 4110-5D56 |
| 16.00mm | 4110-16D00 |

Note : "D" stands for "."

# CUSTOM-MADE PIN GAGE

- Custom-made pin gages, 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 | Diameter range Ød (mm) |
|---|---|
| 4118-xxxxx* | 0.200 ~ 30.000 |

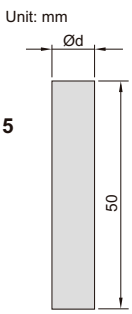
*Supplied with manufacturer inspection certificate

**Ordering examples**:

| Diameter | Code |
|---|---|
| 0.211mm | 4118-0D211 |
| 5.562mm | 4118-5D562 |
| 16.298mm | 4118-16D298 |

Note: "D" stands for "."

**4118-8D015**



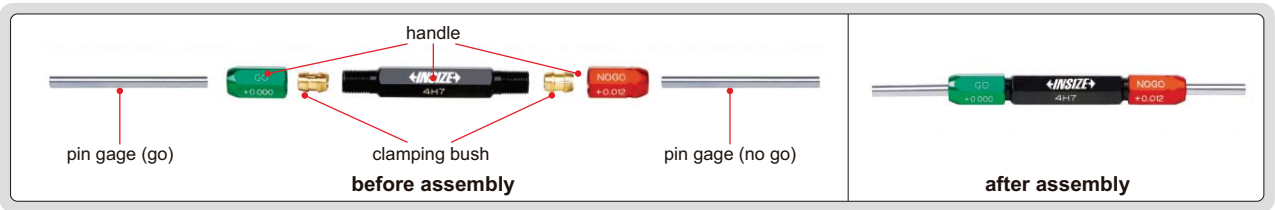

# BOX FOR PIN GAGES

- For individual pin gages (**4110** and **4118** series)

| Code | Applicable pin gage diameter Ød (mm) | Quantity of pin gages |
|---|---|---|
| 7340 | 0.20 - 10.00 | 51pcs |
| 7340-101 | 0.20 - 10.00 | 101pcs |
| 7340-201 | 10.00 - 15.00 | 51pcs |
| 7340-202 | 15.00 - 20.00 | 51pcs |

**7340**

# PIN GAGE HANDLE



Handle

clamping bush

| Code | Applicable pin gage diameter (mm) | Including | |
|---|---|---|---|
| | | Handle | Clamping bush (mm) |
| **7341-0S** | 0.2 - 1.02 | 1pc | 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) |
| **7341-1S** | 1.02 - 1.91 | 1pc | 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) |
| **7341-2S** | 1.91 - 3.33 | 1pc | 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) |
| **7341-3S** | 3.33 - 4.57 | 1pc | 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) |
| **7341-4S** | 4.57 - 5.79 | 1pc | 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) |
| **7341-5S** | 5.79 - 7.14 | 1pc | 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) |
| **7341-6S** | 7.14 - 8.66 | 1pc | 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) |

| Code | Applicable pin gage diameter (mm) | Including | |
|---|---|---|---|
| | | Handle | Clamping bush (mm) |
| **7341-7S** | 8.66 - 10.31 | 1pc | 6 pairs (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) |
| **7341-8S** | 10.31 - 11.81 | 1pc | 4 pairs (the clamping range are 10.31 - 10.67, 10.67 - 11.05, 11.05 - 11.43, 11.43 - 11.81) |
| **7341-9S** | 11.81 - 12.95 | 1pc | 3 pairs (the clamping range are 11.81 - 12.19, 12.19 - 12.57, 12.57 - 12.95) |
| **7341-10S** | 12.95 - 14.71 | 1pc | 4 pairs (the clamping range are 12.95 - 13.51, 13.51 - 13.89, 13.89 - 14.30, 14.30 - 14.71) |
| **7341-11S** | 14.71 -16.13 | 1pc | 4 pairs (the clamping range are 14.71 - 15.09, 15.09 - 15.49, 15.49 - 15.88, 15.88 - 16.13) |
| **7341-12S** | 16.13 - 17.88 | 1pc | 4 pairs (the clamping range are 16.13 - 16.66, 16.66 - 17.07, 17.07 - 17.48, 17.48 - 17.88) |
| **7341-13S** | 17.88 -19.30 | 1pc | 4 pairs (the clamping range are 17.88 - 18.26, 18.26 - 18.67, 18.67 - 19.05, 19.05 - 19.30) |
| **7341-14S** | 19.30 - 20.62 | 1pc | 2 pairs (the clamping range are 19.30 - 19.84, 19.84 - 20.62) |

## 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 GAGE

4124-12

- Supplied with Go and No-Go gages together
- Class H7
- Hardness HRC 60±2
- Standard DIN7150-2

Type A

Type B

**Size tolerance of H7**

| Diameter Ød (mm) | Size tolerance of Go gage (mm) | Size tolerance of No-Go gage (mm) |
|---|---|---|
| ≥2 ≤3 | +0.0005/+0.0025 | +0.009/+0.011 |
| >3 ≤6 | +0.00075/+0.00325 | +0.01075/+0.01325 |
| >6, ≤10 | +0.00075/+0.00325 | +0.01375/+0.01625 |
| >10, ≤18 | +0.001/+0.004 | +0.0165/+0.0195 |
| >18, ≤30 | +0.001/+0.005 | +0.019/+0.023 |
| >30, ≤50 | +0.0015/+0.0055 | +0.023/+0.027 |
| >50, ≤80 | +0.0015/+0.0065 | +0.0275/+0.0325 |
| >80, ≤100 | +0.002/+0.008 | +0.032/+0.038 |

| Code | Diameter Ød | Type |
|---|---|---|
| 4124-2 | 2mm | A |
| 4124-3 | 3mm | A |
| 4124-4 | 4mm | A |
| 4124-5 | 5mm | A |
| 4124-6 | 6mm | A |
| 4124-7 | 7mm | A |
| 4124-8 | 8mm | A |
| 4124-9 | 9mm | A |
| 4124-10 | 10mm | A |
| 4124-11 | 11mm | A |
| 4124-12 | 12mm | A |
| 4124-13 | 13mm | A |
| 4124-14 | 14mm | A |
| 4124-15 | 15mm | A |
| 4124-16 | 16mm | A |

| Code | Diameter Ød | Type |
|---|---|---|
| 4124-17 | 17mm | A |
| 4124-18 | 18mm | A |
| 4124-19 | 19mm | A |
| 4124-20 | 20mm | A |
| 4124-21 | 21mm | A |
| 4124-22 | 22mm | A |
| 4124-23 | 23mm | A |
| 4124-24 | 24mm | A |
| 4124-25 | 25mm | A |
| 4124-26 | 26mm | A |
| 4124-27 | 27mm | A |
| 4124-28 | 28mm | A |
| 4124-29 | 29mm | A |
| 4124-30 | 30mm | A |
| 4124-31 | 31mm | A |

| Code | Diameter Ød | Type |
|---|---|---|
| 4124-32 | 32mm | A |
| 4124-33 | 33mm | A |
| 4124-34 | 34mm | A |
| 4124-35 | 35mm | A |
| 4124-36 | 36mm | A |
| 4124-37 | 37mm | A |
| 4124-38 | 38mm | A |
| 4124-39 | 39mm | A |
| 4124-40 | 40mm | A |
| 4124-41 | 41mm | A |
| 4124-42 | 42mm | A |
| 4124-43 | 43mm | A |
| 4124-44 | 44mm | A |
| 4124-45 | 45mm | A |
| 4124-46 | 46mm | A |

| Code | Diameter Ød | Type |
|---|---|---|
| 4124-47 | 47mm | A |
| 4124-48 | 48mm | A |
| 4124-49 | 49mm | A |
| 4124-50 | 50mm | A |
| 4124-52 | 52mm | B |
| 4124-55 | 55mm | B |
| 4124-60 | 60mm | B |
| 4124-65 | 65mm | B |
| 4124-70 | 70mm | B |
| 4124-75 | 75mm | B |
| 4124-80 | 80mm | B |
| 4124-85 | 85mm | B |
| 4124-90 | 90mm | B |
| 4124-95 | 95mm | B |
| 4124-100 | 100mm | B |

# THREAD PLUG GAGE

- Supplied with Go and No-Go gages together
- Class 6H
- Standard ISO1502

4130-10

ATTENTION: BASIC MODEL

INSIZE MANUFACTURER INSPECTION CERTIFICATE

**Individual**

| Code | Size (mm) |
|---|---|
| 4130-2* | M2x0.4 |
| 4130-2D2* | M2.2x0.45 |
| 4130-2D5* | M2.5x0.45 |
| 4130-3* | M3x0.5 |
| 4130-3D5* | M3.5x0.6 |
| 4130-4* | M4x0.7 |
| 4130-5* | M5x0.8 |

| Code | Size (mm) |
|---|---|
| 4130-6* | M6x1 |
| 4130-7* | M7x1 |
| 4130-8* | M8x1.25 |
| 4130-9* | M9x1.25 |
| 4130-10* | M10x1.5 |
| 4130-11* | M11x1.5 |
| 4130-12* | M12x1.75 |

| Code | Size (mm) |
|---|---|
| 4130-14* | M14x2 |
| 4130-16* | M16x2 |
| 4130-18* | M18x2.5 |
| 4130-20* | M20x2.5 |
| 4130-22* | M22x2.5 |
| 4130-24* | M24x3 |
| 4130-27* | M27x3 |

| Code | Size (mm) |
|---|---|
| 4130-30* | M30x3.5 |
| 4130-33* | M33x3.5 |
| 4130-36* | M36x4 |
| 4130-39* | M39x4 |
| 4130-42* | M42x4.5 |
| 4130-45* | M45x4.5 |
| 4130-48* | M48x5 |

| Code | Size (mm) |
|---|---|
| 4130-52* | M52x5 |
| 4130-56* | M56x5.5 |
| 4130-60* | M60x5.5 |

*Supplied with manufacturer inspection certificate

**Set**

| Code | Thread plug gages included |
|---|---|
| 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**) |

# FINE THREAD PLUG GAGE

MANUFACTURER INSPECTION CERTIFICATE

ATTENTION: BASIC MODEL

- Supplied with Go and No-Go gages together
- Class 6H
- Standard ISO1502

4139-20G

| Code | Size (mm) |
|---|---|
| 4139-2B* | M2x0.25 |
| 4139-2D2B* | M2.2x0.25 |
| 4139-2D5D* | M2.5x0.35 |
| 4139-3D* | M3x0.35 |
| 4139-3D5D* | M3.5x0.35 |
| 4139-4G* | M4x0.5 |
| 4139-5G* | M5x0.5 |
| 4139-6G* | M6x0.5 |
| 4139-6L* | M6x0.75 |
| 4139-7G* | M7x0.5 |
| 4139-7L* | M7x0.75 |
| 4139-8G* | M8x0.5 |
| 4139-8L* | M8x0.75 |
| 4139-8P* | M8x1 |
| 4139-9G* | M9x0.5 |
| 4139-9L* | M9x0.75 |
| 4139-9P* | M9x1 |
| 4139-10G* | M10x0.5 |
| 4139-10L* | M10x0.75 |
| 4139-10P* | M10x1 |
| 4139-10Q* | M10x1.25 |
| 4139-11G* | M11x0.5 |
| 4139-11L* | M11x0.75 |
| 4139-11P* | M11x1 |
| 4139-12G* | M12x0.5 |
| 4139-12L* | M12x0.75 |
| 4139-12P* | M12x1 |
| 4139-12Q* | M12x1.25 |

| Code | Size (mm) |
|---|---|
| 4139-12R* | M12x1.5 |
| 4139-14G* | M14x0.5 |
| 4139-14L* | M14x0.75 |
| 4139-14P* | M14x1 |
| 4139-14Q* | M14x1.25 |
| 4139-14R* | M14x1.5 |
| 4139-16G* | M16x0.5 |
| 4139-16L* | M16x0.75 |
| 4139-16P* | M16x1 |
| 4139-16R* | M16x1.5 |
| 4139-18G* | M18x0.5 |
| 4139-18L* | M18x0.75 |
| 4139-18P* | M18x1 |
| 4139-18R* | M18x1.5 |
| 4139-18T* | M18x2 |
| 4139-20G* | M20x0.5 |
| 4139-20L* | M20x0.75 |
| 4139-20P* | M20x1 |
| 4139-20R* | M20x1.5 |
| 4139-20T* | M20x2 |
| 4139-22G* | M22x0.5 |
| 4139-22L* | M22x0.75 |
| 4139-22P* | M22x1 |
| 4139-22R* | M22x1.5 |
| 4139-22T* | M22x2 |
| 4139-24L* | M24x0.75 |
| 4139-24P* | M24x1 |
| 4139-24R* | M24x1.5 |

| Code | Size (mm) |
|---|---|
| 4139-24T* | M24x2 |
| 4139-27L* | M27x0.75 |
| 4139-27P* | M27x1 |
| 4139-27R* | M27x1.5 |
| 4139-27T* | M27x2 |
| 4139-30L* | M30x0.75 |
| 4139-30P* | M30x1 |
| 4139-30R* | M30x1.5 |
| 4139-30T* | M30x2 |
| 4139-30V* | M30x3 |
| 4139-33L* | M33x0.75 |
| 4139-33P* | M33x1 |
| 4139-33R* | M33x1.5 |
| 4139-33T* | M33x2 |
| 4139-33V* | M33x3 |
| 4139-36P* | M36x1 |
| 4139-36R* | M36x1.5 |
| 4139-36T* | M36x2 |
| 4139-36V* | M36x3 |
| 4139-39P* | M39x1 |
| 4139-39R* | M39x1.5 |
| 4139-39T* | M39x2 |
| 4139-39V* | M39x3 |
| 4139-42P* | M42x1 |
| 4139-42R* | M42x1.5 |
| 4139-42T* | M42x2 |
| 4139-42V* | M42x3 |
| 4139-42X* | M42x4 |

| Code | Size (mm) |
|---|---|
| 4139-45P* | M45x1 |
| 4139-45R* | M45x1.5 |
| 4139-45T* | M45x2 |
| 4139-45V* | M45x3 |
| 4139-45X* | M45x4 |
| 4139-48P* | M48x1 |
| 4139-48R* | M48x1.5 |
| 4139-48T* | M48x2 |
| 4139-48V* | M48x3 |
| 4139-48X* | M48x4 |
| 4139-52P* | M52x1 |
| 4139-52R* | M52x1.5 |
| 4139-52T* | M52x2 |
| 4139-52V* | M52x3 |
| 4139-52X* | M52x4 |
| 4139-56P* | M56x1 |
| 4139-56R* | M56x1.5 |
| 4139-56T* | M56x2 |
| 4139-56V* | M56x3 |
| 4139-56X* | M56x4 |
| 4139-60P* | M60x1 |
| 4139-60R* | M60x1.5 |
| 4139-60T* | M60x2 |
| 4139-60V* | M60x3 |
| 4139-60X* | M60x4 |

*Supplied with manufacturer inspection certificate

# THREAD RING GAGE

MANUFACTURER INSPECTION CERTIFICATE

ATTENTION: BASIC MODEL

4120-16

4120-16N

- Go and No-Go gages are supplied separately
- Class 6g
- Standard ISO1502

**Individual**

| Code Go | Code No Go | Size (mm) |
|---|---|---|
| 4120-2* | 4120-2N* | M2x0.4 |
| 4120-2D2* | 4120-2D2N* | M2.2x0.45 |
| 4120-2D5* | 4120-2D5N* | M2.5x0.45 |
| 4120-3* | 4120-3N* | M3x0.5 |
| 4120-3D5* | 4120-3D5N* | M3.5x0.6 |
| 4120-4* | 4120-4N* | M4x0.7 |
| 4120-5* | 4120-5N* | M5x0.8 |
| 4120-6* | 4120-6N* | M6x1 |
| 4120-7* | 4120-7N* | M7x1 |
| 4120-8* | 4120-8N* | M8x1.25 |
| 4120-9* | 4120-9N* | M9x1.25 |

| Code Go | Code No Go | Size (mm) |
|---|---|---|
| 4120-10* | 4120-10N* | M10x1.5 |
| 4120-11* | 4120-11N* | M11x1.5 |
| 4120-12* | 4120-12N* | M12x1.75 |
| 4120-14* | 4120-14N* | M14x2 |
| 4120-16* | 4120-16N* | M16x2 |
| 4120-18* | 4120-18N* | M18x2.5 |
| 4120-20* | 4120-20N* | M20x2.5 |
| 4120-22* | 4120-22N* | M22x2.5 |
| 4120-24* | 4120-24N* | M24x3 |
| 4120-27* | 4120-27N* | M27x3 |
| 4120-30* | 4120-30N* | M30x3.5 |

| Code Go | Code No Go | Size (mm) |
|---|---|---|
| 4120-33* | 4120-33N* | M33x3.5 |
| 4120-36* | 4120-36N* | M36x4 |
| 4120-39* | 4120-39N* | M39x4 |
| 4120-42* | 4120-42N* | M42x4.5 |
| 4120-45* | 4120-45N* | M45x4.5 |
| 4120-48* | 4120-48N* | M48x5 |
| 4120-52* | 4120-52N* | M52x5 |
| 4120-56* | 4120-56N* | M56x5.5 |
| 4120-60* | 4120-60N* | M60x5.5 |
| | | |
| | | |

**Go ring gage set**

| Code | Thread ring gages included |
|---|---|
| 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**

| Code | Thread ring gages included |
|---|---|
| 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**) |

*Supplied with manufacturer inspection certificate

# FINE THREAD RING GAGE

ATTENTION:
BASIC MODEL

- Go and No-Go gages are supplied separately
- Class 6g
- Standard ISO1502

4129-10P

4129-10PN

INSIZE
MANUFACTURER
INSPECTION CERTIFICATE

| Code Go | Code No Go | Size (mm) |
|---|---|---|
| 4129-2B* | 4129-2BN* | M2x0.25 |
| 4129-2D2B* | 4129-2D2BN* | M2.2x0.25 |
| 4129-2D5D* | 4129-2D5DN* | M2.5x0.35 |
| 4129-3D* | 4129-3DN* | M3x0.35 |
| 4129-3D5D* | 4129-3D5DN* | M3.5x0.35 |
| 4129-4G* | 4129-4GN* | M4x0.5 |
| 4129-5G* | 4129-5GN* | M5x0.5 |
| 4129-6G* | 4129-6GN* | M6x0.5 |
| 4129-6L* | 4129-6LN* | M6x0.75 |
| 4129-7G* | 4129-7GN* | M7x0.5 |
| 4129-7L* | 4129-7LN* | M7x0.75 |
| 4129-8G* | 4129-8GN* | M8x0.5 |
| 4129-8L* | 4129-8LN* | M8x0.75 |
| 4129-8P* | 4129-8PN* | M8x1 |
| 4129-9G* | 4129-9GN* | M9x0.5 |
| 4129-9L* | 4129-9LN* | M9x0.75 |
| 4129-9P* | 4129-9PN* | M9x1 |
| 4129-10G* | 4129-10GN* | M10x0.5 |
| 4129-10L* | 4129-10LN* | M10x0.75 |
| 4129-10P* | 4129-10PN* | M10x1 |
| 4129-10Q* | 4129-10QN* | M10x1.25 |
| 4129-11G* | 4129-11GN* | M11x0.5 |
| 4129-11L* | 4129-11LN* | M11x0.75 |
| 4129-11P* | 4129-11PN* | M11x1 |
| 4129-12G* | 4129-12GN* | M12x0.5 |
| 4129-12L* | 4129-12LN* | M12x0.75 |
| 4129-12P* | 4129-12PN* | M12x1 |
| 4129-12Q* | 4129-12QN* | M12x1.25 |
| 4129-12R* | 4129-12RN* | M12x1.5 |
| 4129-14G* | 4129-14GN* | M14x0.5 |
| 4129-14L* | 4129-14LN* | M14x0.75 |
| 4129-14P* | 4129-14PN* | M14x1 |
| 4129-14Q* | 4129-14QN* | M14x1.25 |
| 4129-14R* | 4129-14RN* | M14x1.5 |
| 4129-16G* | 4129-16GN* | M16x0.5 |
| 4129-16L* | 4129-16LN* | M16x0.75 |
| 4129-16P* | 4129-16PN* | M16x1 |
| 4129-16R* | 4129-16RN* | M16x1.5 |
| 4129-18G* | 4129-18GN* | M18x0.5 |
| 4129-18L* | 4129-18LN* | M18x0.75 |
| 4129-18P* | 4129-18PN* | M18x1 |
| 4129-18R* | 4129-18RN* | M18x1.5 |
| 4129-18T* | 4129-18TN* | M18x2 |
| 4129-20G* | 4129-20GN* | M20x0.5 |
| 4129-20L* | 4129-20LN* | M20x0.75 |
| 4129-20P* | 4129-20PN* | M20x1 |
| 4129-20R* | 4129-20RN* | M20x1.5 |
| 4129-20T* | 4129-20TN* | M20x2 |
| 4129-22G* | 4129-22GN* | M22x0.5 |
| 4129-22L* | 4129-22LN* | M22x0.75 |
| 4129-22P* | 4129-22PN* | M22x1 |
| 4129-22R* | 4129-22RN* | M22x1.5 |
| 4129-22T* | 4129-22TN* | M22x2 |
| 4129-24L* | 4129-24LN* | M24x0.75 |
| 4129-24P* | 4129-24PN* | M24x1 |
| 4129-24R* | 4129-24RN* | M24x1.5 |
| 4129-24T* | 4129-24TN* | M24x2 |
| 4129-27L* | 4129-27LN* | M27x0.75 |
| 4129-27P* | 4129-27PN* | M27x1 |
| 4129-27R* | 4129-27RN* | M27x1.5 |
| 4129-27T* | 4129-27TN* | M27x2 |
| 4129-30L* | 4129-30LN* | M30x0.75 |
| 4129-30P* | 4129-30PN* | M30x1 |
| 4129-30R* | 4129-30RN* | M30x1.5 |
| 4129-30T* | 4129-30TN* | M30x2 |
| 4129-30V* | 4129-30VN* | M30x3 |
| 4129-33L* | 4129-33LN* | M33x0.75 |
| 4129-33P* | 4129-33PN* | M33x1 |
| 4129-33R* | 4129-33RN* | M33x1.5 |
| 4129-33T* | 4129-33TN* | M33x2 |
| 4129-33V* | 4129-33VN* | M33x3 |
| 4129-36P* | 4129-36PN* | M36x1 |
| 4129-36R* | 4129-36RN* | M36x1.5 |
| 4129-36T* | 4129-36TN* | M36x2 |
| 4129-36V* | 4129-36VN* | M36x3 |
| 4129-39P* | 4129-39PN* | M39x1 |
| 4129-39R* | 4129-39RN* | M39x1.5 |
| 4129-39T* | 4129-39TN* | M39x2 |
| 4129-39V* | 4129-39VN* | M39x3 |
| 4129-42P* | 4129-42PN* | M42x1 |
| 4129-42R* | 4129-42RN* | M42x1.5 |
| 4129-42T* | 4129-42TN* | M42x2 |
| 4129-42V* | 4129-42VN* | M42x3 |
| 4129-42X* | 4129-42XN* | M42x4 |
| 4129-45P* | 4129-45PN* | M45x1 |
| 4129-45R* | 4129-45RN* | M45x1.5 |
| 4129-45T* | 4129-45TN* | M45x2 |
| 4129-45V* | 4129-45VN* | M45x3 |
| 4129-45X* | 4129-45XN* | M45x4 |
| 4129-48P* | 4129-48PN* | M48x1 |
| 4129-48R* | 4129-48RN* | M48x1.5 |
| 4129-48T* | 4129-48TN* | M48x2 |
| 4129-48V* | 4129-48VN* | M48x3 |
| 4129-48X* | 4129-48XN* | M48x4 |
| 4129-52P* | 4129-52PN* | M52x1 |
| 4129-52R* | 4129-52RN* | M52x1.5 |
| 4129-52T* | 4129-52TN* | M52x2 |
| 4129-52V* | 4129-52VN* | M52x3 |
| 4129-52X* | 4129-52XN* | M52x4 |
| 4129-56P* | 4129-56PN* | M56x1 |
| 4129-56R* | 4129-56RN* | M56x1.5 |
| 4129-56T* | 4129-56TN* | M56x2 |
| 4129-56V* | 4129-56VN* | M56x3 |
| 4129-56X* | 4129-56XN* | M56x4 |
| 4129-60P* | 4129-60PN* | M60x1 |
| 4129-60R* | 4129-60RN* | M60x1.5 |
| 4129-60T* | 4129-60TN* | M60x2 |
| 4129-60V* | 4129-60VN* | M60x3 |
| 4129-60X* | 4129-60XN* | M60x4 |

*Supplied with manufacturer inspection certificate

# AMERICAN STANDARD THREAD PLUG GAGE

ATTENTION: BASIC MODEL

MANUFACTURER INSPECTION CERTIFICATE

4131-1B1

- Class 2B
- Standard ANSI B1.2

| Code | Size |
|---|---|
| 4131-41* | 4-40UNC |
| 4131-61* | 6-32UNC |
| 4131-81* | 8-32UNC |
| 4131-102* | 10-32UNF |
| 4131-1B1* | 1/4-20UNC |
| 4131-1B2* | 1/4-28UNF |

| Code | Size |
|---|---|
| 4131-5D1* | 5/16-18UNC |
| 4131-5D2* | 5/16-24UNF |
| 4131-3C1* | 3/8-16UNC |
| 4131-3C2* | 3/8-24UNF |
| 4131-7D2* | 7/16-20UNF |
| 4131-1A1* | 1/2-13UNC |

| Code | Size |
|---|---|
| 4131-1A2* | 1/2-20UNF |
| 4131-9D2* | 9/16-18UNF |
| 4131-5C1* | 5/8-11UNC |
| 4131-5C2* | 5/8-18UNF |
| 4131-3B1* | 3/4-10UNC |
| 4131-3B2* | 3/4-16UNF |

*Supplied with manufacturer inspection certificate

# AMERICAN STANDARD THREAD RING GAGE

MANUFACTURER INSPECTION CERTIFICATE

ATTENTION: INSPECTED BY MASTER PLUG GAGES INSTEAD OF LENGTH MACHINE

ATTENTION: BASIC MODEL

4121-1B1

4121-1B1N

- Class 2A
- Standard ANSI B1.2

| Code (GO) | Code (NOGO) | Size |
|---|---|---|
| 4121-41* | 4121-41N* | 4-40UNC |
| 4121-61* | 4121-61N* | 6-32UNC |
| 4121-81* | 4121-81N* | 8-32UNC |
| 4121-102* | 4121-102N* | 10-32UNF |
| 4121-1B1* | 4121-1B1N* | 1/4-20UNC |
| 4121-1B2* | 4121-1B2N* | 1/4-28UNF |
| 4121-5D1* | 4121-5D1N* | 5/16-18UNC |
| 4121-5D2* | 4121-5D2N* | 5/16-24UNF |
| 4121-3C1* | 4121-3C1N* | 3/8-16UNC |

| Code (GO) | Code (NOGO) | Size |
|---|---|---|
| 4121-3C2* | 4121-3C2N* | 3/8-24UNF |
| 4121-7D2* | 4121-7D2N* | 7/16-20UNF |
| 4121-1A1* | 4121-1A1N* | 1/2-13UNC |
| 4121-1A2* | 4121-1A2N* | 1/2-20UNF |
| 4121-9D2* | 4121-9D2N* | 9/16-18UNF |
| 4121-5C1* | 4121-5C1N* | 5/8-11UNC |
| 4121-5C2* | 4121-5C2N* | 5/8-18UNF |
| 4121-3B1* | 4121-3B1N* | 3/4-10UNC |
| 4121-3B2* | 4121-3B2N* | 3/4-16UNF |

*Supplied with manufacturer inspection certificate

# METRIC THREAD PLUG GAGE

4641-6

- Class 6H
- Standard ISO1502
- Material: OHNS (Oil Hardened Non-shrinking Steel), stable dimension and wear resistance
- Hardness HRC60-62

CLASS 5H OF M1.0, M1.1, M1.2, M1.4 ARE AVAILABLE

| Code | Size (mm) |
|---|---|
| 4641-1D6* | M1.6x0.35 |
| 4641-2* | M2x0.4 |
| 4641-2D5* | M2.5x0.45 |
| 4641-3* | M3x0.5 |
| 4641-3D5* | M3.5x0.6 |
| 4641-4* | M4x0.7 |

| Code | Size (mm) |
|---|---|
| 4641-5* | M5x0.8 |
| 4641-6* | M6x1 |
| 4641-8* | M8x1.25 |
| 4641-10* | M10x1.5 |
| 4641-12* | M12x1.75 |
| 4641-14* | M14x2 |

| Code | Size (mm) |
|---|---|
| 4641-16* | M16x2 |
| 4641-18* | M18x2.5 |
| 4641-20* | M20x2.5 |
| 4641-22* | M22x2.5 |
| 4641-24* | M24x3 |
| 4641-27* | M27x3 |

| Code | Size (mm) |
|---|---|
| 4641-30* | M30x3.5 |
| 4641-33* | M33x3.5 |
| 4641-36* | M36x4 |
| 4641-42* | M42x4.5 |
| 4641-48* | M48x5 |
| | |

*Supplied with manufacturer calibration certificate

# METRIC FINE THREAD PLUG GAGE

4642-12R

- Class 6H
- Standard ISO1502
- Material: OHNS (Oil Hardened Non-shrinking Steel), stable dimension and wear resistance
- Hardness HRC60-62

| Code | Size (mm) |
|---|---|
| 4642-8G* | M8x0.5 |
| 4642-8L* | M8x0.75 |
| 4642-8P* | M8x1 |
| 4642-10L* | M10x0.75 |
| 4642-10P* | M10x1 |
| 4642-10Q* | M10x1.25 |
| 4642-12P* | M12x1 |
| 4642-12Q* | M12x1.25 |
| 4642-12R* | M12x1.5 |
| 4642-14P* | M14x1 |
| 4642-14Q* | M14x1.25 |
| 4642-14R* | M14x1.5 |
| 4642-16P* | M16x1 |
| 4642-16R* | M16x1.5 |

| Code | Size (mm) |
|---|---|
| 4642-18P* | M18x1 |
| 4642-18R* | M18x1.5 |
| 4642-20P* | M20x1 |
| 4642-20R* | M20x1.5 |
| 4642-22R* | M22x1.5 |
| 4642-24P* | M24x1 |
| 4642-24R* | M24x1.5 |
| 4642-24T* | M24x2 |
| 4642-25R* | M25x1.5 |
| 4642-26R* | M26x1.5 |
| 4642-27R* | M27x1.5 |
| 4642-27T* | M27x2 |
| 4642-28R* | M28x1.5 |
| 4642-30P* | M30x1 |

| Code | Size (mm) |
|---|---|
| 4642-30R* | M30x1.5 |
| 4642-30T* | M30x2 |
| 4642-32R* | M32x1.5 |
| 4642-33R* | M33x1.5 |
| 4642-33T* | M33x2 |
| 4642-35R* | M35x1.5 |
| 4642-36R* | M36x1.5 |
| 4642-36T* | M36x2 |
| 4642-38R* | M38x1.5 |
| 4642-40R* | M40x1.5 |
| 4642-40T* | M40x2 |
| 4642-42R* | M42x1.5 |
| 4642-42T* | M42x2 |
| 4642-45R* | M45x1.5 |

| Code | Size (mm) |
|---|---|
| 4642-45T* | M45x2 |
| 4642-48R* | M48x1.5 |
| 4642-48T* | M48x2 |
| 4642-50R* | M50x1.5 |
| 4642-50T* | M50x2 |
| 4642-52R* | M52x1.5 |
| 4642-52T* | M52x2 |
| 4642-55R* | M55x1.5 |
| 4642-55T* | M55x2 |
| 4642-58R* | M58x1.5 |
| 4642-60T* | M60x2 |
| | |
| | |
| | |

*Supplied with manufacturer calibration certificate

# METRIC THREAD RING GAGE

CLASS 6h OF M1.2, M1.4 ARE AVAILABLE

- Class 6g
- Standard ISO1502
- Material: OHNS (Oil Hardened Non-shrinking Steel), stable dimension and wear resistance
- Hardness HRC60-62

4631-12

4631-12N

| Code (GO) | Code (NOGO) | Size (mm) |
|---|---|---|
| 4631-1D2* | 4631-1D2N* | M1.2x0.25 |
| 4631-1D4* | 4631-1D4N* | M1.4x0.30 |
| 4631-1D6* | 4631-1D6N* | M1.6x0.35 |
| 4631-2* | 4631-2N* | M2x0.4 |
| 4631-2D5* | 4631-2D5N* | M2.5x0.45 |
| 4631-3* | 4631-3N* | M3x0.5 |
| 4631-3D5* | 4631-3D5N* | M3.5x0.6 |
| 4631-4* | 4631-4N* | M4x0.7 |
| 4631-5* | 4631-5N* | M5x0.8 |

| Code (GO) | Code (NOGO) | Size (mm) |
|---|---|---|
| 4631-6* | 4631-6N* | M6x1 |
| 4631-8* | 4631-8N* | M8x1.25 |
| 4631-10* | 4631-10N* | M10x1.5 |
| 4631-12* | 4631-12N* | M12x1.75 |
| 4631-14* | 4631-14N* | M14x2 |
| 4631-16* | 4631-16N* | M16x2 |
| 4631-18* | 4631-18N* | M18x2.5 |
| 4631-20* | 4631-20N* | M20x2.5 |
| 4631-22* | 4631-22N* | M22x2.5 |

| Code (GO) | Code (NOGO) | Size (mm) |
|---|---|---|
| 4631-24* | 4631-24N* | M24x3 |
| 4631-27* | 4631-27N* | M27x3 |
| 4631-30* | 4631-30N* | M30x3.5 |
| 4631-33* | 4631-33N* | M33x3.5 |
| 4631-36* | 4631-36N* | M36x4 |
| 4631-42* | 4631-42N* | M42x4.5 |
| 4631-48* | 4631-48N* | M48x5 |

*Supplied with manufacturer calibration certificate

# METRIC FINE THREAD RING GAGE

- Class 6g
- Standard ISO1502
- Material: OHNS (Oil Hardened Non-shrinking Steel), stable dimension and wear resistance
- Hardness HRC60-62

4632-10Q

4632-10QN

| Code (GO) | Code (NOGO) | Size (mm) |
|---|---|---|
| 4632-8G* | 4632-8GN* | M8x0.5 |
| 4632-8L* | 4632-8LN* | M8x0.75 |
| 4632-8P* | 4632-8PN* | M8x1 |
| 4632-10L* | 4632-10LN* | M10x0.75 |
| 4632-10P* | 4632-10PN* | M10x1 |
| 4632-10Q* | 4632-10QN* | M10x1.25 |
| 4632-12P* | 4632-12PN* | M12x1 |
| 4632-12Q* | 4632-12QN* | M12x1.25 |
| 4632-12R* | 4632-12RN* | M12x1.5 |
| 4632-14P* | 4632-14PN* | M14x1 |
| 4632-14Q* | 4632-14QN* | M14x1.25 |
| 4632-14R* | 4632-14RN* | M14x1.5 |
| 4632-16P* | 4632-16PN* | M16x1 |
| 4632-16R* | 4632-16RN* | M16x1.5 |
| 4632-18P* | 4632-18PN* | M18x1 |
| 4632-18R* | 4632-18RN* | M18x1.5 |
| 4632-20P* | 4632-20PN* | M20x1 |
| 4632-20R* | 4632-20RN* | M20x1.5 |

| Code (GO) | Code (NOGO) | Size (mm) |
|---|---|---|
| 4632-22R* | 4632-22RN* | M22x1.5 |
| 4632-24P* | 4632-24PN* | M24x1 |
| 4632-24R* | 4632-24RN* | M24x1.5 |
| 4632-24T* | 4632-24TN* | M24x2 |
| 4632-25R* | 4632-25RN* | M25x1.5 |
| 4632-26R* | 4632-26RN* | M26x1.5 |
| 4632-27R* | 4632-27RN* | M27x1.5 |
| 4632-27T* | 4632-27TN* | M27x2 |
| 4632-28R* | 4632-28RN* | M28x1.5 |
| 4632-30P* | 4632-30PN* | M30x1 |
| 4632-30R* | 4632-30RN* | M30x1.5 |
| 4632-30T* | 4632-30TN* | M30x2 |
| 4632-32R* | 4632-32RN* | M32x1.5 |
| 4632-33R* | 4632-33RN* | M33x1.5 |
| 4632-33T* | 4632-33TN* | M33x2 |
| 4632-35R* | 4632-35RN* | M35x1.5 |
| 4632-36R* | 4632-36RN* | M36x1.5 |
| 4632-36T* | 4632-36TN* | M36x2 |

| Code (GO) | Code (NOGO) | Size (mm) |
|---|---|---|
| 4632-38R* | 4632-38RN* | M38x1.5 |
| 4632-40R* | 4632-40RN* | M40x1.5 |
| 4632-40T* | 4632-40TN* | M40x2 |
| 4632-42R* | 4632-42RN* | M42x1.5 |
| 4632-42T* | 4632-42TN* | M42x2 |
| 4632-45R* | 4632-45RN* | M45x1.5 |
| 4632-45T* | 4632-45TN* | M45x2 |
| 4632-48R* | 4632-48RN* | M48x1.5 |
| 4632-48T* | 4632-48TN* | M48x2 |
| 4632-50R* | 4632-50RN* | M50x1.5 |
| 4632-50T* | 4632-50TN* | M50x2 |
| 4632-52R* | 4632-52RN* | M52x1.5 |
| 4632-52T* | 4632-52TN* | M52x2 |
| 4632-55R* | 4632-55RN* | M55x1.5 |
| 4632-55T* | 4632-55TN* | M55x2 |
| 4632-58R* | 4632-58RN* | M58x1.5 |
| 4632-60T* | 4632-60TN* | M60x2 |

*Supplied with manufacturer calibration certificate

# AMERICAN STANDARD THREAD PLUG GAGE

- Class 2B
- Standard ANSI B1.2
- Material: OHNS (Oil Hardened Non-shrinking Steel), stable dimension and wear resistance
- Hardness HRC60-62

4643-1B1

| Code | Size |
|---|---|
| 4643-41* | 4-40UNC |
| 4643-61* | 6-32UNC |
| 4643-81* | 8-32UNC |
| 4643-102* | 10-32UNF |
| 4643-1B1* | 1/4-20UNC |
| 4643-1B2* | 1/4-28UNF |

| Code | Size |
|---|---|
| 4643-5D1* | 5/16-18UNC |
| 4643-5D2* | 5/16-24UNF |
| 4643-3C1* | 3/8-16UNC |
| 4643-3C2* | 3/8-24UNF |
| 4643-7D2* | 7/16-20UNF |
| 4643-1A1* | 1/2-13UNC |

| Code | Size |
|---|---|
| 4643-1A2* | 1/2-20UNF |
| 4643-9D2* | 9/16-18UNF |
| 4643-5C1* | 5/8-11UNC |
| 4643-5C2* | 5/8-18UNF |
| 4643-3B1* | 3/4-10UNC |
| 4643-3B2* | 3/4-16UNF |

*Supplied with manufacturer inspection certificate

# AMERICAN STANDARD THREAD RING GAGE

- Class 2A
- Standard ANSI B1.2
- Material: OHNS (Oil Hardened Non-shrinking Steel), stable dimension and wear resistance
- Hardness HRC60-62

4633-1B1

4633-1B1N

| Code (GO) | Code (NOGO) | Size |
|---|---|---|
| 4633-41* | 4633-41N* | 4-40UNC |
| 4633-61* | 4633-61N* | 6-32UNC |
| 4633-81* | 4633-81N* | 8-32UNC |
| 4633-102* | 4633-102N* | 10-32UNF |
| 4633-1B1* | 4633-1B1N* | 1/4-20UNC |
| 4633-1B2* | 4633-1B2N* | 1/4-28UNF |
| 4633-5D1* | 4633-5D1N* | 5/16-18UNC |
| 4633-5D2* | 4633-5D2N* | 5/16-24UNF |
| 4633-3C1* | 4633-3C1N* | 3/8-16UNC |

| Code (GO) | Code (NOGO) | Size |
|---|---|---|
| 4633-3C2* | 4633-3C2N* | 3/8-24UNF |
| 4633-7D2* | 4633-7D2N* | 7/16-20UNF |
| 4633-1A1* | 4633-1A1N* | 1/2-13UNC |
| 4633-1A2* | 4633-1A2N* | 1/2-20UNF |
| 4633-9D2* | 4633-9D2N* | 9/16-18UNF |
| 4633-5C1* | 4633-5C1N* | 5/8-11UNC |
| 4633-5C2* | 4633-5C2N* | 5/8-18UNF |
| 4633-3B1* | 4633-3B1N* | 3/4-10UNC |
| 4633-3B2* | 4633-3B2N* | 3/4-16UNF |

*Supplied with manufacturer inspection certificate

# NPT THREAD PLUG GAGE

4644-1B18

- American tapered pipe thread for threads with sealant
- Standard ANSI / ASME B1.20.1
- Taper 1:16
- Material: OHNS (Oil Hardened Non-shrinking Steel), stable dimension and wear resistance
- Hardness HRC60-62

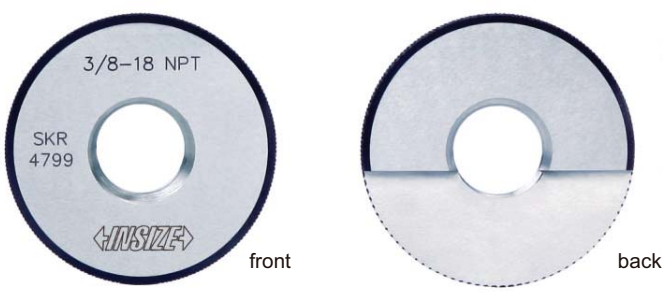
| Code | Size |
|---|---|
| 4644-1D27* | 1/16x27NPT |
| 4644-1C27* | 1/8x27NPT |
| 4644-1B18* | 1/4x18NPT |
| 4644-3C18* | 3/8x18NPT |
| 4644-1A14* | 1/2x14NPT |

| Code | Size |
|---|---|
| 4644-3B14* | 3/4x14NPT |
| 4644-112* | 1x11.5NPT |
| 4644-1G12* | 1-1/4x11.5NPT |
| 4644-1H12* | 1-1/2x11.5NPT |
| 4644-212* | 2x11.5NPT |

| Code | Size |
|---|---|
| 4644-1J8* | 2-1/2x8NPT |
| 4644-38* | 3x8NPT |
| 4644-1N8* | 3-1/2x8NPT |
| 4644-48* | 4x8NPT |
| | |

*Supplied with manufacturer inspection certificate

# NPT THREAD RING GAGE




front back

4634-3C18

- American tapered pipe thread for threads with sealant
- Standard ANSI / ASME B1.20.1
- Taper 1:16
- Material: OHNS (Oil Hardened Non-shrinking Steel), stable dimension and wear resistance
- Hardness HRC60-62

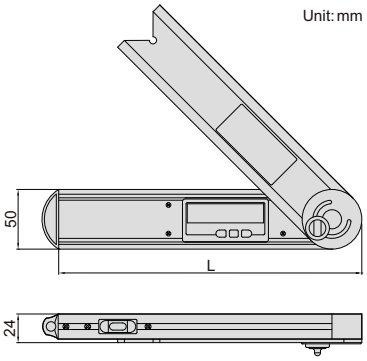
| Code | Size |
|---|---|
| 4634-1D27* | 1/16x27NPT |
| 4634-1C27* | 1/8x27NPT |
| 4634-1B18* | 1/4x18NPT |
| 4634-3C18* | 3/8x18NPT |
| 4634-1A14* | 1/2x14NPT |

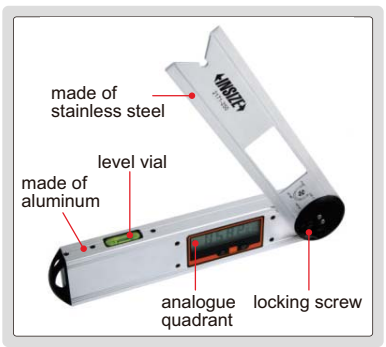
| Code | Size |
|---|---|
| 4634-3B14* | 3/4x14NPT |
| 4634-112* | 1x11.5NPT |
| 4634-1G12* | 1-1/4x11.5NPT |
| 4634-1H12* | 1-1/2x11.5NPT |
| 4634-212* | 2x11.5NPT |

| Code | Size |
|---|---|
| 4634-1J8* | 2-1/2x8NPT |
| 4634-38* | 3x8NPT |
| 4634-1N8* | 3-1/2x8NPT |
| 4634-48* | 4x8NPT |
| | |

*Supplied with manufacturer inspection certificate

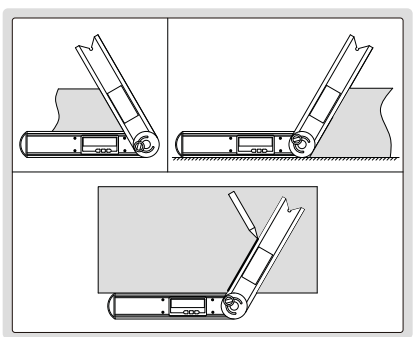
# DIGITAL PROTRACTOR



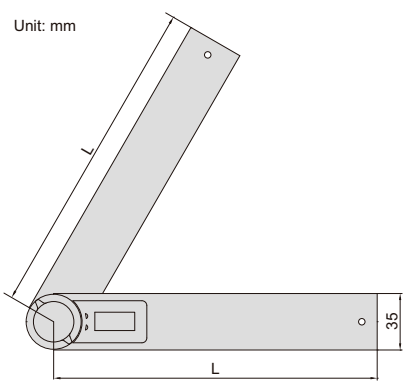

**2171-250**

- 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



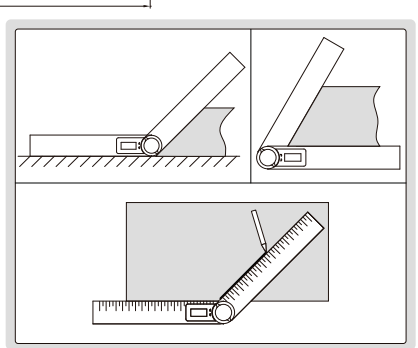
| Code | Size (L) | Range | Resolution | Accuracy |
|---|---|---|---|---|
| **2171-250** | 250mm | 0 - 360° | 0.05° | ±0.15° |

# DIGITAL PROTRACTOR




**2176-300**

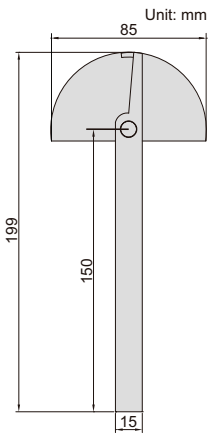
- Buttons: ON/OFF, ZERO
- With clamping screw to lock the blades
- Graduation of blade: 1mm and 1/32"
- CR2032 battery
- Automatic power off



| Code | Size(L) | Range | Resolution | Accuracy |
|---|---|---|---|---|
| **2176-200** | 200mm | 0 - 360° | 0.1° | ±0.3° |
| **2176-300** | 300mm | 0 - 360° | 0.1° | ±0.3° |

# PROTRACTOR

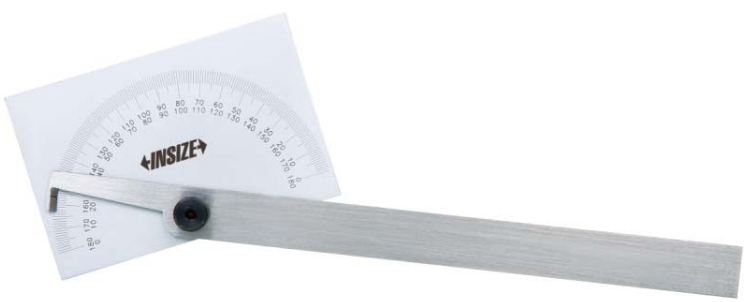
**4780-85**



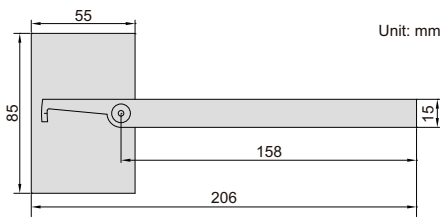

- Made of stainless steel
- Satin chrome plated scale
- With clamping screw

| Code | Size | Range | Graduation | Accuracy |
|---|---|---|---|---|
| **4780-85** | 85x150mm | 0 - 180° | 1° | ±0.3° |

# PROTRACTOR



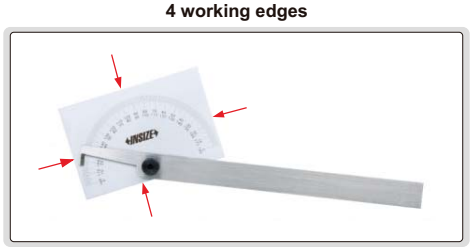
**4781-85**




- Made of stainless steel
- Satin chrome plated scale
- With clamping screw

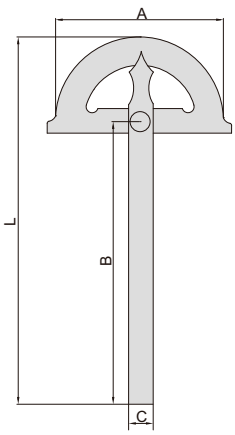
| Code | Size | Range | Graduation | Accuracy |
|---|---|---|---|---|
| **4781-85** | 85x158mm | 0 - 180° | 1° | ±0.3° |

**4 working edges**



# PROTRACTOR

4799-180



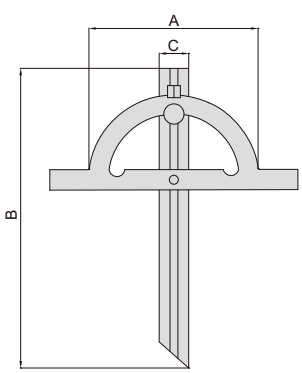

- Made of stainless steel (**4799-1300** is made of carbon steel)
- Satin chrome plated scale
- With clamping screw

(mm)

| Code | Size(AxB) | Range | Graduation | Accuracy | L | C |
|---|---|---|---|---|---|---|
| **4799-180** | 80x120mm | 0-180° | 1° | ±0.3° | 168 | 11 |
| **4799-1120** | 120x150mm | 0-180° | 1° | ±0.3° | 220 | 14 |
| **4799-1150** | 150x200mm | 0-180° | 1° | ±0.3° | 285 | 16 |
| **4799-1200** | 200x300mm | 0-180° | 1° | ±0.3° | 413 | 20 |
| **4799-1300** | 300x500mm | 0-180° | 1° | ±0.3° | 675 | 30 |

# PROTRACTOR

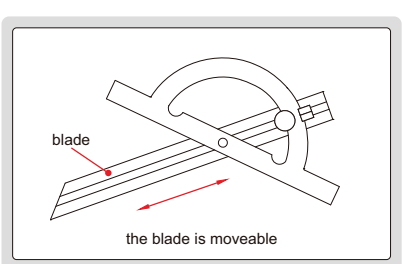
4797-100




- Made of carbon steel
- Satin chrome plated
- With clamping screw
- The blade is moveable

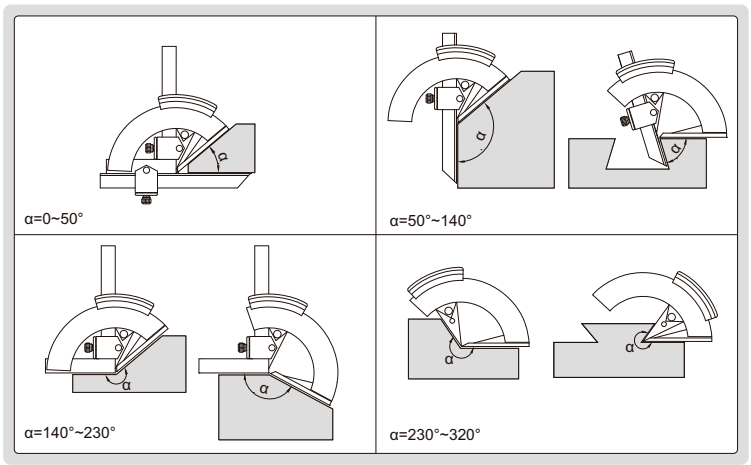
(mm)

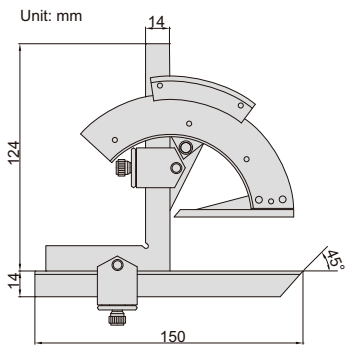
| Code | Size (AxB) | Range | Graduation | Accuracy | C |
|---|---|---|---|---|---|
| **4797-100** | 100x150mm | 10-170° | 1° | ±0.3° | 18 |
| **4797-150** | 150x300mm | 10-170° | 1° | ±0.3° | 22 |
| **4797-200** | 200x400mm | 10-170° | 1° | ±0.3° | 24 |
| **4797-250** | 250x500mm | 10-170° | 1° | ±0.3° | 28 |
| **4797-300** | 300x600mm | 10-170° | 1° | ±0.3° | 32 |



# PROTRACTOR

**2374-320**

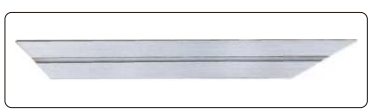



- Made of stainless steel
- Satin chrome plated scale

| Code | Range | Graduation | Accuracy |
|---|---|---|---|
| **2374-320** | 0 - 320° | 2' | ±2' |

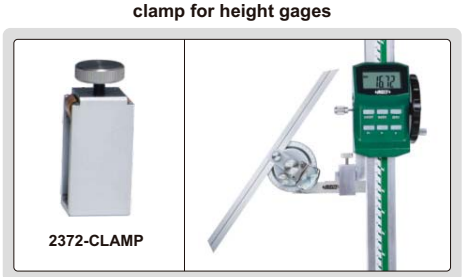
# UNIVERSAL PROTRACTOR

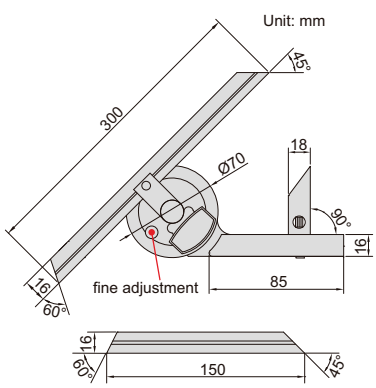


150mm blade (included)

**2372-360**

**clamp for height gages**

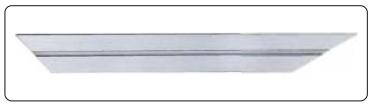



- Parallax-free reading
- Made of stainless steel
- Optional accessory: clamp (code **2372-CLAMP**), suitable for height gages **1156** and **1351**

| Code | Range | Graduation | Accuracy |
|---|---|---|---|
| **2372-360** | 0 - 360° | 5' | ±5' |

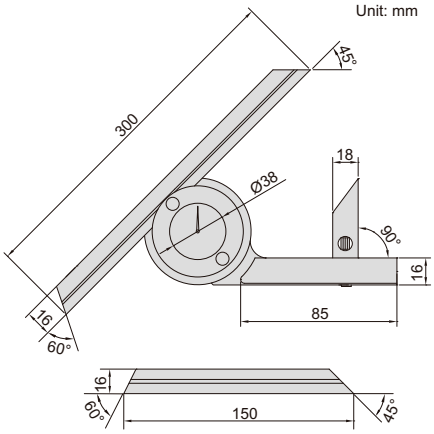
# DIAL PROTRACTOR



150mm blade (included)

2373-360

Unit: mm




**clamp for height gages**

- Made of stainless steel
- Optional accessory: clamp (code **2372-CLAMP**), suitable for height gages **1156** and **1351**

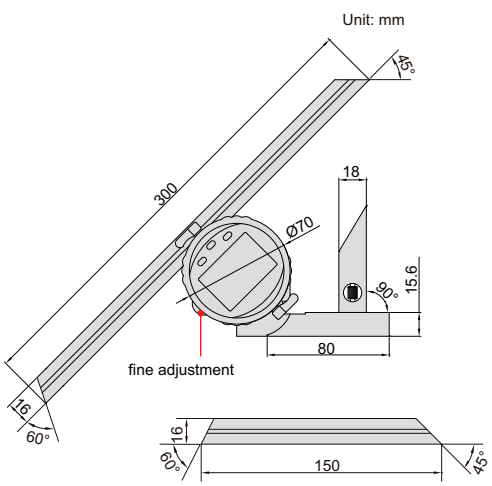
| Code | Range | Graduation | Accuracy |
|---|---|---|---|
| **2373-360** | 0 - 360° | 5' | ±5' |

# DIGITAL PROTRACTOR

DATA OUTPUT

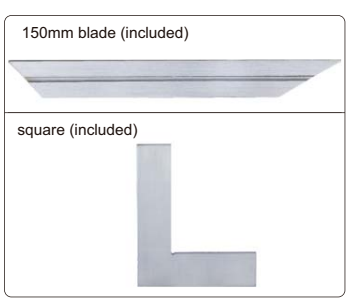
**2172-360A**

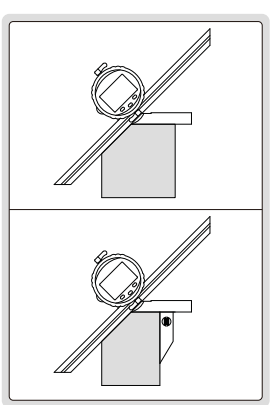
Unit: mm




- Display in degree (for example 32.655°) and degree/minute/second (for example 32°39'30")
- SET button: preset the reading, change measuring direction
- MODE button: choose 0-90°, 0-180° or 0-360° display
- ZERO/ON/OFF button: zero and power on/off
- Battery CR2032, automatic power off
- Data output
- Supplied with square to set 90°
- Made of stainless steel
- Optional accessory: data output cable (code **7305-SPC1A**)

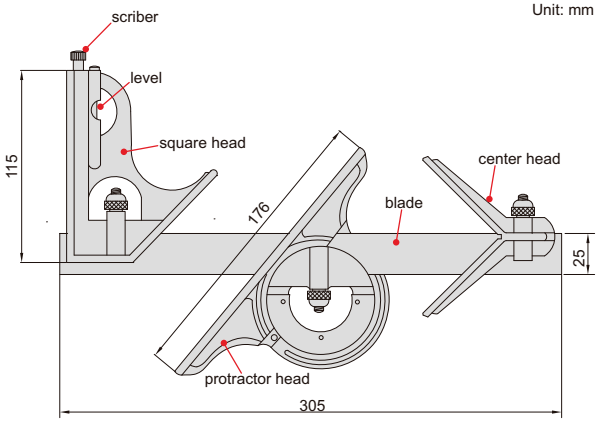
| Code | Range | Resolution | Accuracy |
|---|---|---|---|
| **2172-360A** | 0 - 360° | 10"/0.005° | ±5' |



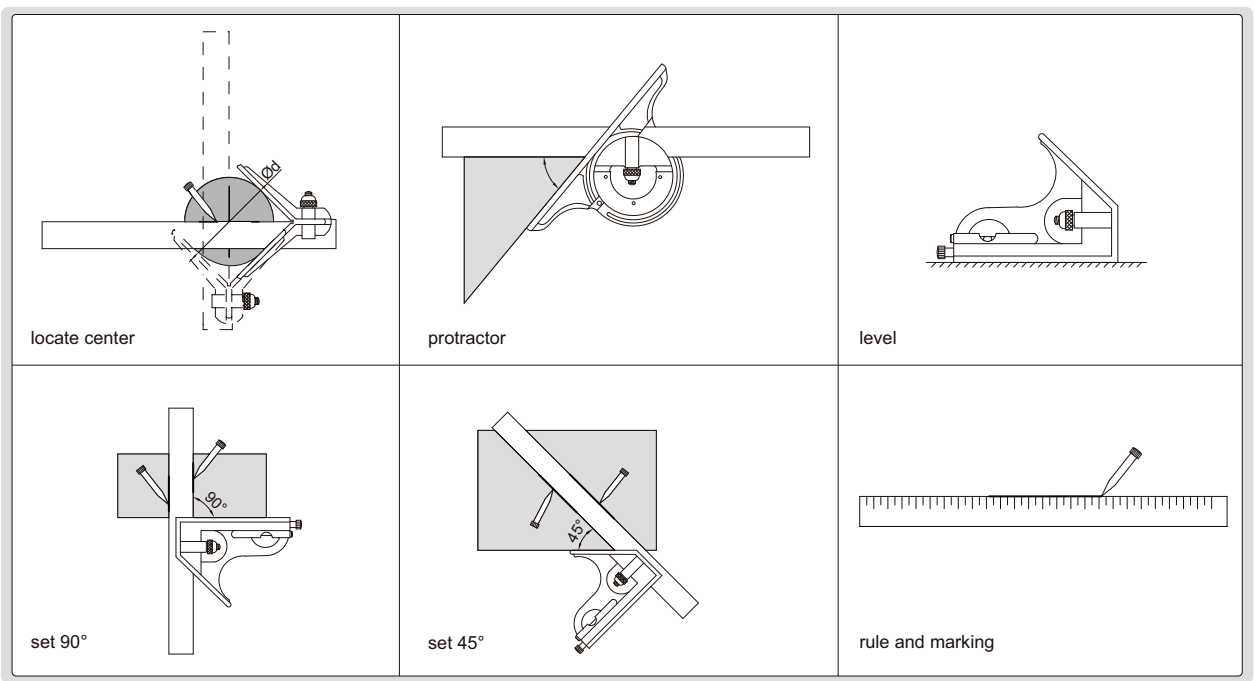



# COMBINATION SQUARE SET

Unit: mm




**2278-180**

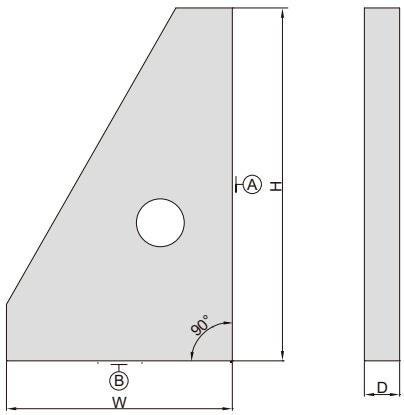



| Code |
| --- |
| **2278-180** |

- Center head:
  To locate center of cylinder with diameter (Ød): 30 - 100mm
  Accuracy: ±0.15mm
- Protractor head:
  To set the blade at desired angle to an edge of a workpiece, and can be used to measure angles
  Range: 0-180°
  Accuracy: ±7min.
- Square head:
  To set the blade at 90° or 45° to an edge of a workpiece
  Accuracy: ±8min for 90° square, ±10min for 45° square
- Blade:
  Range: 300mm/12",
  Graduation: 0.5mm and 1/32" on front face, 1mm and1/64" on back face
- Optional accessory: rigid rule (code **7113**)

## GRANITE SQUARE

4141-250

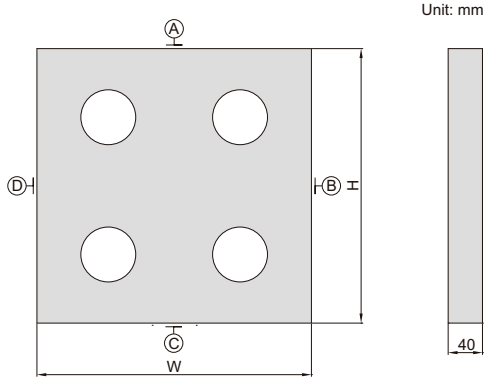



| Code | Size (HxW) | Flatness of A | Flatness of B | Squareness of A to B | D |
|---|---|---|---|---|---|
| **4141-250** | 250x160mm | 1µm | 1µm | 2µm | 25mm |
| **4141-400** | 400x250mm | 1.5µm | 1µm | 3µm | 40mm |
| **4141-630** | 630x400mm | 2µm | 1.5µm | 4µm | 63mm |

## GRANITE SQUARE

4144-315

Unit: mm



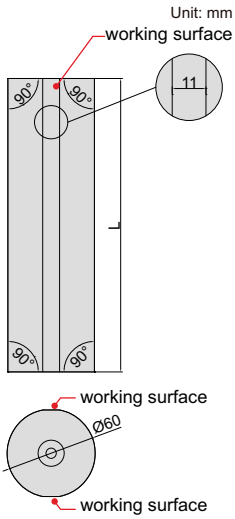

| Code | Size (HxW) | Flatness of A, B, C and D | Squareness and parallelism between A, B, C and D |
|---|---|---|---|
| **4144-315** | 315x315mm | 1.1µm | 2.6µm |

# CYLINDER SQUARE

MANUFACTURER INSPECTION CERTIFICATE

4710-200

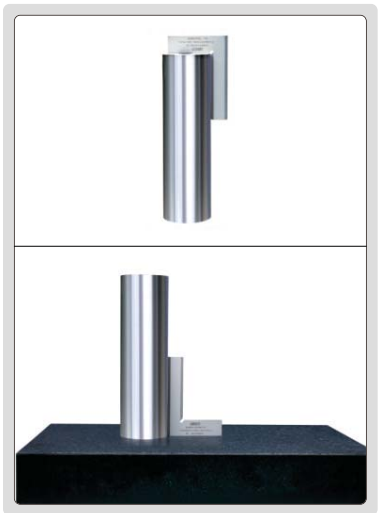
Unit: mm







**inspect 90° internal and external angles**



| Code | Length(L) | Squareness |
|---|---|---|
| **4710-200*** | 200mm | 1μm |
| **4710-300*** | 300mm | 2μm |

*Supplied with manufacturer inspection certificate

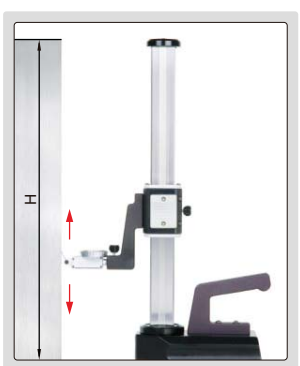
- Made of special alloy steel, hardness HRC58~60
- The handle can be removed

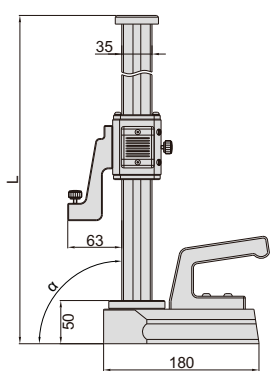
# PERPENDICULARITY TESTER

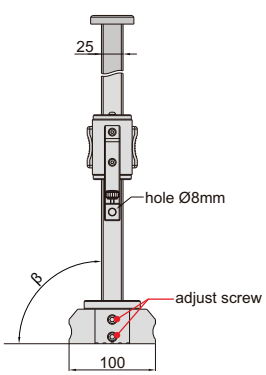
**4770-300**

**dial test indicator is not included**

Unit: mm



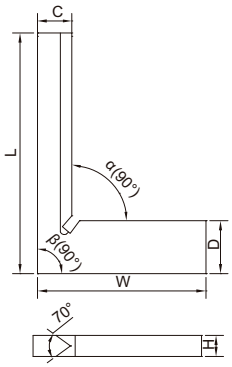




| Code | Range(H) | Perpendicularity(α) | Side perpendicularity(β) | L |
|---|---|---|---|---|
| **4770-300** | 0-300mm | 3μm | 10μm | 460mm |
| **4770-600** | 0-600mm | 5μm | 20μm | 760mm |

- Optional accessory:
  dial test indicators (graduation: 1μm or 2μm),
  cylinder square (code **4710**, for calibration),
  granite square (code **4141**, for calibration)

## 90° TOOL MAKER SQUARE

4794-040




(mm)

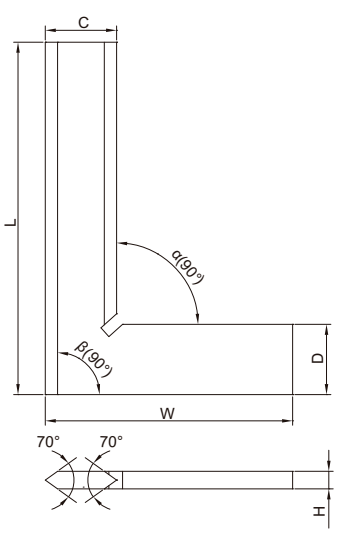
| Code | Size (LxW) | Squareness | | C | D | H |
|---|---|---|---|---|---|---|
| | | Inside (α) | Outside (β) | | | |
| **4794-025** | 25x20mm | 2.2μm | 2.3μm | 4 | 6.5 | 3.5 |
| **4794-040** | 40x28mm | 2.3μm | 2.4μm | 5.5 | 8.5 | 3.5 |

- DIN875 grade 00
- Beveled edge for inside measurement
- Made of hardened stainless steel

## 90° BEVELED EDGE SQUARE

- Satin chrome plating
- Beveled edges for inside and outside measurement
- Made of hardened stainless steel

4790-0100




**DIN875 grade 00** (mm)

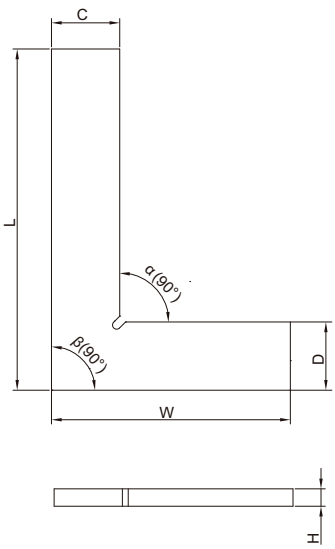
| Code | Size (LxW) | Squareness | | C | D | H |
|---|---|---|---|---|---|---|
| | | Inside (α) | Outside (β) | | | |
| **4790-050** | 50x40mm | 2.4μm | 2.5μm | 13 | 13 | 4 |
| **4790-075** | 75x50mm | 2.6μm | 2.8μm | 15 | 15 | 4 |
| **4790-0100** | 100x70mm | 2.8μm | 3.0μm | 20 | 20 | 5 |
| **4790-0150** | 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° FLAT EDGE SQUARE

4791-100



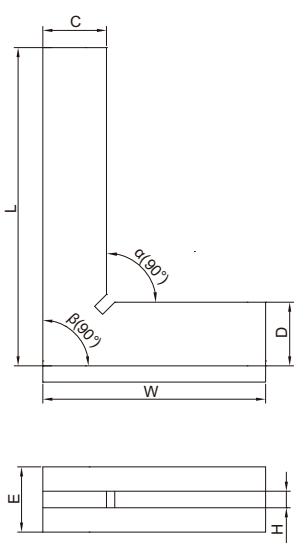

(mm)

| Code | Size (LxW) | Squareness | | C | D | H |
|---|---|---|---|---|---|---|
| | | Inside (α) | Outside (β) | | | |
| **4791-50** | 50x40mm | 6μm | 6μm | 13 | 13 | 4 |
| **4791-75** | 75x50mm | 6μm | 7μm | 15 | 15 | 4 |
| **4791-100** | 100x70mm | 7μm | 7μm | 20 | 20 | 5 |
| **4791-150** | 150x100mm | 7μm | 8μm | 30 | 30 | 6 |
| **4791-200** | 200x130mm | 8μm | 9μm | 30 | 30 | 7 |
| **4791-250** | 250x165mm | 9μm | 10μm | 35 | 35 | 7 |
| **4791-300** | 300x200mm | 10μm | 11μm | 40 | 40 | 8 |

- DIN875 grade 0
- Made of hardened stainless steel

# 90° FLAT EDGE SQUARE WITH WIDE BASE

4793-100



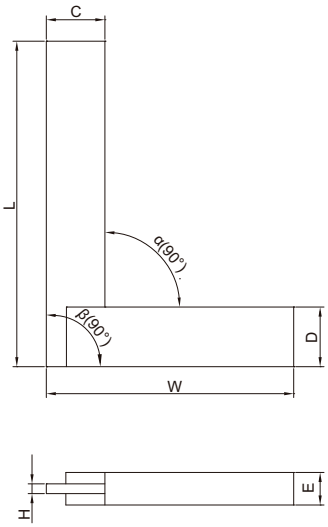

(mm)

| Code | Size (LxW) | Squareness | | C | D | H | E |
|---|---|---|---|---|---|---|---|
| | | Inside (α) | Outside (β) | | | | |
| **4793-50** | 50x40mm | 6μm | 6μm | 13 | 13 | 4 | 13 |
| **4793-75** | 75x50mm | 6μm | 7μm | 15 | 15 | 4 | 15 |
| **4793-100** | 100x70mm | 7μm | 7μm | 20 | 20 | 5 | 20 |
| **4793-150** | 150x100mm | 7μm | 8μm | 30 | 30 | 6 | 30 |
| **4793-200** | 200x130mm | 8μm | 9μm | 30 | 30 | 7 | 30 |
| **4793-250** | 250x165mm | 9μm | 10μm | 35 | 35 | 7 | 35 |
| **4793-300** | 300x200mm | 10μm | 11μm | 40 | 40 | 8 | 40 |

- DIN875 grade 0
- Made of hardened stainless steel

## 90° FLAT EDGE SQUARE WITH WIDE BASE

4792-100



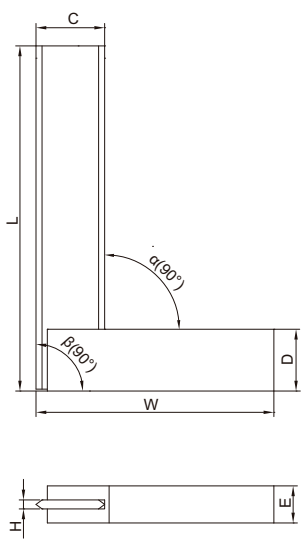

(mm)

| Code | Size (LxW) | Squareness | | C | D | H | E |
|---|---|---|---|---|---|---|---|
| | | Inside (α) | Outside (β) | | | | |
| **4792-50** | 50x40mm | 6μm | 6μm | 12 | 12 | 3 | 10 |
| **4792-75** | 75x50mm | 6μm | 7μm | 14 | 14 | 3 | 10 |
| **4792-100** | 100x70mm | 7μm | 7μm | 18 | 18 | 3 | 10 |
| **4792-150** | 150x100mm | 8μm | 8μm | 22 | 22 | 4 | 12 |
| **4792-200** | 200x130mm | 9μm | 9μm | 25 | 25 | 4 | 12 |

- DIN875 grade 0
- Made of hardened stainless steel

## 90° BEVELED EDGE SQUARE WITH WIDE BASE

4795-100




(mm)

| Code | Size (LxW) | Squareness | | C | D | H | E |
|---|---|---|---|---|---|---|---|
| | | Inside (α) | Outside (β) | | | | |
| **4795-50** | 50x40mm | 6μm | 6μm | 12 | 12 | 3 | 10 |
| **4795-75** | 75x50mm | 6μm | 7μm | 14 | 14 | 3 | 10 |
| **4795-100** | 100x70mm | 7μm | 7μm | 18 | 18 | 3 | 10 |
| **4795-150** | 150x100mm | 8μm | 8μm | 22 | 22 | 4 | 12 |
| **4795-200** | 200x130mm | 9μm | 9μm | 25 | 25 | 4 | 12 |

- DIN875 grade 0
- Beveled edges for inside and outside measurement
- Made of hardened stainless steel

ATTENTION:
LOW ACCURACY

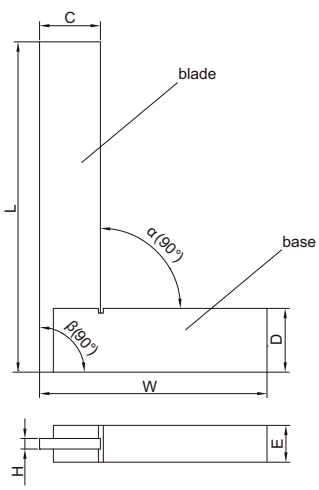
# MACHINIST SQUARE WITH WIDE BASE

4707-100

- Economic model
- DIN875 grade 2
- Made of carbon steel, no anti-rust treatment, not hardend

(mm)

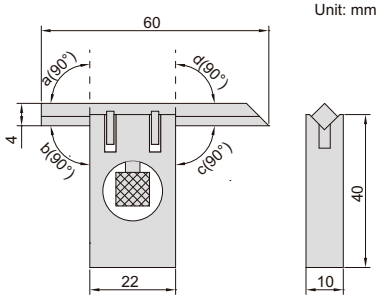
| Code | Size (LxW) | Squareness | | C | D | H | E |
|---|---|---|---|---|---|---|---|
| | | Inside (α) | Outside (β) | | | | |
| **4707-50** | 50x40mm | 24μm | 25μm | 16 | 12 | 3 | 9 |
| **4707-75** | 75x50mm | 26μm | 28μm | 16 | 16 | 3 | 9 |
| **4707-100** | 100x70mm | 28μm | 30μm | 19 | 19 | 3 | 12 |
| **4707-150** | 150x100mm | 33μm | 35μm | 25 | 25 | 3 | 16 |
| **4707-200** | 200x130mm | 37μm | 40μm | 30 | 32 | 4 | 16 |
| **4707-250** | 250x165mm | 42μm | 45μm | 30 | 32 | 4 | 19 |
| **4707-300** | 300x200mm | 47μm | 50μm | 32 | 32 | 4 | 19 |
| **4707-400** | 400x250mm | 56μm | 60μm | 38 | 38 | 5 | 22 |
| **4707-500** | 500x300mm | 65μm | 70μm | 45 | 50 | 6 | 25 |
| **4707-600** | 600x350mm | 75μm | 80μm | 50 | 50 | 6 | 30 |
| **4707-750** | 750x400mm | 90μm | 95μm | 55 | 55 | 6 | 50 |
| **4707-900** | 900x500mm | 103μm | 110μm | 65 | 75 | 9 | 50 |
| **4707-1000** | 1000x550mm | 113μm | 120μm | 65 | 75 | 9 | 50 |



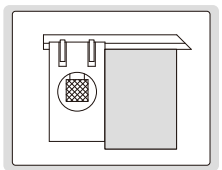

# ADJUSTABLE SQUARE

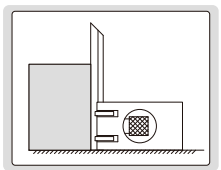
4701-1

Unit: mm




- The straight edge can move and can be locked by the clamping screw
- Made of hardened stainless steel

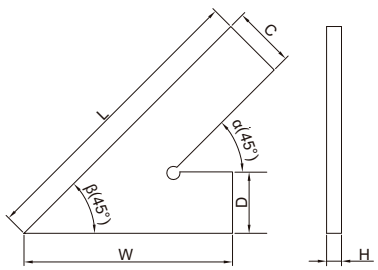




| Code | Squareness (a, b, c, d) |
|---|---|
| **4701-1** | 7μm |

## 45° SQUARE

4745-1100



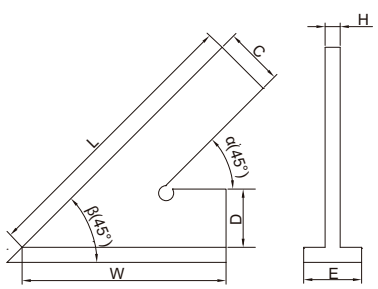

(mm)

| Code | Size (LxW) | Accuracy | | C | D | H |
|---|---|---|---|---|---|---|
| | | Inside (α) | Outside (β) | | | |
| **4745-1100** | 100x70mm | 27μm | 30μm | 20 | 20 | 5 |
| **4745-1120** | 120x80mm | 29μm | 32μm | 20 | 20 | 5 |
| **4745-1150** | 150x100mm | 32μm | 35μm | 20 | 20 | 5 |
| **4745-1200** | 200x130mm | 36μm | 40μm | 25 | 25 | 5 |

- Made of hardened stainless steel

## 45° SQUARE WITH WIDE BASE

4747-100



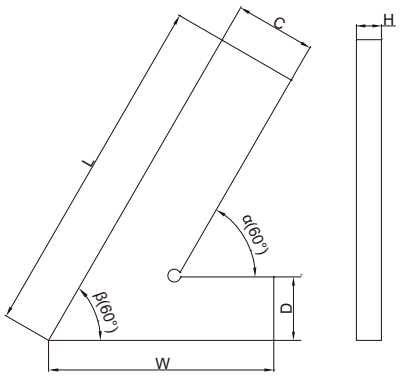

(mm)

| Code | Size (LxW) | Accuracy | | C | D | H | E |
|---|---|---|---|---|---|---|---|
| | | Inside (α) | Outside (β) | | | | |
| **4747-100** | 100x70mm | 27μm | 31μm | 20 | 20 | 5 | 20 |
| **4747-120** | 120x80mm | 29μm | 33μm | 20 | 20 | 5 | 20 |
| **4747-150** | 150x100mm | 32μm | 36μm | 20 | 20 | 5 | 20 |
| **4747-200** | 200x130mm | 36μm | 41μm | 25 | 25 | 5 | 25 |

- Made of hardened stainless steel

## 60° SQUARE

4760-1100



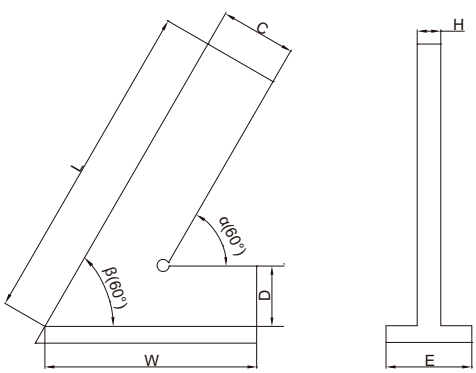

(mm)

| Code | Size (LxW) | Accuracy | | C | D | H |
|---|---|---|---|---|---|---|
| | | Inside (α) | Outside (β) | | | |
| **4760-1100** | 100x70mm | 28μm | 30μm | 20 | 20 | 5 |
| **4760-1120** | 120x80mm | 30μm | 32μm | 20 | 20 | 5 |
| **4760-1150** | 150x100mm | 32μm | 35μm | 20 | 20 | 5 |
| **4760-1200** | 200x130mm | 37μm | 40μm | 25 | 25 | 5 |

- Made of hardened stainless steel

## 60° SQUARE WITH WIDE BASE

4762-100



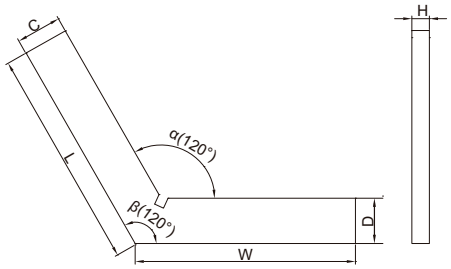

(mm)

| Code | Size (LxW) | Accuracy | | C | D | H | E |
|---|---|---|---|---|---|---|---|
| | | Inside (α) | Outside (β) | | | | |
| **4762-100** | 100x70mm | 28μm | 31μm | 20 | 20 | 5 | 20 |
| **4762-120** | 120x80mm | 30μm | 33μm | 20 | 20 | 5 | 20 |
| **4762-150** | 150x100mm | 33μm | 36μm | 20 | 20 | 5 | 20 |
| **4762-200** | 200x130mm | 37μm | 41μm | 25 | 25 | 5 | 25 |

- Made of hardened stainless steel

## 120° SQUARE

4706-1100



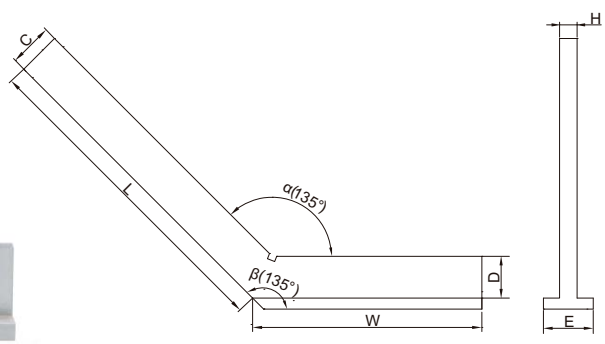

(mm)

| Code | Size (LxW) | Accuracy | | C | D | H |
|---|---|---|---|---|---|---|
| | | Inside (α) | Outside (β) | | | |
| **4706-150** | 50x50mm | 24μm | 25μm | 15 | 15 | 5 |
| **4706-175** | 75x75mm | 26μm | 28μm | 20 | 20 | 5 |
| **4706-1100** | 100x100mm | 29μm | 30μm | 20 | 20 | 5 |
| **4706-1150** | 150x150mm | 34μm | 35μm | 25 | 25 | 5 |
| **4706-1200** | 200x200mm | 38μm | 40μm | 30 | 30 | 7 |

- Made of hardened stainless steel

## 135° SQUARE WITH WIDE BASE

4754-3120




(mm)

| Code | Size (LxW) | Accuracy | | C | D | H | E |
|---|---|---|---|---|---|---|---|
| | | Inside (α) | Outside (β) | | | | |
| **4754-3100** | 100x70mm | 29μm | 31μm | 20 | 20 | 5 | 20 |
| **4754-3120** | 120x80mm | 31μm | 33μm | 20 | 20 | 5 | 20 |
| **4754-3150** | 150x100mm | 34μm | 36μm | 20 | 20 | 5 | 20 |
| **4754-3200** | 200x130mm | 39μm | 41μm | 30 | 30 | 7 | 30 |
| **4754-3250** | 250x165mm | 44μm | 46μm | 30 | 30 | 7 | 30 |
| **4754-3300** | 300x175mm | 49μm | 51μm | 35 | 35 | 7 | 35 |

- Made of hardened stainless steel

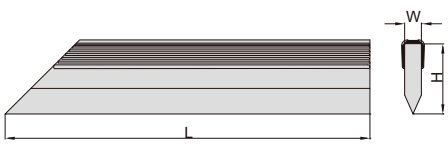
# STRAIGHT EDGE

- DIN874
- Beveled edge
- Made of hardened stainless steel
- Satin chrome plating

(mm)

| Code | Size (L) | Straightness | W | H |
|---|---|---|---|---|
| **4700-50** | 50mm | 2.2μm | 5 | 20 |
| **4700-75** | 75mm | 2.3μm | 5 | 25 |
| **4700-100** | 100mm | 2.4μm | 5 | 25 |
| **4700-125** | 125mm | 2.5μm | 5 | 25 |
| **4700-150** | 150mm | 2.6μm | 6 | 30 |
| **4700-200** | 200mm | 2.8μm | 6 | 30 |
| **4700-250** | 250mm | 3.0μm | 8 | 40 |
| **4700-300** | 300mm | 3.2μm | 8 | 40 |
| **4700-400** | 400mm | 3.6μm | 10 | 50 |
| **4700-500** | 500mm | 4.0μm | 10 | 50 |

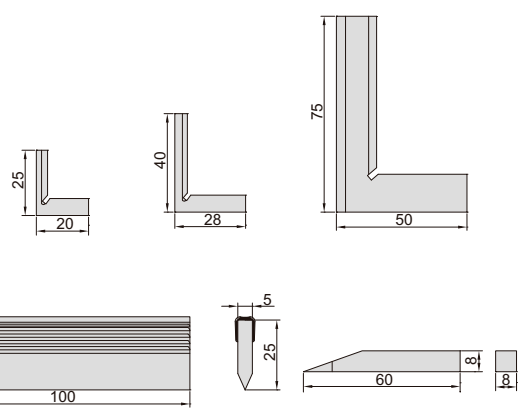
**4700-100**




# SQUARE SET

**4702-1**

Unit: mm

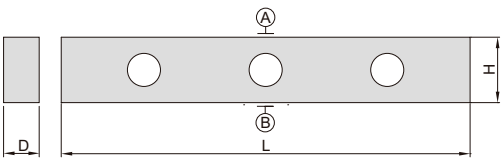



- Includes:
  - -90° tool maker square 25x20mm DIN875 grade 00 (code **4794-025**)
  - -90° tool maker square 40x28mm DIN875 grade 00 (code **4794-040**)
  - -90° beveled edge square 75x50mm DIN875 grade 00 (code **4790-075**)
  - -straight edge 100mm DIN874 (code **4700-100**)
  - -scriber
- Made of hardened stainless steel

| Code |
|---|
| **4702-1** |

## GRANITE STRAIGHT EDGE

4147-500A

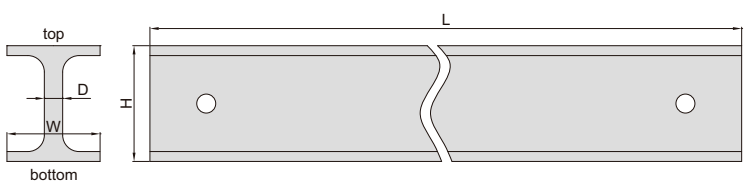



| Code | Length (L) | Flatness of A and B | Parallelism between A and B | D | H |
|---|---|---|---|---|---|
| **4147-500A** | 500mm | 2.1μm | 3.2μm | 50mm | 80mm |
| **4147-1000A** | 1000mm | 3μm | 4.5μm | 60mm | 120mm |

## MAGNALIUM STRAIGHT EDGE

4180-500

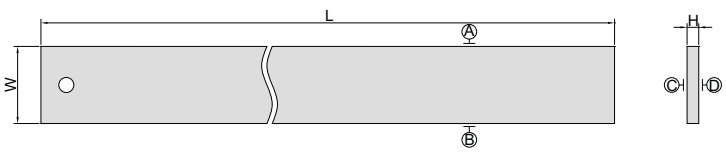
- Made of magnalium, light weight, non-deform, no rusty

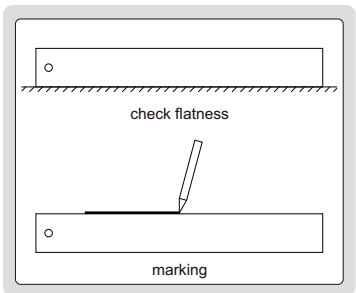



| Code | Length (L) | Flatness of top and bottom | Parallelism between top and bottom | H | W | D |
|---|---|---|---|---|---|---|
| **4180-500** | 500mm | 3μm | 4μm | 60mm | 30mm | 5mm |
| **4180-1000** | 1000mm | 5μm | 8μm | 60mm | 30mm | 5mm |
| **4180-1500** | 1500mm | 15μm | 22μm | 100mm | 40mm | 5mm |
| **4180-2000** | 2000mm | 18μm | 27μm | 100mm | 40mm | 8mm |

# PRECISION STRAIGHT EDGE

7117-300



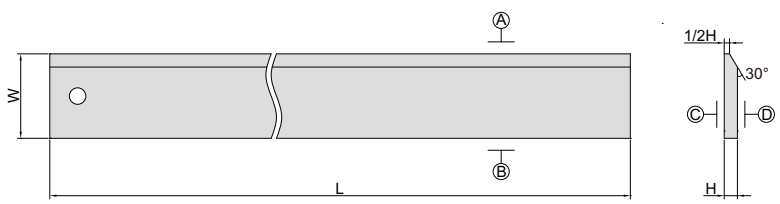

- Check flatness, straightness and for marking
- Made of tool steel
- Hardness HRC58

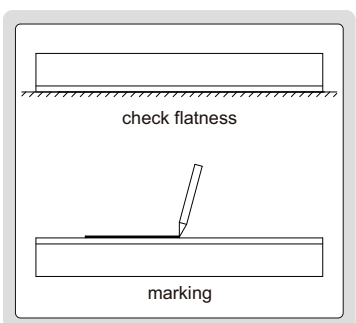
(mm)

| Code | Range(L) | Straightness and parallelism of A and B | Straightness and parallelism of C and D | W | H |
|---|---|---|---|---|---|
| **7117-300** | 305 | 0.005 | 0.05 | 41 | 6.3 |
| **7117-600** | 610 | 0.006 | 0.06 | 51 | 7.9 |
| **7117-900** | 914 | 0.007 | 0.06 | 64 | 9.5 |

# PRECISION STRAIGHT EDGE WITH BEVELED EDGE

7118-300



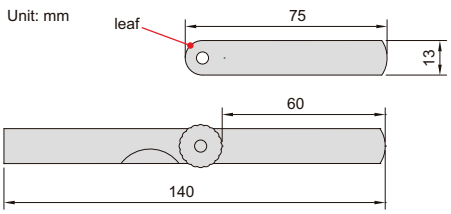




- Check flatness, straightness and for marking
- Made of tool steel
- Hardness HRC58

(mm)

| Code | Range (L) | Straightness and parallelism of A and B | Straightness and parallelism of C and D | W | H |
|---|---|---|---|---|---|
| **7118-300** | 305 | 0.005 | 0.05 | 41 | 6.5 |
| **7118-600** | 610 | 0.006 | 0.06 | 51 | 8 |
| **7118-900** | 914 | 0.007 | 0.06 | 64 | 10 |

# FEELER GAGE

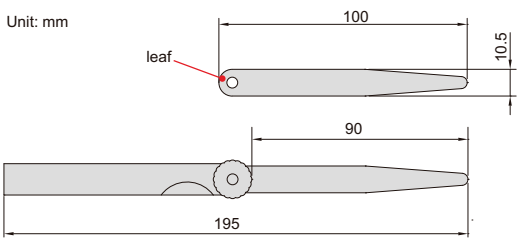


4601-25

- Made of hardened alloy steel
- Meet DIN2275
- Accuracy: ±(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 GAGE



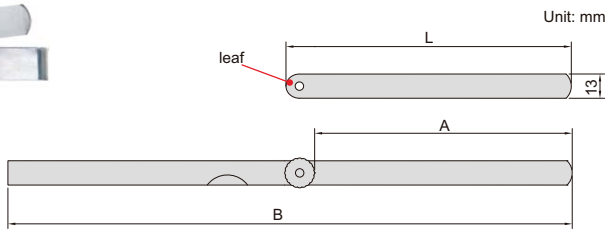
4602-20

- Made of hardened alloy steel
- Meet DIN2275
- Accuracy: ±(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 GAGE

4605-20



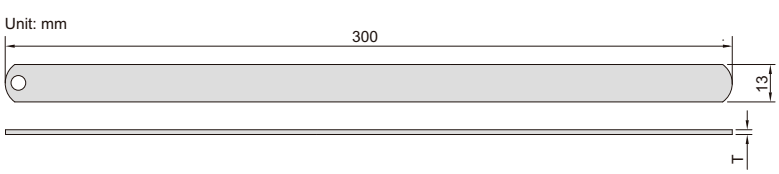

- Made of hardened alloy steel
- Meet DIN2275
- Accuracy: ±(3+T/80) μm, 'T' is the thickness of leaves in μm

(mm)

| 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 | 150 | 135 | 295 |
| 4605-131 | 0.05 - 1.00mm | | 13 | 200 | 185 | 395 |
| 4605-132 | 0.05 - 1.00mm | | 13 | 300 | 285 | 590 |
| 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 | 150 | 135 | 295 |
| 4605-201 | 0.05 - 1.00mm | | 20 | 200 | 185 | 395 |
| 4605-202 | 0.05 - 1.00mm | | 20 | 300 | 285 | 590 |

# FEELER GAGE STOCK

4622-10



- Used as shims to accurately set spacing
- Made of hardened alloy steel
- Length 300mm
- Width 13mm
- 10pcs/set

| Code | Thickness (T) | Accuracy |
|---|---|---|
| 4622-02 | 0.02mm | ±3μm |
| 4622-03 | 0.03mm | ±3μm |
| 4622-04 | 0.04mm | ±3μm |
| 4622-05 | 0.05mm | ±3μm |
| 4622-06 | 0.06mm | ±3μm |
| 4622-07 | 0.07mm | ±4μm |
| 4622-08 | 0.08mm | ±4μm |
| 4622-09 | 0.09mm | ±4μm |
| 4622-10 | 0.10mm | ±4μm |
| 4622-12 | 0.12mm | ±5μm |

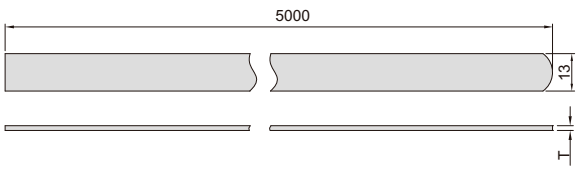
| Code | Thickness (T) | Accuracy |
|---|---|---|
| 4622-15 | 0.15mm | ±5μm |
| 4622-18 | 0.18mm | ±6μm |
| 4622-20 | 0.20mm | ±6μm |
| 4622-25 | 0.25mm | ±6μm |
| 4622-30 | 0.30mm | ±7μm |
| 4622-35 | 0.35mm | ±7μm |
| 4622-40 | 0.40mm | ±8μm |
| 4622-45 | 0.45mm | ±8μm |
| 4622-50 | 0.50mm | ±9μm |
| 4622-55 | 0.55mm | ±9μm |

| Code | Thickness (T) | Accuracy |
|---|---|---|
| 4622-60 | 0.60mm | ±9μm |
| 4622-65 | 0.65mm | ±9μm |
| 4622-70 | 0.70mm | ±12μm |
| 4622-75 | 0.75mm | ±12μm |
| 4622-80 | 0.80mm | ±13μm |
| 4622-85 | 0.85mm | ±13μm |
| 4622-90 | 0.90mm | ±14μm |
| 4622-95 | 0.95mm | ±14μm |
| 4622-100 | 1.00mm | ±16μm |
| | | |

# FEELER GAGE TAPE

4621-30

Unit: mm



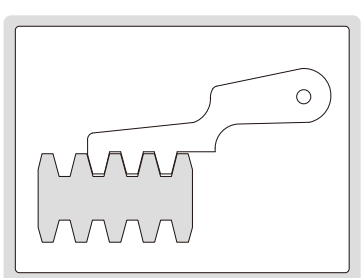

- Used as shims to accurately set spacing
- Made of hardened alloy steel
- Length 5m
- Width 13mm

| Code | Thickness (T) | Accuracy |
|---|---|---|
| 4621-02 | 0.02mm | ±4μm |
| 4621-03 | 0.03mm | ±4μm |
| 4621-04 | 0.04mm | ±4μm |
| 4621-05 | 0.05mm | ±4μm |
| 4621-06 | 0.06mm | ±4μm |
| 4621-07 | 0.07mm | ±5μm |
| 4621-08 | 0.08mm | ±5μm |
| 4621-09 | 0.09mm | ±5μm |
| 4621-10 | 0.10mm | ±5μm |
| 4621-12 | 0.12mm | ±5μm |
| 4621-15 | 0.15mm | ±6μm |
| 4621-18 | 0.18mm | ±7μm |
| 4621-20 | 0.20mm | ±8μm |
| 4621-25 | 0.25mm | ±9μm |
| 4621-30 | 0.30mm | ±9μm |

| Code | Thickness (T) | Accuracy |
|---|---|---|
| 4621-35 | 0.35mm | ±11μm |
| 4621-40 | 0.40mm | ±12μm |
| 4621-45 | 0.45mm | ±12μm |
| 4621-50 | 0.50mm | ±14μm |
| 4621-55 | 0.55mm | ±14μm |
| 4621-60 | 0.60mm | ±14μm |
| 4621-65 | 0.65mm | ±14μm |
| 4621-70 | 0.70mm | ±17μm |
| 4621-75 | 0.75mm | ±17μm |
| 4621-80 | 0.80mm | ±19μm |
| 4621-85 | 0.85mm | ±19μm |
| 4621-90 | 0.90mm | ±22μm |
| 4621-95 | 0.95mm | ±22μm |
| 4621-100 | 1.00mm | ±24μm |
| | | |

# PITCH GAGE

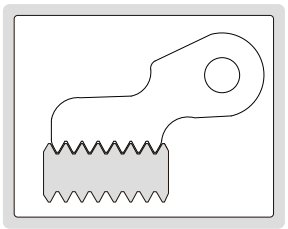
4824-12



- Check the pitch of screw thread
- Accuracy: ±0.07mm

| Code | Range | Thread type | Pitch of leaves included | Quantity of leaves |
|---|---|---|---|---|
| 4824-12 | 2-20mm | Tr 30° | 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 |

# PITCH GAGE



**4820-122**

- Check the pitch of screw thread
- Accuracy: ±0.07mm

**Metric 60° screw**

| Code | Range | Pitch of leaves included | 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, 7mm | 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, 7mm | 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, 6mm | 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 |

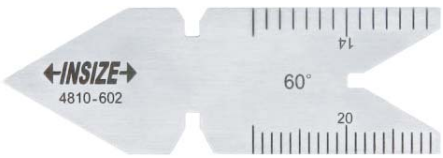
**Metric 60° and Whitworth 55° screw**

| 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 | |

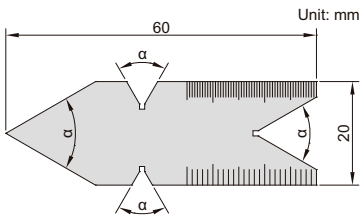
**Metric 60° and Unified 60° screw**

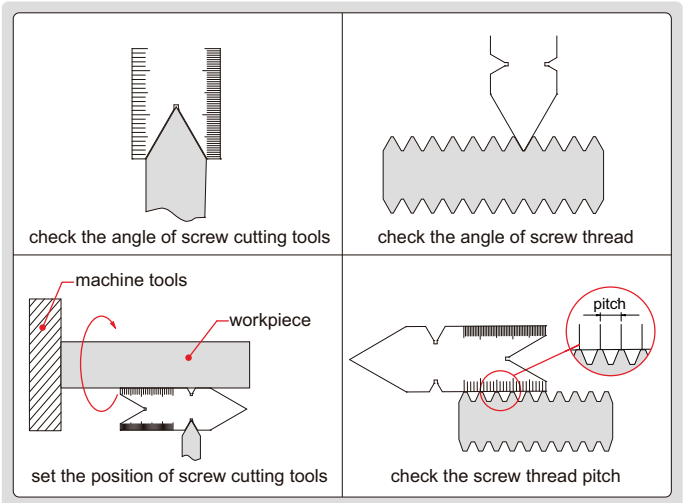
| Code | Range | Pitch of leaves included | Quantity of leaves |
|---|---|---|---|
| **4820-552** | 0.4 - 7.0mm | 0.4, 0.5, 0.6, 0.7, 0.75, 0.8, 0.9, 1, 1.25, 1.5, 1.75, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7mm | 52 |
| | 4 - 42TPI | 4, 4-1/2, 5, 5-1/2, 6, 7, 8, 9, 10, 11, 11-1/2, 12, 13, 14, 15, 16, 18, 20, 22, 24, 26, 27, 28, 30, 32, 34, 36, 38, 40, 42TPI | |

# CENTER GAGE




**4810-602**



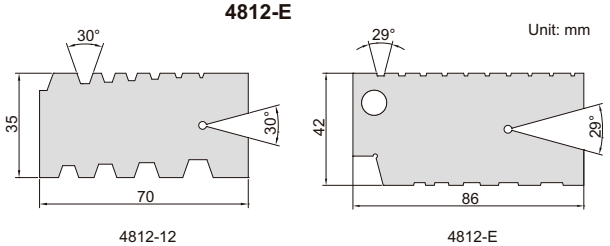




- To check and set screw cutting tools, and check the angle and pitch of screw thread
- Angle accuracy: ±30min.

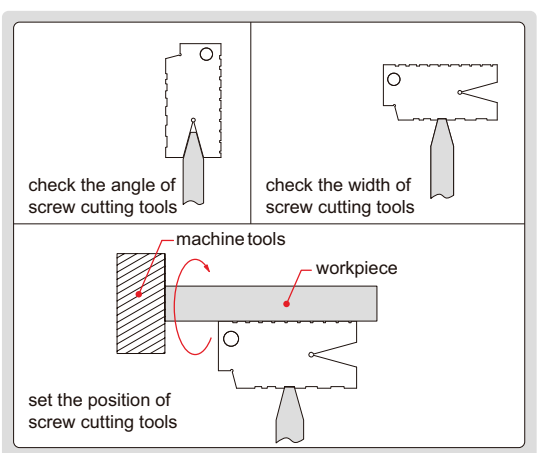
| Code | Thread type | Angle (α) | Graduation |
|---|---|---|---|
| **4810-601** | METRIC 60° | 60° | 0.5mm and 1mm |
| **4810-602** | UNIFIED 60° | 60° | 14ths and 20ths on front side, 24ths and 32ths on back side |
| **4810-55** | WHITWORTH 55° | 55° | 14ths and 20ths on front side, 24ths and 32ths on back side |

# THREAD GAGE

**4812-E**




4812-12 4812-E

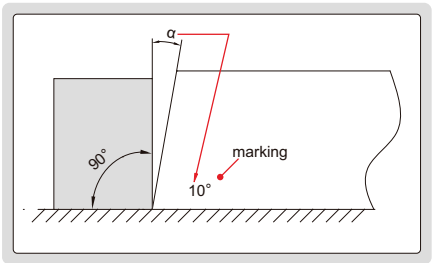



- To check and set screw cutting tools
- Angle accuracy: ±10min.

| 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

4806-20




| Code | Range | 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' |

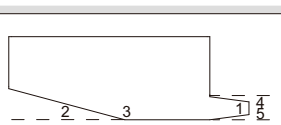
# ANGLE GAGE SET

- Each blade checks primary, 1/2 primary and complementary angles

| Code | Quantity of leaves | Accuracy |
|---|---|---|
| **4807** | 18 | ±10' |

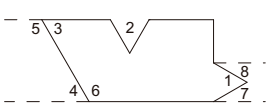
| Primary angle | ½ primary angle | Complementary angle | Type |
|---|---|---|---|
| 5° | 2°30' | 175° | A |
| 10° | 5° | 170° | A |
| 15° | 7°30' | 165° | A |
| 20° | 10° | 160° | B |
| 25° | 12°30' | 155° | B |
| 30° | 15° | 150° | B |
| 35° | 17°30' | 145° | B |
| 40° | 20° | 140° | B |
| 45° | 22°30' | 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 |

4807




Angle 1, 2 are primary angle
Angle 3 is complementary angle
Angle 4, 5 are1/2 primary angle

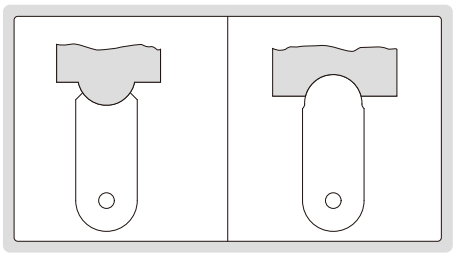
type A




Angle 1, 2, 3, 4 are primary angle
Angle 5, 6 are complementary angle
Angle 7, 8 are1/2 primary angle

type B

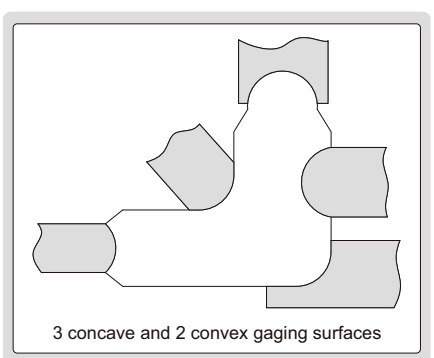
## RADIUS GAGE



4801-17

| Code | Range | Radius of leaves included (mm) | Quantity of leaves (internal + external ) | Accuracy |
|---|---|---|---|---|
| **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 | ±0.03mm |
| **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 | ±0.035mm |
| **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 | ±0.042mm |

## RADIUS GAGE SET


3 concave and 2 convex gaging surfaces

use of handle

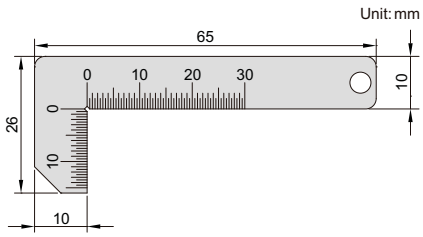
4804-26

- Each piece has 3 concave and 2 convex gauging surfaces
- Supplied with handle

| Code | Range | Radius of leaves included (mm) | Quantity of leaves | Accuracy |
|---|---|---|---|---|
| **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 | ±0.05mm |

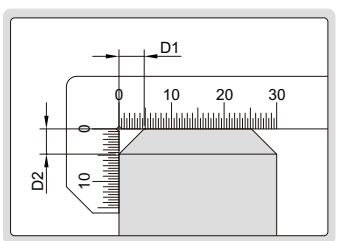
# CHAMFER GAGE

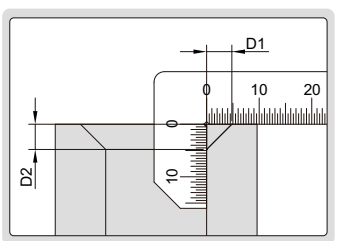
4844-1




- To measure internal and external chamfers
- Made of stainless steel

| Code | Graduation | Accuracy |
|---|---|---|
| **4844-1** | 0.5mm | ±0.25mm |

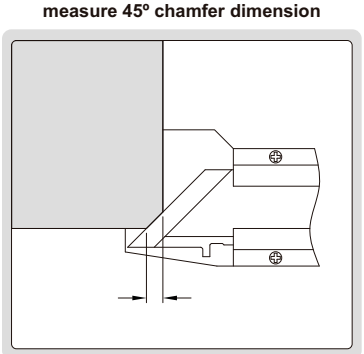



# CHAMFER GAGE

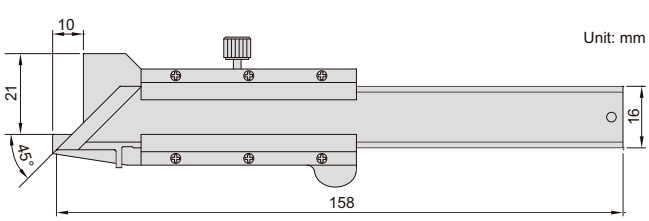
**measure 45º chamfer dimension**

1267-6

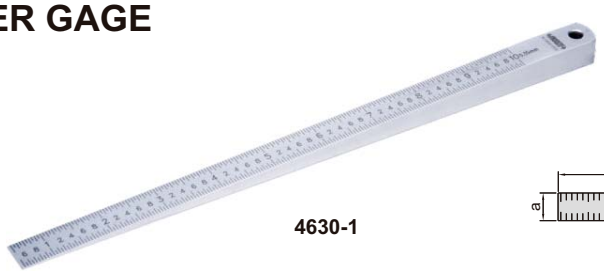


- Measure 45º chamfer dimension
- Graduation 0.02mm
- Made of stainless steel
- Satin chrome plated reading surface

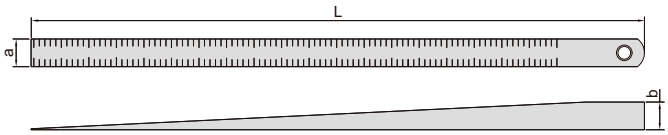
| Code | Range | Accuracy |
|---|---|---|
| **1267-6** | 0-6mm | ±0.06mm |



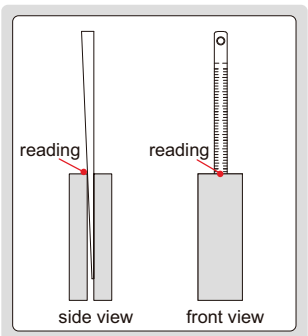
# TAPER GAGE



4630-1



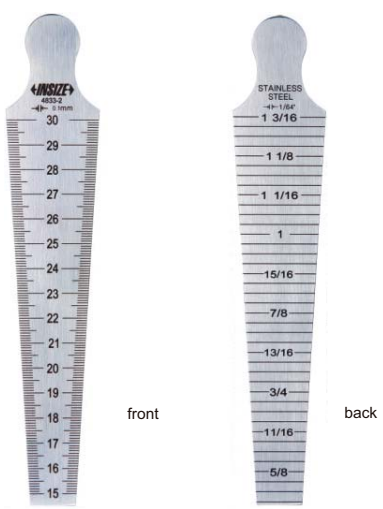

- For quick measurement of gap width
- Stain chrome plated reading surface
- Made of stainless steel



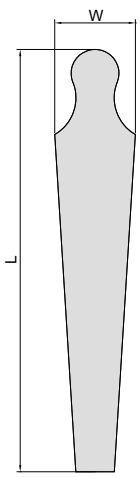

(mm)

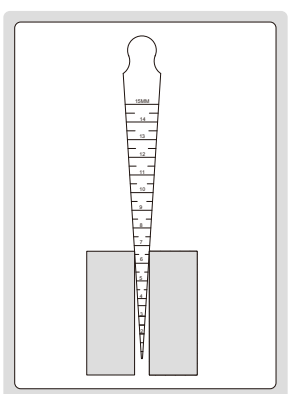
| Code | Range | Graduation | Accuracy | L | a | b |
|---|---|---|---|---|---|---|
| **4630-3** | 0.4 - 6mm | 0.05mm | ±0.04mm | 164 | 12.5 | 6.5 |
| **4630-1** | 0.5 - 10mm | 0.05mm | ±0.07mm | 220 | 10 | 10.5 |
| **4630-2** | 0.5 - 15mm | 0.1mm | ±0.08mm | 184 | 12.5 | 16.5 |

# TAPER GAGE




4833-2



- Measure opening, slot width, hole size, etc.
- Made of stainless steel

(mm)

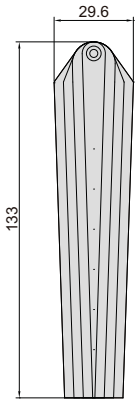
| Code | Range | Graduation | Accuracy | L | W |
|---|---|---|---|---|---|
| **4833-1** | 0.8 - 15mm (1/32″ – 5/8″) | 0.1mm (1/64") | ±0.1mm (0.004") | 146 | 17 |
| **4833-2** | 15 - 30mm (5/8″ – 1-3/16″) | 0.1mm (1/64") | ±0.1mm (0.004") | 159 | 30.4 |
| **4833-3** | 30 - 45mm (1-3/16″ – 1-3/4″) | 0.1mm (1/64") | ±0.1mm (0.004") | 166 | 45.4 |
| **4833-4** | 45 - 60mm (1-13/16″ – 2-3/8″) | 0.1mm (1/64") | ±0.1mm (0.004") | 170 | 60.5 |

# TAPER GAGE SET

- Include 4pcs (1-8mm, 8-15mm, 15-22mm, 22-29mm)
- Measure opening, slot width, hole size, etc.
- Made of stainless steel

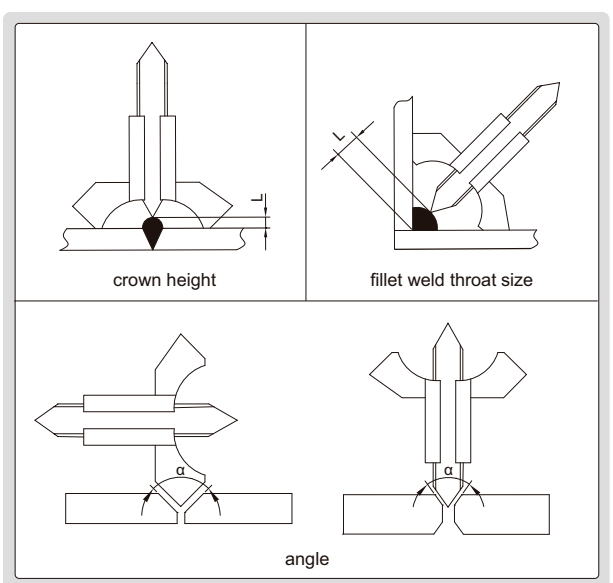
4837-1

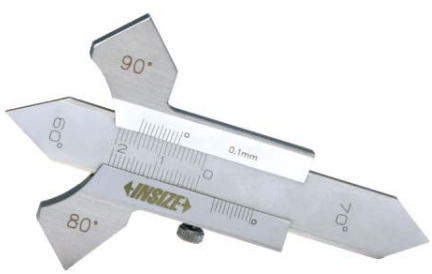
Unit: mm




| Code | Range | Graduation | Accuracy |
|---|---|---|---|
| **4837-1** | 1 - 29mm | 0.05mm | ±0.05mm |

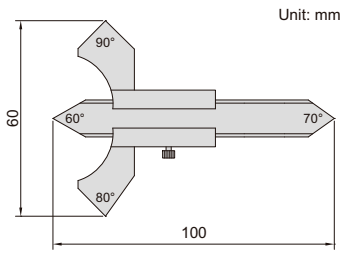
# WELDING GAGE




4830

Unit: mm

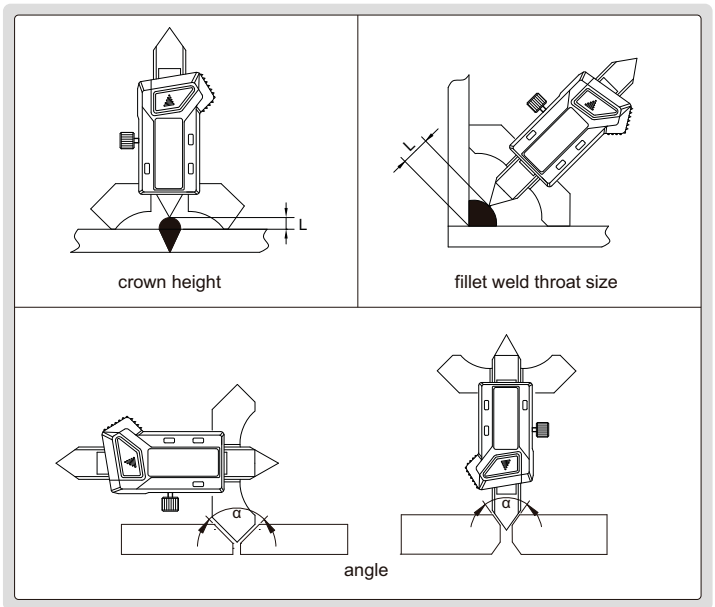



| Code | Measurement | Range | Graduation | Accuracy |
|---|---|---|---|---|
| **4830** | crown height | 0 - 8mm | 0.1mm | ±0.1mm |
| | fillet weld throat size | 0 - 20mm | 0.1mm | ±0.3mm |
| | angle | 60°, 70°, 80°, 90° | — | ±1° |

- Made of stainless steel
- Stain chrome plated reading surface

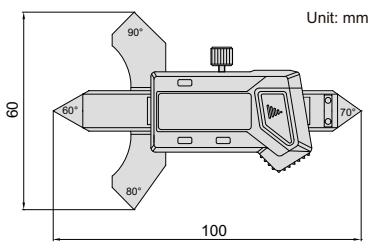
# DIGITAL WELDING GAGE

**ATTENTION:**
**NO DATA OUTPUT**



**4831-20A**

Unit: mm

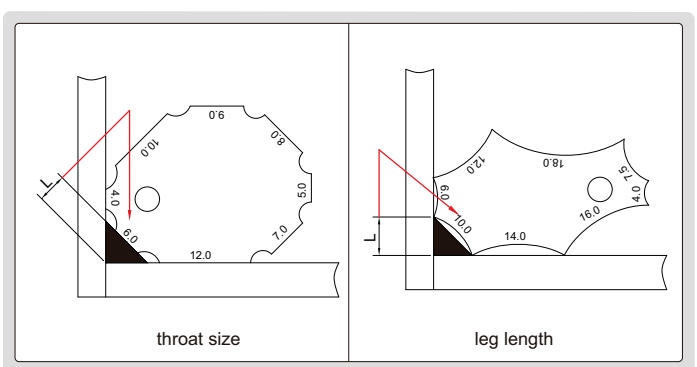



| Code | Measurement | Range | Resolution | Accuracy |
|---|---|---|---|---|
| 4831-20A | crown height | 0 - 7mm | 0.01mm/0.0005" | ±0.03mm |
| | fillet weld throat size | 0 - 20mm | 0.01mm/0.0005" | ±0.1mm |
| | angle | 60°, 70°, 80°, 90° | — | ±1° |

- Buttons: zero, mm/inch, on/off
- Battery LR44
- Made of stainless steel

# FILLET WELDING GAGE

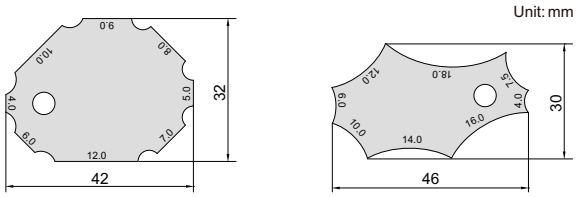
**4832-1**




- Made of stainless steel
- Sizes marked on both faces

| Code | Throat size (mm) | Leg length (mm) | Accuracy |
|---|---|---|---|
| 4832-1 | 4, 5, 6, 7, 8, 9, 10, 12 | 4, 6, 7.5, 10, 12, 14, 16, 18 | ±0.5mm |

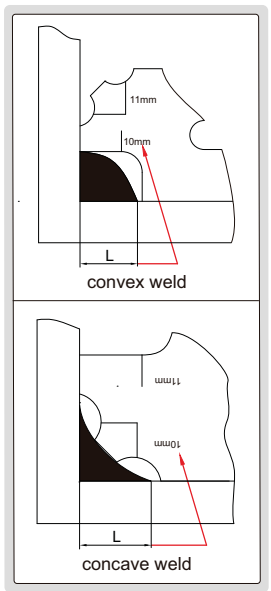
Unit: mm



# FILLET WELDING GAGE

4836-1

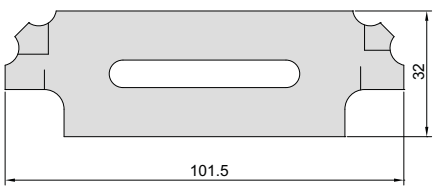
4836-2




- Measure concave and convex weld sizes
- 7 blades are included
- Made of stainless steel

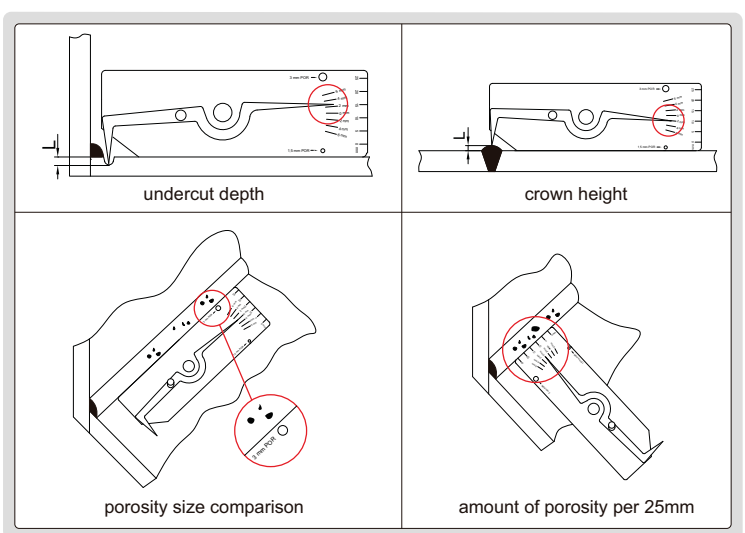
| Code | Size | Accuracy |
|---|---|---|
| 4836-1 | 3mm, 4mm, 5mm, 6mm, 8mm, 9mm, 10mm, 11mm, 12mm, 14mm, 16mm, 19mm, 22mm, 25mm | ±0.5mm |
| 4836-2 | 1/8" (3.2mm), 3/16" (4.8mm), 1/4" (6.4mm), 5/16" (7.9mm), 3/8" (9.5mm), 7/16" (11.1mm), 1/2" (12.7mm), 5/8" (15.9mm), 3/4" (19.1mm), 7/8" (22.2mm), 1" (25.4mm) | ±0.02" (0.5mm) |

Unit: mm




# WELDING GAGE

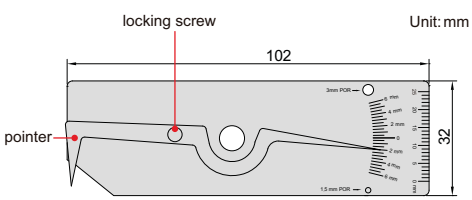
4834-1




- 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 | — |

Unit: mm

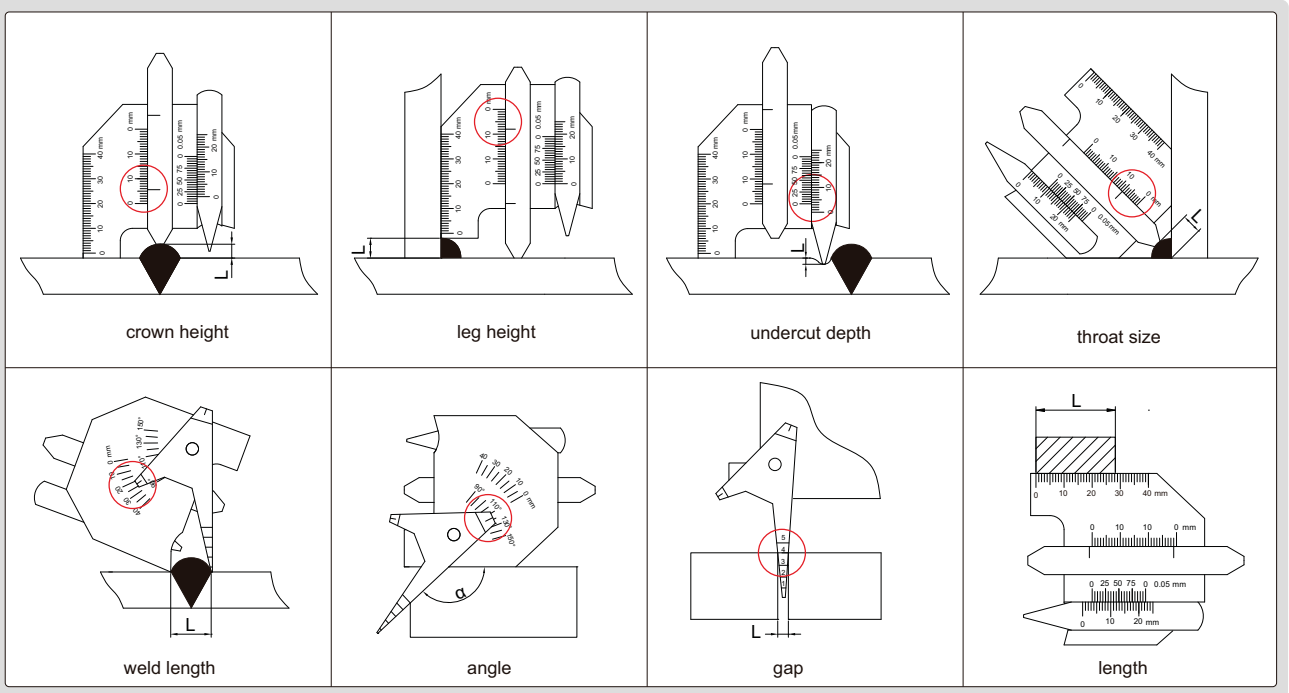


# WELDING GAGE

front

**4838-1**

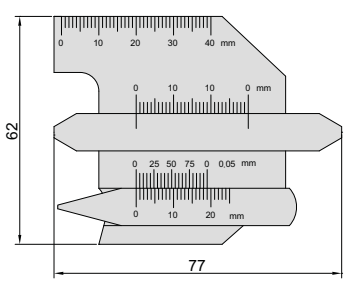
back




- Made of stainless steel

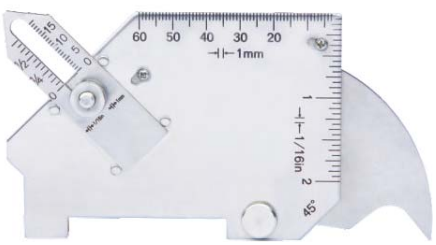
| Code | Measurement | Range | Graduation | Accuracy |
|---|---|---|---|---|
| 4838-1 | crown height | 0 - 10mm | 1mm | ±0.5mm |
| | leg height | 0 - 14mm | 1mm | ±0.5mm |
| | undercut depth | 0 - 5mm | 0.05mm | ±0.05mm |
| | throat size | 0 - 13mm | 1mm | ±0.5mm |
| | weld length | 0 - 40mm | 1mm | ±1mm |
| | angle | 90° - 150° | 5° | ±1° |
| | gap | 0.5 - 5mm | 1mm | ±0.5mm |
| | length | 0 - 40mm | 1mm | ±0.5mm |

Unit: mm



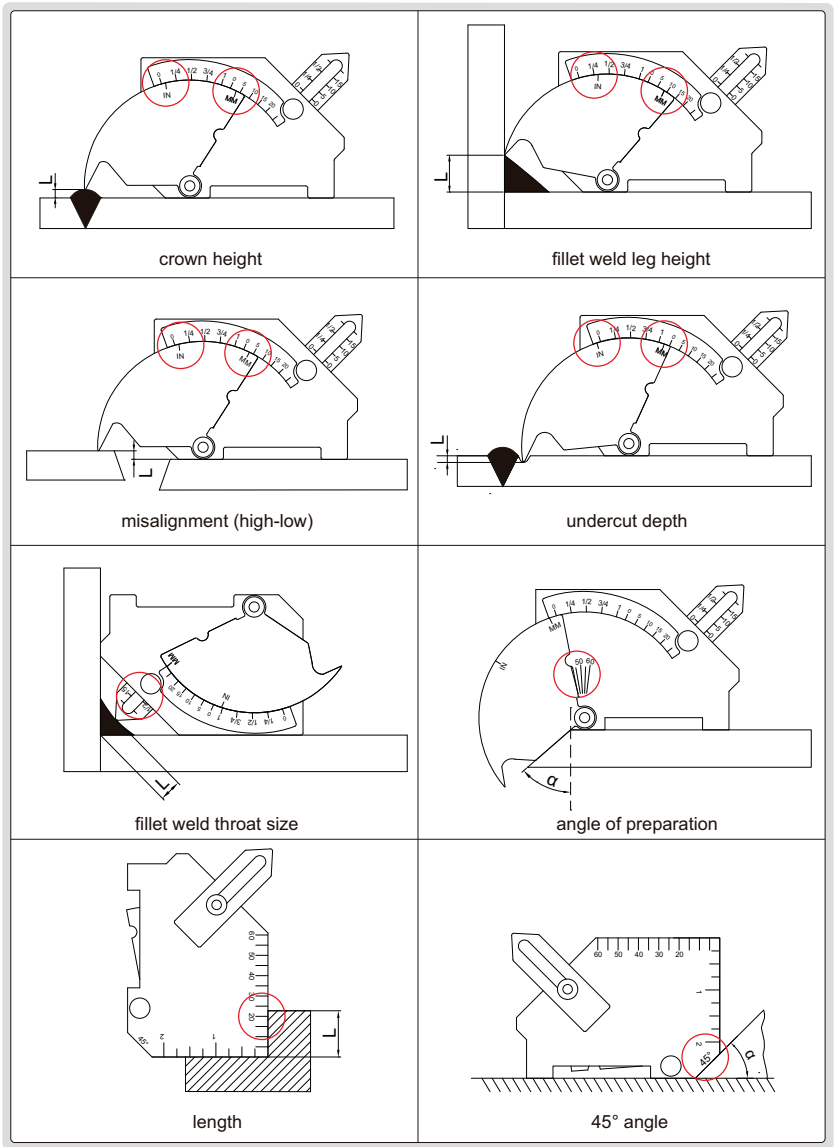
# WELDING GAGE

front



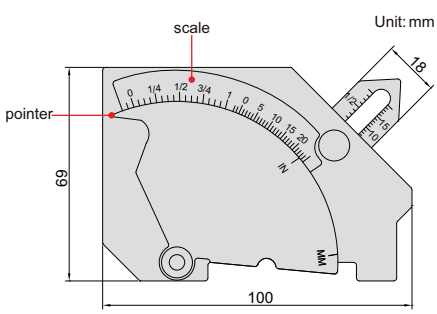

back

**4835-1**

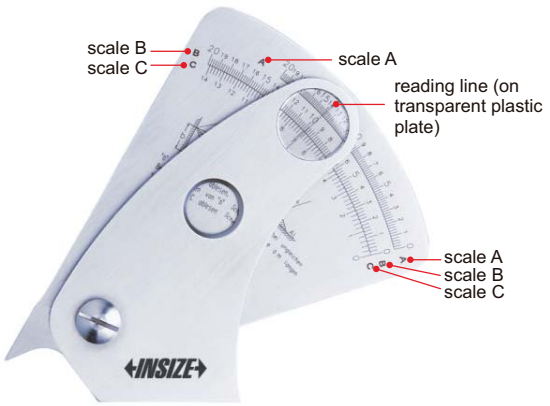


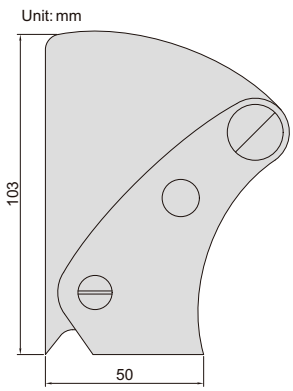

- Adjustable scale to compensate pointer wear
- Made of stainless steel

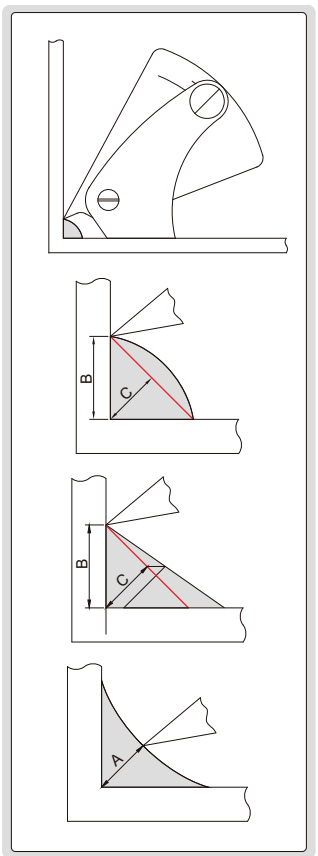
| Code | Measurement | Range | Graduation | Accuracy |
|---|---|---|---|---|
| 4835-1 | crown height | 0 - 25mm (0 - 1") | 1mm (1/16") | ±0.5mm |
| | fillet weld leg height | 0 - 25mm (0 - 1") | 1mm (1/16") | ±0.5mm |
| | misalignment (high-low) | 0 - 25mm (0 - 1") | 1mm (1/16") | ±0.5mm |
| | undercut 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 GAGE



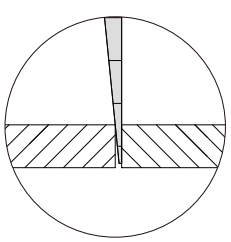




**4840-1**

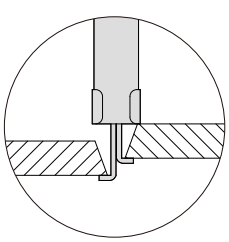
- Made of stainless steel

| Code | Graduation | Accuracy |
|---|---|---|
| **4840-1** | 0.2mm | ±0.3mm |

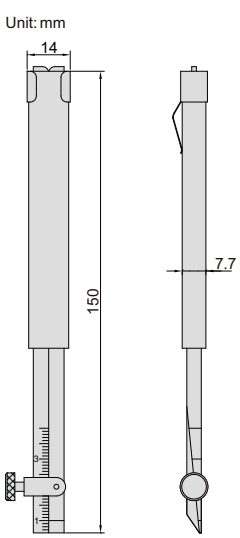
# PIPE WELDING GAGE



fit-up gap



internal misalignment

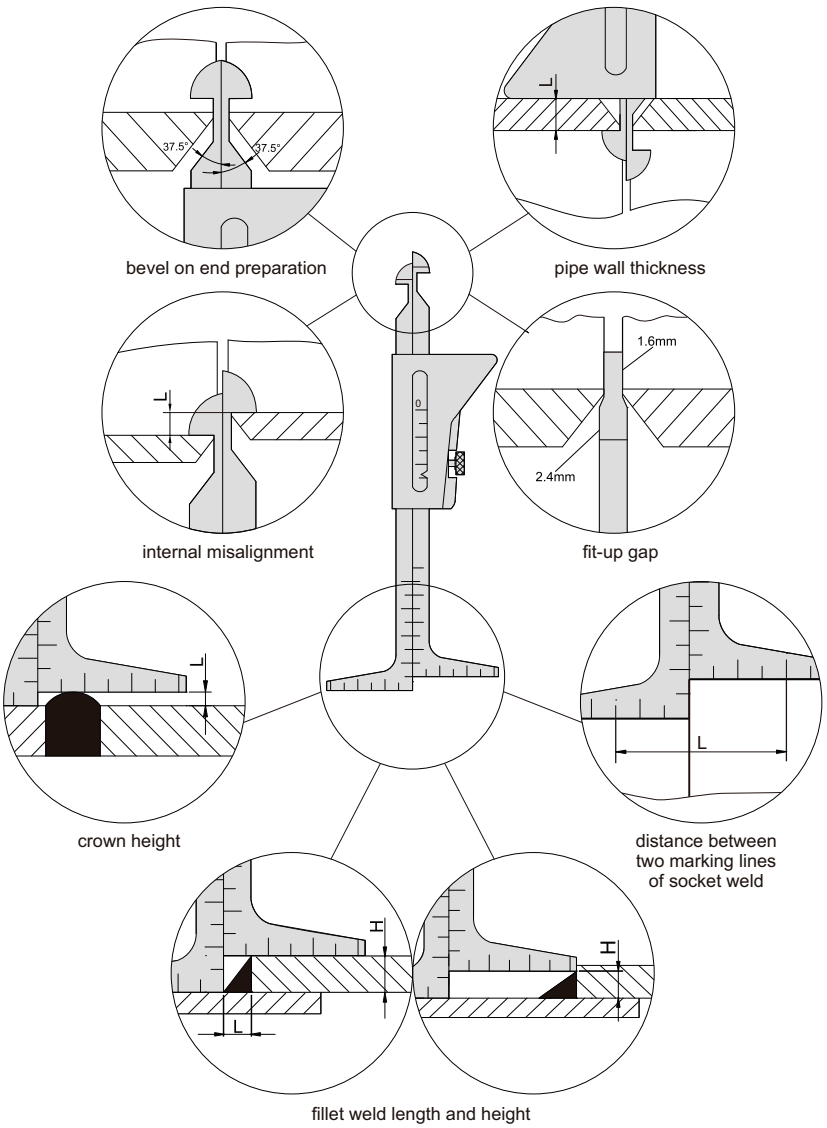


**4841-1**

- Made of stainless steel

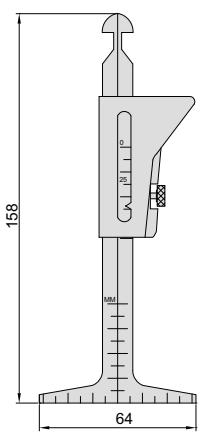
| Code | Measurement | Range | Graduation | Accuracy |
|---|---|---|---|---|
| **4841-1** | internal misalignment | 0 - 30mm | 1mm | ±0.5mm |
| | fit-up gap | 0.7 - 4mm | 0.1mm | ±0.1mm |

# PIPE WELDING GAGE



**4839-1**

Unit: mm



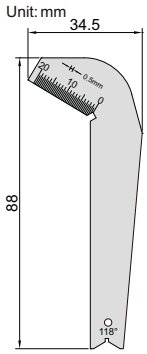

- Made of stainless steel

| 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 |

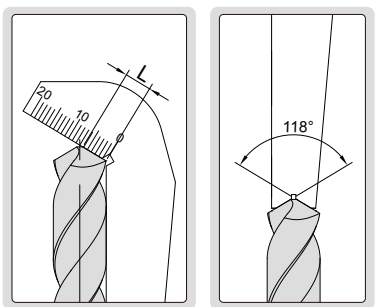
# DRILL POINT GAGE

4843-1

Unit: mm




- For twist drills with 118° angle, to check if the center of tip is concentric with the drill body
- Made of stainless steel

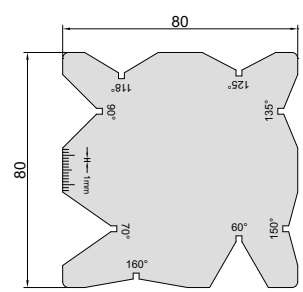



| Code | Accuracy | |
|---|---|---|
| | Angle | Length |
| 4843-1 | ±0.5° | ±0.05mm |

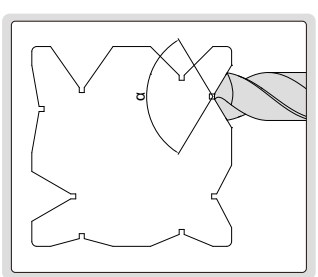
# DRILL ANGLE GAGE

4842-1

Unit: mm



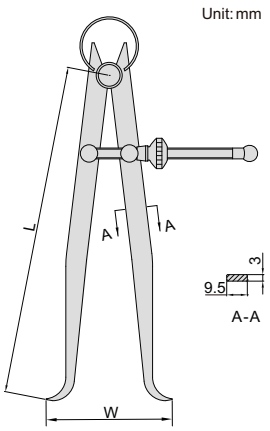

- Check drills with angle 60°, 70°, 90°, 118°, 125°, 135°, 150° or 160°
- Made of stainless steel



| Code | Accuracy |
|---|---|
| 4842-1 | ±0.5° |

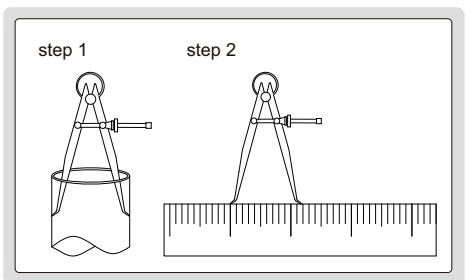
# INSIDE SPRING CALIPER

**7261-150**



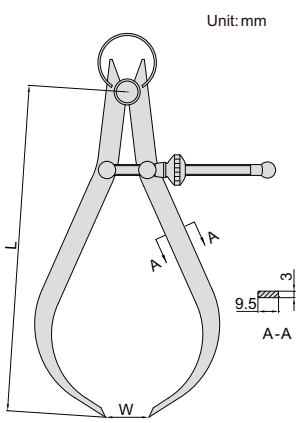

- Made of carbon steel

| 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 |



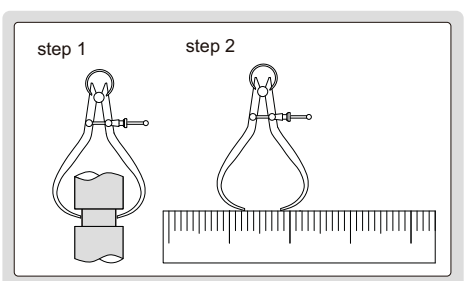

# OUTSIDE SPRING CALIPER

**7262-150**



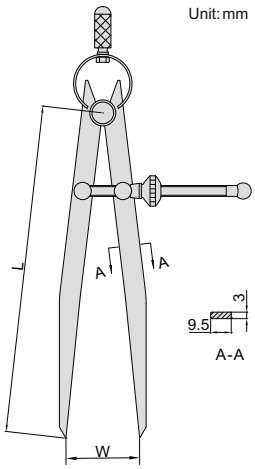

- Made of carbon steel

| 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 |



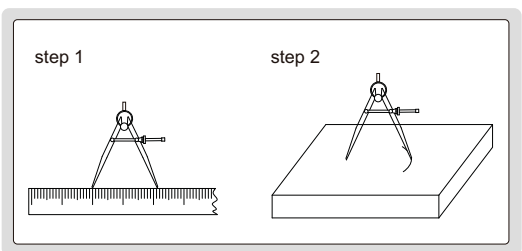
## SPRING DIVIDER

7260-150



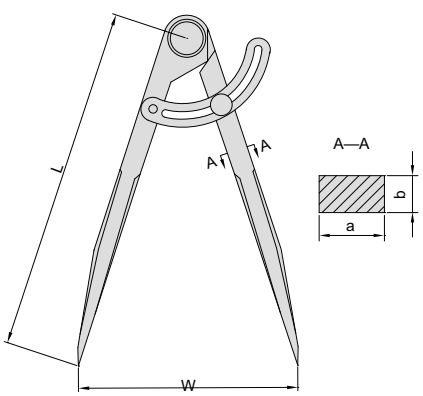

- Made of carbon steel
- Hardened points

| 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 |




## DIVIDER

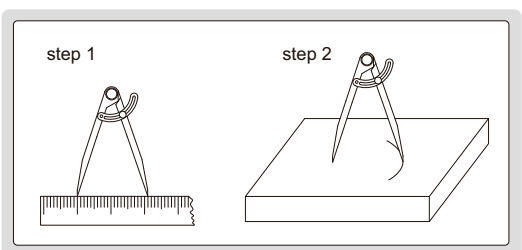
7247-150




- Made of carbon steel
- Hardened points

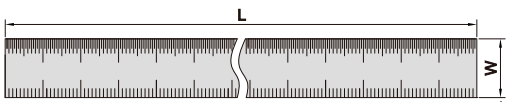
(mm)

| Code | Size (L) | Range (W) | a | b |
|---|---|---|---|---|
| **7247-150** | 150mm | 0 - 140mm | 8.5 | 7 |
| **7247-200** | 200mm | 0 - 190mm | 10 | 7 |
| **7247-300** | 300mm | 0 - 290mm | 12 | 7 |



# FLEXIBLE RULE

7121-150



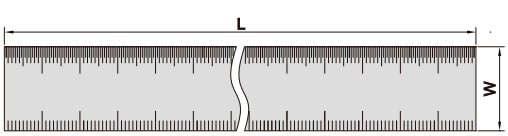

flexible use

- Flexible use
- Graduation on both sides
- Made of special alloy steel
- Satin chrome plated

| Code | Range (L) | Graduation | Accuracy | W |
|---|---|---|---|---|
| **7121-150** | 150mm | 0.5mm/1mm | +0.10/-0.09mm | 12.50mm |
| **7121-300** | 300mm | 0.5mm/1mm | +0.13/-0.09mm | 12.50mm |
| **7121-600** | 600mm | 0.5mm/1mm | +0.18/-0.09mm | 19.50mm |

# RIGID RULE

7122-300




- Rigid rule
- Graduation on both sides
- Made of special alloy steel
- Satin chrome plated

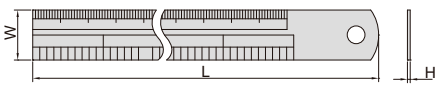
| Code | Range (L) | Graduation | Accuracy | W |
|---|---|---|---|---|
| **7122-150** | 150mm | 0.5mm/1mm | +0.10/-0.09mm | 18.50mm |
| **7122-300** | 300mm | 0.5mm/1mm | +0.13/-0.09mm | 24.50mm |
| **7122-600** | 600mm | 0.5mm/1mm | +0.18/-0.09mm | 29.50mm |

# STEEL RULE

ATTENTION:
BASIC MODEL

7110-300

- Graduation: 0.5mm, 1mm, 1/64", 1/32", 1/16"
- Semi-flexible rules
- Made of stainless steel
- Non-glare surface



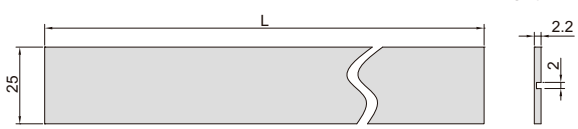

(mm)

| Code | Range | Accuracy | L | W | H | Remark |
|---|---|---|---|---|---|---|
| **7110-150** | 150mm/6" | ±0.08mm | 170 | 18 | 1.0 | graduation on front and back |
| **7110-200** | 200mm/8" | ±0.08mm | 220 | 18 | 1.0 | graduation on front and back |
| **7110-300** | 300mm/12" | ±0.11mm | 330 | 25 | 1.0 | graduation on front and back |
| **7110-500** | 500mm/20" | ±0.14mm | 530 | 30 | 1.2 | graduation on front and back |
| **7110-600** | 600mm/24" | ±0.15mm | 630 | 30 | 1.2 | graduation on front and back |
| **7110-1000** | 1000mm/40" | ±0.20mm | 1040 | 32 | 1.5 | graduation on front and back |
| **7110-1200** | 1200mm/48" | ±0.24mm | 1240 | 35 | 1.8 | graduation on front |
| **7110-1500** | 1500mm/60" | ±0.35mm | 1550 | 38 | 1.8 | graduation on front |
| **7110-2000** | 2000mm/80" | ±0.45mm | 2065 | 40 | 2.0 | graduation on front |

# RIGID RULE

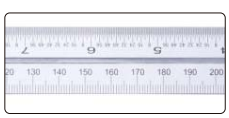
7113-300A

Unit: mm




- Rigid rules
- With groove on the back, suitable for combination square set (code **2278-180**)
- Satin chrome plated

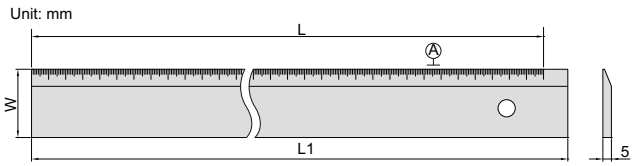
| Code | Range | Graduation | | Accuracy | L |
|---|---|---|---|---|---|
| | | front | back | | |
| **7113-300A** | 300mm/12" | 0.5mm and 1/32" | 1mm and 1/64" | ±0.15mm | 300mm |

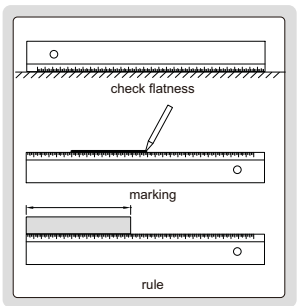


groove on the back

## STRAIGHT EDGE

7111-300A



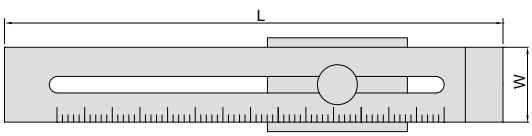



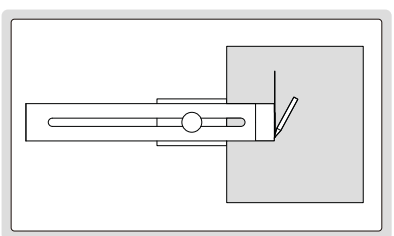

- Check flatness and straightness, as well as for marking
- Graduation on the beveled edge
- Made of hardened tool steel
- Chrome plated

| Code | Range (L) | Straightness of A | L1 | W |
|---|---|---|---|---|
| **7111-300A** | 300mm | 0.02mm | 320mm | 40mm |
| **7111-500A** | 500mm | 0.03mm | 520mm | 40mm |
| **7111-1000A** | 1000mm | 0.04mm | 1020mm | 50mm |

## MARKING GAGE

7120-200A



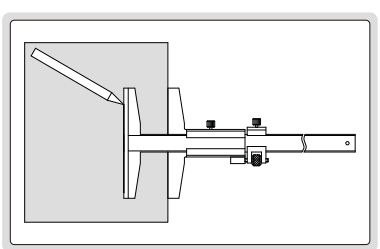
- Made of carbon steel
- Satin chrome plated

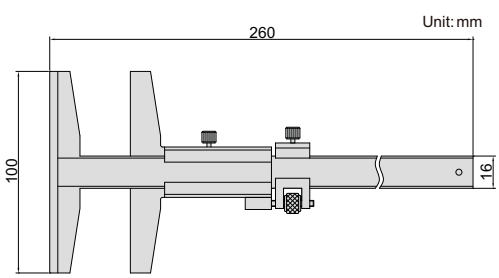
(mm)

| Code | Range | Graduation | Accuracy | L | W |
|---|---|---|---|---|---|
| **7120-200A** | 0 - 200mm | 0.1mm | ±0.1mm | 250 | 40 |
| **7120-250A** | 0 - 250mm | 0.1mm | ±0.1mm | 300 | 40 |
| **7120-300A** | 0 - 300mm | 0.1mm | ±0.1mm | 350 | 40 |

## T-SHAPE MARKING GAGE

1275-150A

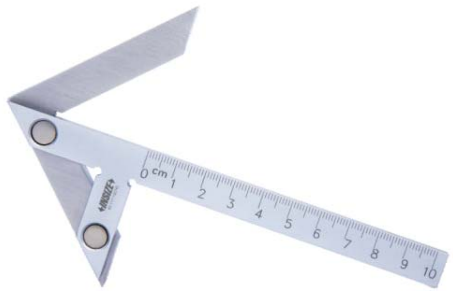




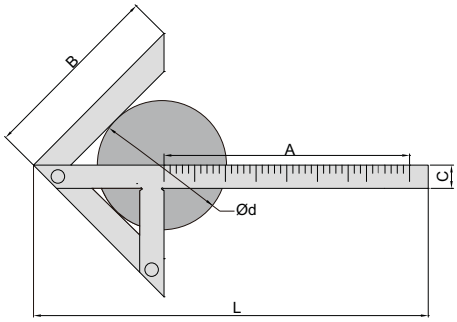

- Made of stainless steel
- Satin chrome plated reading surface

| Code | Range | Graduation | Accuracy |
|---|---|---|---|
| **1275-150A** | 0-150mm | 0.05mm | ±0.05mm |

# CENTER MARKING GAGE



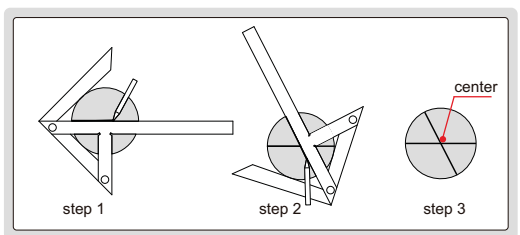
7205-100



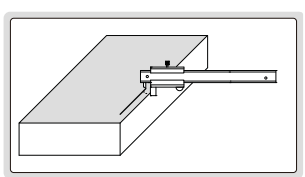

- Marking the center of round plates and shafts
- Made of stainless steel
- Satin chrome plated

(mm)

| Code | Size (AxB) | Diameter of shafts (Ød) | Accuracy | C | L |
|---|---|---|---|---|---|
| **7205-100** | 100X70mm | 4 - 90mm | ±0.15mm | 12 | 153 |
| **7205-150** | 150x130mm | 4 - 190mm | ±0.15mm | 15 | 245 |
| **7205-200** | 200x150mm | 6 - 220mm | ±0.15mm | 15 | 310 |

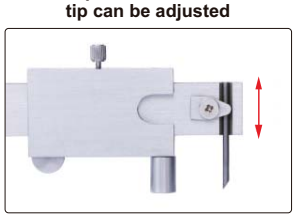



# SCRIBING CALIPER



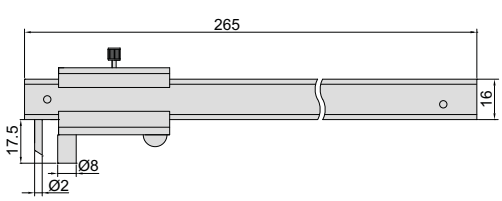
7202-200A

**the position of scriber tip can be adjusted**



- Made of stainless steel
- Satin chrome plated reading surface
- Carbide scriber tip

Unit: mm

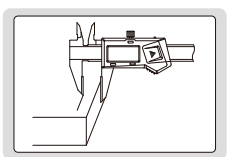



| Code | Range | Graduation | Accuracy |
|---|---|---|---|
| **7202-200A** | 0-200mm/0-8" | 0.1mm, 1/128" | ±0.1mm |

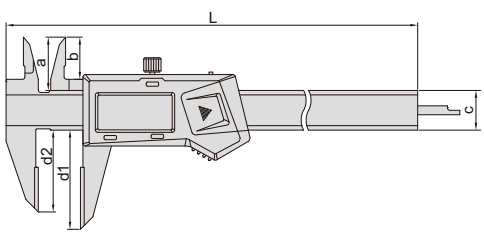
DATA OUTPUT

# DIGITAL SCRIBING CALIPER

**1166-150A**



- 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
- Data output
- Made of stainless steel
- Optional accessory: data output cable
  (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)

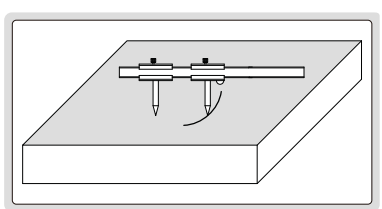



(mm)

| Code | Range | Accuracy | L | a | b | c | d1 | d2 |
|---|---|---|---|---|---|---|---|---|
| **1166-150A** | 0-150mm/0-6" | ±0.03mm | 236 | 21 | 16.5 | 16 | 40 | 33 |
| **1166-200A** | 0-200mm/0-8" | ±0.03mm | 286 | 24 | 19.5 | 16 | 50 | 43 |
| **1166-300A** | 0-300mm/0-12" | ±0.04mm | 400 | 25 | 20.5 | 17 | 60 | 53 |

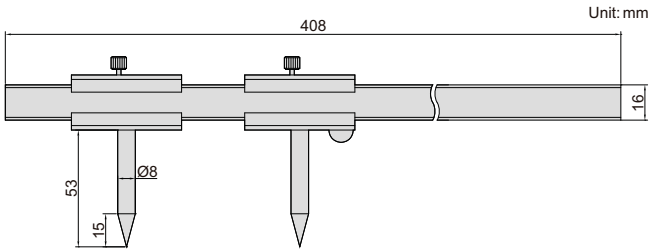
# SCRIBING CALIPER

**7203-300A**



- Made of stainless steel
- Satin chrome plated reading surface
- Hardened scriber tips

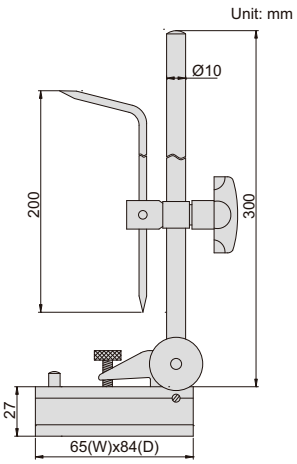
Unit: mm

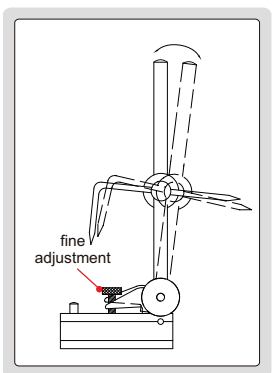


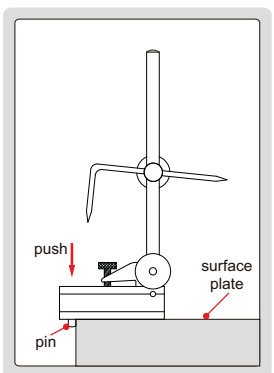

| Code | Range | Graduation | Accuracy |
|---|---|---|---|
| **7203-300A** | 51-300mm | 0.1mm | ±0.1mm |

# HEIGHT SCRIBER

6990-300A




| Code |
|---|
| 6990-300A |

- Grooved bottom for cylinder
- Two pins to be set against the edge of surface plate

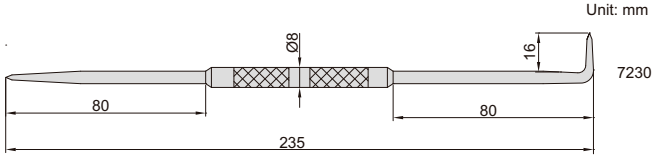
# SCRIBER

7230

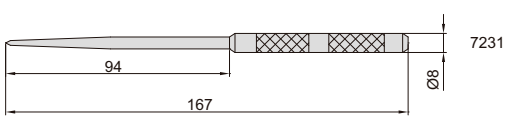
7231

7232

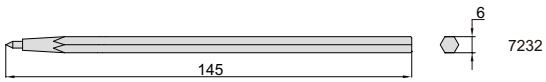
Unit: mm




7230




7231




7232

- Nickel plated

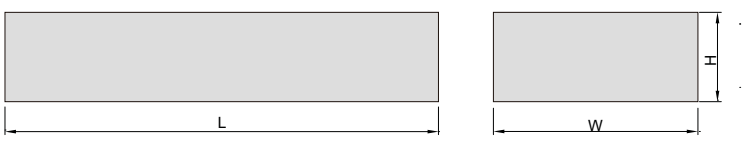
| Code | Tip |
|---|---|
| 7230 | hardened tips |
| 7231 | hardened tip |
| 7232 | carbide tip |

# GRANITE SURFACE PLATE

**CUSTOM-MADE**
CAN SUPPLY PLATES
ACCORDING TO CUSTOMER DESIRE

MANUFACTURER INSPECTION CERTIFICATE

6900-132




- Made of granite, 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**)

**Grade 00**

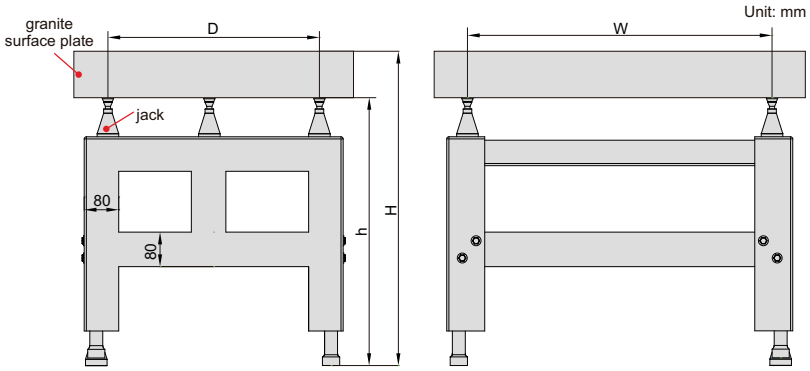
| Code | Size (LxWxH) | Flatness | Weight (Kg) | Load (Kg) |
|---|---|---|---|---|
| **6900-132*** | 300x200x60mm | 2.7μm | 11 | 30 |
| **6900-142*** | 400x250x60mm | 2.9μm | 18 | 50 |
| **6900-144*** | 400x400x60mm | 3.1μm | 29 | 60 |
| **6900-153*** | 500x315x70mm | 3.2μm | 33 | 60 |
| **6900-164*** | 630x400x80mm | 3.5μm | 60 | 65 |
| **6900-166*** | 630x630x100mm | 3.8μm | 119 | 75 |
| **6900-185*** | 800x500x100mm | 3.9μm | 120 | 100 |
| **6900-1106*** | 1000x630x140mm | 4.4μm | 265 | 200 |
| **6900-1101*** | 1000x1000x150mm | 4.8μm | 450 | 400 |
| **6900-1128*** | 1200x800x160mm | 4.9μm | 461 | 500 |
| **6900-1161*** | 1600x1000x180mm | 5.8μm | 864 | 600 |
| **6900-1201*** | 2000x1000x220mm | 6.5μm | 1320 | 650 |
| **6900-1202*** | 2000x1500x250mm | 7.0μm | 2250 | 750 |

**Grade 0**

| Code | Size (LxWxH) | Flatness | Weight (Kg) | Load (Kg) |
|---|---|---|---|---|
| **6900-032*** | 300x200x60mm | 5.4μm | 11 | 60 |
| **6900-042*** | 400x250x60mm | 5.9μm | 18 | 100 |
| **6900-044*** | 400x400x60mm | 6.3μm | 29 | 120 |
| **6900-053*** | 500x315x70mm | 6.4μm | 33 | 120 |
| **6900-064*** | 630x400x80mm | 7.0μm | 60 | 130 |
| **6900-066*** | 630x630x100mm | 7.6μm | 119 | 150 |
| **6900-085*** | 800x500x100mm | 7.8μm | 120 | 200 |
| **6900-0106*** | 1000x630x140mm | 8.7μm | 265 | 400 |
| **6900-0101*** | 1000x1000x150mm | 9.7μm | 450 | 800 |
| **6900-0128*** | 1200x800x160mm | 9.8μm | 461 | 1000 |
| **6900-0161*** | 1600x1000x180mm | 11.5μm | 864 | 1200 |
| **6900-0201*** | 2000x1000x220mm | 12.9μm | 1320 | 1300 |
| **6900-0202*** | 2000x1500x250mm | 14.0μm | 2250 | 1500 |

*Supplied with manufacturer inspection certificate

# STAND FOR GRANITE SURFACE PLATE




- For medium size granite surface plates
- Adjusting range of jacks: 25mm
- One foot on the bottom is adjustable

**6902-64A**

**Low stands** **(mm)**

| Code | For granite surface plate | W | D | H (with granite surface plate) | h (without granite surface plate) |
|---|---|---|---|---|---|
| **6902-64A** | 630x400x80mm (code **6900-064** and **6900-164**) | 352 | 224 | 775-800 | 695-720 |
| **6902-66A** | 630x630x100mm (code **6900-066** and **6900-166**) | 352 | 352 | 775-800 | 675-700 |
| **6902-85A** | 800x500x100mm (code **6900-085** and **6900-185**) | 448 | 280 | 775-800 | 675-700 |
| **6902-106A** | 1000x630x140mm (code **6900-0106** and **6900-1106**) | 560 | 352 | 755-780 | 615-640 |
| **6902-101A** | 1000x1000x150mm (code **6900-0101** and **6900-1101**) | 560 | 560 | 755-780 | 605-630 |
| **6902-128A** | 1200x800x160mm (code **6900-0128** and **6900-1128**) | 672 | 448 | 755-780 | 595-620 |
| **6902-161A** | 1600x1000x180mm (code **6900-0161** and **6900-1161**) | 896 | 560 | 755-780 | 575-600 |

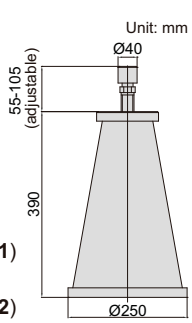
**High stands** **(mm)**

| Code | For granite surface plate | W | D | H (with granite surface plate) | h (without granite surface plate) |
|---|---|---|---|---|---|
| **6902-64H** | 630x400x80mm (code **6900-064** and **6900-164**) | 352 | 224 | 1000-1025 | 920-945 |
| **6902-66H** | 630x630x100mm (code **6900-066** and **6900-166**) | 352 | 352 | 1000-1025 | 900-925 |
| **6902-85H** | 800x500x100mm (code **6900-085** and **6900-185**) | 448 | 280 | 1000-1025 | 900-925 |
| **6902-106H** | 1000x630x140mm (code **6900-0106** and **6900-1106**) | 560 | 352 | 1000-1025 | 860-885 |
| **6902-101H** | 1000x1000x150mm (code **6900-0101** and **6900-1101**) | 560 | 560 | 1000-1025 | 850-875 |
| **6902-128H** | 1200x800x160mm (code **6900-0128** and **6900-1128**) | 672 | 448 | 1000-1025 | 840-865 |
| **6902-161H** | 1600x1000x180mm (code **6900-0161** and **6900-1161**) | 896 | 560 | 1000-1025 | 820-845 |

# JACK SET FOR GRANITE SURFACE PLATE

| Code |
|---|
| **6903-B** |

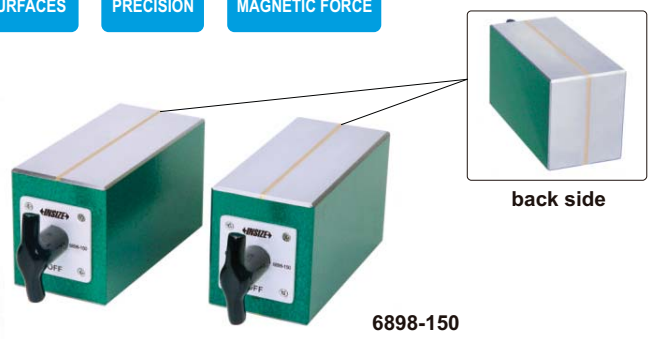
- 5 jacks per set
- Adjustable height
- For large granite surface plates:
  2000x1000x220mm
  (code **6900-0201** and **6900-1201**)
  2000x1500x250mm
  (code **6900-0202** and **6900-1202**)



**6903-B**

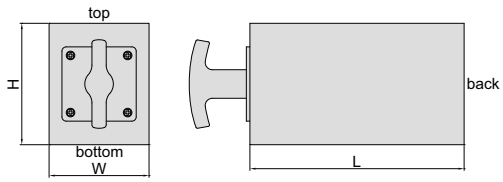
# MAGNETIC RECTANGULAR BLOCKS

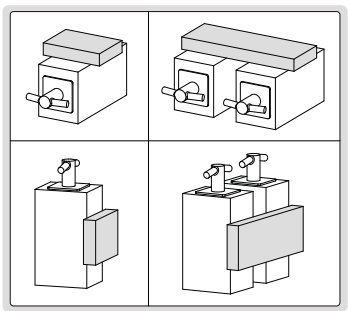
HARDENED SURFACES | HIGH PRECISION | STRONG MAGNETIC FORCE




6898-150

Unit: mm



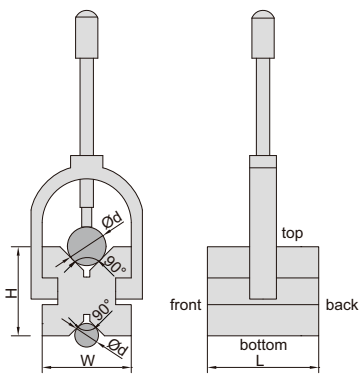
- For grinding, light milling, drilling and inspection of round and square jobs
- Hardened, high accuracy, strong magnetic force
- Working surfaces are hardened to HRC58-62
- Magnetic force on top, bottom and back sides
- Supplied in matched pair

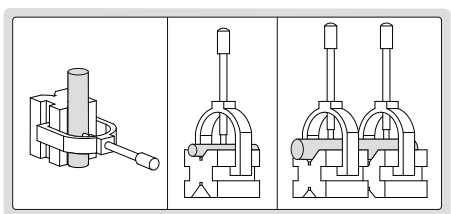
| Code | Size (LxWxH) | Magnetic force | Parallelism of top to bottom side | Squareness of top and bottom to back side | Height difference of a matched pair |
|---|---|---|---|---|---|
| **6898-100** | 100x70x70mm | 100kgf | 5μm | 5μm | 5μm |
| **6898-150** | 150x70x85mm | 125kgf | 5μm | 5μm | 5μm |

# V-BLOCK SET

6896-10

6896-11



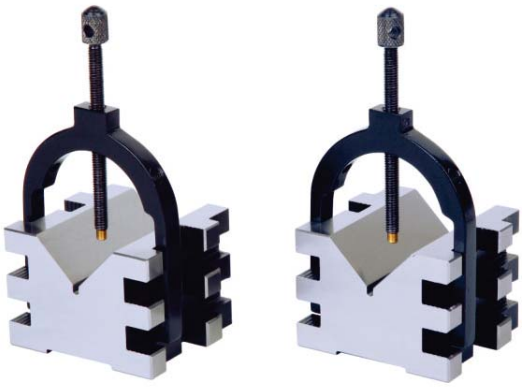
- Hold cylindrical workpieces for inspection and machining
- Two V-blocks per set
- Made of alloy steel
- Hardened to HRC60±2
- V groove on the top for large shafts
- V groove on the bottom for small shafts (except **6896-10**)

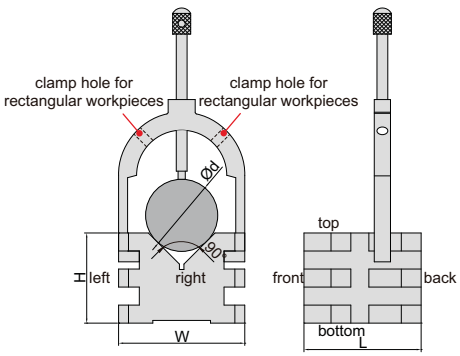
| Code | Size (LxWxH) | Range of shafts (Ød) | Parallelism of both V grooves to top and bottom sides | Squareness of both V grooves to front and back sides | Height difference of a matched pair |
|---|---|---|---|---|---|
| **6896-10** | 25x20x20mm | 3-20mm | 3μm | 3μm | 3μm |
| **6896-11** | 50x40x40mm | 5-30mm | 5μm | 5μm | 5μm |
| **6896-12** | 80x63x63mm | 7-63mm | 5μm | 5μm | 5μm |
| **6896-13** | 100x80x80mm | 7-80mm | 5μm | 5μm | 5μm |
| **6896-14** | 140x70x140mm | 9-140mm | 5μm | 5μm | 5μm |

# V-BLOCK SET

SIDE LIE-DOWN USE IS POSSIBLE

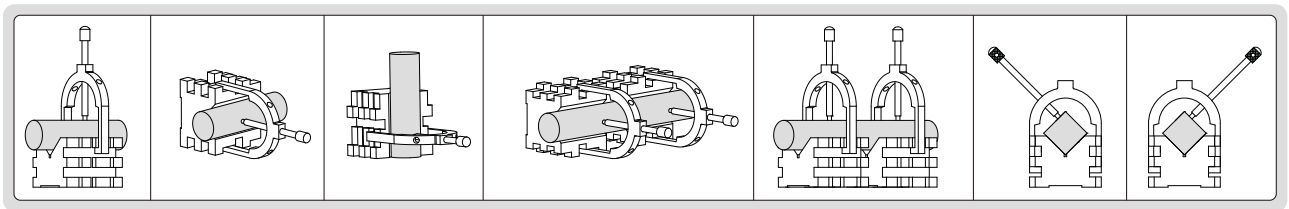
6802-1



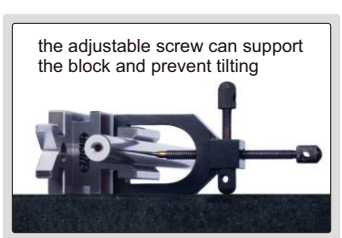



- Hold cylindrical or rectangular workpieces for inspection and machining
- Two V-blocks per set
- Made of alloy steel
- Hardened to HRC60±2
- Applicable for cylinder with diameter (Ød): 5 - 50mm
- Applicable for rectangular workpieces with thickness: ≤35mm

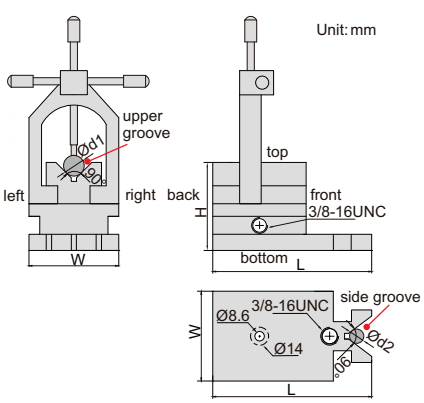
| Code | Size (LxWxH) | Parallelism of V groove to top, bottom, left, right sides | Squareness of V groove to front and back sides | Height difference of a matched pair |
|---|---|---|---|---|
| **6802-1** | 65x70x50mm | 5μm | 5μm | 5μm |



# V-BLOCK



6804-1



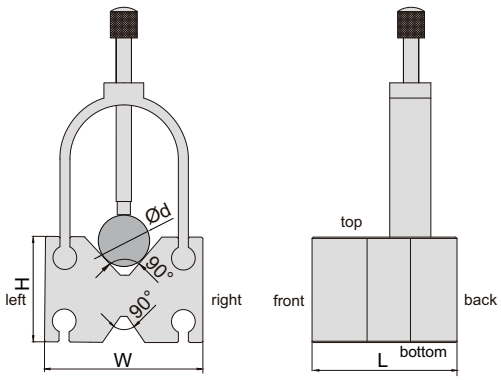

- Hold cylindrical workpieces for inspection and machining
- Hardened to HRC60±2

| Code | Size (LxWxH) | 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 |
|---|---|---|---|---|---|
| **6804-1** | 90x48x48mm | 5 - 33mm | 5μm | 5μm | 5μm |

SIDE LIE-DOWN USE IS POSSIBLE

# V-BLOCK SET

6803-1



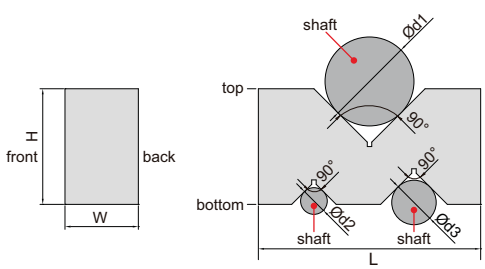

- Hold cylindrical workpieces for inspection and machining
- Two V-blocks per set
- Made of alloy steel
- Hardened to HRC60±2
- V groove on the top for large shafts
- V groove on the bottom for small shafts

**side lie-down use is possible**

| Code | Size (LxWxH) | 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 | 25x20x20mm | 4-35mm | 5μm | 5μm | 5μm |
| 6803-2 | 50x40x40mm | 4-47mm | 5μm | 5μm | 5μm |

# V-BLOCK SET

6887-3

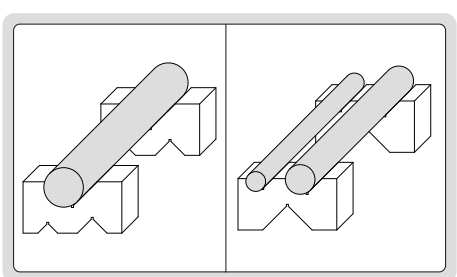



(mm)

| Code | Size (LxWxH) | Range of shafts(Ød1) | Range of shafts(Ød2) | Range of shafts(Ød3) |
|---|---|---|---|---|
| 6887-1 | 50x19x24 | 3-32 | 3-16 | 3-22 |
| 6887-2 | 75x24x35 | 3-50 | 3-20 | 3-32 |
| 6887-3 | 100x33x52 | 3-68 | 3-26 | 3-40 |
| 6887-4 | 125x44x69 | 3-87 | 3-34 | 3-50 |

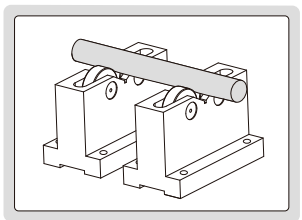
| Code | Parallelism of three V grooves to top and bottom sides | Squareness of three V grooves to front and back sides | Height difference of a matched pair |
|---|---|---|---|
| 6887-1 | 5μm | 5μm | 5μm |
| 6887-2 | 5μm | 5μm | 5μm |
| 6887-3 | 5μm | 5μm | 5μm |
| 6887-4 | 5μm | 5μm | 5μm |

- Two V-blocks per set
- Made of hardened tool steel

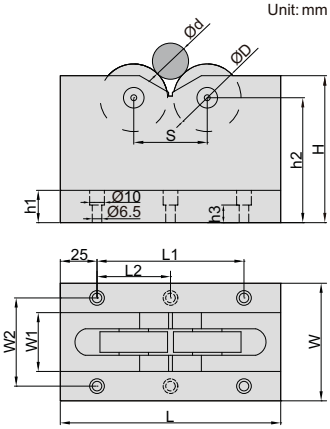


# ROLLER BEARING V-BLOCK SET

6888-1



Unit: mm



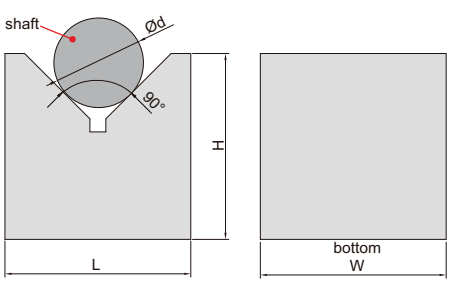

- Two V-blocks per set
- Workpieces don't get damaged due to bearings
- Suitable for heavy workpieces

(mm)

| 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 |

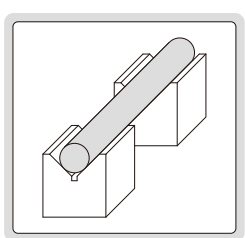
| Code | Size (LxWxH) | Diameter of bearings (ØD) | Range of shafts (Ød) | Parallelism of bearings to bottom | Load capacity |
|---|---|---|---|---|---|
| **6888-1** | 150x60x100mm | 42mm | 25 - 70mm | 12µm | 500kg |
| **6888-2** | 150x80x100mm | 47mm | 5 - 55mm | 12µm | 1000kg |
| **6888-3** | 230x100x150mm | 72mm | 70 - 200mm | 12µm | 1000kg |

# GRANITE V-BLOCK SET



6897-1

- Two V-blocks per set

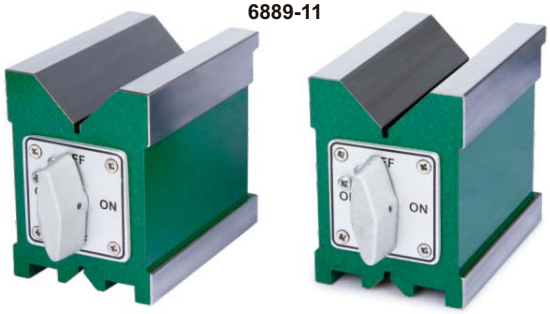


| Code | Size (LxWxH) | Range of shafts (Ød) | Parallelism of V groove to bottom | Height difference of a matchet pair |
|---|---|---|---|---|
| **6897-1** | 70x50x70mm | 6 - 75mm | 4µm | 5µm |
| **6897-2** | 100x50x70mm | 6 - 99mm | 4µm | 5µm |

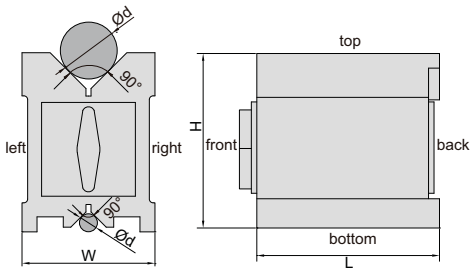
STRONG MAGNETIC FORCE | HARDENED SURFACES | HIGH PRECISION

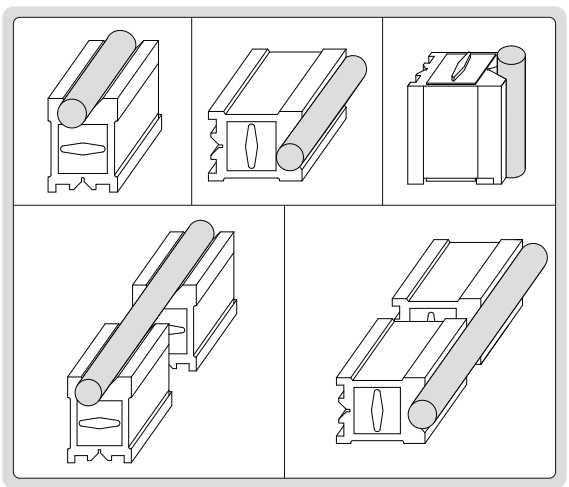
# MAGNETIC V-BLOCK

6889-11



6889-1



- Hardened, high accuracy, strong magnetic force, for grinding, light milling, drilling and inspection of round and square jobs
- 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

**Individual**

| Code | Size (LxWxH) | Range of shafts (Ød) | Magnetic force | Parallelism of V groove to top, bottom, left, right sides | Squareness of V groove to back side |
|---|---|---|---|---|---|
| **6889-11** | 75x56x75mm | 5-40mm | 75kgf | 5μm | 5μm |
| **6889-22** | 100x70x95mm | 5-65mm | 100kgf | 5μm | 5μm |
| **6889-33** | 150x75x100mm | 5-70mm | 125kgf | 5μm | 5μm |
| **6889-44** | 200x124x150mm | 10-140mm | 175kgf | 10μm | 10μm |

**Matched pair**

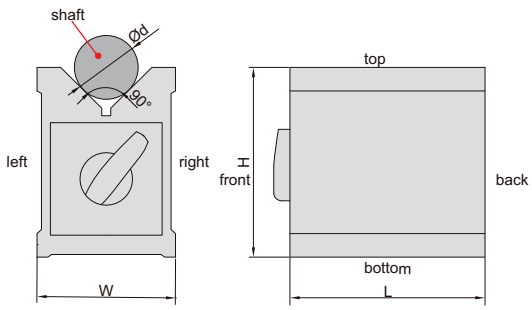
| Code | Size (LxWxH) | Range of shafts (Ød) | Magnetic force | Parallelism of both V grooves to top, bottom, left, right sides | Squareness of both V grooves to back side | Height difference of a matched pair |
|---|---|---|---|---|---|---|
| **6889-1** | 75x56x75mm | 5-40mm | 75kgf | 5μm | 5μm | 5μm |
| **6889-2** | 100x70x95mm | 5-65mm | 100kgf | 5μm | 5μm | 5μm |
| **6889-3** | 150x75x100mm | 5-70mm | 125kgf | 5μm | 5μm | 5μm |
| **6889-4** | 200x124x150mm | 10-140mm | 175kgf | 10μm | 10μm | 10μm |

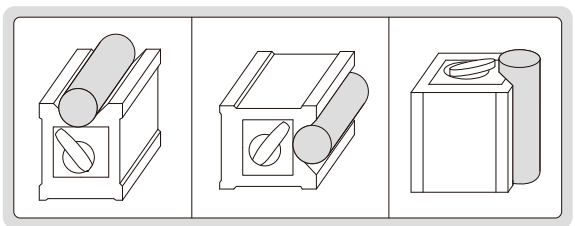
# MAGNETIC V-BLOCK

**ATTENTION: NOT SUITABLE FOR STEEL OR IRON SURFACE**

**ATTENTION: NOT HARDENED**

**6890-702**



- Hold cylindrical workpieces for inspection and machining
- Supplied in single piece
- Not hardened
- Not suitable for steel or iron surface

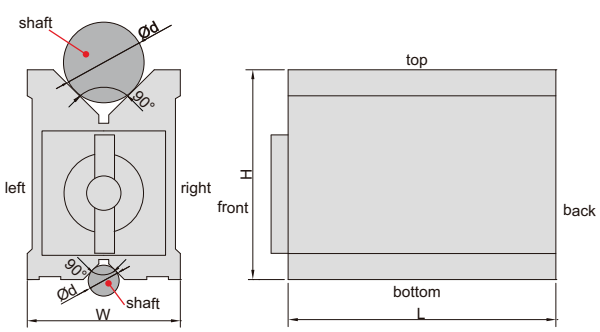
| Code | Size (LxWxH) | Range of shafts (Ød) | Magnetic force | Parallelism of V groove to top, bottom, left and right sides | Squareness of V groove to back side |
|---|---|---|---|---|---|
| **6890-702** | 70x60x73mm | 6-44mm | 56kgf | 10μm | 10μm |

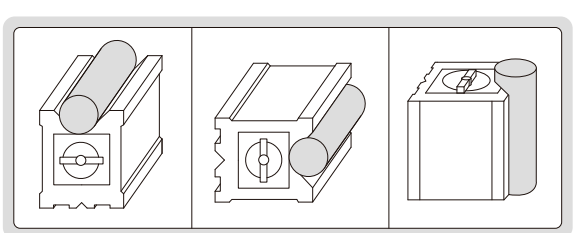
# MAGNETIC V-BLOCK

**ATTENTION: NOT SUITABLE FOR STEEL OR IRON SURFACE**

**ATTENTION: NOT HARDENED**

**6801-1201**



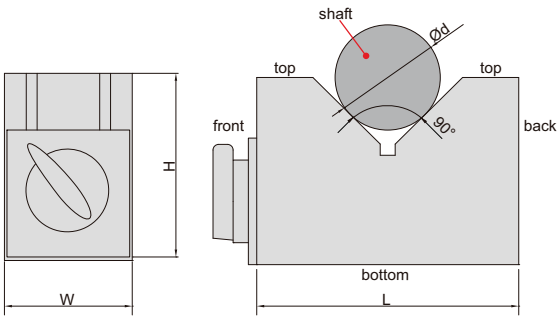
- Hold cylindrical workpieces for inspection and machining
- Supplied in single piece
- Not hardened
- V groove on the top for large shafts
- V groove on the bottom for small shafts
- Not suitable for steel or iron surface

| Code | Size (LxWxH) | Range of shafts (Ød) | Magnetic force | Parallelism of both V grooves to top, bottom, left, right side | Squareness of both V grooves to back side |
|---|---|---|---|---|---|
| **6801-1201** | 80x70x95mm | 6-67mm | 64kgf | 10μm | 10μm |
| **6801-1202** | 100x70x95mm | 6-67mm | 80kgf | 10μm | 10μm |
| **6801-1203** | 120x70x95mm | 6-67mm | 96kgf | 10μm | 10μm |

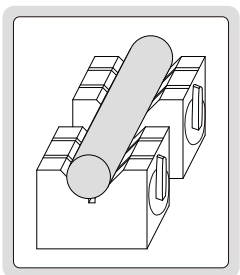
ATTENTION: LOW MAGNETIC FORCE

# MAGNETIC V-BLOCK SET

6891-1



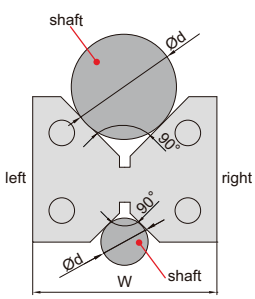

- Hold cylindrical workpieces for inspection, not suitable for machining due to low magnetic force
- Two V-blocks per set

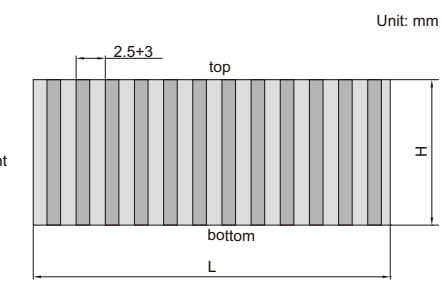


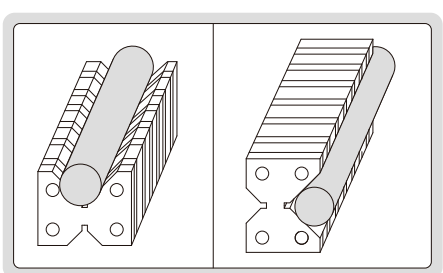
| Code | Size (LxWxH) | Range of shafts (Ød) | Magnetic force | Parallelism of V groove to bottom and back sides | Height difference of a matched pair |
|---|---|---|---|---|---|
| **6891-1** | 70x40x50mm | 6-46mm | 8kgf | 10μm | 10μm |
| **6891-3** | 150x50x100mm | 6-125mm | 14kgf | 10μm | 10μm |

# MAGNETIC INDUCTION V-BLOCK

6892-1



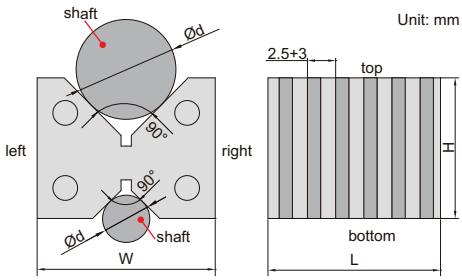



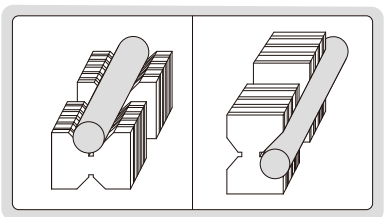
- Hold cylindrical workpieces for inspection and machining
- To be used on magnetic chucks
- Supplied in single piece
- V groove on the top for large shafts
- V groove on the bottom for small shafts

| Code | Size (LxWxH) | Range of shafts (Ød) | Pole pitch | Parallelism of both V grooves to top, bottom, left, right sides |
|---|---|---|---|---|
| **6892-1** | 110x60x48mm | 6-50mm | 2.5+3mm | 10μm |

# MAGNETIC INDUCTION V-BLOCK SET

6899-1



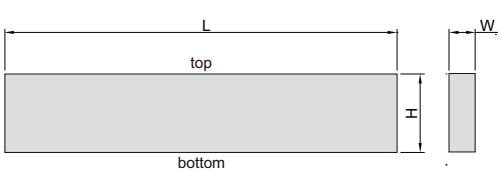



- Hold cylindrical workpieces for inspection and machining
- To be used on magnetic chucks
- Two V-blocks per set
- V groove on the top for large shafts
- V groove on the bottom for small shafts

| Code | Size (LxWxH) | Range of shafts (Ød) | Pole pitch | Parallelism of both V grooves to top, bottom, left and right sides | Height difference of a matched pair |
|---|---|---|---|---|---|
| **6899-1** | 50x60x48mm | 6 - 50mm | 2.5+3mm | 10μm | 10μm |

# PARALLEL SET

6533-144



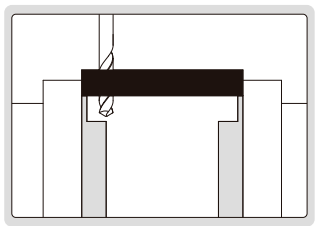

- Parallelism between top and bottom: 5μm
- Height difference of a matched pair: 5μm
- Hardened to HRC55-60

**(mm)**

| Code | Parallels per set | Length (L) | Thickness (W) | Height (H) |
|---|---|---|---|---|
| **6533-10** | 10 pairs | 150 | 3 | 13, 16, 19, 22, 25, 28, 31, 35, 38, 41 |
| **6533-144** | 14 pairs | 150 | 10 | 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 35, 40, 45, 50 |
| **6533-6** | 6 pairs | 200 | 9.5 | 35, 40, 45, 50, 55, 58 |

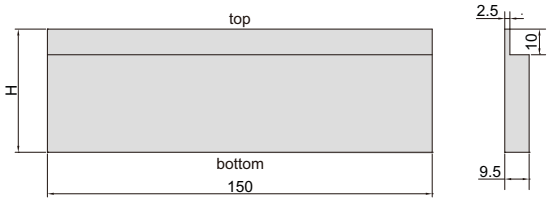
# PARALLEL SET

6534-6



- Parallelism between top and bottom: 5μm
- Height difference of a matched pair: 5μm
- Hardened to HRC55-60

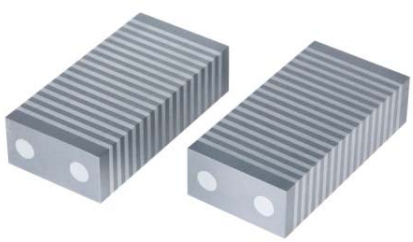
Unit: mm



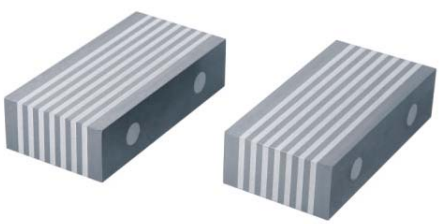

(mm)

| Code | Parallels per set | Height (H) |
|---|---|---|
| 6534-6 | 6 pairs | 25, 30, 35, 40, 45, 48 |

# MAGNETIC INDUCTION PARALLEL SET

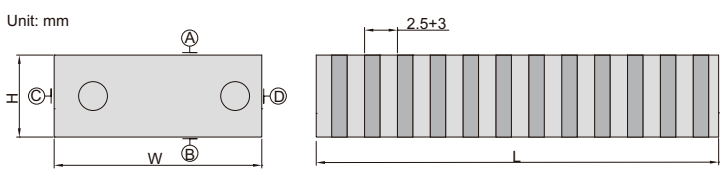


6894-1

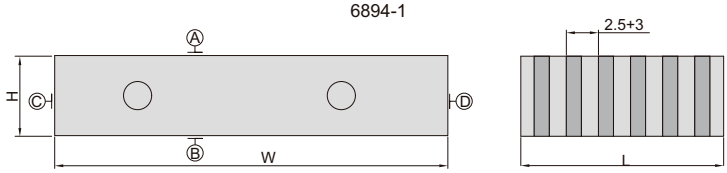


6894-2

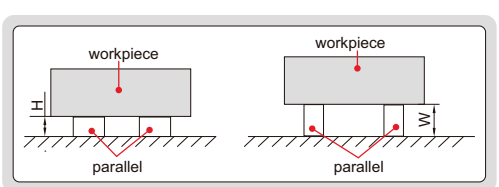
Unit: mm




6894-1




6894-2

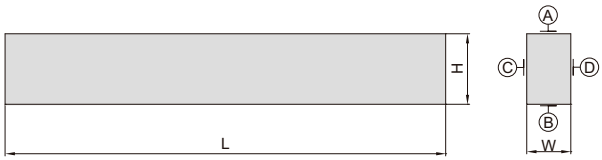


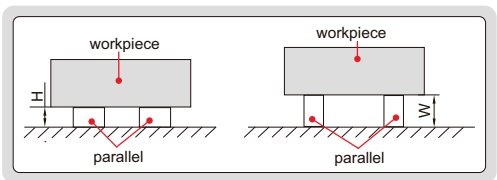

- To be used on magnetic chucks
- Two parallels per set

| Code | Size (LxWxH) | Pole pitch | Parallelism between A and B | Parallelism between C and D | Height difference of a matched pair |
|---|---|---|---|---|---|
| 6894-1 | 100x50x25mm | 2.5+3mm | 10μm | 10μm | 10μm |
| 6894-2 | 50x100x25mm | 2.5+3mm | 10μm | 10μm | 10μm |

# GRANITE PARALLEL SET

4143-250

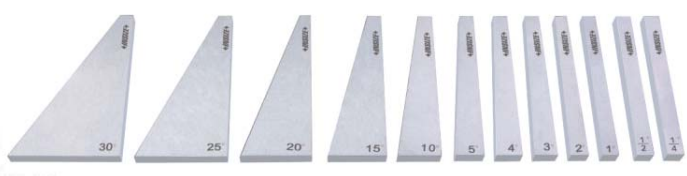



- Made of granite, hard and no rusty, no dimensional change over time or temperature change
- Two parallels per set

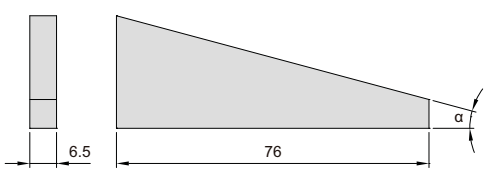
| Code | Size (LxWxH) | Parallelism between A and B | Parallelism between C and D | Height difference of a matched pair |
|---|---|---|---|---|
| **4143-250** | 250x25x40mm | 3μm | 3μm | 3μm |

# ANGLE PLATE SET




4003-12

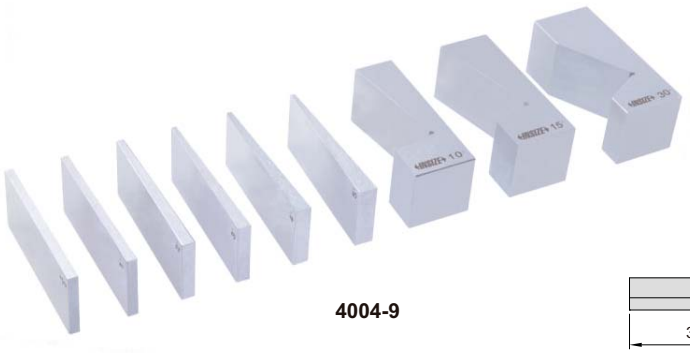
unit:mm




- For angle set-up in tooling, production and inspection
- Hardness HRC55

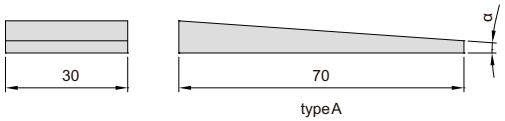
| Code | Angle plates included | Angle α | Accuracy |
|---|---|---|---|
| **4003-10** | 10 | 1°, 2°, 3°, 4°, 5°, 10°, 15°, 20°, 25°, 30° | ±9" |
| **4003-12** | 12 | 1/4°, 1/2°, 1°, 2°, 3°, 4°, 5°, 10°, 15°, 20°, 25°, 30° | ±9" |

# UNIVERSAL ANGLE PLATE SET

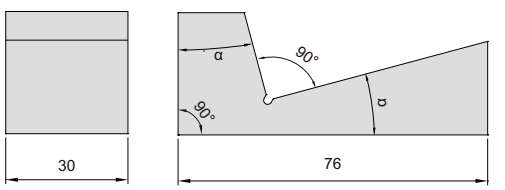


4004-9

Unit: mm




type A



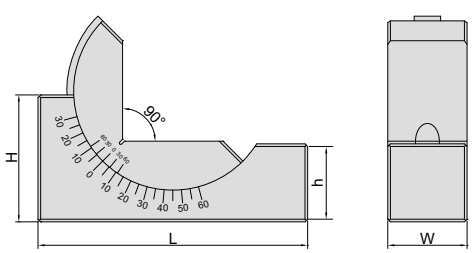

type B

- For angle set-up in tooling, production and inspection
- Hardness HRC55

| Code | Angle plates included | Angle α | Type | Accuracy |
|---|---|---|---|---|
| 4004-9 | 9 | ½°, 1°, 2°, 3°, 4°, 5° | type A | ±9" |
| | | 10°, 15°, 30° | type B | |

# ADJUSTABLE ANGLE BLOCK

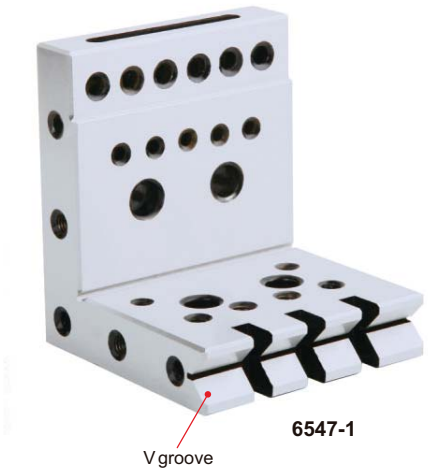
6535-30




- Made of hardened tool steel
- With locking screw

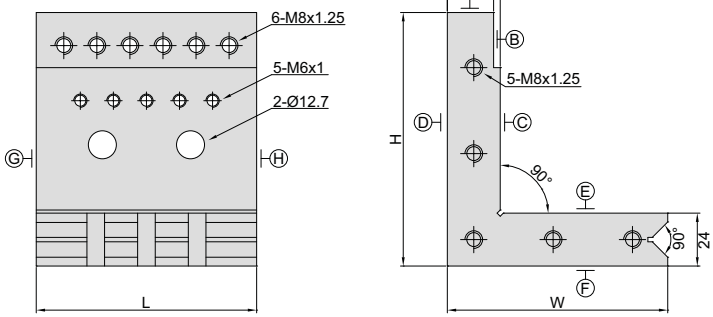
| Code | Size (LxWxH) | h | Adjustable angle | Graduation of angle | Accuracy of angle |
|---|---|---|---|---|---|
| 6535-25 | 75x25x36mm | 25mm | 30°~0°~60° | 10' | 10' |
| 6535-30 | 102x30x49mm | 30mm | 30°~0°~60° | 10' | 10' |

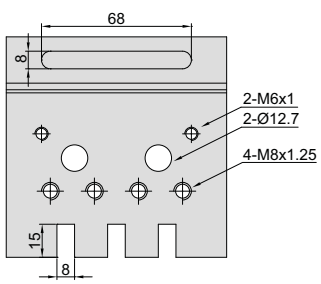
# RIGHT ANGLE PLATE




6547-1

Unit: mm



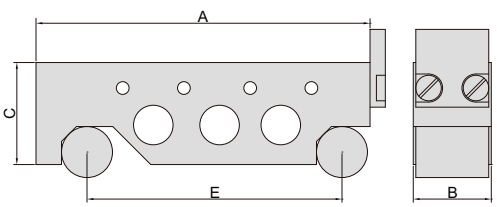

- Hardened to HRC60±2
- V groove for cylinders
- Parallelism and squareness between A, B, C, D, E, F, G and H: 6μm
- Parallelism and squareness of V groove to A, B, C, D, E, F, G and H: 6μm

| Code | Size (LxWxH) |
|---|---|
| 6547-1 | 100x100x115mm |

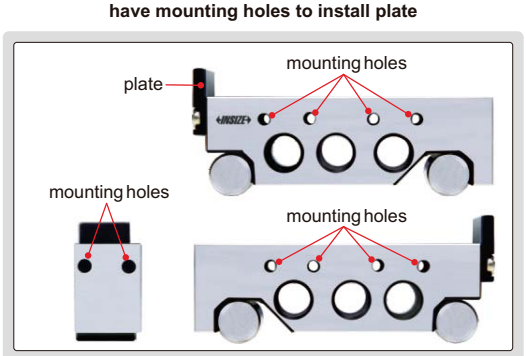
# SINE BAR

HIGH PRECISION

4155-100

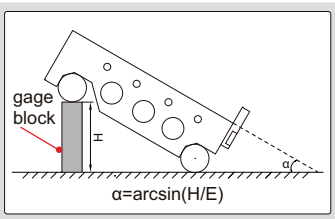



**The front and back ends and two sides have mounting holes to install plate**




- High precision

| Code | Roller distance (E) | Table size (AxB) | C | Accuracy of α at 30° |
|---|---|---|---|---|
| 4155-100 | 100mm | 130x30mm | 40mm | ±5 seconds |
| 4155-200 | 200mm | 230x30mm | 40mm | ±5 seconds |
| 4155-300 | 300mm | 345x40mm | 50mm | ±8 seconds |



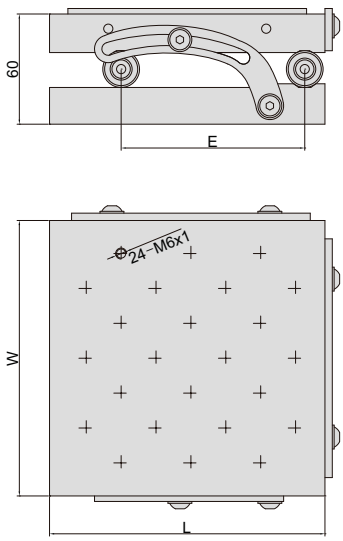
# SINE TABLE

6527-100

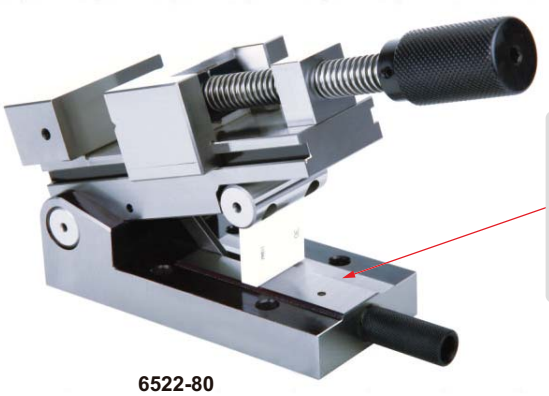
- Accuracy of angle: ±15"
- Hardness HRC58-60

| Code | Roller distance (E) | Table size (LxW) | Adjustable angle |
|---|---|---|---|
| **6527-100** | 100mm | 150x150mm | 0-60° |

Unit: mm




# PRECISION SINE VISE



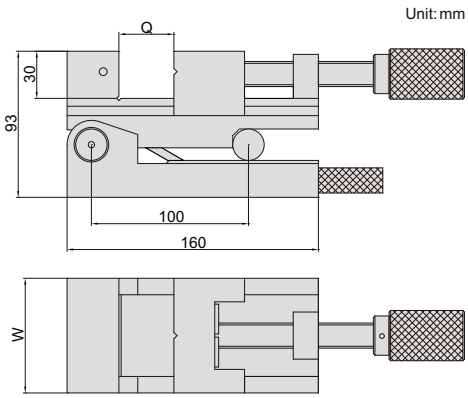
6522-80

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.

- Parallelism: 3μm/100mm
- Squareness: 5μm/100mm
- Accuracy of angle: ±15"
- Made of SKS tool steel, subzero treatment
- Hardness HRC58-60

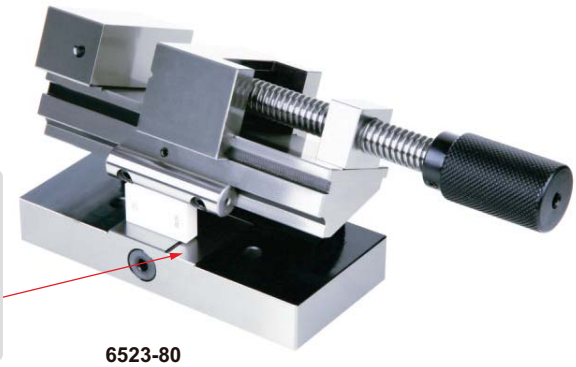
| Code | Jaw opening (Q) | Jaw width (W) | Adjustable angle |
|---|---|---|---|
| **6522-80** | 0-80mm | 73mm | 0-46° |

Unit: mm



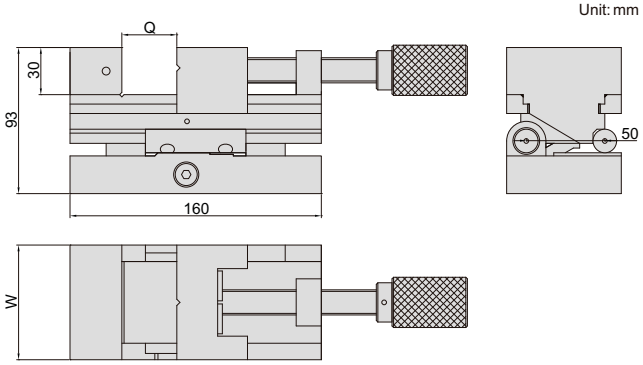
# PRECISION SINE VISE

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**

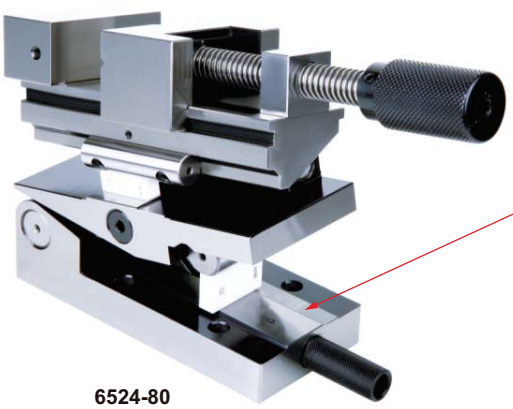
Unit: mm




- Parallelism: 3μm/100mm
- Squareness: 5μm/100mm
- Accuracy of angle: ±15"
- 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° |

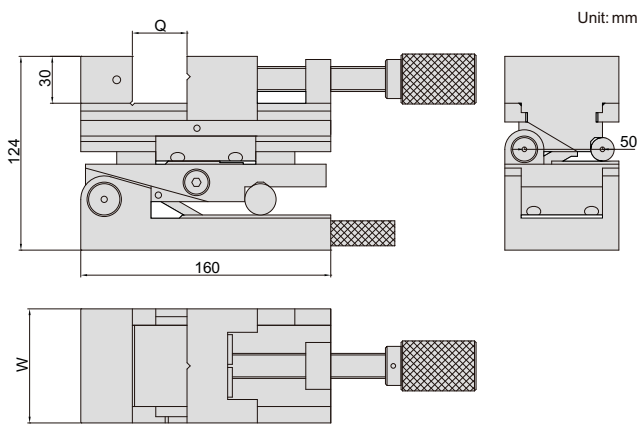
# PRECISION COMPOUND SINE VISE



**6524-80**

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.

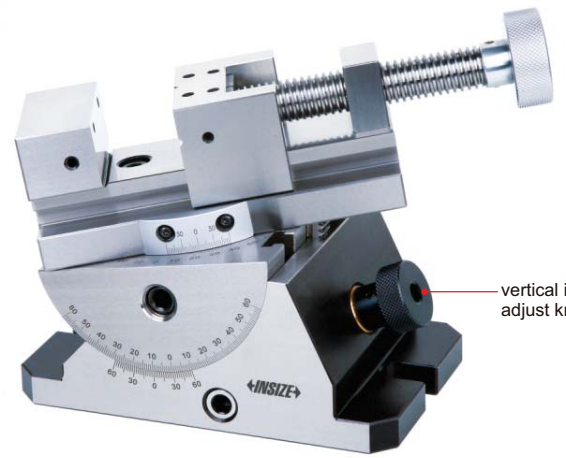
Unit: mm




- Parallelism: 3μm/100mm
- Squareness: 5μm/100mm
- Accuracy of angle: ±15"
- Made of SKS tool steel, subzero treatment
- Hardness HRC58-60

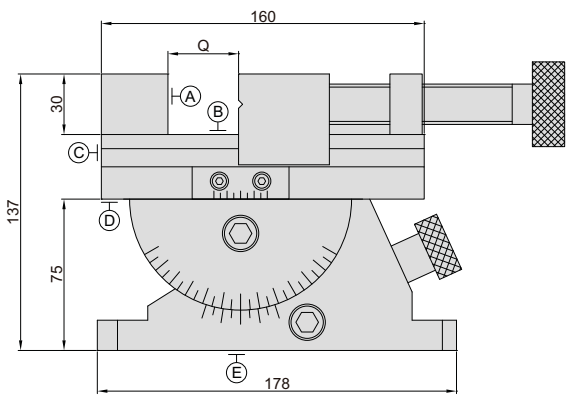
| Code | Jaw opening (Q) | Jaw width (W) | Adjustable angle |
|---|---|---|---|
| **6524-80** | 0-80mm | 73mm | 0-46° |

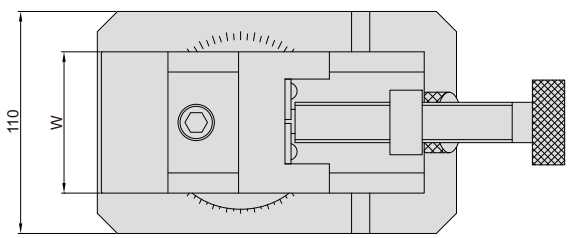
# PRECISION UNIVERSAL VISE




6521-80

Unit: mm



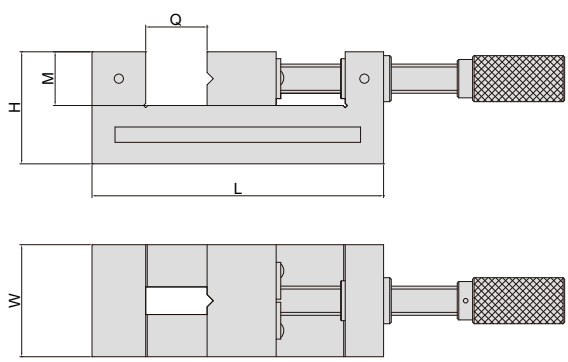




- Horizontal rotary: range 360°, graduation 0.05°
- Vertical incline: range 45°, graduation 0.05°
- With vertical incline adjust knob
- Parallelism and squareness between A, B, C and D: 5μm/100mm, parallelism between D and E at 0°: 10μm/100mm
- Made of tool steel
- Hardness HRC56-58

| Code | Jaw opening(Q) | Jaw width(W) |
|---|---|---|
| **6521-80** | 0-80mm | 70mm |

# PRECISION VISE

6525-76

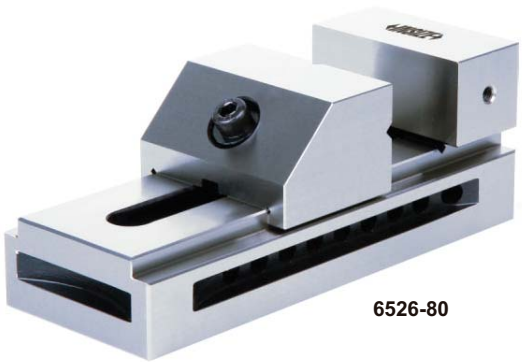



(mm)

| Code | Jaw opening (Q) | Jaw width (W) | L | H | M |
|---|---|---|---|---|---|
| **6525-73** | 0-73mm | 63mm | 176 | 63 | 30 |
| **6525-76** | 0-76mm | 73mm | 190 | 73 | 35 |
| **6525-120** | 0-120mm | 98mm | 255 | 82 | 40 |

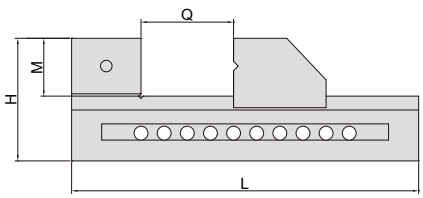
- Parallelism: 4μm/100mm
- Squareness: 6μm/100mm
- Made of SK2 tool steel
- Hardness HRC52-58

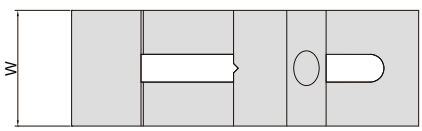
## PRECISION VISE



6526-80

- Parallelism: 3μm/100mm
- Squareness: 5μm/100mm
- Made of SK2 tool steel
- Hardness HRC55-60



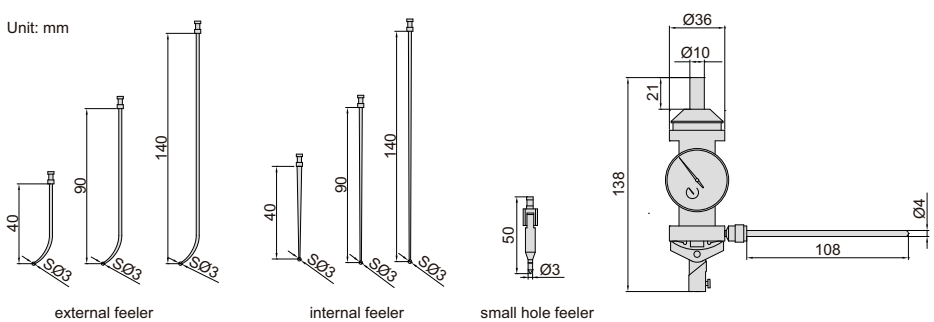



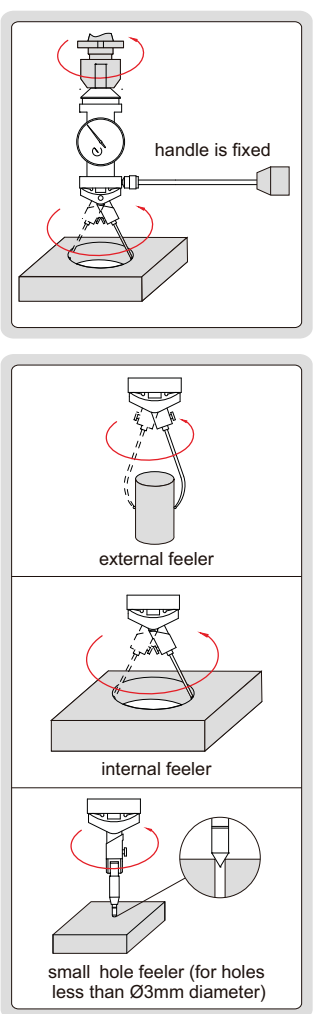

(mm)

| Code | Jaw opening (Q) | Jaw width (W) | Overall length (L) | H | M |
|---|---|---|---|---|---|
| **6526-80** | 0-80mm | 50mm | 150mm | 53 | 25 |
| **6526-100** | 0-100mm | 73mm | 190mm | 70 | 35 |

## CENTERING INDICATOR

2385-3




| Code |
|---|
| 2385-3 |

- Provides quick and accurate centering in boring and milling set-up

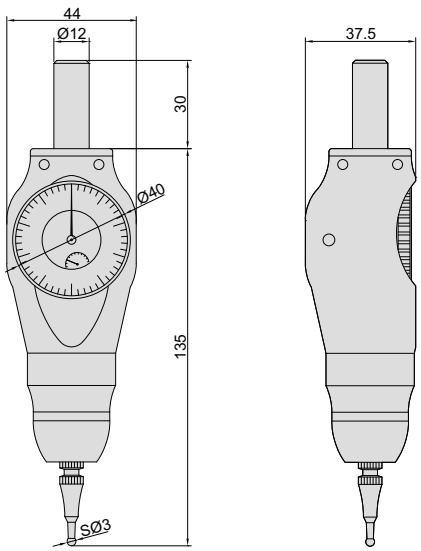
# 3D TESTER

COMPACT DESIGN

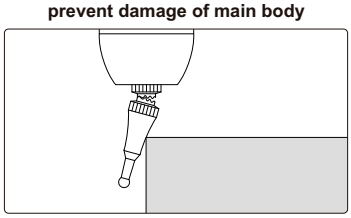
ANTI MAGNETIC CARBIDE CONTACT POINT

**2842-3D**

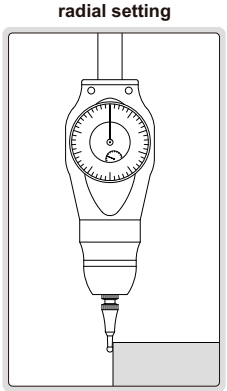
Unit: mm



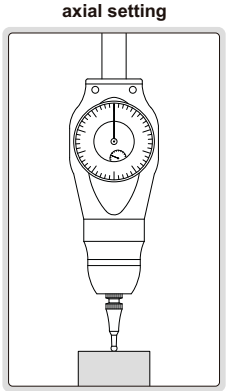

**If probe tip is pressed too much, the probe breaks at the breaking point, in order to prevent damage of main body**



**radial setting**



**axial setting**

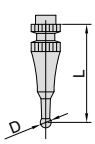


| Code | Range | Graduation |
|---|---|---|
| **2842-3D** | 1.5mm | 0.01mm |

**Probe (optional)**

(mm)

| Code | Name | L | D |
|---|---|---|---|
| **2842-N1** | standard probe | 27 | SØ3 |
| **2842-N2** | long probe | 62 | SØ6 |



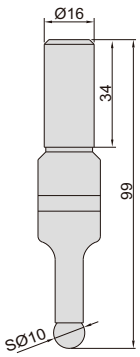
**2842-N1**

**2842-N2**

# 2D ELECTRONIC EDGE FINDER

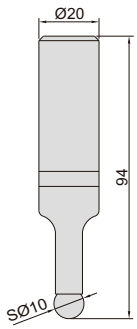
6570-1

6570-2

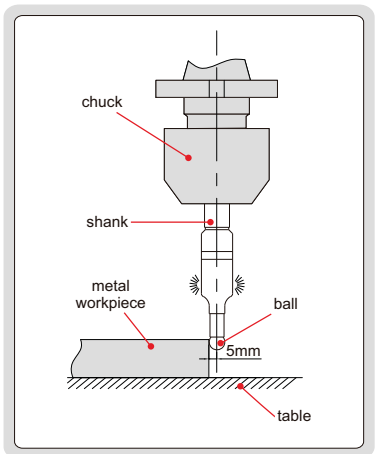



6570-1

Unit: mm




6570-2




- 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

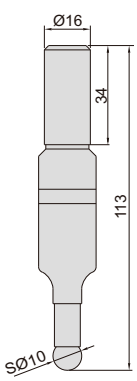
| Code | Shank | Contact ball | Accuracy | Battery |
|---|---|---|---|---|
| **6570-1** | Ø16mm | SØ10mm | 10μm | A23S, 12Vx1pc |
| **6570-2** | Ø20mm | SØ10mm | 10μm | A23S, 12Vx1pc |

# 3D ELECTRONIC EDGE FINDER

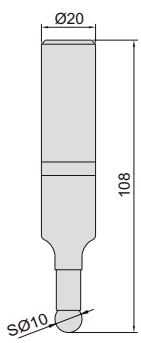
6571-1

6571-2

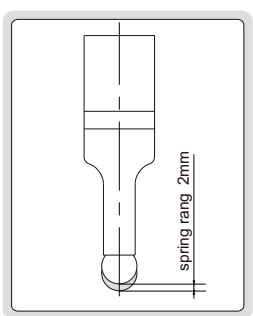
Unit: mm



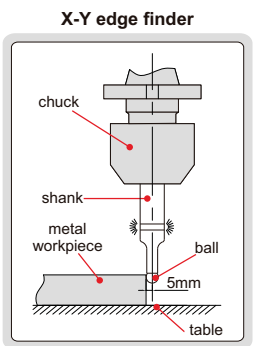

6571-1



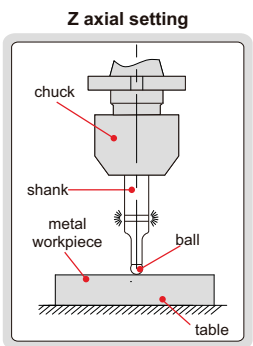

6571-2




**X-Y edge finder**




**Z axial setting**

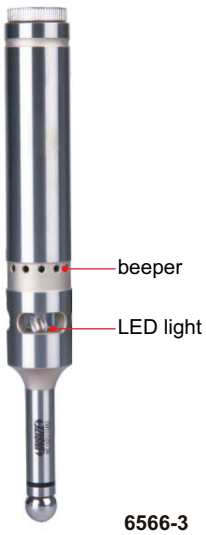



- The shank is electrically conducted to the metal workpiece through the chuck and table, the LED lights up, when the ball touches the workpiece
- Not suitable for rotary use
- Hardened contact ball

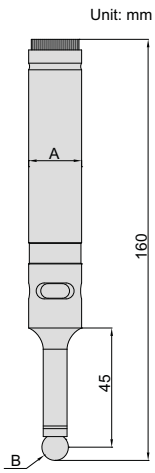
| Code | Shank | Contact ball | Accuracy | Battery |
|---|---|---|---|---|
| **6571-1** | Ø16mm | SØ10mm | 10μm | A23S, 12Vx1pc |
| **6571-2** | Ø20mm | SØ10mm | 10μm | A23S, 12Vx1pc |

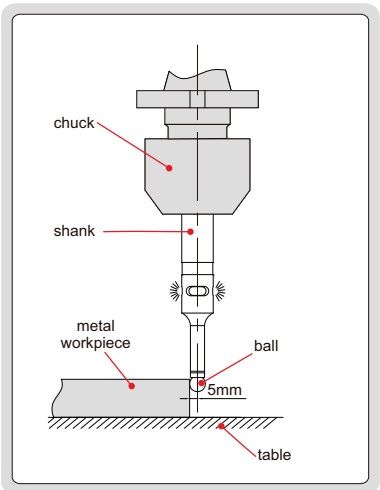
# ELECTRONIC EDGE FINDER

6566-2




6566-3



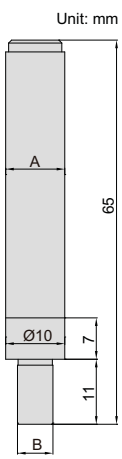



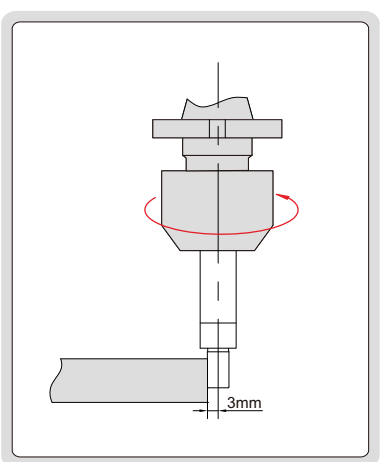

- The shank is electrically conducted to the metal workpiece through the chuck and table, the LED lights up and the beeper sounds(only for **6566-3**), when the ball touches the workpiece
- Not suitable for rotary use
- Hardened shank and contact ball

| Code | Shank (A) | Contact ball (B) | Accuracy | Beeper | Battery |
|---|---|---|---|---|---|
| **6566-2** | Ø20mm | SØ10mm | 5μm | without | 23AE, 12Vx1pc |
| **6566-3** | Ø20mm | SØ10mm | 5μm | with | 23AE, 12Vx1pc |

# EDGE FINDER

6567-1



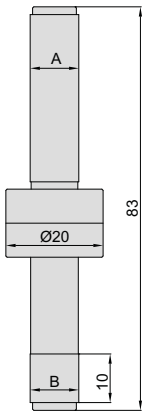

- Hardened shank and contact point

| Code | Shank (A) | Contact point (B) | Accuracy |
|---|---|---|---|
| **6567-1** | Ø10mm | Ø6mm | 8μm |

# EDGE FINDER

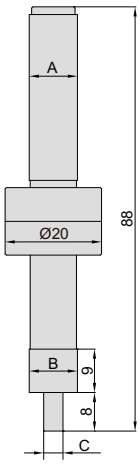
**6562-3**

**6562-4**

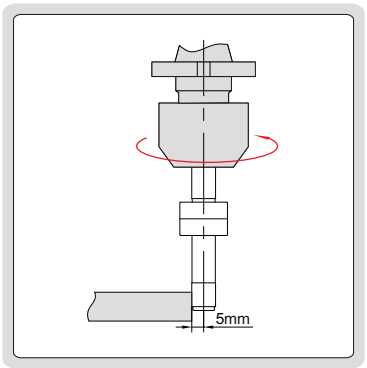



6562-3

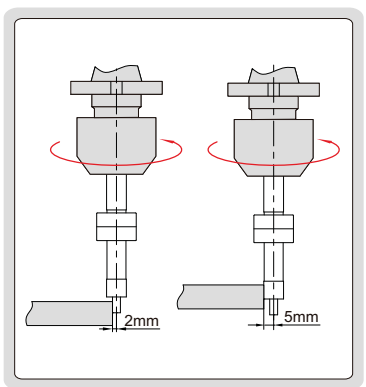
Unit: mm




6562-4




6562-3




6562-4

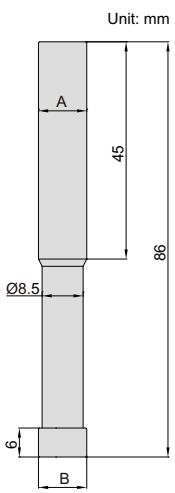
- Hardened shank and contact point

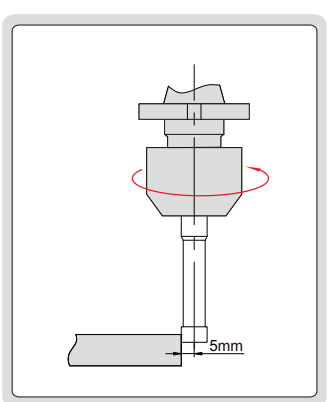
| Code | Shank (A) | Contact point (B) | Contact point (C) | Accuracy |
|---|---|---|---|---|
| **6562-3** | Ø10mm | Ø10mm | — | 5μm |
| **6562-4** | Ø10mm | Ø10mm | Ø4mm | 5μm |

# CERAMIC EDGE FINDER

**6568-1**

Unit: mm



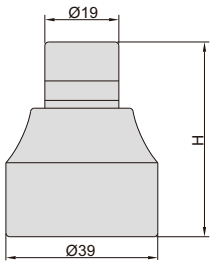

- Ceramic contact point, non magnetic

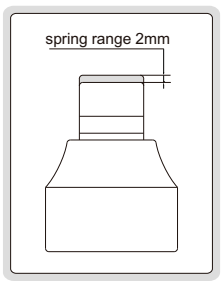
| Code | Shank (A) | Contact point (B) | Accuracy |
|---|---|---|---|
| **6568-1** | Ø10mm | Ø10mm | 8μm |

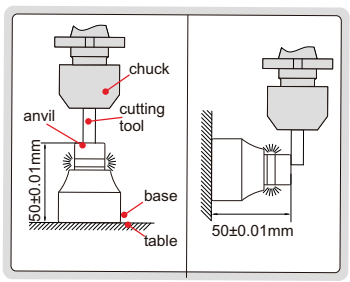
# ELECTRONIC ZERO SETTER

LOW TEST FORCE

Unit: mm




**6553-50**

- 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

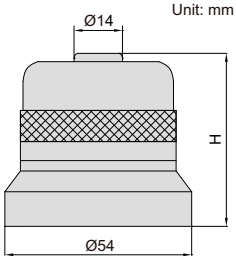
| Code | Height (H) | Accuracy | Test force |
|---|---|---|---|
| **6553-50** | 50mm | ±10μm | 7N (at 49mm) |

# ELECTRONIC ZERO SETTER

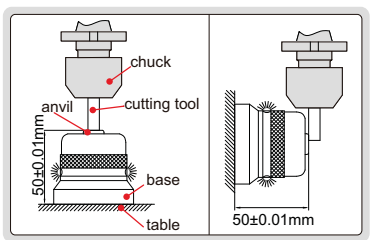
ATTENTION: HIGH TEST FORCE

- 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
- Battery LR44

Unit: mm



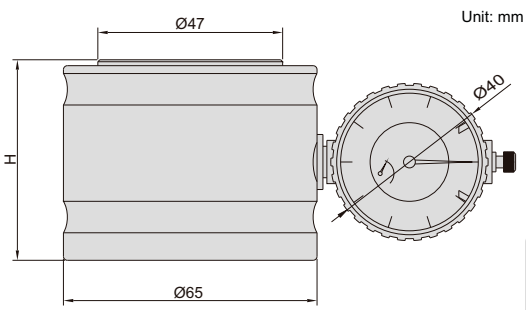
**6550-50A**

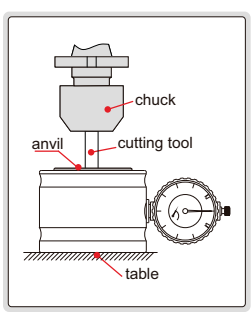



| Code | Height (H) | Accuracy | Test force |
|---|---|---|---|
| **6550-50A** | 50mm | ±10μm | 27N (at 49mm) |

# ZERO SETTER

Unit: mm



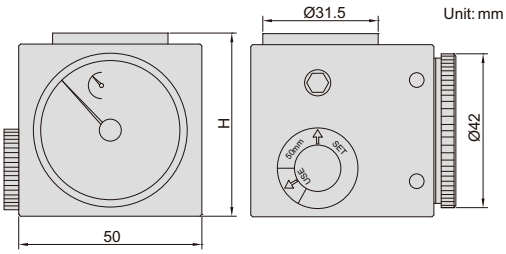



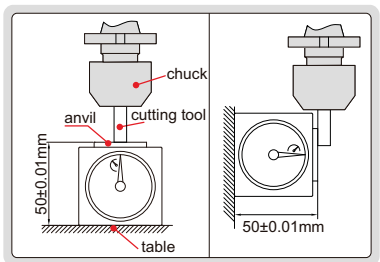

**6554-50**

| Code | Height (H) | Accuracy | Test force |
|---|---|---|---|
| **6554-50** | 50mm | ±10μm | 9N (at 50mm) |

# ZERO SETTER

**2397-502A**



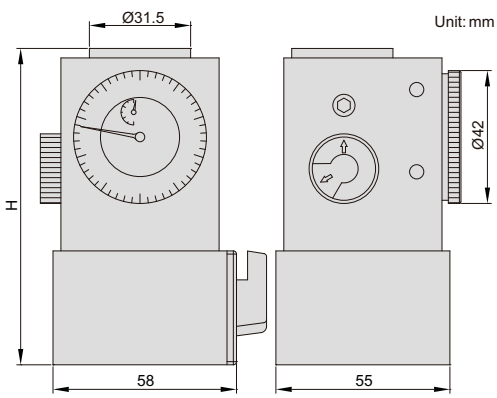



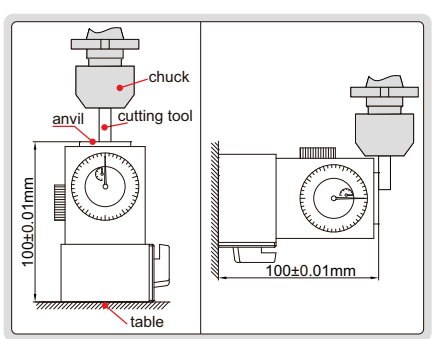

- Magnetic base

| Code | Height (H) | Accuracy | Test force |
|---|---|---|---|
| **2397-502A** | 50mm | ±10μm | 9N (at 50mm) |

# ZERO SETTER

**2394-100A**




- Magnetic base with on-off switch

| Code | Height (H) | Accuracy | Test force |
|---|---|---|---|
| **2394-100A** | 100mm | ±10μm | 9N (at 100mm) |

## 2-PIECE MEASURING TOOL SET

5021

- Includes:
  1) Vernier caliper, range 0-150mm/0-6", graduation 0.05mm/1/128" (code **1205-150**)
  2) Outside micrometer, range 0-25mm, graduation 0.01mm (code **3202-25A**)

| Code |
| --- |
| 5021 |

## 2-PIECE MEASURING TOOL SET

5022-W

- Includes:
  1) Digital caliper, range 0-150mm/0-6", resolution 0.01mm/0.0005" (code **1108-150W**)
  2) Digital outside micrometer, range 0-25mm/0-1", resolution 0.001mm/0.00005" (code **3109-25B**)

| Code |
| --- |
| 5022-W |

## 2-PIECE MEASURING TOOL SET

5023

- Includes:
  1) Dial test indicator, range 0.8mm,
     graduation 0.01mm (code **2380-08**)
  2) Magnetic stand

| Code |
| --- |
| 5023 |

## 2-PIECE MEASURING TOOL SET

5024

- Includes:
  1) Dial indicator, range 10mm,
     graduation 0.01mm (code **2308-10A**)
  2) Magnetic stand (code **6201-60**)

| Code |
| --- |
| 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**

## 4-PIECE MEASURING TOOL SET

- Includes:
  1) Vernier caliper, range 0-150mm/0-6",
     graduation 0.05mm/1/128" (code **1205-150**)
  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 |
| --- |
| 5041 |

**5041**

# 4-PIECE MEASURING TOOL SET

- Includes:
  1) Digital caliper, range 0-150mm/0-6", resolution 0.01mm/0.0005" (code **1108-150W**)
  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**)

**5042-W**

| Code |
| --- |
| 5042-W |

# 5-PIECE MEASURING TOOL SET

- Includes:
  1) Digital caliper, range 0-150mm/0-6", resolution 0.01mm/0.0005", (code **1108-150W**)
  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**)

**5051-W**

| Code |
| --- |
| 5051-W |

# 5-PIECE MEASURING TOOL SET

- Includes:
  1) Digital caliper, range 0-150mm/0-6", resolution 0.01mm/0.0005" (code **1108-150W**)
  2) Digital outside micrometer, range 0-25mm/0-1", resolution 0.001mm/0.00005" (code **3109-25B**)
  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-W |

**5052-W**

# 6-PIECE MEASURING TOOL SET

- Includes:
  1) Digital caliper, range 0-150mm/0-6", resolution 0.01mm/0.0005" (code **1108-150W**)
  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-W |

**5061-W**

## 6-PIECE MEASURING TOOL SET

- Includes:
  1) Digital caliper, range 0-150mm/0-6"
     resolution 0,01mm/0,0005" (code **1108-150W**)
  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-W |

**5062-W**

## 6-PIECE MEASURING TOOL SET

- Includes:
  1) Vernier caliper, range 0-150mm/0-6"
     graduation 0,05mm/1/128"
     (code **1205-150**)
  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 |
| --- |
| 5063 |

**5063**

## 9-PIECE MEASURING TOOL SET

- Includes:
  1) Digital caliper, range 0-150mm/0-6", resolution 0.01mm/0.0005" (code **1108-150W**)
  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, 24pcs, metric 60° thread (code **4820-124**)
  5) Radius gauge, range 1-7mm (code **4801-17**)
  6) Feeler gauge, range 0.05-1.00mm, 20pcs (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-W |

**5091-W**

## 13-PIECE MEASURING TOOL SET

- Includes:
  1) Digital caliper, range 0-150mm/0-6", resolution 0.01mm/0.0005", (code **1108-150W**)
  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, 24pcs, metric 60° thread (code **4820-124**)
  7) Radius gauge, range 1-7mm (code **4801-17**)
  8) Feeler gauge, range 0.05-1.00mm, 20pcs (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

| Code |
| --- |
| 5013-W |

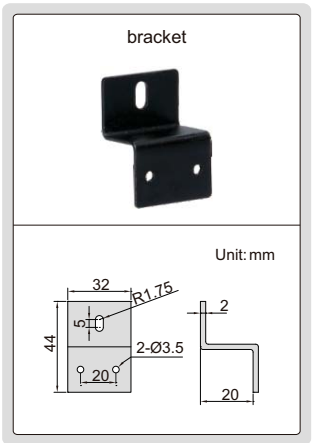
**5013-W**

# DIGITAL HORIZONTAL SCALE

DATA OUTPUT

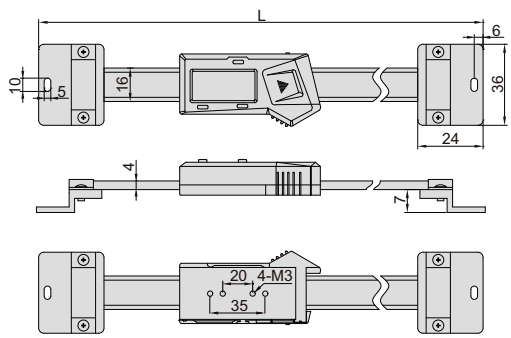
7101-300A

7101-400A




Unit: mm

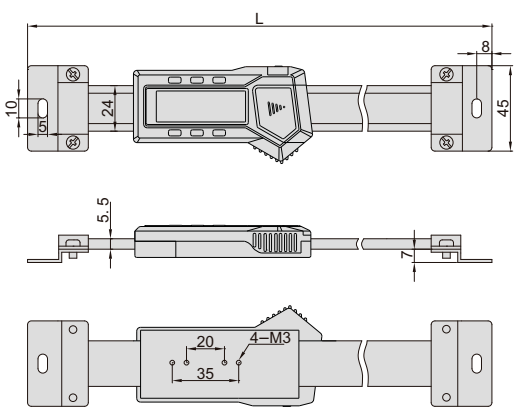
**type A**




- 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 bracket to be mounted on the back
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/SPC1B,7305-SPC2**)

Unit: mm

**type B**




- Resolution: 0.01mm/0.0005"
- Button function: on/off, zero, mm/inch, ABS, data preset
- Absolute and incremental measurement
- Battery CR2032
- Data output
- Made of stainless steel
- Supplied with bracket to be mounted on the back
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/SPC1B,7305-SPC2**)

(mm)

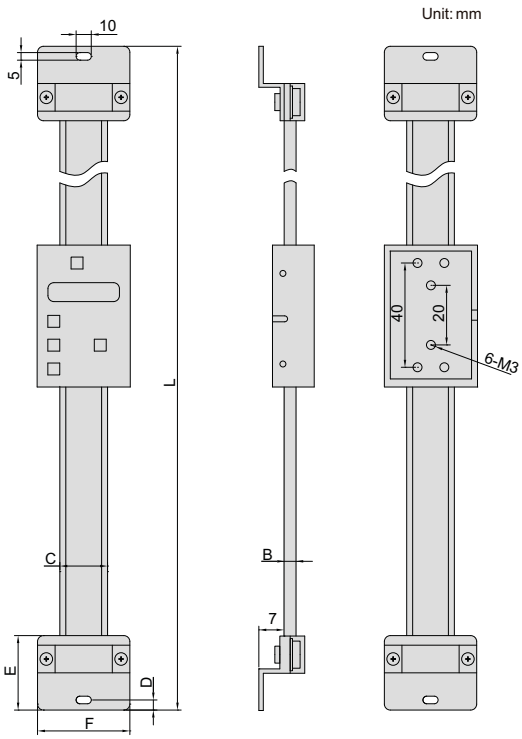
| Code | Range | Type | Accuracy | L |
|---|---|---|---|---|
| **7101-100A** | 100mm | A | ±0.02mm | 215 |
| **7101-150A** | 150mm | A | ±0.03mm | 265 |
| **7101-200A** | 200mm | A | ±0.03mm | 315 |
| **7101-300A** | 300mm | A | ±0.04mm | 445 |
| **7101-400A** | 400mm | B | ±0.05mm | 590 |

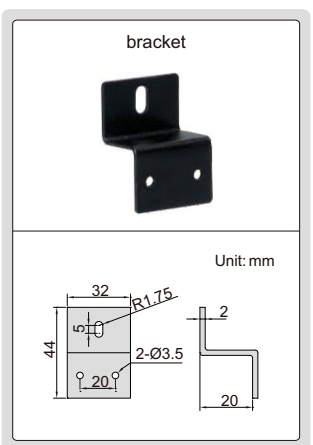
(mm)

| Code | Range | Type | Accuracy | L |
|---|---|---|---|---|
| **7101-500A** | 500mm | B | ±0.05mm | 690 |
| **7101-600A** | 600mm | B | ±0.08mm | 790 |
| **7101-800A** | 800mm | B | ±0.10mm | 990 |
| **7101-1000A** | 1000mm | B | ±0.10mm | 1190 |
| | | | | |

# DIGITAL VERTICAL SCALE

**7102-300**




- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero set, mm/in, data set
- Battery LR44
- Made of stainless steel
- Supplied with bracket to be mounted on the back

**(mm)**

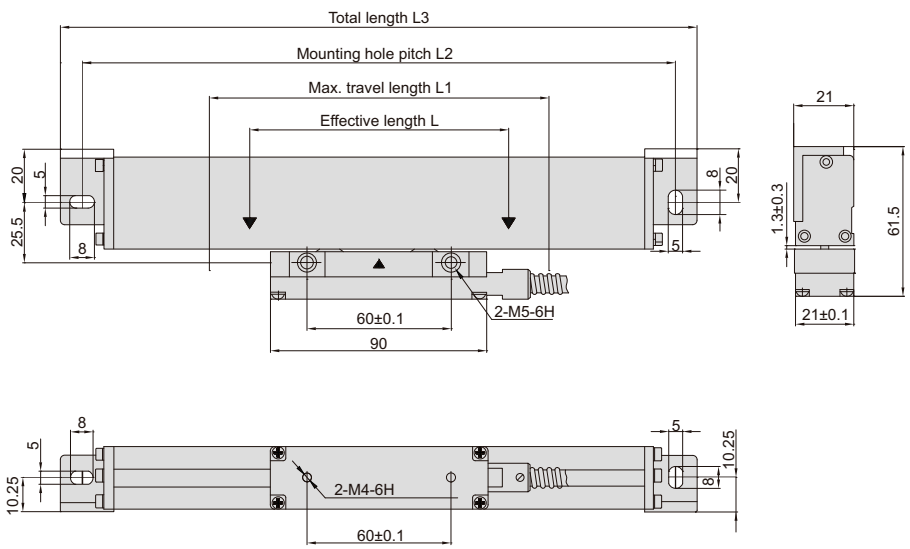
| Code | Range | Accuracy | B | C | D | E | F | L |
|---|---|---|---|---|---|---|---|---|
| **7102-100** | 100mm | ±0.02mm | 4 | 20 | 6 | 24 | 40 | 245 |
| **7102-150** | 150mm | ±0.03mm | 4 | 20 | 6 | 24 | 40 | 296 |
| **7102-200** | 200mm | ±0.03mm | 4 | 20 | 6 | 24 | 40 | 345 |
| **7102-300** | 300mm | ±0.04mm | 4 | 20 | 6 | 24 | 40 | 445 |
| **7102-400** | 400mm | ±0.05mm | 4 | 20 | 6 | 24 | 40 | 545 |
| **7102-500** | 500mm | ±0.05mm | 5.5 | 24 | 8 | 32 | 45 | 685 |
| **7102-600** | 600mm | ±0.08mm | 5.5 | 24 | 8 | 32 | 45 | 785 |
| **7102-800** | 800mm | ±0.10mm | 5.5 | 24 | 8 | 32 | 45 | 985 |
| **7102-1000** | 1000mm | ±0.10mm | 5.5 | 24 | 8 | 32 | 45 | 1185 |

# LINEAR SCALE

**ISL-A1-300**

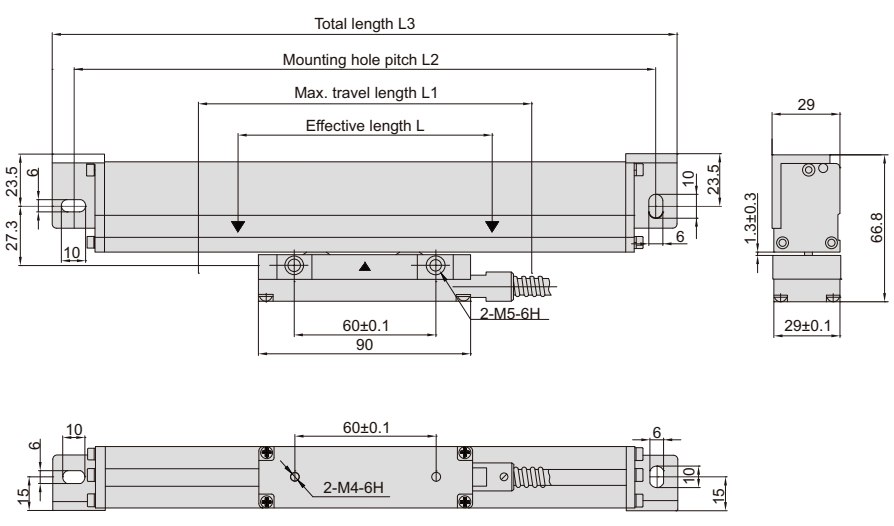
**Series ISL-A1 and ISL-A5**

Unit: mm




**Series ISL-B5**

Unit: mm




To be continued

Continued from previous page

| Effective length(L) | Code | | |
|---|---|---|---|
| | 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-A5-1100 | ISL-B5-1100 |

| Effective length(L) | Code | |
|---|---|---|
| | Series ISL-A5 | Series ISL-B5 |
| 1200mm | ISL-A5-1200 | ISL-B5-1200 |
| 1300mm | ISL-A5-1300 | ISL-B5-1300 |
| 1400mm | ISL-A5-1400 | ISL-B5-1400 |
| 1500mm | ISL-A5-1500 | ISL-B5-1500 |
| 1600mm | ISL-A5-1600 | ISL-B5-1600 |
| 1700mm | ISL-A5-1700 | ISL-B5-1700 |
| 1800mm | ISL-A5-1800 | ISL-B5-1800 |
| 1900mm | ISL-A5-1900 | ISL-B5-1900 |
| 2000mm | ISL-A5-2000 | ISL-B5-2000 |
| 2100mm | ISL-A5-2100 | ISL-B5-2100 |
| 2200mm | ISL-A5-2200 | ISL-B5-2200 |
| 2300mm | ISL-A5-2300 | ISL-B5-2300 |
| 2400mm | ISL-A5-2400 | ISL-B5-2400 |
| 2500mm | ISL-A5-2500 | ISL-B5-2500 |
| 2600mm | ISL-A5-2600 | ISL-B5-2600 |
| 2700mm | ISL-A5-2700 | ISL-B5-2700 |
| 2800mm | ISL-A5-2800 | ISL-B5-2800 |
| 2900mm | ISL-A5-2900 | ISL-B5-2900 |
| 3000mm | ISL-A5-3000 | ISL-B5-3000 |
| 3100mm | ISL-A5-3100 | ISL-B5-3100 |
| 3200mm | ISL-A5-3200 | ISL-B5-3200 |

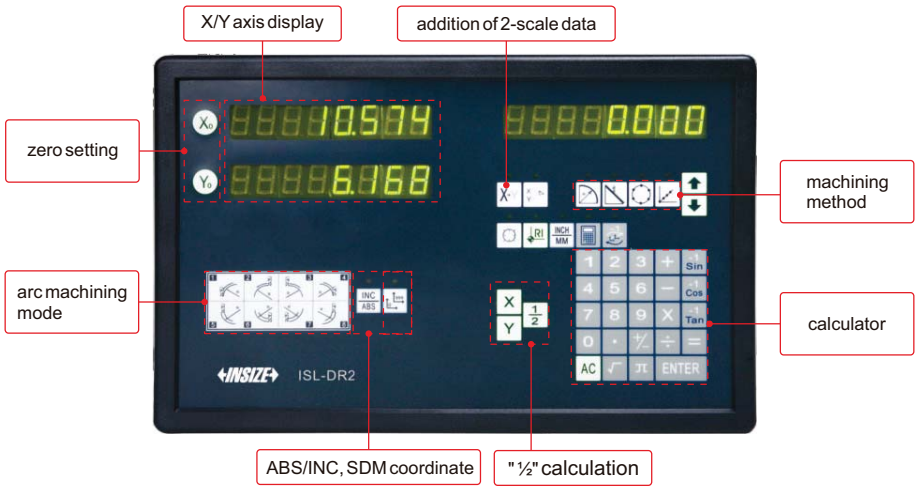
**SPECIFICATION**

| | Series ISL-A1 | | Series ISL-A5 | | Series ISL-B5 | |
|---|---|---|---|---|---|---|
| **L1(mm)** | L+30(L<950) | L+50(L≥950) | L+30(L<950) | L+50(L≥950) | L+30(L<950) | L+50(L≥950) |
| **L2(mm)** | L+132(L<950) | L+152(L≥950) | L+132(L<950) | L+152(L≥950) | L+136(L<950) | L+156(L≥950) |
| **L3(mm)** | L+149(L<950) | L+169(L≥950) | L+149(L<950) | L+169(L≥950) | L+154(L<950) | L+174(L≥950) |
| **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)<br>5m (L: 1000-1500mm)<br>10m (L: 1600-3200mm) | | | | | |

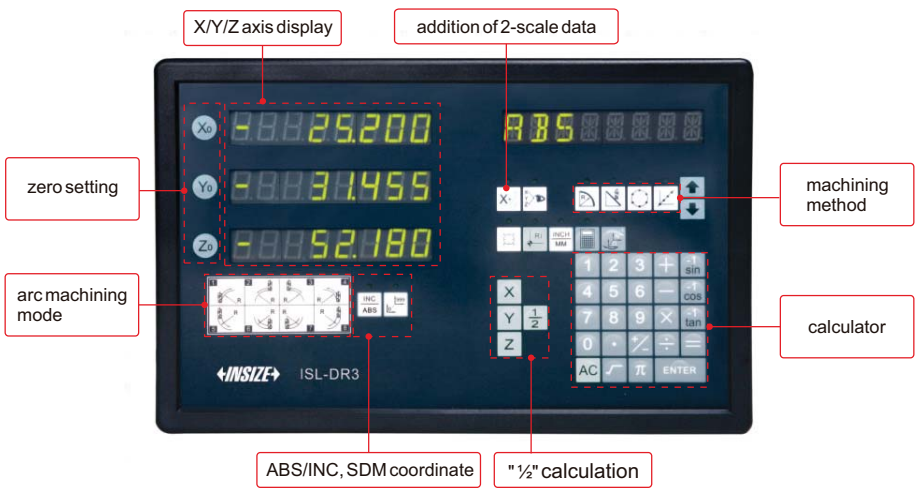
**STANDARD DELIVERY**

| | |
|---|---|
| **Main unit** | 1pc |
| **'L' shape support** | 1pc |
| **Anti-dust cover** | 1pc |
| **Plain base** | 1pc (for L ⩾1500mm) |

# COUNTER




**ISL-DR2**




**ISL-DR3**

**SPECIFICATION**

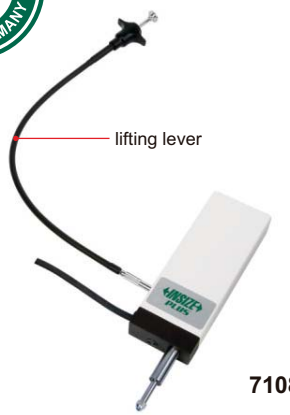
| Code | ISL-DR2 | ISL-DR3 |
|---|---|---|
| Application | two-axis | three-axis |
| Scale input ports | 2 | 3 |
| Resolution | 0.05μm, 0.1μm, 0.2μm, 0.5μm, 1μm, 2μm, 5μm, 10μm, 20μm, 50μm | |
| Functions | addition of 2-scale data, linearity error compensation, smoothing, RS232C interface unit, | |
| | BCD code out, zero setting, preset, resolution setting, counting direction setting, | |
| | inch/mm conversion, ABS/INC conversion, expansion/contraction coefficient setting, | |
| | "½" 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 | 1pc |
| Mounting bracket | 1pc |
| Ground cable | 1pc |

| | |
|---|---|
| RS232C cable | 1pc |
| Software CD for RS232C | 1pc |

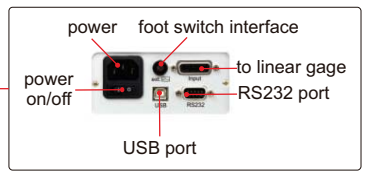
# HIGH PRECISION LINEAR GAGE AND DISPLAY UNIT



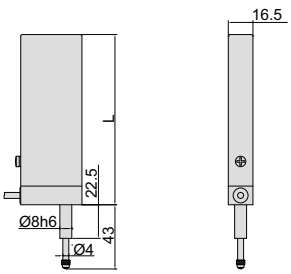

7108-10

7108-1

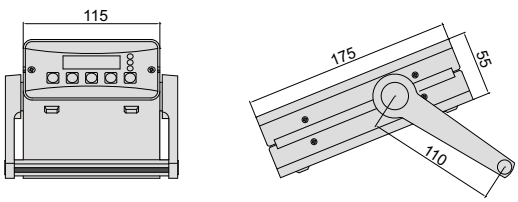
**BACK OF DISPLAY UNIT**




Unit: mm




Unit: mm




- Linear gage:
  - Incremental glass scale sensor, with built-in roller bearing, high precision
  - With lifting lever, for quick measurement
- Display unit:
  - Set zero or output data through foot switch (optional)
  - Measuring direction can be changed
  - The reading can be preset
  - Can make accuracy compensation

**APPLICATION**

foot switch (optional), code: **7108-2**

**LINEAR GAGE SPECIFICATION**

| Code | 7108-10 | 7108-30 |
|---|---|---|
| Measuring range | 10mm | 30mm |
| Resolution | 0.01μm | |
| Accuracy | (0.5+L/60)μm, L is measuring length in mm | |
| Dust/waterproof | IP50 | |
| Output signal | 1Vss | |
| Grating pitch | 8μm | |
| Measuring force | 0.7~1.6N | |
| Cable length | 1.5m | |
| Linear gage length (L) | 113.5mm | 133.5mm |

**DISPLAY UNIT SPECIFICATION**

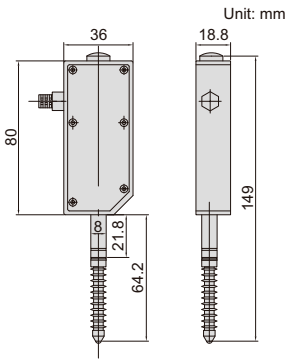
| Code | 7108-1 |
|---|---|
| Display | 8 digits |
| Character height | 9mm |
| Quantity of linear gages to be connected | single channel, to connect one linear gage* |
| Dust/waterproof | IP20 |
| Display unit | mm, inch, grad |
| Resolution | 1μm, 0.1μm, 0.01μm |
| Data output | USB, RS232 |
| Power supply | AC 85~264V, 150mA |

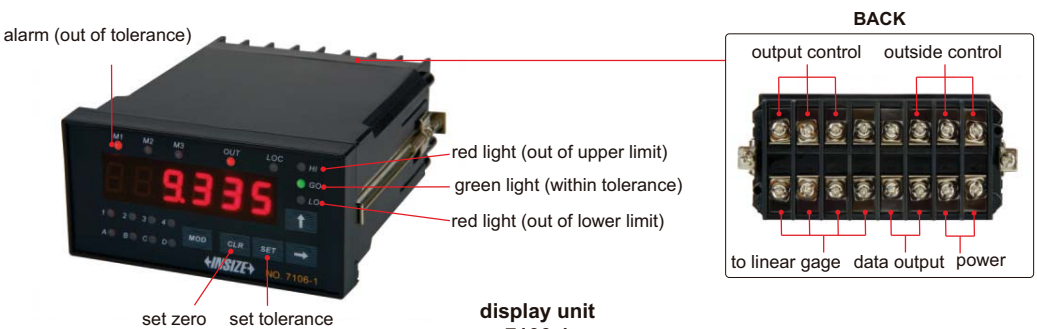
*Double channel display is optional

# LINEAR GAGE AND DISPLAY UNIT

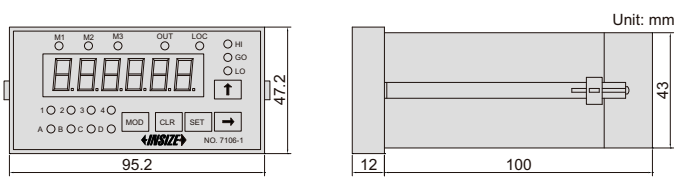
LINEAR GAGE
**IP65**
WATERPROOF

linear gage




display unit
7106-1




- Linear gage: shock-proof, water proof, dust proof, suitable for high speed movement, long working life
- Display unit: set tolerance and make judgment (out of upper limit, within tolerance, out of lower limit), output the judgment to control outside devices, set zero and hold reading from outside

**LINEAR GAGE SPECIFICATION**

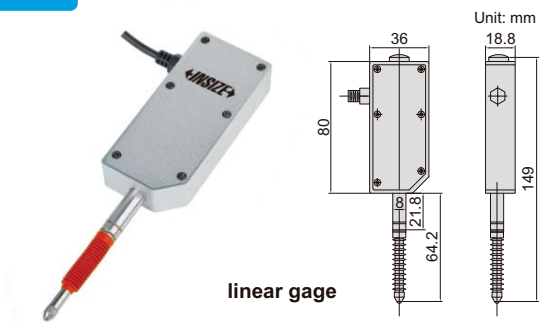
| Code | 7106-11 | 7106-12 |
|---|---|---|
| Measuring range | 12mm | 12mm |
| Resolution | 0.01mm | 0.001mm |
| Accuracy | 20μm | 5μm |
| Hysteresis | 10μm | 2μm |
| Measuring principle | capacity system | |
| Voltage | 5V | |
| Sampling frequency | 100 times/sec. | |
| Working life | ten million times | |
| Dust/waterproof | IP65 | |
| Measuring force | 1.5N | |
| Cable length | 2m | |
| Data output | four-core wire | |

**DISPLAY UNIT SPECIFICATION**

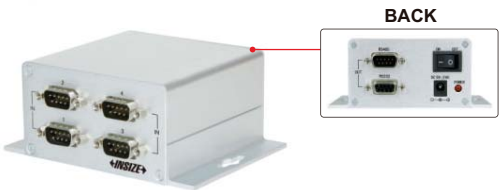
| Code | 7106-1 |
|---|---|
| Display | 6 digits |
| Quantity of linear gages to be connected | 1pc |
| Tolerance | set tolerance and make judgment with alarm and lights (out of upper limit, within tolerance, out of lower limit) |
| Output control | output the tolerance judgment (out of upper tolerance, within tolerance, out of lower tolerance) to control outside devices |
| Outside control | control the display units from outside (set zero, hold reading) |
| Data output | connect to PC |
| Power supply | DC 9~24V |

# MULTI LINEAR GAGE SYSTEM

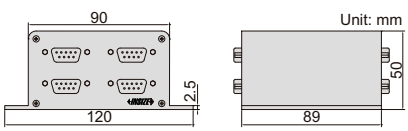
LINEAR GAGE
**IP65**
WATERPROOF



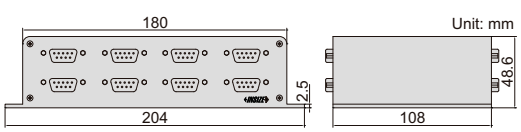

linear gage

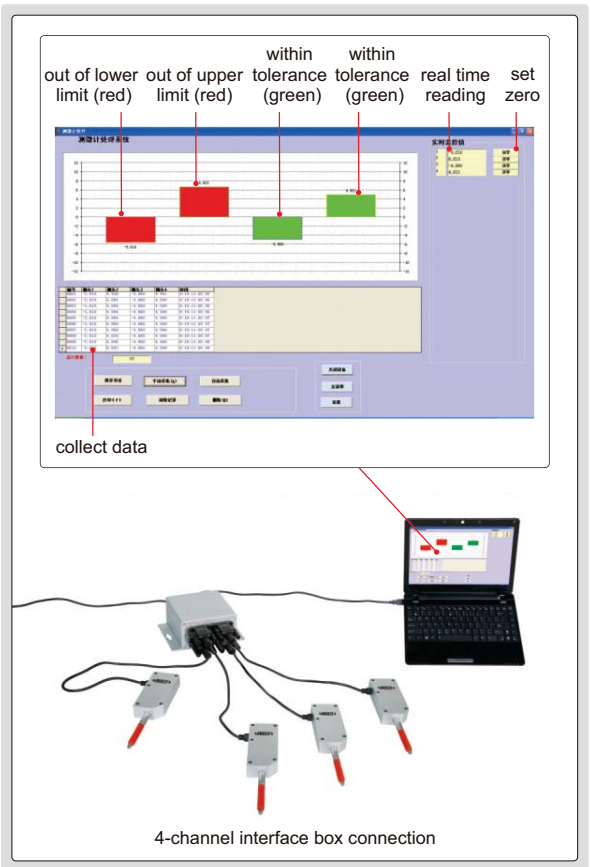



**4-channel interface box**
**7107-1**



**8-channel interface box**
**7107-2**




4-channel interface box connection

- Software is supplied with interface boxes. 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

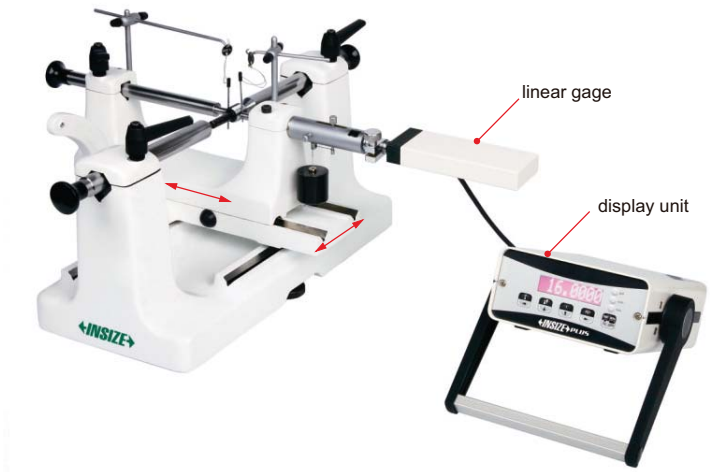
**INTERFACE BOX SPECIFICATION**

| Code | 7107-1 | 7107-2 |
|---|---|---|
| Quantity of linear gages to be connected | 4pcs | 8pcs |
| Data port | RS232 and RS485 | |
| Power supply | DC 9~24V | |

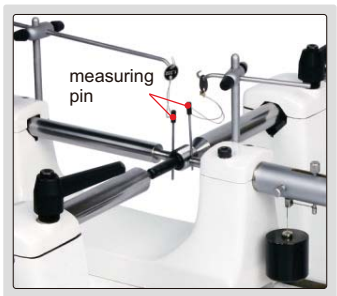
**LINEAR GAGE SPECIFICATION**

| Code | 7107-11 | 7107-12 |
|---|---|---|
| Measuring range | 12mm | 12mm |
| Resolution | 0.01mm | 0.001mm |
| Accuracy | 20μm | 5μm |
| Hysteresis | 10μm | 2μm |
| Measuring principle | capacity system | |
| Voltage | 5V | |
| Sampling frequency | 100 times/sec. | |
| Working life | ten million times | |
| Dust/waterproof | IP65 | |
| Measuring force | 1.5N | |
| Cable length | 2m | |
| Data output | RS232 | |

# EXTERNAL THREAD MEASURING DEVICE
# CODE ISQ-TE100




**measure pitch diameter of thread**




- Quickly measure major, pitch and minor diameters of  of external thread
- Suitable for metric, inch, Whitworth, NPT and BSPT

| Code | Range | Resolution | Accuracy | Repeatability |
|---|---|---|---|---|
| ISQ-TE100 | 0-100mm | 0.1μm | 2μm | 0.5μm |

**OPTIONAL ACCESSORY**

| | |
|---|---|
| Measuring pin | ISQ-TE100-A |
| Measuring prism | ISQ-TE100-B |
| Female center | ISQ-TE100-C |
| Clamp | ISQ-TE100-D |
| Setting disc | ISQ-TE100-E |
| 60° find pointer | ISQ-TE100-F |
| 55° find pointer | ISQ-TE100-G |
| Display unit | 7108-30 |
| Linear gage | 7108-1 |

**Measuring pin (optional)**

- To measure pitch diameter of external thread
- Each size is supplied in pair
- Hardness: 60±2HRC

| Code | Pins included | Pin diameter(mm) |
|---|---|---|
| ISQ-TE100-A | 21 pairs | 0.170, 0.195, 0.220, 0.250, 0.290, 0.335, 0.390, 0.455, 0.530, 0.620, 0.725, 0.895, 1.100, 1.350, 1.650, 2.050, 2.550, 3.200, 4.000, 5.050, 6.350 |

**Measuring prism (optional)**

- To measure minor diameter of external thread
- Each size is supplied in pair

| Code | Prisms included | Size |
|---|---|---|
| ISQ-TE100-B | 4 pairs | A, B, C, D (for different types and sizes of thread) |

**Setting disc (optional)**

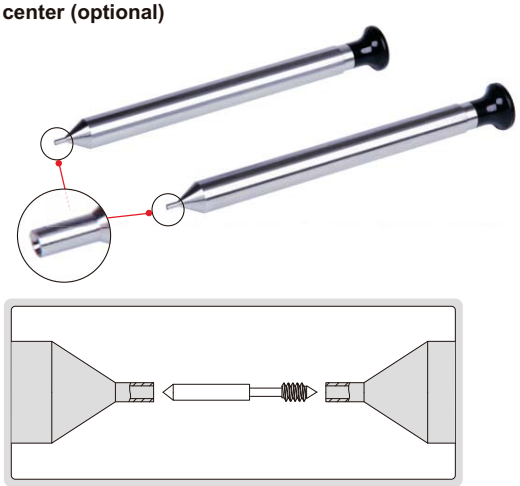
- To set initial value

| Code | Discs included | Disc diameter(mm) |
|---|---|---|
| ISQ-TE100-E | 22 pcs | 3, 5, 8, 12, 16, 20, 24, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100 |

To be continued

Continued from previous page

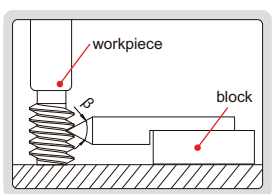
### Female center (optional)



- With small holes to support small workpieces without female centers
- Supplied in pair

| Code |
|---|
| ISQ-TE100-C |

### Find pointer (optional)




- To find measuring point of NPT or BSPT

| Code | Angle β | Applicable thread |
|---|---|---|
| ISQ-TE100-F | 60° | NPT |
| ISQ-TE100-G | 55° | BSPT |

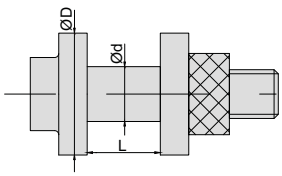
### Display unit (optional)

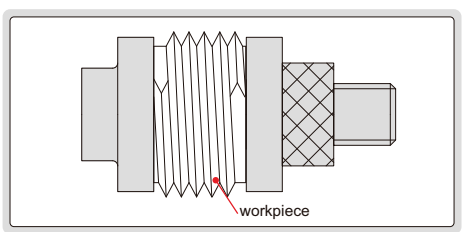
7108-1

| Code | 7108-1* |
|---|---|
| Display | 8 digits |
| Character height | 9mm |
| Dust/waterproof | IP20 |
| Optional resolution | 0.1μm |

*Refer to **7108-1** (page 274) for details

### Clamp (optional)



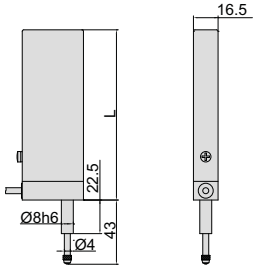

- To hold large workpieces with inner bore

(mm)

| Code | Clamps included | d | D | L |
|---|---|---|---|---|
| ISQ-TE100-D | 3 pcs | 13.5 | 30 | 0-18 |
| | | 23 | 60 | 0-18 |
| | | 23 | 75 | 0-18 |

### Linear gage (optional)

Unit: mm




| Code | 7108-30* |
|---|---|
| Measuring range | 30mm |
| Resolution | 0.01μm |
| Accuracy | (0.5+L/60)μm<br>L is measuring length in mm |
| Dust/waterproof | IP50 |

*Refer to **7108-30** (page 274) for details

# PROFILE PROJECTOR

**Screen diameter: 300mm**

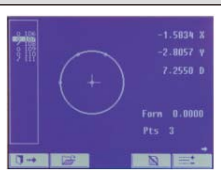
**X-Y travel: 150x50mm**

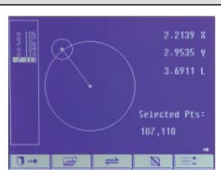
**ISP-Z3015**

**ISP-A1000E**

digital readout of **ISP-A1000E**

- touch buttons
- USB data output to Excel and CAD
- show diagram directly

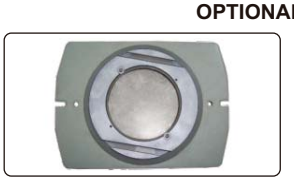




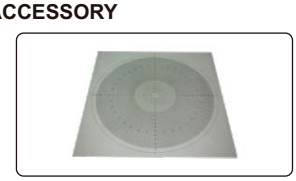
MANUFACTURER INSPECTION CERTIFICATE

## OPTIONAL ACCESSORY

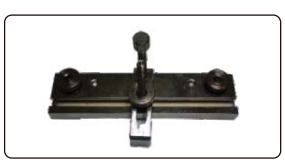
lens



rotary table (glass plate diameter 100mm)



overlay chart (protractor with 1° graduation, radius with 1mm increment)

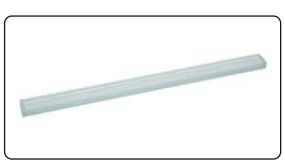


holder with clamp

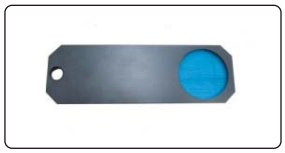
swivel center support

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 | | | |
| | | accuracy: (4+L/25)μm L is the measuring length in mm | | | |
| | 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<br>measure coordinate of line<br>measure center coordinate, radius of circle with three points<br>measure distance between two objects<br>measure angle with four points or two lines<br>set origin of coordinate<br>coordinate transform<br>set midpoint of coordinate | | measure coordinate of point<br>measure coordinate of line<br>measure center coordinate, radius of circle with three points<br>measure distance between two objects<br>measure angle with four points or two lines<br>coordinate transform<br>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) | | 550×770×1100mm | | | |
| Weight | | 135kg | | | |

## STANDARD DELIVERY

| | |
|---|---|
| Main unit | 1pc |
| 10X lens with half-reflection mirror and oblique illuminator mirror | 1pc |
| Overlay chart clip | 4pcs |
| Foot-switch | 1pc |
| Anti-dust cover | 1pc |
| USB cable and software (only for ISP-A1000E) | 1pc |

## OPTIONAL ACCESSORY

| | |
|---|---|
| 20X lens with half-reflectionmirror 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 |

# PROFILE PROJECTOR

**Screen diameter: 300mm**

**X-Y travel: 200x100mm**

**ISP-AZ3020**

**ISP-A5000E**

MANUFACTURER INSPECTION CERTIFICATE

- Adjust the focus by ascending and descending the projector head, the stage doesn't move up and down
- Maximum workpiece weight 50kg

digital readout of **ISP-A5000E**

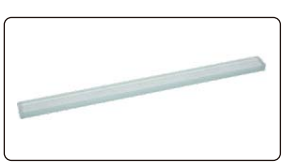
- touch buttons
- USB data output to Excel and CAD
- show diagram directly

## OPTIONAL ACCESSORY

lens

overlay chart (protractor with 1° graduation, radius with 1mm increment)

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 | Ø3mm |
| | working distance | 77.7mm | 44.3mm | 38.4mm | 25.3mm |
| Max. workpiece height | | 100mm | 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 | | | |
| | | accuracy: (3+L/75)μm L is the measuring length in mm | | | |
| | Z(focus) travel range | 100mm | | | |
| | max. load capacity | 50kg | | | |
| Illumination | | contour illumination: 24V/150W halogen lamp, brightness is adjustable | | | |
| | | surface illumination: 24V/150W halogen lamp, brightness is adjustable | | | |
| 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<br>measure coordinate of line<br>measure center coordinate, radius of circle with three points<br>measure distance between two objects<br>measure angle with four points or two lines<br>set origin of coordinate<br>coordinate transform<br>set midpoint of coordinate | | measure coordinate of point<br>measure coordinate of line<br>measure center coordinate, radius of circle with three points<br>measure distance between two objects<br>measure angle with four points or two lines<br>coordinate transform<br>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) | | 780×780×1100mm | | | |
| Weight | | 160kg | | | |

## STANDARD DELIVERY

| | |
|---|---|
| Main unit | 1pc |
| 10X lens with half-reflection mirror and oblique illuminator mirror | 1pc |
| Overlay chart clip | 4pcs |
| Foot-switch | 1pc |
| Anti-dust cover | 1pc |
| USB cable and software (only for ISP-A5000E) | 1pc |

## 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 |
| Overlay chart | ISP-A5000-CHART |

| | |
|---|---|
| 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 PROJECTOR

**Screen diameter: 300mm**

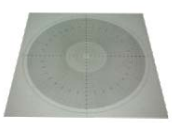
**X-Z travel: 200x100mm**

**ISP-W3020**

**ISP-A3000E**

## OPTIONAL ACCESSORY

lens



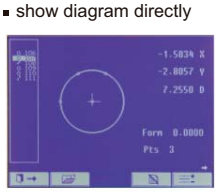
overlay chart (protractor with 1° graduation, radius with 1mm increment)

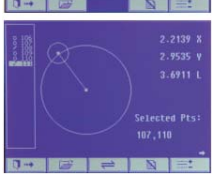
50mm reading scale (check magnification accuracy)

MANUFACTURER INSPECTION CERTIFICATE

digital readout of **ISP-A3000E**

- touch buttons
- USB data output to Excel and CAD
- show diagram directly





demo sample

V-block with clamp

rotary table

300mm calibration scale (check magnification accuracy together with 50mm reading scale or calibrate measuring accuracy)

vise

printer (only for **ISP-A3000E**)

To be continued

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 | | | |
| | | accuracy: (4+L/25)μm L is the measuring length in mm | | | |
| | Y (focus) travel range | 75mm | | | |
| | max. load capacity | 50kg | | | |
| 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<br>measure coordinate of line<br>measure center coordinate, radius of circle with three points<br>measure distance between two objects<br>measure angle with four points or two lines<br>set origin of coordinate<br>coordinate transform<br>set midpoint of coordinate | | measure coordinate of point<br>measure coordinate of line<br>measure center coordinate, radius of circle with three points<br>measure distance between two objects<br>measure angle with four points or two lines<br>coordinate transform<br>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) | | 1090×830×1010mm | | | |
| Weight | | 160kg | | | |

## STANDARD DELIVERY

| | |
|---|---|
| Main unit | 1pc |
| 10X lens | 1pc |
| Overlay chart clip | 4pcs |
| Foot-switch | 1pc |
| Anti-dust cover | 1pc |
| USB cable and software (only for ISP-A3000E) | 1pc |

## 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-A1000-VBLOCK |
| Rotary table | ISP-A3000-RTABLE |
| Vice | ISP-A3000-VISE |
| Printer (only for ISP-A3000E) | ISP-A3000-PRINTER |

# HORIZONTAL PROFILE PROJECTOR

**Screen diameter: 400mm**

**X-Z travel: 250x150mm**

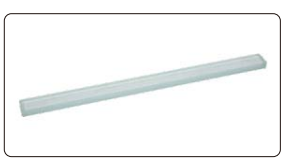
**ISP-W4025**

**ISP-A7000E**

## OPTIONAL ACCESSORY

lens

50mm reading scale
(check magnification accuracy)

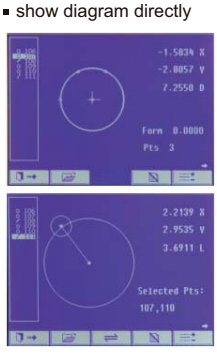


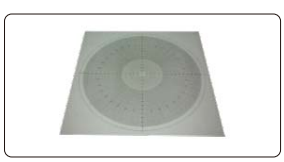
300mm calibration scale (check magnification accuracy together with 50mm reading scale or calibrate measuring accuracy)

MANUFACTURER INSPECTION CERTIFICATE

digital readout of **ISP-A7000E**

- touch buttons
- USB data output to Excel and CAD
- show diagram directly



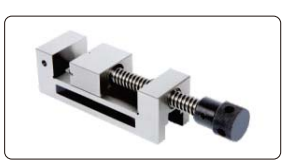


Ø300mm overlay chart (protractor with 1° graduation,radius with 1mm increment)

demo sample (need rotary table)

V-block with clamp

rotary table



vise

printer (only for **ISP-A7000E**)

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 | | | | |
| | | accuracy: (4+L/25)μm L is the measuring length in mm | | | | |
| | Y (focus) travel range | 100mm | | | | |
| | max. load capacity | 50kg | | | | |
| 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<br>measure coordinate of line<br>measure center coordinate, radius of circle with three points<br>measure distance between two objects<br>measure angle with four points or two lines<br>set origin of coordinate<br>coordinate transform<br>set midpoint of coordinate | | | | measure coordinate of point<br>measure coordinate of line<br>measure center coordinate, radius of circle with three points<br>measure distance between two objects<br>measure angle with four points or two lines<br>coordinate transform<br>choose measurement object automatically according to the selective point and display the result |
| | | — | | | | Programming for batch measurements |
| Power supply | | 110/220V, 50/60Hz | | | | |
| Dimension (L×W×H) | | 1215×646×1210mm | | | | |
| Weight | | 240kg | | | | |

## STANDARD DELIVERY

| | |
|---|---|
| Main unit | 1pc |
| 10X lens | 1pc |
| Overlay chart clip | 4pcs |
| Foot-switch | 1pc |
| Anti-dust cover | 1pc |
| USB cable and software (only for ISP-A7000E) | 1pc |

## OPTIONAL ACCESSORY

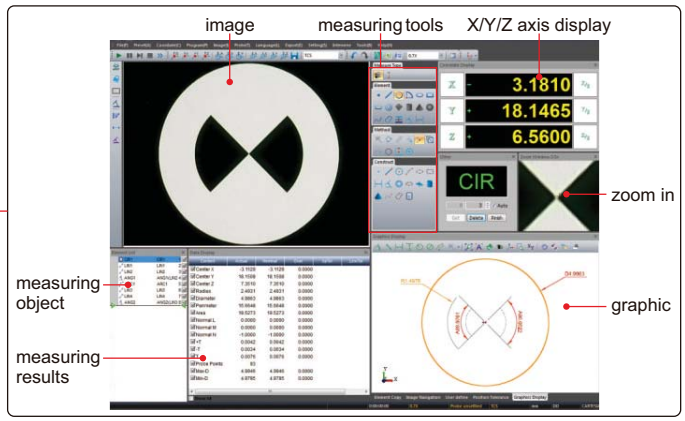
| | |
|---|---|
| 5X lens | ISP-W4025-LENS5X |
| 20X lens | ISP-W4025-LENS20X |
| 50X lens | ISP-W4025-LENS50X |
| 100X lens | ISP-W4025-LENS100X |
| Ø300mm overlay chart | ISP-A3000-CHART |
| 50mm reading scale | ISP-A3000-SCALE50 |

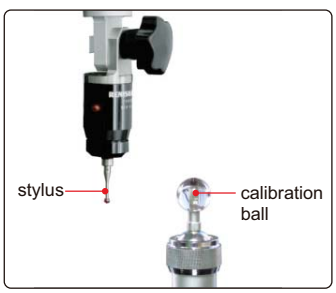
| | |
|---|---|
| 300mm calibration scale | ISP-A3000-RULE |
| Demo sample | ISP-A3000-DEMO |
| V-block with clamp | ISP-A1000-VBLOCK |
| Rotary table | ISP-A3000-RTABLE |
| Vice | ISP-A3000-VISE |
| Printer (only for ISP-A7000E) | ISP-A3000-PRINTER |

# VISION MEASURING SYSTEM

ISD-V250

computer is not included




probe (optional), includes Ø2mm and Ø3mm styli, Ø25mm calibration ball, measuring accuracy is 10μm

lens with coaxial light (optional, must be mounted in factory)

## SPECIFICATION

| Code | ISD-V150 | ISD-V250 | ISD-V300 |
|---|---|---|---|
| Measuring range (X×Y×Z) | 150×100×200mm | 250×150×200mm | 300×200×200mm |
| Stage size | 354×228mm | 450×280mm | 500×330mm |
| Stage glass size | 210×160mm | 306×196mm | 350×250mm |
| 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) | | |
| 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, 1.5M pixel | | |
| Illumination | surface and contour with adjustable LED | | |
| Max. height of workpiece | 160mm | | |
| Max. weight of workpiece | 20kg | | |
| Operation system | Windows 7 | | |
| Drive method | manual | | |
| Power supply | 110/220V, 50/60Hz | | |
| Dimension(L×W×H) | 560×540×850mm | 760×600×900mm | 760×600×900mm |
| Weight | 100kg | 120kg | 140kg |

## STANDARD DELIVERY

| | |
|---|---|
| Main unit | 1pc |
| Video card with dongle | 1pc |
| Software disc | 1pc |
| Calibration glass chart | 1pc |
| Laser positioner | 1pc |
| Clay | 1pc |
| Foot switch | 1pc |
| Anti-dust cover | 1pc |

## OPTIONAL ACCESSORY

| | |
|---|---|
| 0.5X auxiliary objective | Code: **ISD-V-OB05X**<br>Working distance: 175mm<br>Magnification: 16.5 ~ 97.5X (on 19" monitor) |
| 2X auxiliary objective | Code: **ISD-V-OB02X**<br>Working distance: 36mm<br>Magnification: 66 ~ 390X (on 19" monitor) |
| Probe | Code: **ISD-V-PROBE**<br>Includes Ø2mm and Ø3mm styli, Ø25mm calibration ball |
| Lens with coaxial light | Code: **ISD-V-LENS**<br>(must be mounted in factory) |

To be continued

Continued from previous page

## SOFTWARE

- **Operation system:** Windows 7
- **Language:** English
- **Single measuring tools:**

measure coordinate of point

measure distance between two points

measure center coordinate and axis length of ellipse

measure length, width and diameter of key slot

measure length of open curve

measure focus distance of surface

measure angle of two lines

measure center coordinate, diameter and area of circle

measure length and diameter of arc

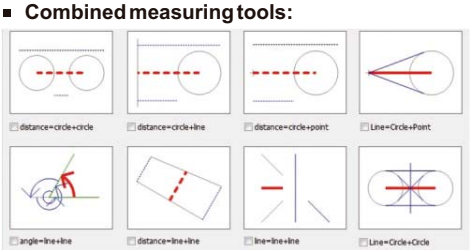
measure length, width and area of rectangle

measure width and diameter of ring

measure length and area of close curve

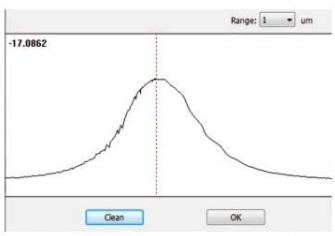
measure distance of two elements

- **Combined measuring tools:**

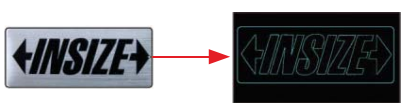



measure distance and angle of two elements

- **Focus indicator:**

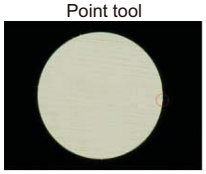



- **Profile detection:**

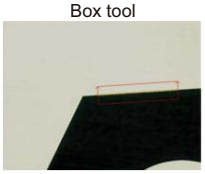



- **Edge-detection:**

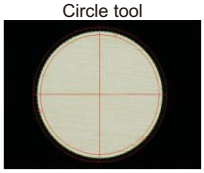
Point tool



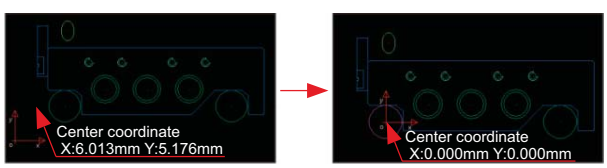
Box tool



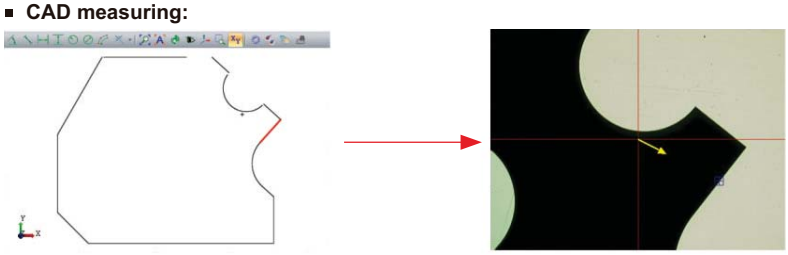
Circle tool



- **Coordinate transfer:**

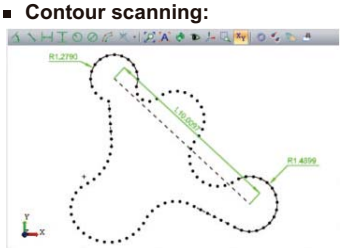



- **CAD measuring:**

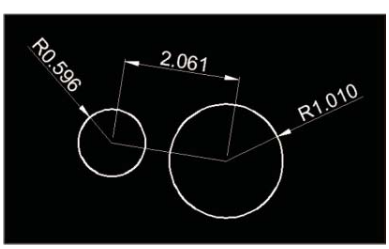


Input CAD drawing and set reference, then move the stage to make the target box in the center of crosshair, the software will do automatic measurement

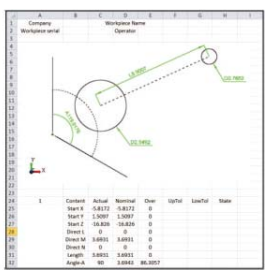
- **Contour scanning:**



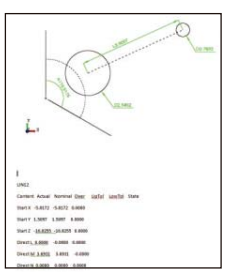
- **Data export to CAD, EXCEL and WORD**




CAD

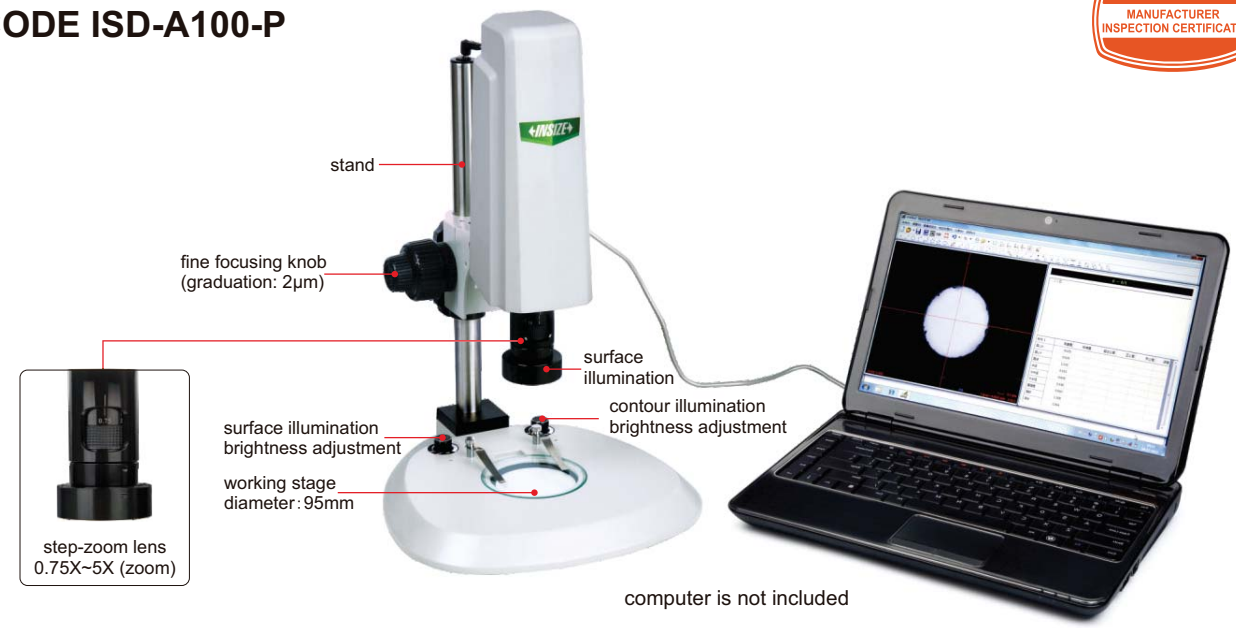


EXCEL



WORD

# VISION MEASURING SYSTEM
# CODE ISD-A100-P




- Measures small workpiece (less than 15mm) easily and accurately

calibration block (included)

X-Y stage (included)

## SPECIFICATION

| | | |
|---|---|---|
| **Objective** | 0.75X~5X (zoom) | |
| **Auxiliary objective** | 1X (included) | 0.5X (included) |
| **Focus distance** | 82mm | 175mm |
| **View field (diagonal length)** | 1.15mm~7.5mm | 2.3mm~15mm |
| **Magnification (19" widescreen display)** | 44X~280X | 22X~140X |
| **Camera** | CMOS (color) | |
| **Resolution (pixel)** | 1280×1024 (1.3M) | |
| **Output** | USB2.0 | |
| **Accuracy** | 4μm | |
| **Repeatability** | 2μm | |
| **Illumination** | surface: adjustable ring LED | contour: adjustable LED |
| **Power supply** * | 220V, 50/60Hz | |
| **Demension (L×W×H)** | 300×350×450mm | |
| **Weight** | 2.8kg | |

*Add "**-U**" on code No. when power supply is 110V, 50/60Hz

## STANDARD DELIVERY

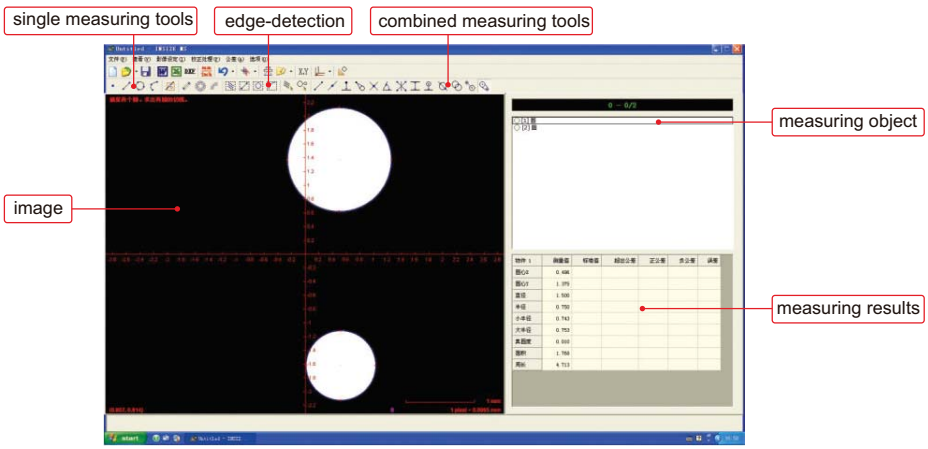
| | |
|---|---|
| **Main unit** | 1pc |
| **Software disc** | 1pc |
| **X-Y stage (travel: 74×60mm)** | 1pc |
| **Calibration block** | 1pc |
| **0.5X auxiliary objective** | 1pc |

| | |
|---|---|
| **1X auxiliary objective** | 1pc |
| **Ø95mm glass plate** | 1pc |
| **Ø95mm white/black plate** | 1pc |
| **Anti-dust cover** | 1pc |

To be continued

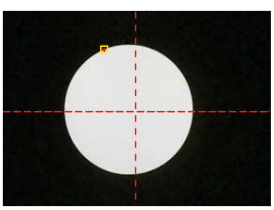
Continued from previous page

## SOFTWARE

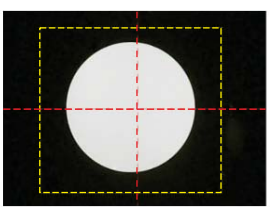



- **Operation system:** Windows 7/XP, screen resolution is 1366×768
- **Language:** English, Chinese
- **Output to CAD, EXCEL and WORD**
- **Input CAD, to compare with workpieces**
- coordinate transform
- **Focus indicator**:
  fast and accurately find the focus distance, eliminate the visual error
- **Single measuring tools:**
  - measure coordinate of point
  - measure length of line
  - measure center coordinate, radius, diameter and area of circle
  - measure length and diameter of arc
- **Combined measuring tools:**
  - measure distance between two points
  - find midpoint of a line
  - measure distance from point to line
  - find tangent lines between point and circle
  - measure intersection point between two lines
  - measure angle between two lines
  - find angular bisector between two lines
  - measure distance between two lines
  - measure distance from circle to line
  - find intersection points between circle and line
  - find intersection points between two circles
  - measure distance between two circles
  - find tangent lines between two circles
- **Edge-detection:**

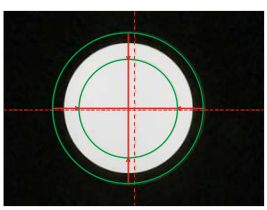
Point tool



Box tool



Circle tool



# WiFi DIGITAL MEASURING MICROSCOPE
# CODE ISM-WF200

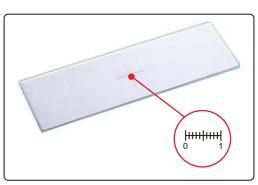
connected to iPad by WiFi

connected to computer by WiFi

connected to computer by USB cable

**STAND** (code: **ISM-WSTD**, optional)

calibration rule (graduation 1mm)


calibration rule (graduation 0.1mm)

- Maximum working distance is 5m under WiFi mode
- Can be connected to multiple iPads or computers at the same time under WiFi mode
- Can take pictures and videos
- Supplied with software

**SPECIFICATION**

| | |
|---|---|
| **Magnification** | 10X~200X |
| **Pixel** | 1.3M (resolution: 1280×1024) |
| **Illumination** | built-in adjustable LED |
| **Power supply** | built-in rechargeable battery |

**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 |

**STANDARD DELIVERY**

| | |
|---|---|
| **Microscope** | 1pc |
| **Base support** | 1pc |
| **Focus support ring for 80X/150X** | 1pc |
| **Focus support ring for 60X/200X** | 1pc |
| **Calibration rule (graduation 0.1mm)** | 1pc |
| **Calibration rule (graduation 1mm)** | 1pc |
| **USB cable and software** | 1pc |
| **AC/DC adapter** | 1pc |

**OPTIONAL ACCESSORY**

| | |
|---|---|
| **Stand** | **ISM-WSTD** |

To be continued

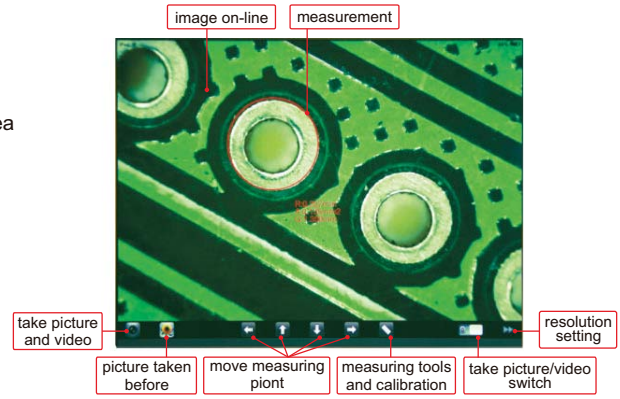
## ❶ Software ISM-PAD (for iPad by WiFi)

- **Measuring tools:**

measure length of line or distance between two points

measure radius, girth and area of circle with three points

measure angle




## ❷ Software ISM-WF Partner (for computer by WiFi)

- **Measuring tools:**

measure length of line or distance between two points

measure radius, girth and area of circle with three points

measure area of polygon

measure angle with two lines

measure distance between point and line

measure radius, girth and area of circle with two points

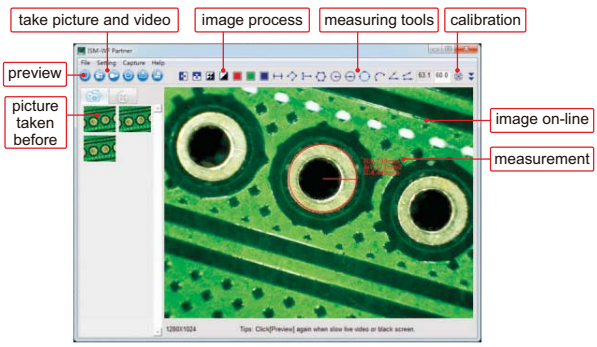
measure radius, length and angle of arc

measure angle with three points

measure area of rectangle

measure radius, girth and area of circle with center point

measure length of continuous line




## ❸ 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 area of rectangle

measure length of continuous line

measure radius, length and angle of arc

measure angle with three points

measure distance between two circles

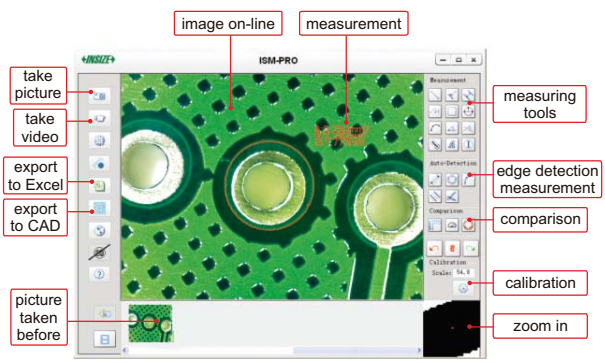
add text

measure distance between two parallel lines

measure radius, girth and area of circle

measure angle with two lines

add number with circle




- **Edge detection measurement:**

detect line automatically, and calculate length

detect circle automatically, and calculate radius, girth and area

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

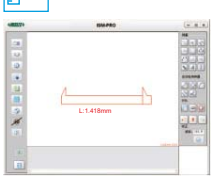
- **Comparison:**

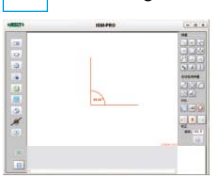
Create line, angle or circle with desired size, to compare with workpieces

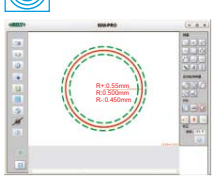
create line

create angle

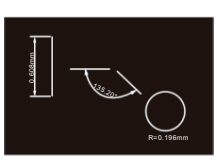
create circle with tolerance

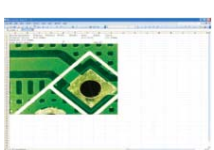






- **Data export to CAD or Excel:**





# DIGITAL MEASURING MICROSCOPE

computer is not included

**ISM-PM200SB**

- Can take pictures and videos
- Supplied with software

**SPECIFICATION**

| Code | ISM-PM200SB | ISM-PM600SB | ISM-PM160LA |
|---|---|---|---|
| Magnification | 10X~200X | 450X~600X | 35X~160X |
| Type | short focus distance | short focus distance | long focus distance |
| Focus support | included | not included | not included |
| Calibration rule | graduation 0.1and1mm | graduation 0.1mm | graduation 0.1 and 1mm |
| Pixel | 2M (resolution: 1600×1200) | | |
| Ilumination | built-in adjustable LED | | |
| Power supply | USB 2.0 cable (voltage required: 5±0.1V) | | |

**MAGNIFICATION, FOCUS DISTANCE, VIEW FIELD AND ACCURACY**

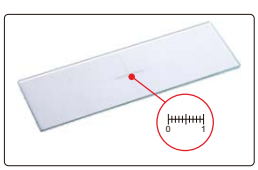
| ISM-PM200SB | | | |
|---|---|---|---|
| Magnification | Focus distance | View field | Accuracy |
| 50X | 21mm | 8.1×6.4mm | 30μm |
| 100X | 13mm | 3.9×3.1mm | 15μm |
| 150X | 16mm | 2.6×2.1mm | 10μm |
| 200X | 19mm | 1.8×1.5mm | 8μm |

| ISM-PM600SB | | | |
|---|---|---|---|
| Magnification | Focus distance | View field | Accuracy |
| 450X | 1.4mm | 0.85×0.67mm | 6μm |
| 500X | 5.5mm | 0.76×0.61mm | 6μm |
| 550X | 8.6mm | 0.69×0.55mm | 5μm |
| 600X | 11.5mm | 0.63×0.51mm | 5μm |

| ISM-PM160LA | | | |
|---|---|---|---|
| Magnification | Focus distance | View field | Accuracy |
| 50X | 62mm | 8.1×6.4mm | 30μm |
| 100X | 45mm | 3.9×3.1mm | 15μm |
| 160X | 50mm | 2.4×1.9mm | 10μm |

focus support

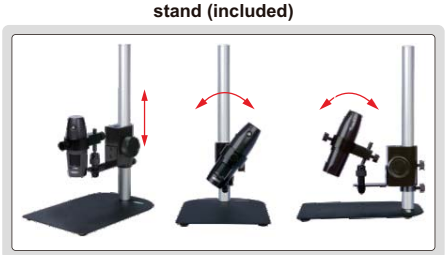
calibration rule (graduation 1mm)



calibration rule (graduation 0.1mm)

put the digital microscope directly on the workpiece for inspection and measurement

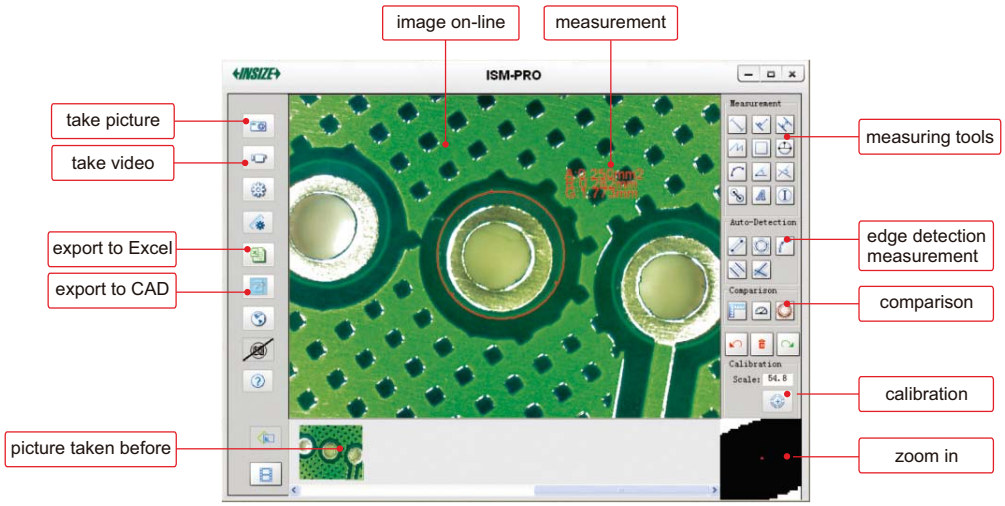
**stand (included)**



To be continued

Continued from previous page

## 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 distance between point and line
measure distance between two parallel lines
measure length of continuous line
measure area of rectangle
measure radius, girth and area of circle
measure radius, length and angle of arc
measure angle with three points
measure angle with two lines
measure distance between two circles
add text
add number with circle

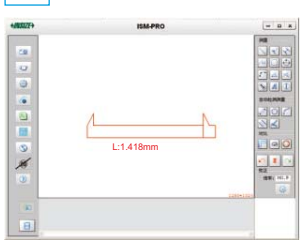
- **Edge detection measurement:**

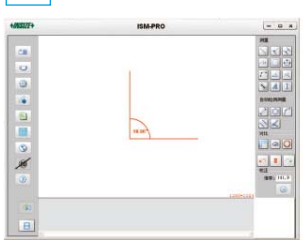
detect line automatically, and calculate length
detect circle automatically, and calculate radius, girth and area
detect arc automatically, and calculate radius, angle and arc length
detect two parallel lines automatically and calculate distance
detect two lines automatically, and calculate angle

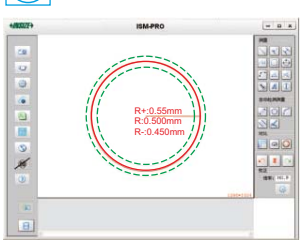
- **Comparison:**

Create line, angle or circle with desired size, to compare with workpieces.

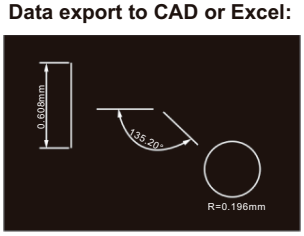
create line
create angle
create circle with tolerance

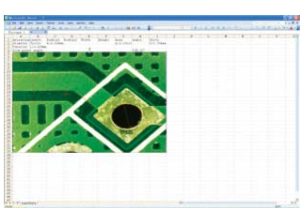



- **Data export to CAD or Excel:**



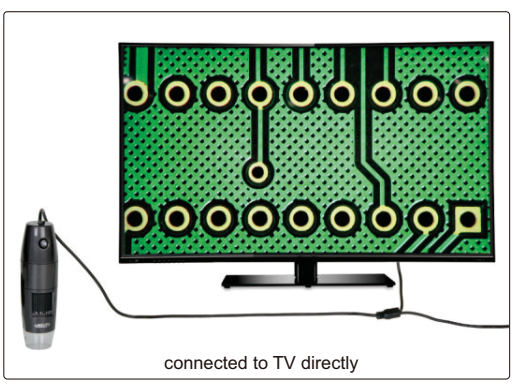
# TV DIGITAL MICROSCOPE

**ISM-TV200** (with wire)

**ISM-TV200W** (wireless)

**STAND** (code: **ISM-WSTD**, optional)

- Connected to TV directly
- For observation, cannot take pictures and videos



connected to TV directly

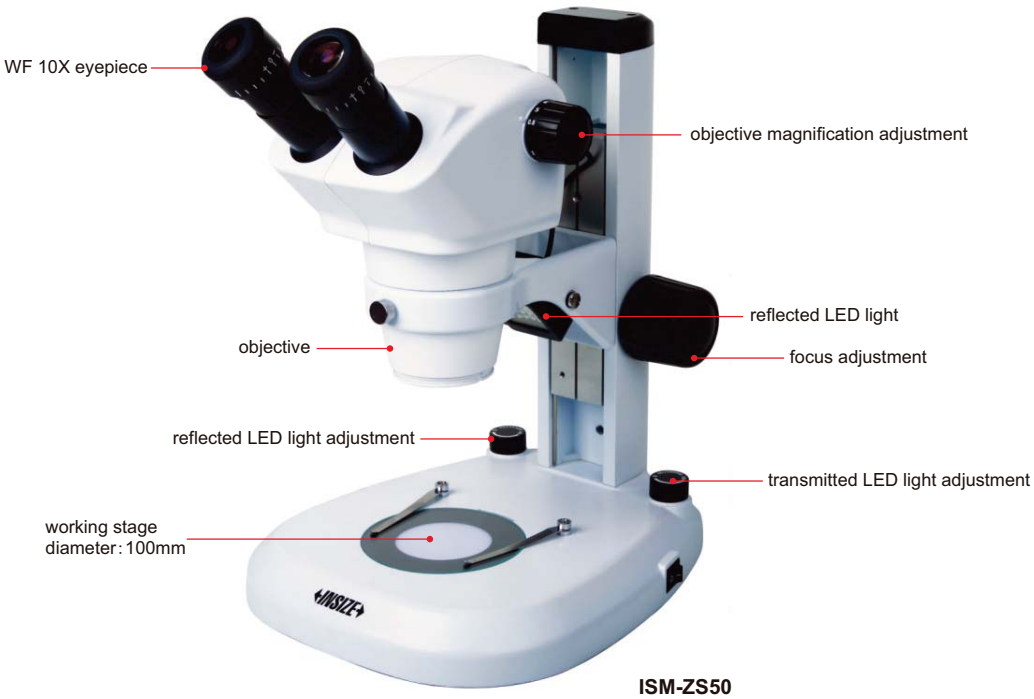
**SPECIFICATION**

| Code | ISM-TV200 | ISM-TV200W |
|---|---|---|
| Type | with wire | wireless (maximum transmission distance 5m) |
| Magnification | 10X~200X (on 17" TV) | |
| Pixel | 0.35M | |
| Illumination | adjustable brightness LED | |
| Focus | supplied with focus ring, stand (**ISM-WSTD**) is optional | |
| Power supply | DC | built-in rechargeable battery |

**MAGNIFICATION, FOCUS DISTANCE, VIEW FIELD**

| ISM-TV200 | | | ISM-TV200W | | |
|---|---|---|---|---|---|
| Magnification | Focus distance | View field | Magnification | Focus distance | View field |
| 50X | 21mm | 8.1×6.4mm | 60X | 19mm | 6.9×5.2mm |
| 100X | 13mm | 3.9×3.1mm | 80X | 16mm | 5.0×3.8mm |
| 150X | 16mm | 2.6×2.1mm | 150X | 16mm | 2.6×2.1mm |
| 200X | 19mm | 1.8×1.5mm | 200X | 19mm | 1.8×1.5mm |

# ZOOM STEREO MICROSCOPE




**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 | 215mm | |
| 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 | 1pc |
| WF 10X eyepiece | 2pcs |
| Ø100mm glass plate | 1pc |
| Ø100mm white/black plate | 1pc |
| Anti-dust cover | 1pc |

**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 |
| Digital camera | | ISM-D500 |

# ZOOM STEREO MICROSCOPE

**SPECIFICATION**

| | |
|---|---|
| **Code** | **ISM-ZS30** |
| **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** | 147mm |
| **Illumination** | adjustable reflected and transmitted LED light |
| **Power supply** | 110/220V, 50/60Hz |
| **Dimension (L×W×H)** | 260×190×400mm |
| **Weight** | 4.3kg |

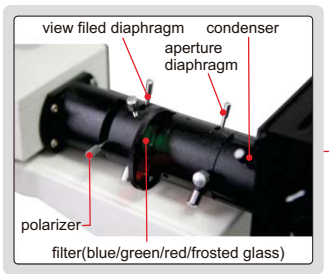
**STANDARD DELIVERY**

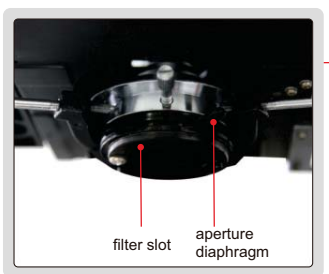
| | |
|---|---|
| **Main unit** | 1pc |
| **WF 10X eyepiece** | 2pcs |
| **Ø95mm glass plate** | 1pc |
| **Ø95mm white/black plate** | 1pc |
| **Anti-dust cover** | 1pc |

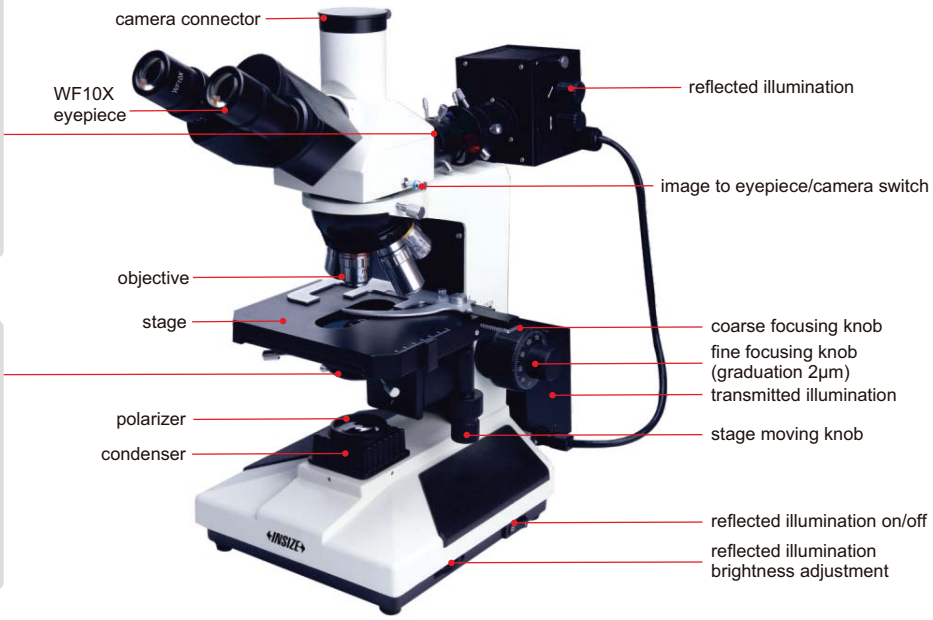
**OPTIONAL ACCESSORY**

| | | |
|---|---|---|
| **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 (0.1mm/div.)** | **ISM-ZS30-EPD10X** |
| | **WF15X (view field: Ø16mm)** | **ISM-ZS50-EP15X** |
| | **WF20X (view field: Ø12mm)** | **ISM-ZS50-EP20X** |
| **Digital camera** | | **ISM-D500** |

# HIGH MAGNIFICATION MICROSCOPE
# CODE ISM-M600-P




- For high magnification observation
- Reflected and transmitted illumination can work at the same time
- Objectives 40X, 60X are spring type

**SPECIFICATION**

| | | | | | |
|---|---|---|---|---|---|
| **Eyepiece (wide field)** | 10X (view field: Ø18mm) | | | | |
| **Objective (plan achromatic)** | 5X | 10X | 20X | 40X | 60X |
| **Numerical aperture** | 0.12 | 0.25 | 0.40 | 0.60 | 0.75 |
| **Working distance** | 18.4mm | 8.8mm | 8.6mm | 3.7mm | 1.34mm |
| **Stage** | double layer with sample clamp | | | | |
| | size: 160×140mm | | | | |
| | travel: 75×50mm (graduation: 0.1mm) | | | | |
| **Pupil distance** | 53~75mm | | | | |
| **Diopter adjustment** | ±5 diopter (one eyepiece) | | | | |
| **Illumination** | reflected and transmitted: 6V/20W halogen lamp, brightness is adjustable | | | | |
| **Power supply** * | 220V, 50/60Hz | | | | |
| **Dimension (L×W×H)** | 450×300×350mm | | | | |
| **Weight** | 11kg | | | | |

*Add "**-U**" on code No. when power supply is 110V, 50/60Hz

**STANDARD DELIVERY**

| | |
|---|---|
| **Main unit** | 1pc |
| **Anti-dust cover** | 1pc |
| **Filter (blue/green/frosted glass)** | 1pc of each |

**OPTIONAL ACCESSORY**

| | | |
|---|---|---|
| **Objective** | **PL80X** | **ISM-MTM-OB80X** |
| | **PL100X (dry type)** | **ISM-MTM-OB100X** |
| **10X dividing eyepiece (0.1mm/div.)** | | **ISM-MTM-EPD10X** |
| **WF16X eyepiece** | | **ISM-MTM-EP16X** |

| | |
|---|---|
| **WF20X eyepiece** | **ISM-MTM-EP20X** |
| **Camera adapter (1X)** | **ISM-M600-ADAPTER** |
| **Digital camera** | **ISM-D500** |

# HIGH MAGNIFICATION MICROSCOPE
# CODE ISM-M1000

- For high magnification observation
- Kohler illumination system provides uniform illumination field
- Objectives 20X, 40X, 100X are spring type

**SPECIFICATION**

| | | | | |
|---|---|---|---|---|
| **Eyepiece (wide field)** | 10X (view field: Ø18mm) | | | |
| **Objective (plan achromatic)** | 10X | 20X | 40X | 100X (oil type) |
| **Numerical aperture** | 0.25 | 0.40 | 0.60 | 1.25 |
| **Working distance** | 8.8mm | 8.6mm | 3.3mm | 0.33mm |
| **Stage** | double layer | | | |
| | size: 180×150mm | | | |
| | travel: 15×15mm | | | |
| **Pupil distance** | 53~75mm | | | |
| **Diopter adjustment** | ±5 diopter (one eyepiece) | | | |
| **Illumination** | 6V/20W halogen lamp | | | |
| **Power supply** * | 220V, 50/60Hz | | | |
| **Dimension (L×W×H)** | 385×300×440mm | | | |
| **Weight** | 11kg | | | |

*Add "**-U**" on code No. when power supply is 110V, 50/60Hz

**STANDARD DELIVERY**

| | |
|---|---|
| **Main unit** | 1pc |
| **Oil for 100X objective** | 1 bottle |
| **Anti-dust cover** | 1pc |
| **Filter (blue/green/yellow)** | 1pc of each |

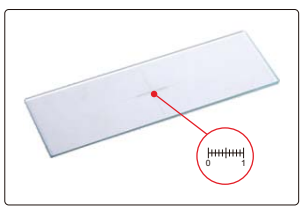
**OPTIONAL ACCESSORY**

| | | |
|---|---|---|
| **Objective** | **PL50X** | **ISM-MTM-OB50X** |
| | **PL60X** | **ISM-MTM-OB60X** |
| | **PL80X** | **ISM-MTM-OB80X** |
| | **PL100X (dry type)** | **ISM-MTM-OB100X** |
| **10X dividing eyepiece ( 0.1mm/div.)** | | **ISM-MTM-EPD10X** |

| | |
|---|---|
| **WF16X eyepiece** | **ISM-MTM-EP16X** |
| **WF20X eyepiece** | **ISM-MTM-EP20X** |
| **Camera adapter (1X)** | **ISM-M1000-ADAPTER** |
| **Digital camera** | **ISM-D500** |

# DIGITAL CAMERA
# CODE ISM-D500

connector Ø23.2/Ø30mm



calibration rule (graduation 0.1mm)

- Inserted into eyepiece tube or camera connecter of microscopes
- Supplied with software

**SPECIFICATION**

| | |
|---|---|
| **Sensor** | 1/2.5" CMOS |
| **Pixel** | 5M |
| **Resolution** | 2592×1944 or 1296×972 |
| **Frame rate** | 3fps (2592×1944) |
| | 12fps (1296×972) |
| **Exposure** | manual or auto, exposure time is adjustable |
| **SNR** | 41dB |
| **Power supply** | USB |
| **Weight** | 400g |

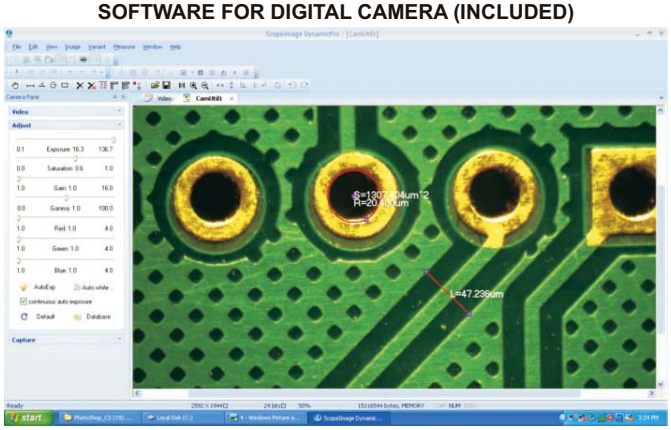
**STANDARD DELIVERY**

| | |
|---|---|
| **Main unit** | 1pc |
| **Adapter 0.45X** | 1pc |
| **Calibration rule (graduation 0.1mm)** | 1pc |
| **Connector Ø23.2/Ø30mm** | 1pc |
| **USB cable** | 1pc |
| **Software disc** | 1pc |

**OPTIONAL ACCESSORY**

| | |
|---|---|
| **Connector Ø23.2/Ø30.5mm** | **ISM-DCA-CON** |

**SOFTWARE FOR DIGITAL CAMERA (INCLUDED)**



**Measuring Tools:**

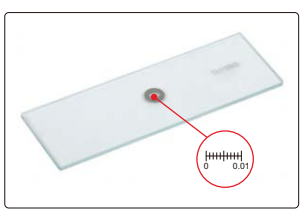
- measure distance between two points
- measure angle with three points
- measure circle
- measure rectangle
- calibration

- Can take pictures and videos
- Exposure/gain/gamma/saturation/colour adjustment
- Image process feature: zoom in/out, image flip and so on

# METALLURGICAL MICROSCOPE
# CODE ISM-M2000

- For high magnification observation and metallurgical image analysis
- Infinite optical system, can add optical accessories like polarizer, analyzer, DIC(code ISM-M2000-DIC) into optical path without image quality influence
- Objective can be used in both bright field and dark field
- Kohler illumination system provides uniform illumination field
- Three working modes: 100% eyepiece observation, 100% camera observation, both eyepiece and camera observation (80% illuminance for camera and 20% illuminance for eyepiece)

adapter 0.5X (included)



calibration rule (graduation 0.01mm)

**SPECIFICATION**

| | | | | | |
|---|---|---|---|---|---|
| **Eyepiece (wide field)** | 10X (view field: Ø22mm) | | | | |
| **Objective (plan achromatic)** | 5X (included) | 10X (included) | 20X (included) | 50X (included) | 100X (included) |
| **Numerical aperture** | 0.12 | 0.25 | 0.40 | 0.75 | 0.90 |
| **Working distance** | 10mm | 10mm | 5mm | 1.3mm | 0.7mm |
| **Stage** | double layer, size: 160×140mm, travel: 75×50mm (graduation: 0.1mm) | | | | |
| **Kohler illumination** | 12V/50W halogen lamp, brightness is adjustable<br>with polarizer and analyzer, built-in green, yellow, blue, gray and frosted glass | | | | |
| **Pupil distance** | 48 ~ 75mm | | | | |
| **Diopter adjustment** | ±5 diopter (two eyepieces) | | | | |
| **Power supply** | 110/220V, 50/60Hz | | | | |
| **Dimension (L×W×H)** | 647×268×376mm | | | | |
| **Weight** | 12kg | | | | |

**STANDARD DELIVERY**

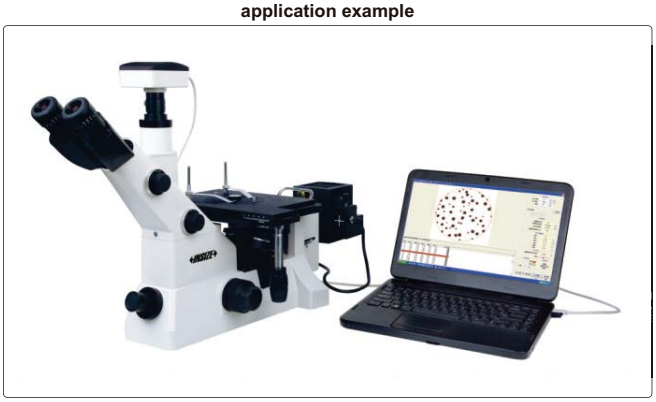
| | |
|---|---|
| **Main unit** | 1pc |
| **10X dividing eyepiece (0.1mm/div.)** | 1pc |
| **Calibration rule (graduation 0.01mm)** | 1pc |
| **Camera adapter** | 1pc |
| **Adapter 0.5X** | 1pc |
| **Anti-dust cover** | 1pc |

**OPTIONAL ACCESSORY**

| | |
|---|---|
| **15X eyepiece (view field: Ø16mm)** | **ISM-M2000-15X** |
| **20X eyepiece (view field: Ø12mm)** | **ISM-M2000-20X** |
| **DIC** | **ISM-M2000-DIC** |
| **Metallurgical image analysis software and camera** | **ISM-MAS100** |

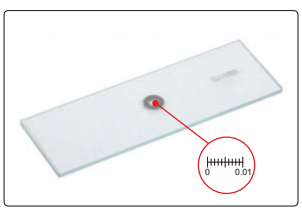
# METALLURGICAL IMAGE ANALYSIS SOFTWARE AND CAMERA CODE ISM-MAS100

application example



- Inserted into eyepiece tube or camera connecter of microscopes
- Supplied with software for metallurgical structure analysis, measurement and evaluation

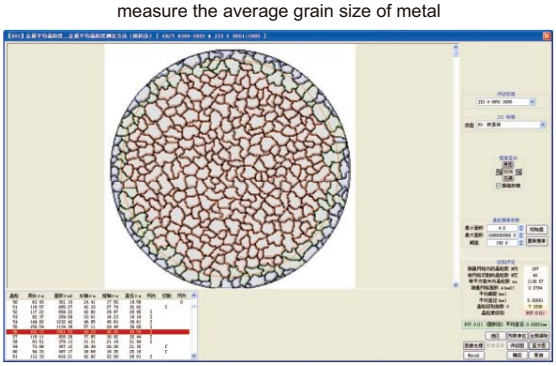
adapter 0.5X (optional)



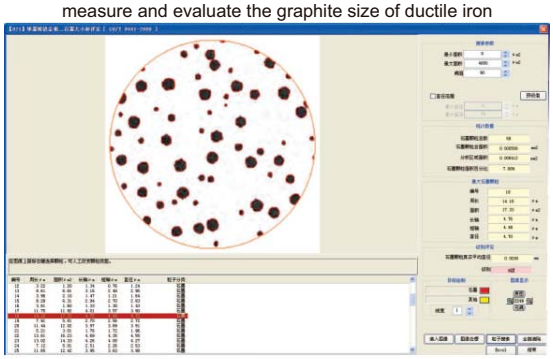

calibration rule (optional, graduation 0.01mm)

metallurgical image analysis software (included)

measure the average grain size of metal



measure and evaluate the graphite size of ductile iron



**SPECIFICATION**

| | |
|---|---|
| **Sensor** | 1/2" CMOS |
| **Pixel** | 300M |
| **Resolution** | 2048×1536 |
| **Frame rate** | 6fps |
| **Exposure** | manual or auto, exposure time is adjustable |
| **SNR** | 43dB |
| **Power supply** | USB |
| **Weight** | 400g |

**STANDARD DELIVERY**

| | |
|---|---|
| **Camera** | 1pc |
| **USB cable and software** | 1pc |

**OPTIONAL ACCESSORY**

| | |
|---|---|
| **Calibration rule (graduation 0.01mm)** | **ISM-MAS-SCALE** |
| **Adapter 0.5X** | **ISM-MAS-ADAPTER** |

# PORTABLE MEASURING MICROSCOPE

**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**

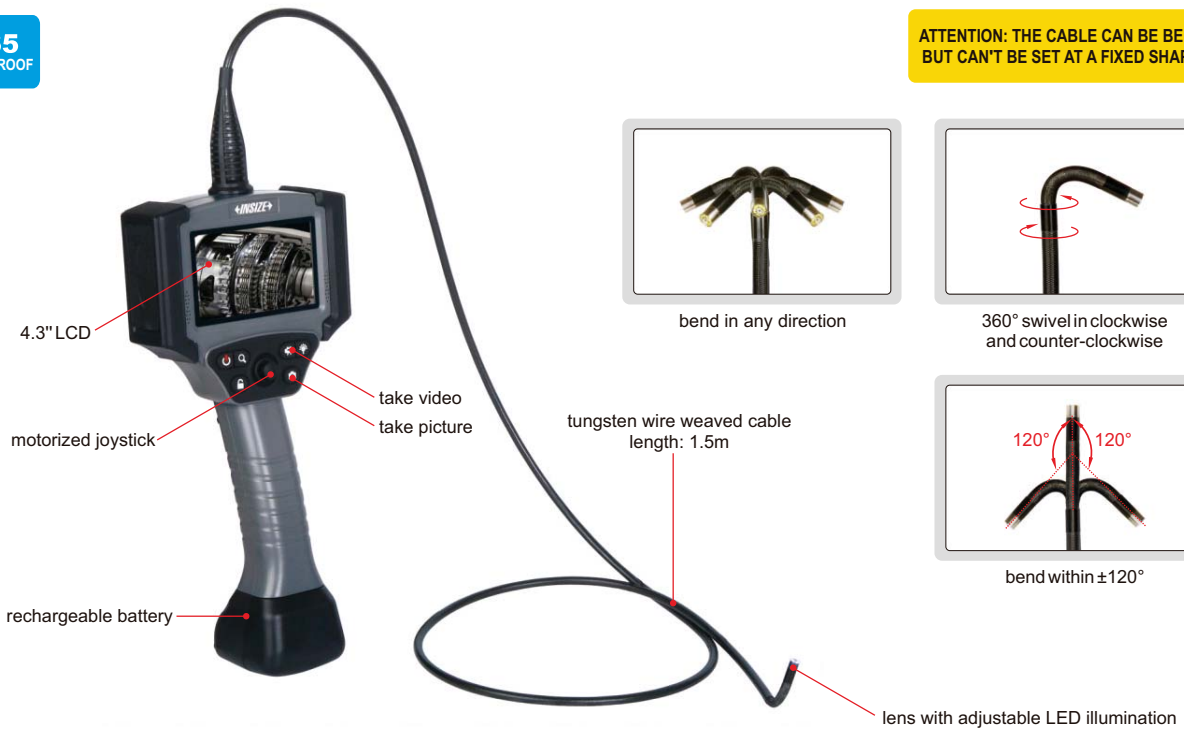
| | |
|---|---|
| Main unit | 1pc |
| Pen light | 1pc |
| Battery (AAA) | 2pcs |

TUNGSTEN WIRE WEAVED CABLE
RESISTANCE TO BREAK AND WEAR

# MOTORIZED 360° SWIVEL VIDEOSCOPE
# CODE ISV-4000D

**IP65**
WATERPROOF

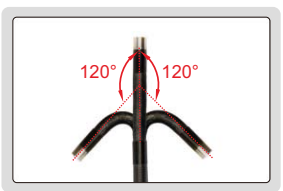
ATTENTION: THE CABLE CAN BE BENT
BUT CAN'T BE SET AT A FIXED SHAPE





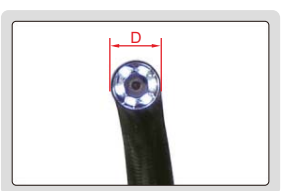
bend in any direction

360° swivel in clockwise
and counter-clockwise

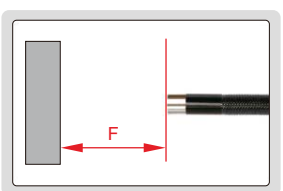


bend within ±120°

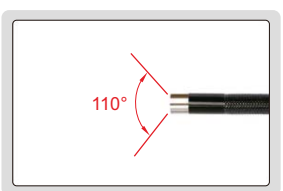
- Motorized joystick to bend the lens in any direction
- Lens bending is automatically locked when joystick is hold for more than 3 seconds



lens with LED
adjustable illumination



focus distance



angle of view: 110°

## SPECIFICATION

| | | |
|---|---|---|
| Lens | diameter(D) | 6mm |
| | focus distance(F) | 15mm ~ ∞ |
| | illumination | 6pcs LED |
| | pixel | 0.41M |
| | dust/waterproof | IP65 |
| | bend control | motorized joystick |
| Cable | length | 1.5m |
| | type | tungsten wire weaved cable |
| Main unit | function | take picture, take video |
| | file format | picture: JPG, video: AVI |
| | image process | brightness, image quality zoom (1X, 2X, 3X) |
| | memory | 8G SD card |
| | output | TV, USB |
| | power supply | rechargeable battery (for 4 hours working)<br>AC/DC adapter (for continuous working) |
| Weight | | 1kg |

## STANDARD DELIVERY

| | |
|---|---|
| Main unit | 1pc |
| Cable with lens | 1pc |
| 8G SD card | 1pc |
| AC/DC adapter | 1pc |
| Video output cable | 1pc |
| USB cable | 1pc |

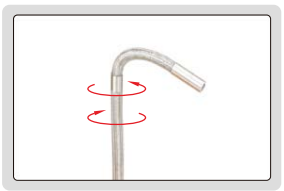
# MANUAL 360° SWIVEL VIDEOSCOPE

STEEL WIRE WEAVED CABLE
RESISTANCE TO BREAK AND WEAR

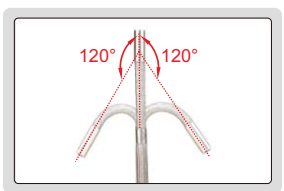
IP65
WATERPROOF

ATTENTION: THE CABLE CAN BE BENT
BUT CAN'T BE SET AT A FIXED SHAPE

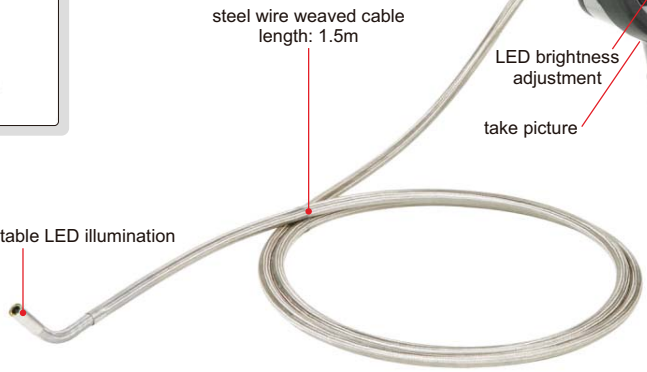
bend in any direction

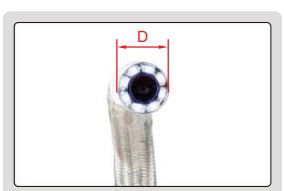


360° swivel in clockwise
and counter-clockwise

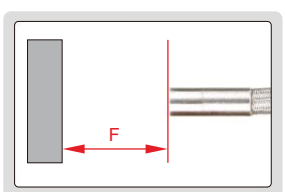



bend within ±120°

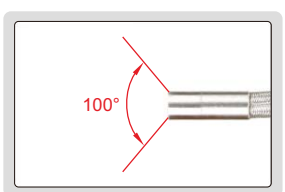



lens with LED
adjustable illumination




focus distance




angle of view: 100°

base (optional)

## SPECIFICATION

| Code | | ISV-2000D | ISV-2001D | ISV-3000D | ISV-3001D |
|---|---|---|---|---|---|
| Lens | diameter(D) | 6.5mm | | 4.5mm | |
| | focus distance(F) | 15mm ~ ∞ | | 8 ~ 80mm | |
| | illumination | 8pcs LED | | 6pcs LED | |
| | pixel | 0.35M | | | |
| | dust/waterproof | IP65 | | | |
| | bend control | manual joystick | | | |
| Cable | length | 1.5m | 3m | 1.5m | 3m |
| | type | steel wire weaved cable | | | |
| Main unit | function | take picture, take video | | | |
| | file format | picture: JPG, video: AVI | | | |
| | image process | brightness, image quality zoom (1X, 2X, 3X, 4X, 5X) | | | |
| | memory | 8G SD card | | | |
| | output | TV, USB | | | |
| | power supply | rechargeable battery (for 2 hours working)<br>AC/DC adapter (for continuous working) | | | |
| Weight | | 650g | 800g | 600g | 700g |

## STANDARD DELIVERY

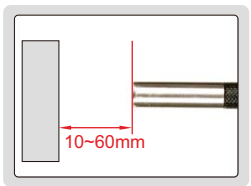
| | |
|---|---|
| Main unit | 1pc |
| Cable with lens | 1pc |
| 8G SD card | 1pc |
| AC/DC adapter | 1pc |
| Video output cable | 1pc |
| USB cable | 1pc |

## OPTIONAL ACCESSORY

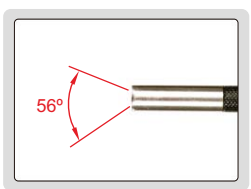
| | |
|---|---|
| Base | ISV-2000D-BASE |

IP67
WATERPROOF

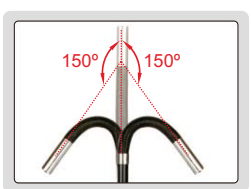
# VIDEOSCOPE
# CODE ISV-VP60




focus distance: 10~60mm



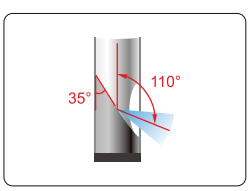

angle of view: 56°



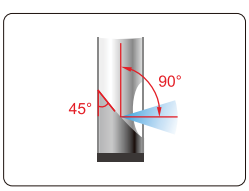

lens can be bent in two directions ( ±150°)

front view

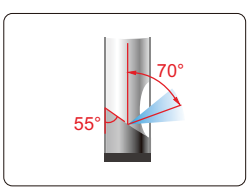
side view (with mirror)




35° mirror (included)




45° mirror (optional)




55° mirror (optional)

## SPECIFICATION

| | | |
|---|---|---|
| Lens | diameter | 6mm |
| | dust/waterproof | IP67 |
| | pixel | 0.3M |
| | resolution | 640×480 |
| | frame rate | 30fps |
| Cable | length | 1m |
| | type | semi-rigid |
| Main unit | function | take picture, take 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 | | 550g |

## STANDARD DELIVERY

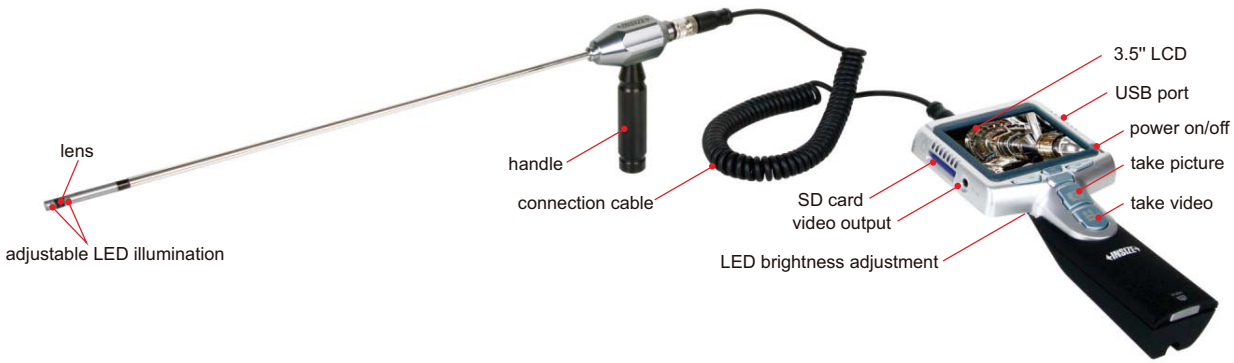
| | |
|---|---|
| Main unit | 1pc |
| Cable with lens | 1pc |
| 35° mirror | 1pc |
| 4G SD card | 1pc |
| AA battery | 4pcs |
| Video output cable | 1pc |
| USB cable | 1pc |

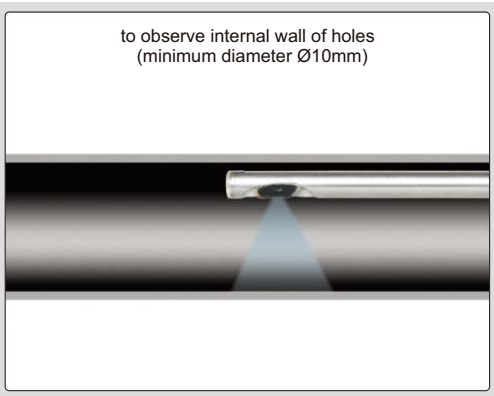
## OPTIONAL ACCESSORY

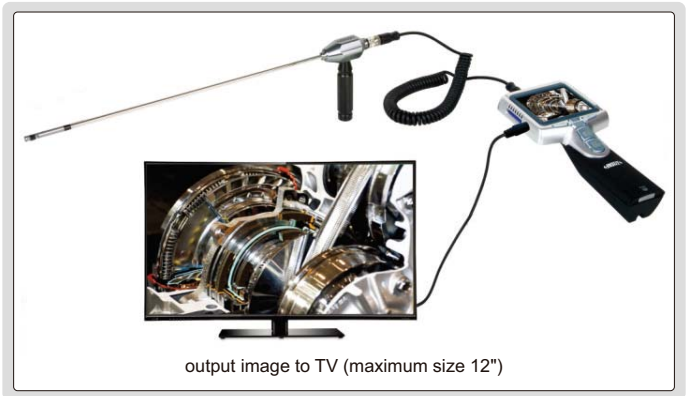
| | |
|---|---|
| 45° mirror | ISV-VP60-R45 |
| 55° mirror | ISV-VP60-R55 |

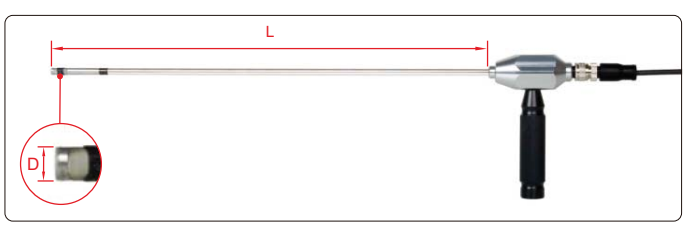
# SIDE VIEW VIDEOSCOPE (RIGID)
# CODE ISV-RV

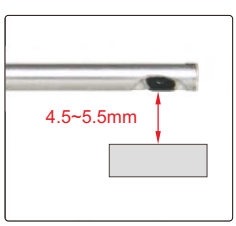
IP57 WATERPROOF



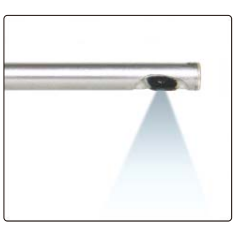



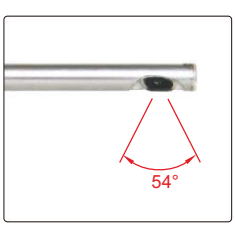



focus distance: 4.5~5.5mm


side view



angle of view: 54°

## SPECIFICATION

| | |
|---|---|
| **Diameter (D)** | 5.5mm |
| **Length (L)** | 350mm |
| **Dust/waterproof probe** | IP57 |
| **Pixel** | 0.3M |
| **Resolution** | 640×480 |
| **Frame rate** | 30fps |
| **Function** | take picture, take video |
| **File format** | picture: JPG, video: AVI |
| **Memory** | 2G SD card |
| **Output** | TV, USB |
| **Power supply** | rechargeable battery (for 3 hours working) |
| **Weight** | 570g |

## STANDARD DELIVERY

| | |
|---|---|
| **Main unit** | 1pc |
| **2G SD card** | 1pc |
| **AC/DC adapter** | 1pc |
| **Video output cable** | 1pc |
| **USB cable** | 1pc |

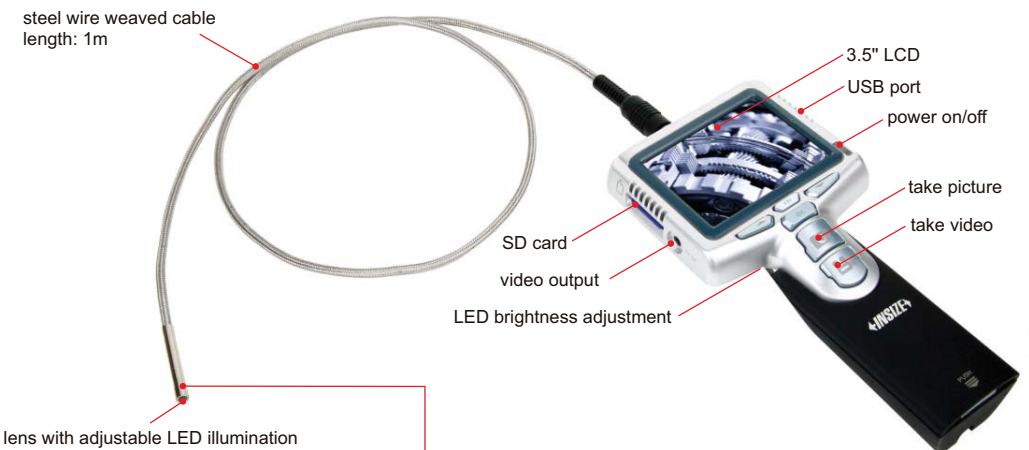
STEEL WIRE WEAVED CABLE
RESISTANCE TO BREAK AND WEAR

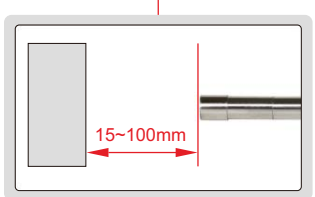
ATTENTION: THE CABLE CAN BE BENT
BUT CAN'T BE SET AT A FIXED SHAPE

**IP65**
WATERPROOF

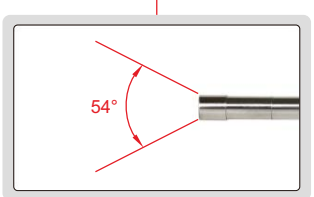
OPTIONAL CABLE
LENGTH 3M, 5M AND 10M

# VIDEOSCOPE
# CODE ISV-E10

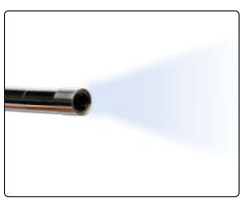


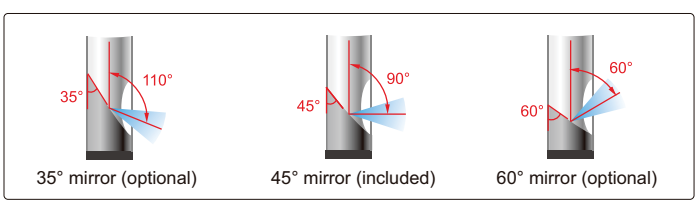



focus distance: 15~100mm



angle of view: 54°


front view



35° mirror (optional) 45° mirror (included) 60° mirror (optional)

side view (with mirror)

## SPECIFICATION

| | | |
|---|---|---|
| Lens | diameter | 5.5mm |
| | pixel | 0.3M |
| | resolution | 640×480 |
| | frame rate | 30fps |
| Cable | length | 1m |
| | type | steel wire weaved cable |
| Main unit | function | take picture, take video |
| | file format | picture: JPG, video: AVI |
| | image process | brightness, contrast, color saturation |
| | memory | 2G SD card |
| | output | TV, USB |
| | power supply | rechargeable battery (for 3 hours working) |
| Weight | | 450g |

## STANDARD DELIVERY

| | |
|---|---|
| Main unit | 1pc |
| Cable with lens | 1pc |
| 2G SD card | 1pc |
| 45° mirror | 1pc |
| AC/DC adapter | 1pc |
| Video output cable | 1pc |
| USB cable | 1pc |
| Lens cleaning kit | 1pc |

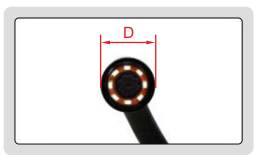
## OPTIONAL ACCESSORY

| | |
|---|---|
| 35° mirror | ISV-E55-M35 |
| 60° mirror | ISV-E55-M60 |

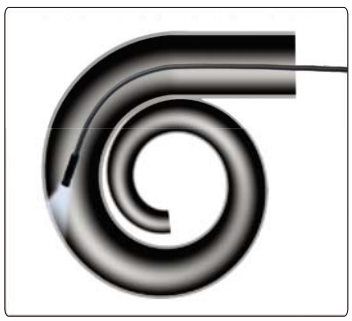
# VIDEOSCOPE
# CODE ISV-E20

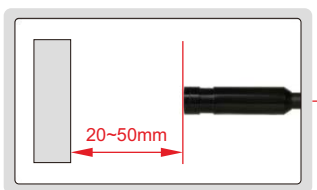
IP57
WATERPROOF

lens with 8pcs LED
adjustable illumination

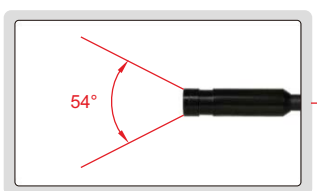



the cable has high illumination and can be set at any shape.
it is suitable to observe large internal space like turbocharger.

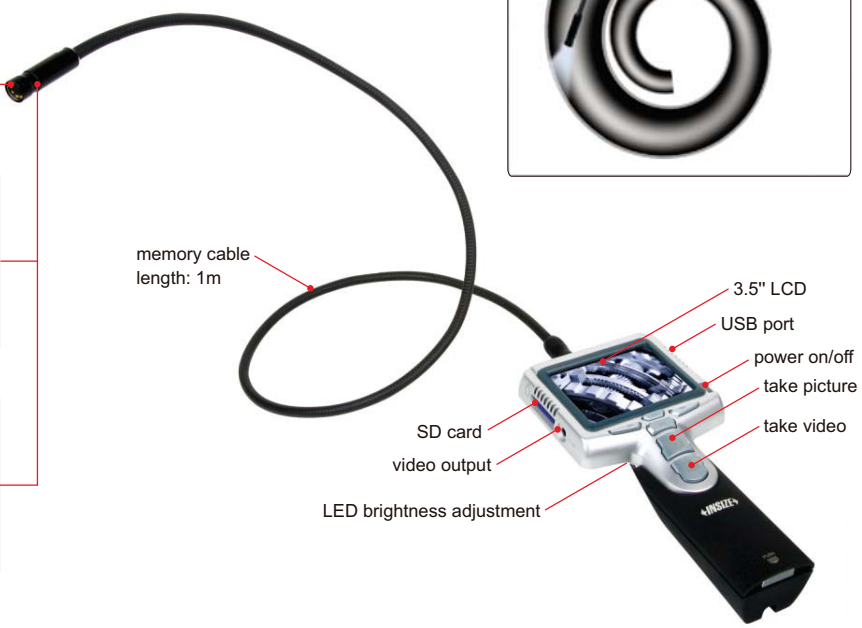





focus distance: 20~50mm




angle of view: 54°



45° mirror (optional)

hook (optional)

magnet pick up (optional)

## SPECIFICATION

| | | |
|---|---|---|
| **Lens** | **diameter (D)** | 12mm |
| | **pixel** | 0.4M |
| | **resolution** | 720×682 |
| | **frame rate** | 30fps |
| **Cable** | **length** | 1m |
| | **type** | memory (can be set at any shape) |
| **Main unit** | **function** | take picture, take video |
| | **file format** | picture: JPG, video: AVI |
| | **image process** | brightness, contrast, color saturation |
| | **memory** | 2G SD card |
| | **output** | TV, USB |
| | **power supply** | rechargeable battery (for 3 hours working) |
| **Weight** | | 600g |

## STANDARD DELIVERY

| | |
|---|---|
| **Main unit** | 1pc |
| **Cable with lens** | 1pc |
| **2G SD card** | 1pc |
| **AC/DC adapter** | 1pc |
| **Video output cable** | 1pc |
| **USB cable** | 1pc |
| **Lens cleaning kit** | 1pc |

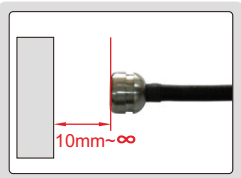
## OPTIONAL ACCESSORY

| | |
|---|---|
| **45° mirror** | **ISV-E20-MIRROR** |
| **Hook** | **ISV-E20-HOOK** |
| **Magnet pick up** | **ISV-E20-MAGNET** |

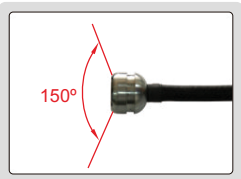
ATTENTION: RESISTANCE TO ACID AND ALKALI LIQUID (CONSULT IS NEEDED)

**IP68** WATERPROOF

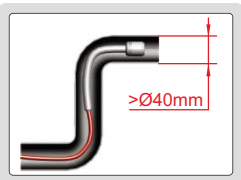
# PIPE VIDEOSCOPE
# CODE ISV-VP280




focus distance: 10mm~∞




angle of view: 150°




can turn at least two times in the pipe (>Ø40mm)

Ø100mm brush (included) fixed on the lens to clean the internal wall of pipes

Ø50mm centering ring (optional) fixed on the lens to center lens in the pipe

vertical horizontal

## SPECIFICATION

| | | |
|---|---|---|
| Lens | diameter | 28mm |
| | dust/waterproof | IP68 |
| | pixel | 0.3M |
| | resolution | 640×480 |
| | frame | 30fps |
| Cable | length | 22m |
| | dust/waterproof | IP68 |
| | type | semi-rigid |
| Main unit | 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

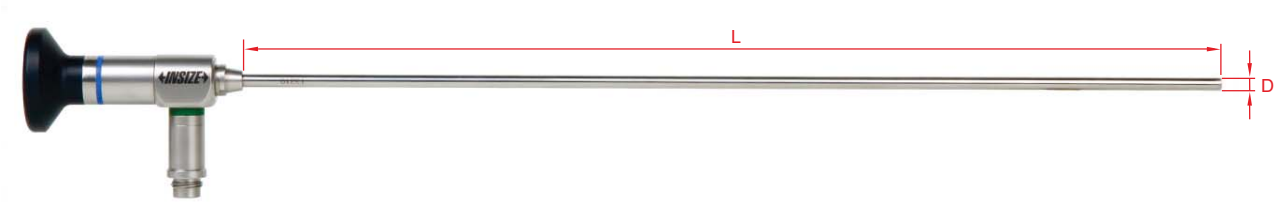
| | |
|---|---|
| Main unit | 1pc |
| Cable with lens | 1pc |
| Stand | 1pc |
| 4G SD card | 1pc |
| Ø100mm brush | 1pc |
| AA battery | 4pcs |
| Vdieo output cable | 1pc |
| USB cable | 1pc |

## OPTIONAL ACCESSORY

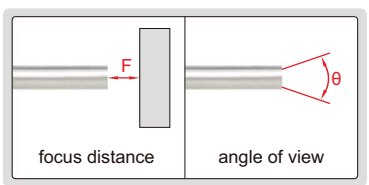
| | |
|---|---|
| Ø50mm centering ring | ISV-VP280-R50 |
| Ø150mm brush | ISV-VP280-B150 |

# RIGID BORESCOPE

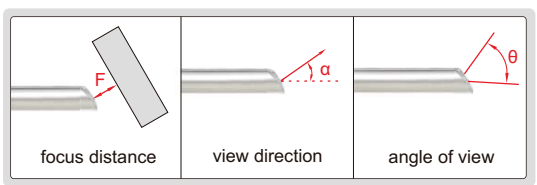
IP67
WATERPROOF



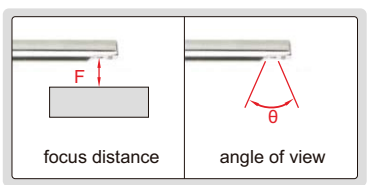

ISV-1H4300




view direction 0°




view direction 30°and 70°




view direction 90°

- Focus distance: 2mm, depth of view: 5~100mm
- Dust/waterproof level: IP67
- Can be used in the liquid with temperature -10°C~85°C

**SPECIFICATION**

| Code | Length (L) | View direction (α) | Diameter (D) | Angle of view(θ) |
|---|---|---|---|---|
| ISV-1H4170 | 174mm | 0° | 4mm | ⩾60° |
| ISV-1H4173 | 174mm | 30° | | |
| ISV-1H4177 | 174mm | 70° | | |
| ISV-1H4179 | 166mm | 90° | | |
| ISV-1H4300 | 302mm | 0° | | |
| ISV-1H4303 | 302mm | 30° | | |
| ISV-1H4307 | 302mm | 70° | | |
| ISV-1H4309 | 297mm | 90° | | |

| Code | Length (L) | View direction (α) | Diameter (D) | Angle of view(θ) |
|---|---|---|---|---|
| ISV-1H6200 | 209mm | 0° | 6mm | ⩾70° |
| ISV-1H6203 | 209mm | 30° | | |
| ISV-1H6207 | 209mm | 70° | | |
| ISV-1H6209 | 166mm | 90° | | |
| ISV-1H6320 | 328mm | 0° | | |
| ISV-1H6323 | 328mm | 30° | | |
| ISV-1H6327 | 328mm | 70° | | |
| ISV-1H6329 | 330mm | 90° | | |

LED light handle (optional)

adjustable LED light source (optional)

camera (optional)

**OPTIONAL ACCESSORY**

| | |
|---|---|
| LED light handle | ISV-1HLED |
| Adjustable LED light source | ISV-1LED1 |
| Camera | ISV-1CAM |

## LED LIGHT HANDLE
## CODE ISV-1HLED

- For rigid endoscopes

battery

charger

**SPECIFICATION**

| | |
|---|---|
| **Power** | 3W |
| **Battery** | 3.7V rechargeable battery (for 2 hours working) |
| **Dimension** | 120×27×27mm |
| **Weight** | 300g |

**STANDARD DELIVERY**

| | |
|---|---|
| **Main unit** | 1pc |
| **Battery** | 1pc |
| **Charger** | 1pc |

## ADJUSTABLE LED LIGHT SOURCE
## CODE ISV-1LED1

- For rigid endoscopes
- High LED illumination and brightness is adjustable
- For long time work with lower noise

**SPECIFICATION**

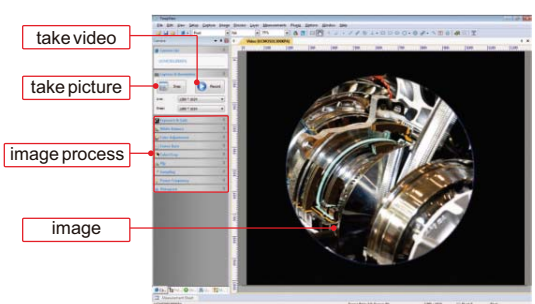
| | |
|---|---|
| **Color temperature** | 5600K |
| **Cooling** | fan cooling |
| **Power** | AC110~220V, 50/60Hz |
| **Dimension** | 400×300×112mm |
| **Weight** | 7kg |

**STANDARD DELIVERY**

| | |
|---|---|
| **Main unit** | 1pc |
| **1.8m optical fiber cable** | 1pc |

## CAMERA
## CODE ISV-1CAM

- For rigid endoscopes
- Connected to computer USB port
- Auto-exposure, auto-gain, auto white balance
- Focus is adjustable




**SPECIFICATION**

| | |
|---|---|
| **Sensor** | color CMOS |
| **Pixel** | 1.3M |
| **Resolution** | 1280×1024 |
| **Frame rate** | 15~50fps |
| **Software** | take picture, take video, zoom in, zoom out, image rotate |
| **Power supply** | USB |

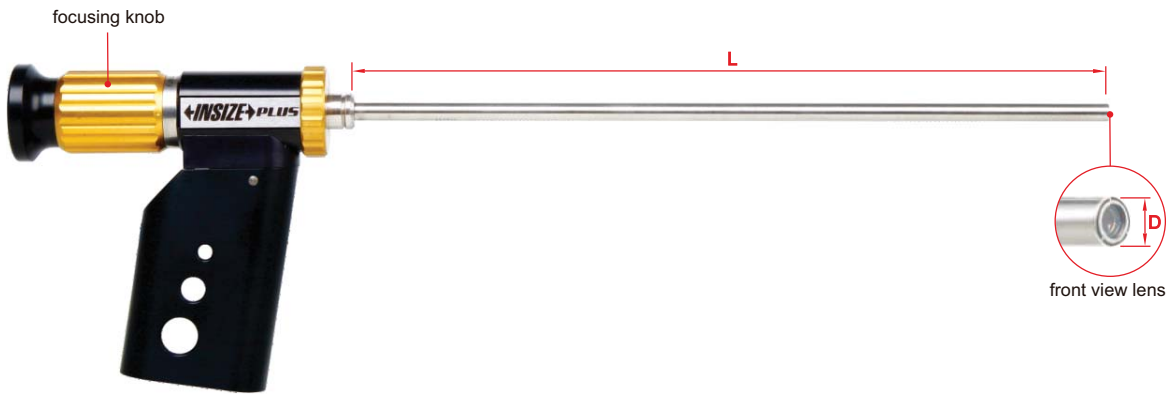
**STANDARD DELIVERY**

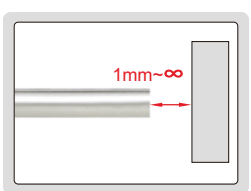
| | |
|---|---|
| **Camera** | 1pc |
| **Connector** | 1pc |
| **USB cable and software** | 1pc |

# FRONT VIEW BORESCOPE (RIGID)
# CODE ISV-HF4030

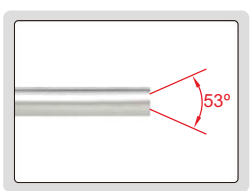
IP67 WATERPROOF

PREMIUM QUALITY INSIZE PLUS MADE IN GERMANY



adjustable focus distance: 1mm~∞



angle of view: 53°

LED light source (optional)

camera (optional)

- Dust/waterproof level: IP67
- Lens can be used in the liquid with temperature -10°C~100°C
- LED light source is needed

**SPECIFICATION**

| | |
|---|---|
| **Diameter (D)** | 4mm |
| **Length (L)** | 300mm |
| **Depth of view** | >15mm |
| **Dust/waterproof lens** | IP67 |
| **Dimension** | 410×105×30mm |
| **Weight** | 220g |

**STANDARD DELIVERY**

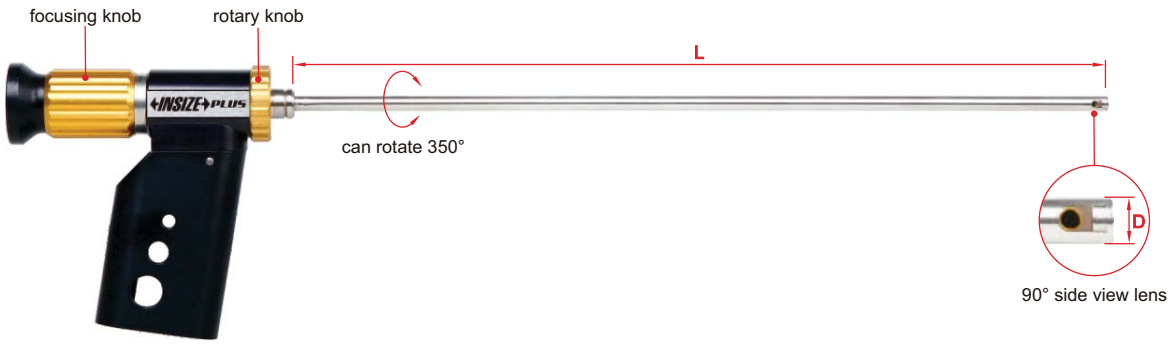
| | |
|---|---|
| **Main unit** | 1pc |
| **Handle** | 1pc |

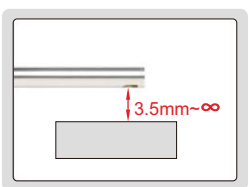
**OPTIONAL ACCESSORY**

| | |
|---|---|
| **LED light source** | **ISV-HL3000** |
| **Camera and software** | **ISV-HCAM** |

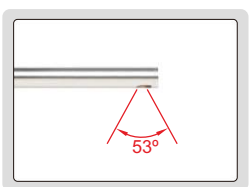
# ROTARY SIDE VIEW BORESCOPE (RIGID)
# CODE ISV-HR6032

IP67 WATERPROOF

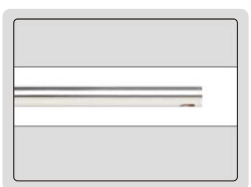


adjustable focus distance: 3.5mm~∞



angle of view: 53°


observe internal wall of small holes

LED light source (optional)

camera (optional)

- Lens can rotate 350°
- Dust/waterproof level: IP67
- Lens can be used in the liquid with temperature -10°C~100°C
- LED light source is needed

**SPECIFICATION**

| | |
|---|---|
| **Diameter (D)** | 6mm |
| **Length (L)** | 320mm |
| **Depth of view** | >15mm |
| **Dust/waterproof lens** | IP67 |
| **Dimension** | 430x105x30mm |
| **Weight** | 300g |

**STANDARD DELIVERY**

| | |
|---|---|
| **Main unit** | 1pc |
| **Handle** | 1pc |

**OPTIONAL ACCESSORY**

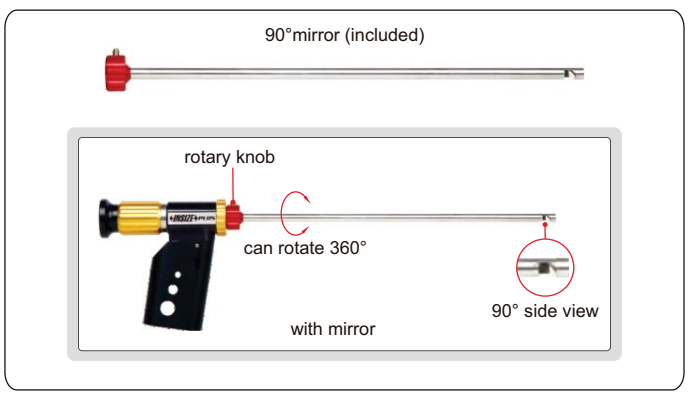
| | |
|---|---|
| **LED light source** | **ISV-HL3000** |
| **Camera and software** | **ISV-HCAM** |

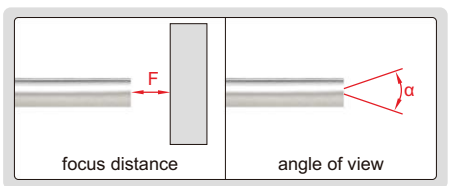
# BORESCOPE WITH MIRROR (RIGID)

IP67 WATERPROOF

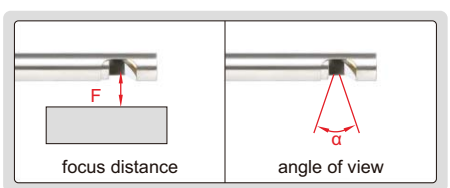
PREMIUM QUALITY INSIZE PLUS MADE IN GERMANY

ISV-HM6025(with handle)




front view




side view (with mirror)

- Front view, side view with mirror
- Dust/waterproof level: IP67
- Lens can be used in the liquid with temperature -10°C~80°C
- LED light source is needed

LED light source (optional)

camera (optional)

**SPECIFICATION**

| Code | ISV-HM2817 | ISV-HM4023 | ISV-HM6025 | ISV-HM6051 |
|---|---|---|---|---|
| Diameter (D) | 2.8mm | 4mm | 6mm | 6mm |
| Length (L) | 175mm | 232mm | 258mm | 490mm |
| Focus distance (F) | 2mm~∞(adjustable) | 6mm~∞(adjustable) | 4mm~∞(adjustable) | 3mm~∞(adjustable) |
| Angle of view (α) | 22° | 22° | 34° | 48° |
| Depth of view | >15mm | | | |
| Dust/waterproof lens | IP67 | | | |
| Handle | without | included | included | included |
| Dimension | 235×33×30mm | 368×105×30mm | 368×105×30mm | 610×105×30mm |
| Weight | 55g | 250g | 260g | 300g |

**STANDARD DELIVERY**

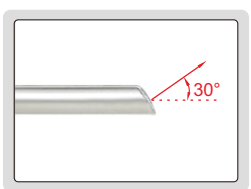
| | |
|---|---|
| Main unit | 1pc |
| Handle (except ISV-HM2817) | 1pc |
| 90° mirror | 1pc |

**OPTIONAL ACCESSORY**

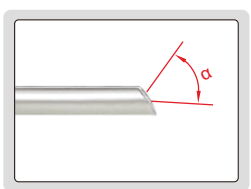
| | |
|---|---|
| LED light source | ISV-HL3000 |
| Camera and software | ISV-HCAM |

# OBLIQUE VIEW BORESCOPE (RIGID)

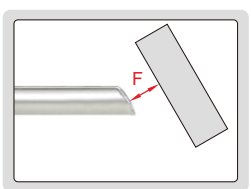
IP67 WATERPROOF



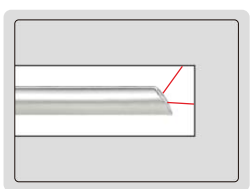
view direction



angle of view



focus distance


observe the bottom of small blind holes

LED light source (optional)

camera (optional)

- Small diameter, used to observe small space
- Dust/waterproof level: IP67
- Lens can be used in the liquid with temperature -10°C~100°C
- Supplied with protection sleeve
- LED light source is needed

**SPECIFICATION**

| Code | ISV-HP1911 | ISV-HP2811 | ISV-HP2817 |
|---|---|---|---|
| Diameter (D) | 1.9mm | 2.8mm | 2.8mm |
| Length (L) | 110mm | 110mm | 175mm |
| Focus distance (F) | 0.5mm~∞ (adjustable) | 0.5mm~∞ (adjustable) | 0.5mm~∞ (adjustable) |
| View direction | 30° | | |
| Angle of view (α) | 70° | 80° | 80° |
| Depth of view | 3 ~ 40mm | | |
| Dust/waterproof lens | IP67 | | |
| Dimension | 162x33x30mm | 228x33x30mm | 228x33x30mm |
| Weight | 55g | 60g | 65g |

**STANDARD DELIVERY**

| | |
|---|---|
| Main unit | 1pc |
| Protection sleeve | 1pc |

**OPTIONAL ACCESSORY**

| | |
|---|---|
| LED light source | ISV-HL3000 |
| Camera and software | ISV-HCAM |

# LED LIGHT SOURCE
# CODE ISV-HL3000

filter (optional)

- For rigid borescopes
- High LED illumination and brightness is adjustable
- For long time work with lower noise

**SPECIFICATION**

| | |
|---|---|
| **Brightness** | 470lm |
| **Color temperature** | 5800K |
| **Cooling method** | fan cooling |
| **Operating temperature** | 10~40°C |
| **Working life** | 30000h |
| **Power supply** | 12V DC, 5420mA |
| **Dimension** | 170x196x98mm |
| **Weight** | 3.8kg |

**STANDARD DELIVERY**

| | |
|---|---|
| **Main unit** | 1pc |
| **2.3m optical fiber cable** | 1pc |

**OPTIONAL ACCESSORY**

| | |
|---|---|
| **Red filter** | **ISV-HL3000-RED** |
| **Green filter** | **ISV-HL3000-GREEN** |
| **Yellow filter** | **ISV-HL3000-YELLOW** |
| **Blue filter** | **ISV-HL3000-BLUE** |
| **3500K color temperature filter** | **ISV-HL3000-3500K** |

# CAMERA
# CODE ISV-HCAM

- For rigid borescopes
- Connected to computer USB port
- High quality CCD
- Auto-exposure, auto-gain, auto white balance
- Focus is adjustable

**SPECIFICATION**

| | |
|---|---|
| **Sensor** | color CCD |
| **Pixel** | 0.3M |
| **Resolution** | 640×480 |
| **Frame rate** | 75fps |
| **Focus distance** | 18~35mm |
| **Software** | take picture, take video, zoom in, zoom out, mirror, image rotate |
| **Power supply** | USB |
| **Dimension** | 95x50x50mm |
| **Weight** | 150g |

**STANDARD DELIVERY**

| | |
|---|---|
| **Camera** | 1pc |
| **Connector** | 1pc |
| **USB cable and software** | 1pc |

# COATING THICKNESS GAGE
# CODE ISO-2000FN

main unit
ISO-2000FN

SUITABLE FOR SMALL SURFACES, CONCAVE OR CONVEX SURFACES

magnetic induction probe Fe (optional)
ISO-2000FN-FE

eddy current probe NFe (optional)
ISO-2000FN-NFE

- Suitable for small surfaces, concave or convex surfaces
- Magnetic induction probe (Fe) is to measure the thickness of non-magnetic coating on magnetic substrate
  Substrate: iron, steel, magnetic stainless steel (does not include non-magnetic stainless steel)
  Coating: zinc, copper, chrome-tin, plastic powder, paint (does not include nickel)
- Eddy current probe (NFe) is to 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

standard foil
(included)

## SPECIFICATION

| | | |
|---|---|---|
| Measuring range | magnetic induction probe (Fe) | 0~2000μm |
| | eddy current probe (NFe) | 0~800μm |
| Accuracy | | ±(1.5+2%L)μm L is measuring thickness in μm |
| Resolution | | 0.1μm (range<100μm) |
| | | 1μm (range 100~1000μm) |
| | | 10μm (range⩾1000μm) |
| Repeatability | | 1μm (range 0~1000μm) |
| | | 10μm (range⩾1000μm) |
| Measuring mode | | continuous or single |
| Calibration mode | | four points calibration |
| Minimum substrate thickness | | magnetic induction probe (Fe): 0.2mm, eddy current probe (NFe): 0.05mm |
| Minimum measuring area | | 5x5mm, calibration should be made on workpiece without coating, test stand (optional) is recommended in order to have same position for calibration and measurement |
| Power supply | | 2×1.5V AA batteries |
| Dimension of main unit | | 122×65×22mm |
| Weight of main unit | | 150g |

## STANDARD DELIVERY

| | |
|---|---|
| Main unit | 1pc |
| Zero calibration block for Fe probe | 1pc |
| Zero calibration block for NFe probe | 1pc |
| Standard foil | 7pcs |
| Battery (AA) | 2pcs |

## OPTIONAL ACCESSORY

| | |
|---|---|
| Magnetic induction probe (Fe) | ISO-2000FN-FE |
| Eddy current probe (NFe) | ISO-2000FN-NFE |
| Test stand | ISO-2000FN-STAND |

# COATING THICKNESS GAGE
# CODE ISO-1500F

ATTENTION: BASIC MODEL

MEASURE NON-MAGNETIC COATING ON MAGNETIC SUBSTRATE

zero calibration block (included)

calibration foil (included)

printer (optional)

- To measure the thickness of any non-magnetic coating on magnetic substrate
  substrate: steel, iron, magnetic stainless steel (non-magnetic stainless steel is not included)
  coating: zinc, copper, chrome, tin, plastic, paint (nickel is not included)
- Low and high limits with judgement
- Calculate average value automatically

## SPECIFICATION

| | | |
|---|---|---|
| **Measuring range** | | 0~1500μm |
| **Accuracy** | | ±(2%L+2)μm L is measuring thickness in μm |
| **Resolution** | | 0.1μm (range<1000μm) |
| | | 1μm (range≥1000μm) |
| **Repeatability** | | ±1μm (range<100μm) |
| | | ±(1%L)μm (range≥100μm)<br>L is measuring thickness in μm |
| **Measuring mode** | | continuous and single |
| **Calibration mode** | | zero calibration, one point calibration,<br>two points calibration |
| **Minimum substrate thickness** | | 0.5mm |
| **Minimum measuring area** | | 10×10mm |
| **Minimum curvature radius of workpiece** | **concave** | 30mm |
| | **convex** | 5mm |
| **Output** | | USB |
| **Memory** | | 1200 |
| **Power supply** | | 3×1.5V AAA batteries (power off automatically ) |
| **Dimension** | | 88×67×30mm |
| **Weight** | | 120g |

## STANDARD DELIVERY

| | |
|---|---|
| **Main unit** | 1pc |
| **Zero calibration block** | 1pc |
| **Calibration foil (50μm, 100μm, 500μm, 1000μm,1500μm)** | 1set |
| **1.5V AAA battery** | 3pcs |
| **Software and USB cable** | 1pc |

## OPTIONAL ACCESSORY

| | |
|---|---|
| **Printer** | **ISH-DS-PRINTER** |

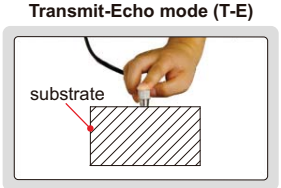
DATA OUTPUT

# ULTRASONIC THICKNESS GAGE (THROUGH COATING) CODE ISU-300D

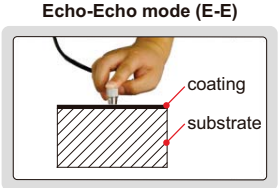
CAN PENETRATE NON-METALLIC COATING AND MEASURE THE THICKNESS OF METAL SUBSTRATE

- 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 substrate, can penetrate coating and measure the thickness of substrate
  - T-E is to measure the thickness of material without coating, such as metal, plastic, glass nylon resin, ceramics, rubber, ice, etc.
- Low and high limits with judgment
- Average calculation of maximum 9 readings
- Memory of maximum 500 readings

**Transmit-Echo mode (T-E)**




**Echo-Echo mode (E-E)**




couplant (included)

transducer ISU-T04 (optional)

transducer ISU-T06 (optional)

transducer ISU-T12 (optional)

transducer ISU-T13 (optional)

## SPECIFICATION

| | |
|---|---|
| **Measuring range** | E-E mode: coating thickness 0 ~ 1mm, substrate thickness 4 ~ 25mm |
| | T-E mode: substrate thickness 1.5 ~ 200mm |
| **Resolution** | 0.01mm (range<100mm)<br>0.1mm (range≥100mm) |
| **Repeatability** | 0.03mm (range<100mm)<br>0.1mm (range≥100mm) |
| **Accuracy** | ±0.04mm (range<10mm)<br>±(0.04+H/1000)mm (range 10~100mm)<br>±H/333mm (range≥100mm)<br>H is the thickness to be measured in mm |
| **Velocity** | 1000 ~ 9999m/s |
| **Power supply** | 2×1.5V AAA batteries |
| **Dimension** | 116×64×27mm |
| **Weight** | 220g |

## STANDARD DELIVERY

| | |
|---|---|
| **Main unit** | 1pc |
| **Transducer ISU-T07** | 1pc |
| **Battery (AAA)** | 2pcs |
| **Couplant (for ISU-T04, ISU-T06,ISU-T07, ISU-T12)** | 1 bottle |
| **USB cable and software disc** | 1pc of each |

## OPTIONAL ACCESSARY

| | |
|---|---|
| **Transducer** | **ISU-T04, ISU-T06, ISU-T12, ISU-T13** |
| **Couplant ( for ISU-T13)** | **ISU-HT5-COUPLANT** |

## SPECIFICATION OF TRANSDUCERS

| Code | Mode | Frenquency | Diameter (Ød) | Measuring range | Minimum size of pipe for measurement (diameter × wall thickness) | Applicable temperature | Application |
|---|---|---|---|---|---|---|---|
| **ISU-T07** | T-E<br>E-E | 5.0MHz | 10.8mm | T-E mode: 1.5 ~ 200mm<br>E-E mode: 4 ~ 25mm | T-E mode: 20×1.2mm<br>E-E mode: 20×4mm | <60°C | general use |
| **ISU-T04** | T-E | 10.0MHz | 6mm | 0.7 ~ 20mm | 10×1mm | <60°C | for small tube |
| **ISU-T06** | T-E | 7.5MHz | 8.5mm | 0.7 ~ 50mm | 15×1.2mm | <60°C | for thin material |
| **ISU-T12** | T-E | 2.0MHz | 16.3mm | 2 ~ 400mm | 30×4mm | <60°C | for casting iron |
| **ISU-T13** | T-E | 5.0MHz | 13mm | 2 ~ 200mm | 25×3mm | <350°C | for high temperature |

# ULTRASONIC THICKNESS GAGE
# CODE ISU-250C

DATA OUTPUT

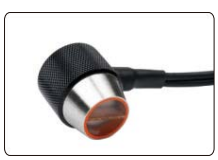
MANUFACTURER INSPECTION CERTIFICATE

- Measure the thickness from one side of object, suitable for pipe, tank, etc.
- Applicable material: metal, plastic, glass, nylon, resin, ceramic, rubber, ice
- Low and high limits with judgement
- Average calculation of maximum 9 readings
- Memory of maximum 5000 readings with location number

couplant (included)

transducer ISU-T04 (optional)

transducer ISU-T06 (optional)


transducer ISU-T12 (optional)

transducer ISU-T13 (optional)

## SPECIFICATION

| | |
|---|---|
| **Resolution** | 0.01mm (range<100mm) |
| | 0.1mm (range≥100mm) |
| **Repeatability** | 0.03mm (range<100mm) |
| | 0.1mm (range≥100mm) |
| **Accuracy** | ±0.04mm (range<10mm)<br>±(0.04+H/1000)mm (range10~100mm)<br>±H/333mm (range≥100mm)<br>H is the thickness to be measured in mm |
| **Velocity** | 1000 ~ 9999m/s |
| **Power supply** | 2×1.5V AAA batteries |
| **Dimension** | 64×116×27mm |
| **Weight** | 220g |

## STANDARD DELIVERY

| | |
|---|---|
| **Main unit** | 1pc |
| **Transducer ISU-T08** | 1pc |
| **Battery (AAA)** | 2pcs |
| **Couplant (for ISU-T04, ISU-T06, ISU-T08, ISU-T12)** | 1 bottle |
| **USB cable and software disc** | 1pc of each |

## OPTIONAL ACCESSORY

| | |
|---|---|
| **Transducer** | **ISU-T04, ISU-T06 ISU-T12, ISU-T13** |
| **Couplant (for ISU-T13)** | **ISU-HT5-COUPLANT** |

## SPECIFICATION OF TRANSDUCERS

| Code | Frequency | Diameter (Ød) | Measuring range | Minimum size of pipe for measurement (diameter × wall thickness) | Applicable temperature | Application |
|---|---|---|---|---|---|---|
| **ISU-T08** | 5.0MHz | 10.8mm | 0.8 ~ 300mm | 20×1.2mm | <60°C | general use |
| **ISU-T04** | 10.0MHz | 6mm | 0.7 ~ 20mm | 10×1mm | <60°C | for small tube |
| **ISU-T06** | 7.5MHz | 8.5mm | 0.7 ~ 50mm | 15×1.2mm | <60°C | for thin material |
| **ISU-T12** | 2.0MHz | 16.3mm | 2 ~ 400mm | 30×4mm | <60°C | for casting steel |
| **ISU-T13** | 5.0MHz | 13mm | 2 ~ 200mm | 25×3mm | <350°C | for high temperature |

MANUFACTURER INSPECTION CERTIFICATE

DATA OUTPUT

ATTENTION: BASIC MODEL

# ULTRASONIC THICKNESS GAGE
# CODE ISU-200D

- Measure the thickness from one side of object, suitable for pipe, tank, etc.
- Applicable material: metal, plastic, glass, nylon, resin, ceramic, rubber, ice
- Low and high limits with judgement
- Memory of maximum 500 readings

**SPECIFICATION**

| | |
|---|---|
| **Resolution** | 0.01mm (range<100mm) |
| | 0.1mm (range≥100mm) |
| **Accuracy** | ±0.05mm (range<10mm)<br>±(0.01+0.5%H)mm (range≥10mm)<br>H is the thickness to be measured in mm |
| **Velocity** | 1000-9999m/s |
| **Power supply** | 3×AAA batteries |
| **Dimension** | 151×70×24mm |
| **Weight** | 200g |

**STANDARD DELIVERY**

| | |
|---|---|
| **Main unit** | 1pc |
| **Transducer ISU-200D-N05** | 1pc |
| **Couplant** | 1 bottle |
| **USB cable and software** | 1pc |

**OPTIONAL ACCESSORY**

| | |
|---|---|
| **Transducer** | **ISU-200D-N02**<br>**ISU-200D-N07**<br>**ISU-200D-W05**<br>**ISU-200D-HT5** |

**SPECIFICATION OF TRANSDUCERS**

| Code | Frequency | Diameter (Ød) | Measuring range | Minimum size of pipe for measurement (diameter × wall thickness) | Applicable temperature | Application |
|---|---|---|---|---|---|---|
| **ISU-200D-N05** | 5.0MHz | 12mm | 0.8~300mm | 25×3mm | <60°C | general use |
| **ISU-200D-N02** | 2.0MHz | 17mm | 2~400mm | 30×4mm | <60°C | for casting steel |
| **ISU-200D-N07** | 7.5MHz | 8mm | 0.75~40mm | 15×1.2mm | <60°C | for thin material |
| **ISU-200D-W05** | 5.0MHz | 10mm | 0.8~230mm | 20×1.2mm | <60°C | for wall thickness |
| **ISU-200D-HT5** | 3.0MHz | 15mm | 3~100mm | 25×3mm | <300°C | for high temperature |

# DIGITAL LED TACHOMETER/STROBOSCOPE
# CODE ISQ-TS120K

proximity trigger (included)

make LED flash frequency same as the rotation or vibration
(power supply from AC/DC adapter when external trigger is used)

- 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 (≥100000FPM) |
| | **HZ** | 0.01Hz (<200Hz), 0.1Hz (≥200Hz) |
| **Setting accuracy** | | ±0.01% |
| **Phase shift increment** | | 3° |
| **Flash pulse duration time** | | 0.1 ~ 2.5° |
| **LED light** | | 3pcs American 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 |

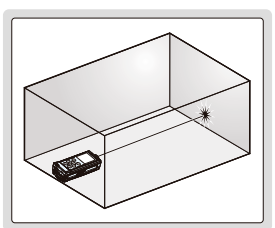
**STANDARD DELIVERY**

| | |
|---|---|
| **Main unit** | 1pc |
| **AC/DC adapter** | 1pc |
| **Proximity trigger** | 1pc |

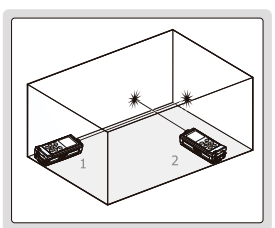
IP52
WATERPROOF

# LASER DISTANCE METER
# CODE ISN-L70

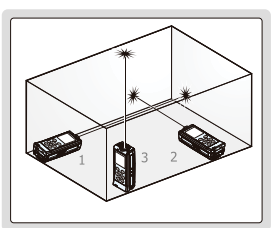
- Large display with backlight
- Unit: m, ft, in
- Distance, area, volume and height measurement
- With continuos measuring mode to track maximum and minimum value
- Automatic power-off: laser 30s, main unit 180s



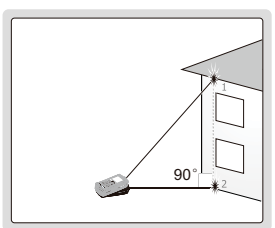
distance measurement




area measurement




volume measurement




height measurement

**SPECIFICATION**

| | |
|---|---|
| **Measuring range** | 0.05~70m |
| **Accuracy** | ±1.5mm |
| **Resolution** | 1mm |
| **Measuring speed** | 0.5 second |
| **Dust/waterproof** | IP52 |
| **Laser type** | 650nm, Class II, <1mW |
| **Beam size** | 25mm@30m |
| **Memory** | 20 measuring data |
| **Power supply** | 2xAA batteries, for 10000 measurements |
| **Dimension (L×W×H)** | 110×45×30mm |
| **Weight** | 130g |

**STANDARD DELIVERY**

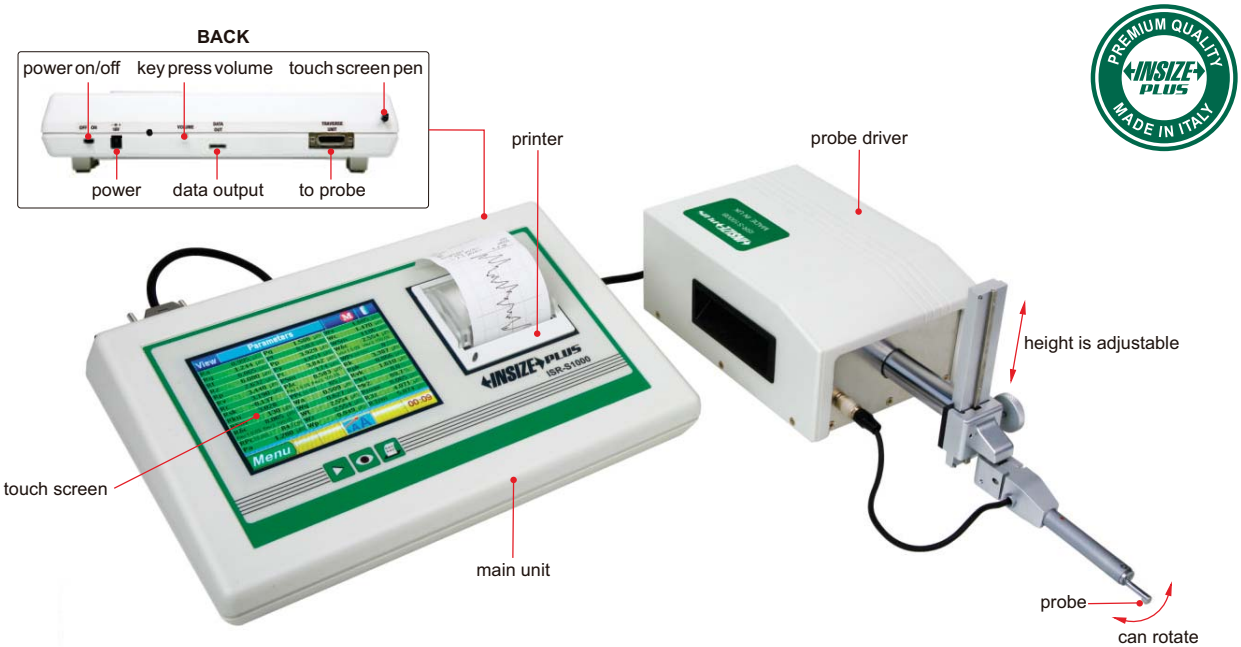
| | |
|---|---|
| **Main unit** | 1pc |
| **Battery (AA)** | 2pcs |
| **Strap** | 1pc |
| **Carrying bag** | 1pc |

# SURFACE ROUGHNESS TESTER
# CODE ISR-S1000B

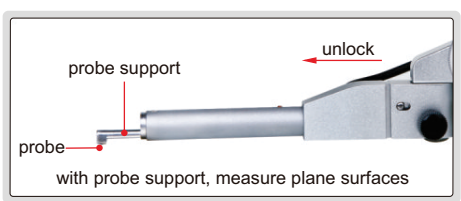
CAN MEASURE WAVINESS AND CURVED SURFACE WITH RADIUS>5MM

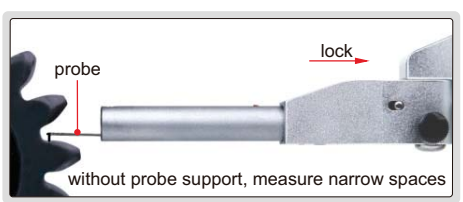
DATA OUTPUT

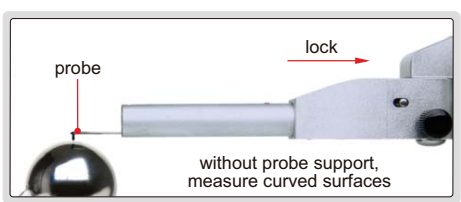
CUSTOM-MADE PROBES ARE AVAILABLE




- 48 roughness parameters according to ISO-4287, JIS-B0601, ISO-12085, JIS-B0631
- Automatic probe leveling
- Measuring range up to 1000μm, can measure grit and shot blasting
- Traverse length up to 50mm
- The probe can rotate from -90° to +90°
- Color touch screen, display roughness values, profile and curves
- Can print roughness values, profile and curves
- Memory of maximum 1000 results
- Can set tolerance

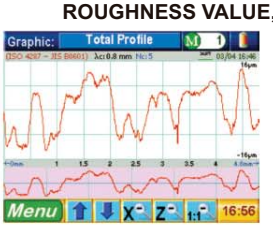


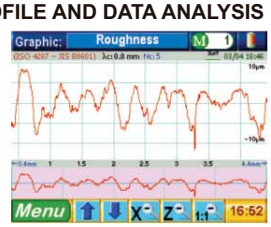




## ROUGHNESS VALUE, PROFILE AND DATA ANALYSIS

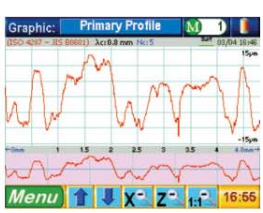
measurement result



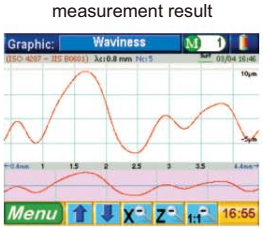

total profile graph



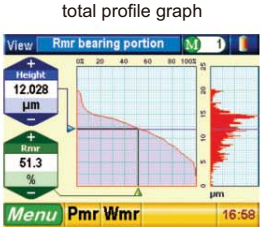

R graph



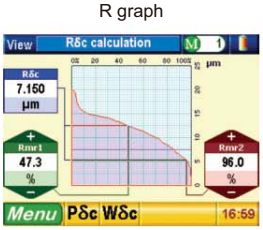

P graph



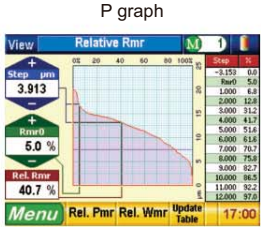

W graph




Rmr, Pmr, Wmr analysis




Rδc, Pδc, Wδc analysis




Rel. Rmr, Rel. Pmr, Rel. Wmr analysis

To be continued

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## SURFACE ROUGHNESS TESTER
## CODE ISR-S1000B

### SPECIFICATION

| | | |
|---|---|---|
| **Parameters** | | Ra, Rq, Rt, Rz, Rp, Rv, Rc, Rsk, Rku, RSm, Rδc RPc, Pa, Pq, Pt, Pp, Pv, Pc, Psm, Pδc, PPc, Wa Wq, Wt, Wz, Wp, Wv, Wc, Wsm, Wδc, WPc, Rk Rpk, Rvk, Mr1, Mr2, Rmax, R3z, R3zm, R, AR Rx, Aw, Rke, Rpke, Rvke, Mr1e, Mr2e |
| **Range** | | 1000μm |
| **Accuracy** | | ±3% |
| **Resolution (Ra)** | | 0.001μm |
| **Probe** | **type** | inductive |
| | **stylus radius/angle** | 5μm/90° |
| | **stylus material** | diamond |
| **Measuring force** | | 0.75mN |
| **Measuring unit** | | μm/μin |
| **Cut off** | | 0.08/0.25/0.8/2.5/8mm |
| **Number of cut-offs** | | 1-19 (cut off 0.08/0.25/0.8/2.5mm)<br>1-5 (cut off 8mm) |
| **Traverse speed** | | 0.5mm/s or 1mm/s |
| **Memory** | | 1000 measurement results |
| **Output** | | USB |
| **Power** | | built-in rechargeable battery |
| **Dimension (LxWxH)** | | 320×210×80mm |
| **Weight** | | 2.2kg |

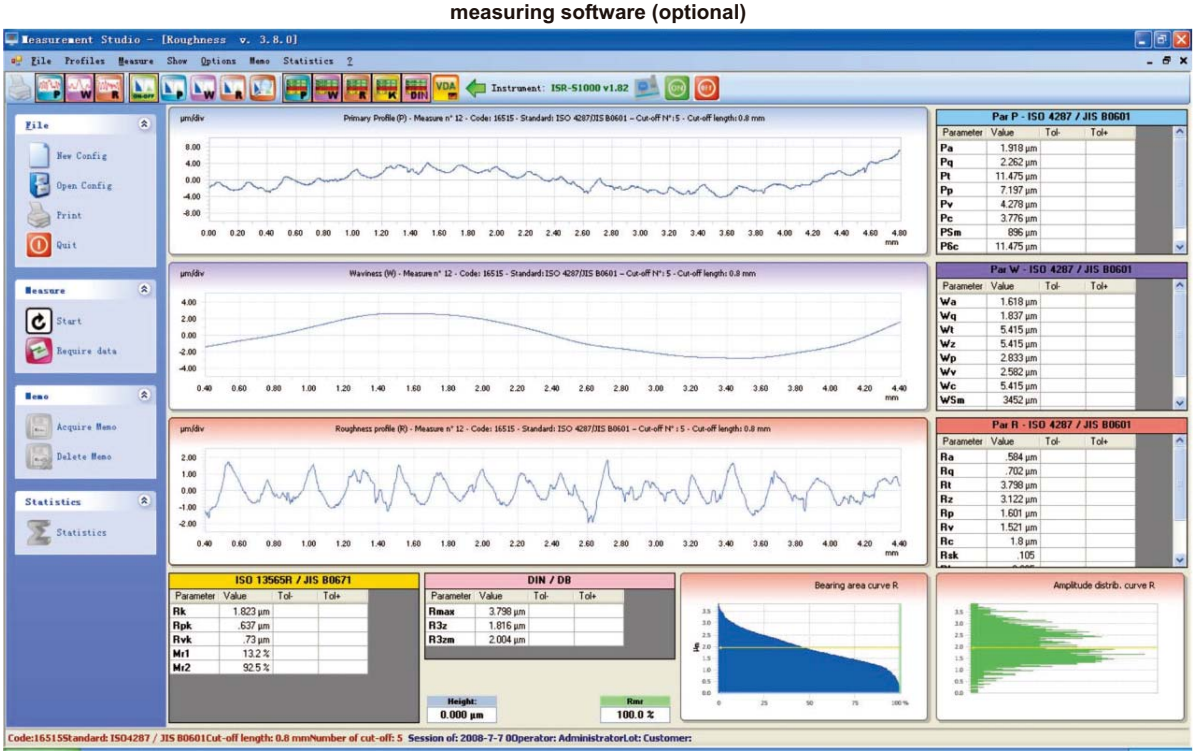
### STANDARD DELIVERY

| | |
|---|---|
| **Main unit** | 1pc |
| **Probe driver** | 1pc |
| **Standard probe** | 1pc |
| **Calibration block** | 1pc |
| **AC/DC adapter** | 1pc |

### OPTIONAL ACCESSORY

| | |
|---|---|
| **Probe** | see details |
| **USB cable and software** | **ISR-S-SOFTWARE** |

**measuring software (optional)**




measuring software (optional), can control the roughness tester, display roughness values, profile and curve, data statistics

To be continued

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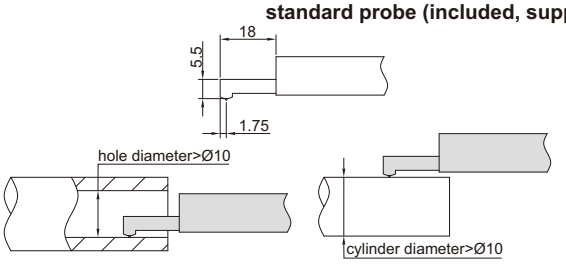
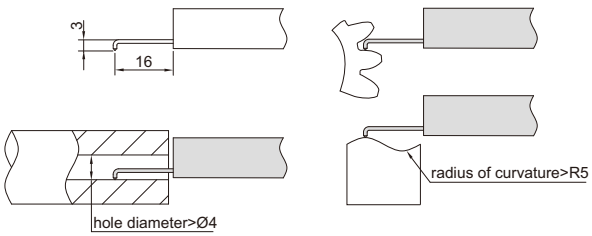
## SPECIFICATION OF PROBES

Unit: mm

### standard probe (included, support is removable), code ISR-SB10B

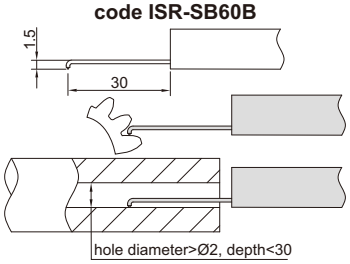



with probe support, measure plane surfaces, holes and cylinders with diameter>Ø10mm



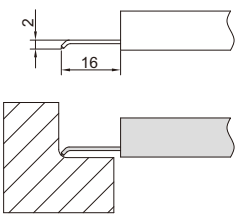

remove probe support, measure holes with diameter>Ø4mm, can measure curved surfaces, narrow spaces and waviness

### small hole probe (optional), code ISR-SB60B



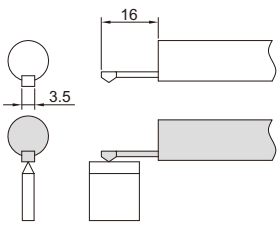

without probe support, measure holes with diameter>Ø2mm and depth<30mm, can measure curved surfaces, narrow spaces and waviness

### internal angle probe (optional), code ISR-SB70B



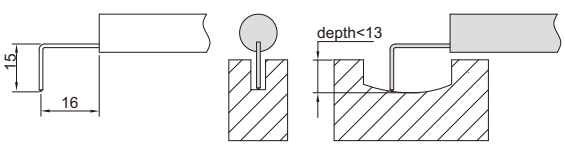

without probe support, measure internal angles, can measure curved surfaces, narrow spaces and waviness

### knife edge probe (optional), code ISR-SB130B



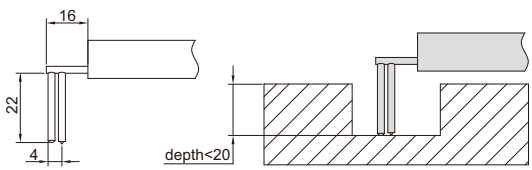

without probe support, measure knife edges and small rods

### deep groove probe (optional), code ISR-SB150B



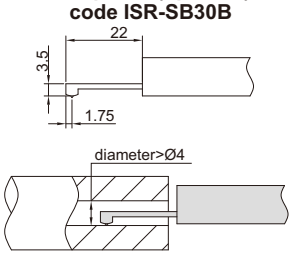

without probe support, measure curved surfaces and grooves with depth<13mm, can measure curved surfaces, narrow spaces and waviness

### deep groove probe (optional), code ISR-SB120B



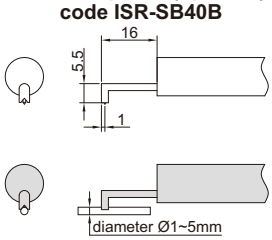

measure grooves with depth<20mm

### hole probe (optional), code ISR-SB30B



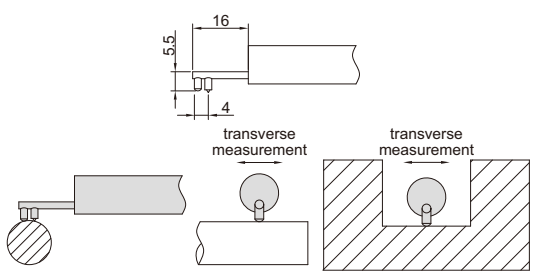

measure plane surfaces and holes with diameter>Ø4mm and depth<20mm

### small rod probe (optional), code ISR-SB40B



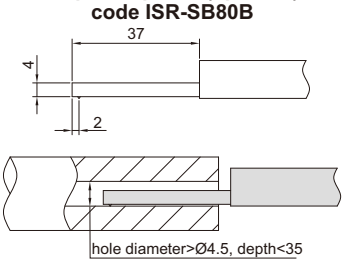

measure small rods with diameter 1~5mm

### transverse probe (optional), code ISR-SB50B



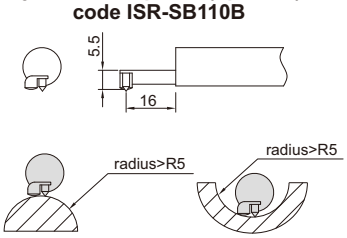

transverse measurement for plane surfaces, cylinders and grooves

### deep hole probe (optional), code ISR-SB80B



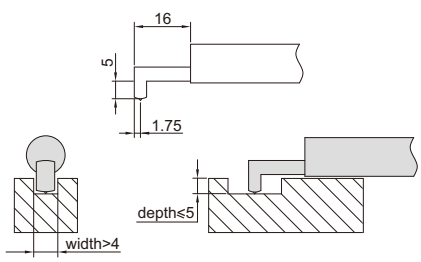

measure holes with diameter>Ø4.5mm and depth<35mm

### cylinder/hole probe (optional), code ISR-SB110B




measure cylinders and holes with radius>R5mm

### groove probe (optional), code ISR-SB20B

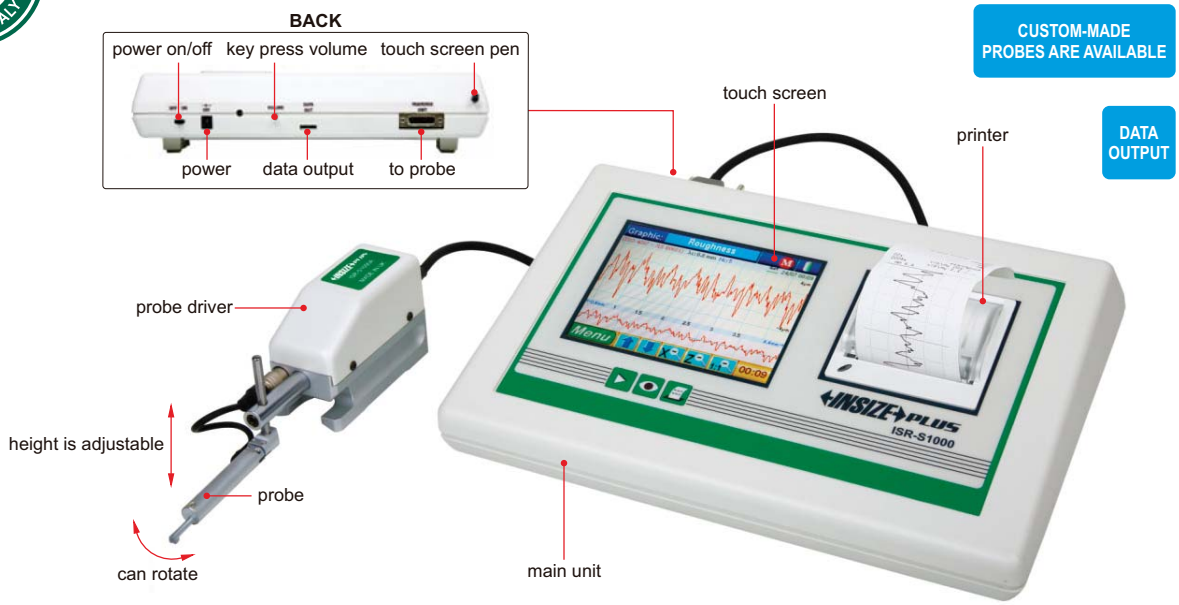



measure plane surfaces and grooves

# SURFACE ROUGHNESS TESTER
# CODE ISR-S1000A

CUSTOM-MADE PROBES ARE AVAILABLE

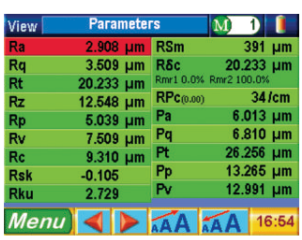
DATA OUTPUT



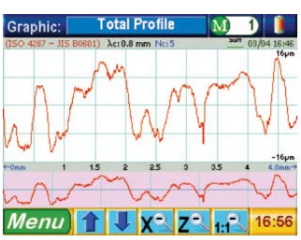
handhold use

probe can be inverted

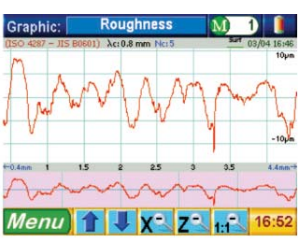
- 38 roughness parameters according to ISO-4287, JIS-B0601, ISO-12085, JIS-B0631
- Automatic probe leveling
- Measuring range up to 1000μm, can measure grit and shot blasting
- Traverse length up to 25mm
- The probe can be set at 90° or 270°, for transverse measurement
- Color touch screen, display roughness values, profile and curves
- Can print roughness values, profile and curves
- Memory of maximum 1000 results
- Can set tolerance



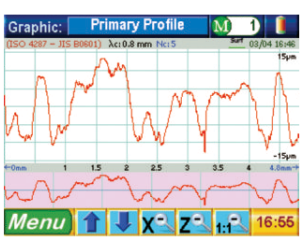
measurement result



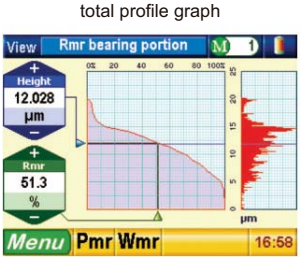
total profile graph



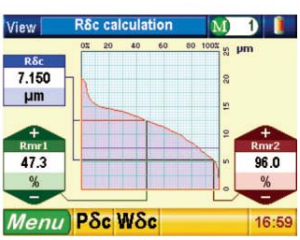
R graph



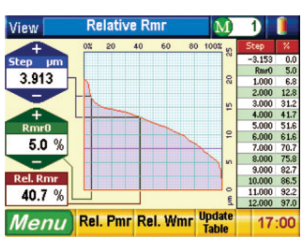
P graph



Rmr, Pmr analysis



Rδc, Pδc analysis



Rel. Rmr, Rel. Pmr analysis

To be continued

Continued from previous page

## SURFACE ROUGHNESS TESTER
## CODE ISR-S1000A

### SPECIFICATION

| | | |
|---|---|---|
| **Parameters** | | Ra, Rq, Rt, Rz, Rp, Rv, Rc, Rsk, Rku, Rsm<br>Rδc, RPc, Pa, Pq, Pt, Pp, Pv, Pc, PSm, Pδc<br>PPc, Rk, Rpk, Rvk, Mr1, Mr2, Rmax, R3z, R3zm<br>R, AR, Rx, Aw, Rke, Rpke, Rvke, Mr1e, Mr2e |
| **Range** | | 1000μm |
| **Accuracy** | | ±3% |
| **Resolution (Ra)** | | 0.001μm |
| **Probe** | **type** | inductive |
| | **stylus radius/angle** | 5μm/90° |
| | **stylus material** | diamond |
| **Measuring force** | | 0.75mN |
| **Measuring unit** | | μm/μin |
| **Cut off** | | 0.08/0.25/0.8/2.5mm |
| **Number of cut-offs** | | 1-19 (cut off 0.08/0.25/0.8mm)<br>1-9 (cut off 2.5mm) |
| **Traverse speed** | | 0.5mm/s or 1mm/s |
| **Memory** | | 1000 measurement results |
| **Output** | | USB |
| **Power** | | built-in rechargeable battery |
| **Dimension (L×W×H)** | | 320×210×80mm |
| **Weight** | | 2.2kg |

### STANDARD DELIVERY

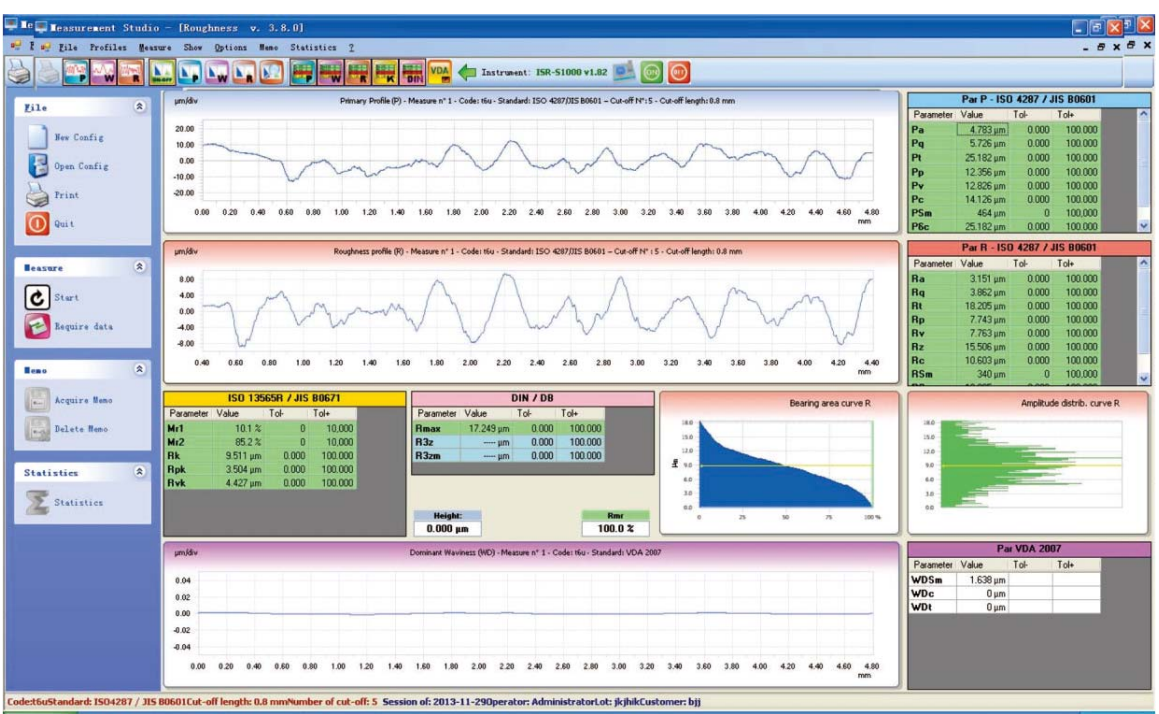
| | |
|---|---|
| **Main unit** | 1pc |
| **Probe driver** | 1pc |
| **Standard probe** | 1pc |
| **Calibration block** | 1pc |
| **AC/DC adapter** | 1pc |

### OPTIONAL ACCESSORY

| | |
|---|---|
| **Probe** | see details |
| **USB cable and software** | **ISR-S-SOFTWARE** |
| **Test stand** | **ISR-S400-DK** |

test stand (optional)

**measuring software (optional)**




measuring software (optional), can control the roughness tester, display roughness values, profile and curve, data statistics

To be continued

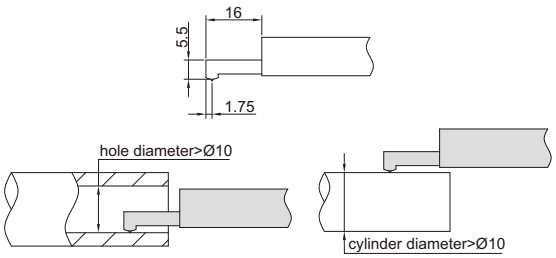
Continued from previous page



**SPECIFICATION OF PROBES**

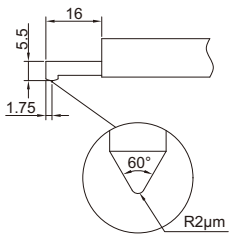
Unit: mm

**standard probe (included), code ISR-SB10A**



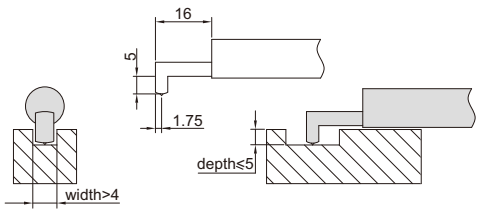

measure plane surfaces, holes and cylinders with diameter>Ø10mm

**small roughness probe (optional), code ISR-SB10A-R2**



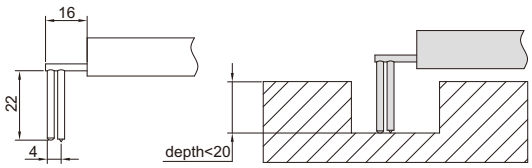

measure surfaces with small roughness

**groove probe (optional), code ISR-SB20A**



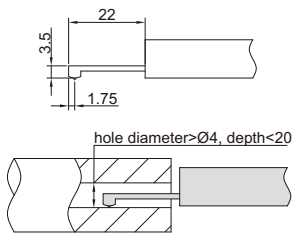

measure plane surfaces and grooves

**deep groove probe (optional), code ISR-SB120A**



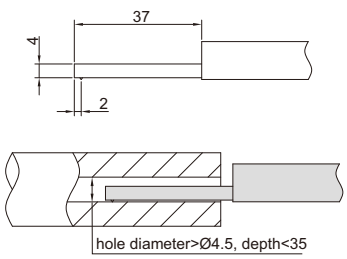

measure grooves with depth<20mm

**small hole probe (optional), code ISR-SB30A**



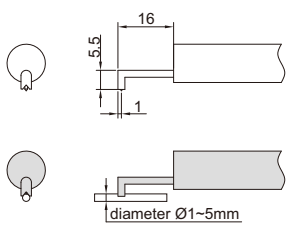

measure plane surfaces and holes with diameter>Ø4mm and depth<20mm

**deep hole probe (optional), code ISR-SB80A**



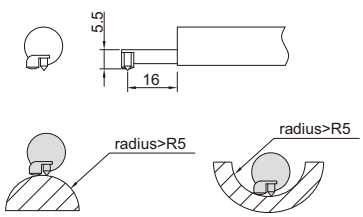

measure holes with diameter>Ø4.5mm and depth<35mm

**small rod probe (optional), code ISR-SB40A**



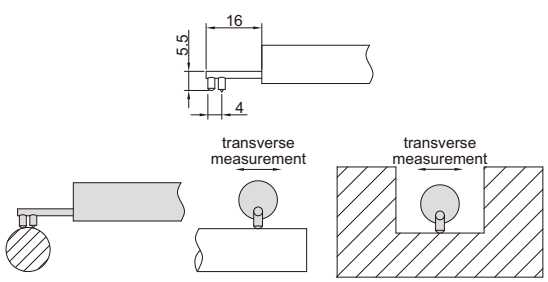

measure small rods with diameter Ø1~5mm

**cylinder/hole probe (optional), code ISR-SB110A**



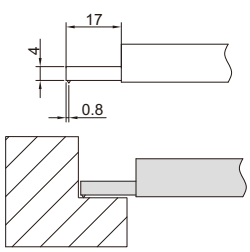

measure cylinders and holes with radius>R5mm

**transverse probe (optional), code ISR-SB50A**




transverse measurement for plane surfaces, cylinders and grooves

**internal angle probe (optional), code ISR-SB140A**




measure internal angles

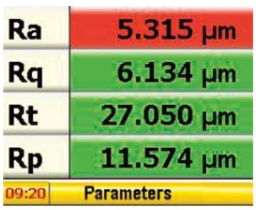
# ROUGHNESS TESTER
# CODE ISR-S500

CUSTOM-MADE PROBES ARE AVAILABLE

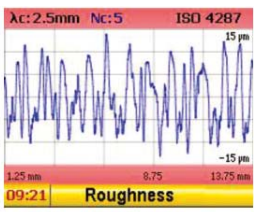
DATA OUTPUT

- Automatic probe leveling
- Language: English, French, German, Italian, Spanish, Portuguese
- 30 roughness parameters
- Can set tolerance
- Measuring range up to 600μm, can measure grit and shot blasting
- Traverse length up to 16mm
- The probe can be set at 90°or 270°, for transverse measurement
- Color screen, display roughness values, profile and curves
- Memory of maximum 1000 results

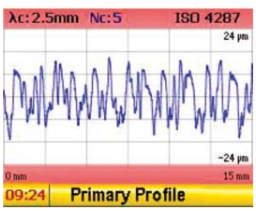
## ROUGHNESS VALUE, PROFILE AND DATA ANALYSIS



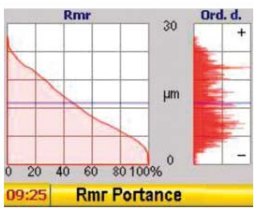

measurement result



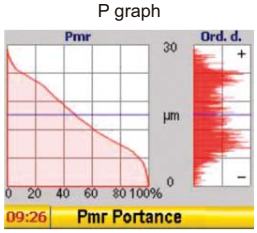

R graph




P graph




Rmr analysis




Pmr analysis

measuring software (optional), can control the roughness tester, display roughness values, profile and curve, data statistics

transverse measurement

probe cover (included), can put the small workpieces directly on the probe for measurement

printer (optional), print measuring results and roughness graph

adjustable stand (included)

To be continued

Continued from previous page

# ROUGHNESS TESTER
# CODE ISR-S500

## SPECIFICATION

| | | |
|---|---|---|
| **Parameters** | | Ra, Rq, Rt, Rp, Rv, Rz, Rc, RSm, Rδc, Rpc Pa, Pq, Pt, Pp, Pv, Pc, Psm, Pδc, Ppc, Rk,Rpk Rvk, Mr1, Mr2, Rmax, R3z, R3zm, R, AR, Rx |
| **Range** | | 600μm |
| **Accuracy** | | ±3% |
| **Resolution (Ra)** | | 0.001μm |
| **Probe** | **type** | inductive |
| | **stylus radius/angle** | 5μm/90° |
| | **stylus material** | diamond |
| **Measuring force** | | 0.75mN |
| **Measuring unit** | | μm/μin |
| **Cut off** | | 0.25/0.8/2.5mm |
| **Number of cut-offs** | | 1-10 (cut off 0.25/0.8mm)<br>1-5 (cut off 2.5mm) |
| **Traverse speed** | | 1mm/s |
| **Memory** | | 1000 measurement results |
| **Output** | | USB |
| **Power** | | built-in rechargeable battery |
| **Dimension (L×W×H)** | | 122×53×75mm |
| **Weight** | | 590g |

## OPTIONAL ACCESSORY

| | |
|---|---|
| **Extension rod** | **ISR-S400-ER100** |
| **Probe** | see details |
| **Printer** | **ISR-S500-PRINTER** |
| **USB cable and software** | **ISR-S-SOFTWARE** |
| **Test stand** | **ISR-S400-DK** |

## STANDARD DELIVERY

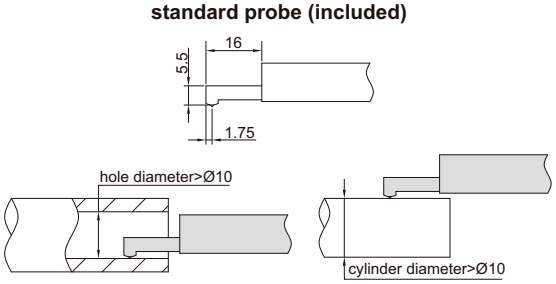
| | |
|---|---|
| **Main unit** | 1pc |
| **Standard probe** | 1pc |
| **Calibration block** | 1pc |
| **Adjustable stand** | 1pc |
| **AC/DC adapter** | 1pc |
| **Probe cover** | 1pc |

test stand (optional)

## SPECIFICATION OF PROBES

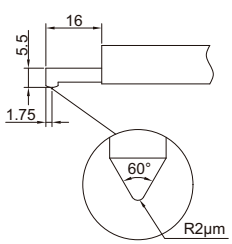
Unit: mm

**standard probe (included)**



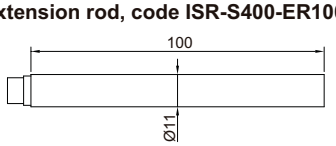

measure plane surfaces, holes and cylinders with diameter>Ø10mm

**small roughness probe, code ISR-S400-SB10R2**




measure surfaces with small roughness

**extension rod, code ISR-S400-ER100**




for long holes

To be continued

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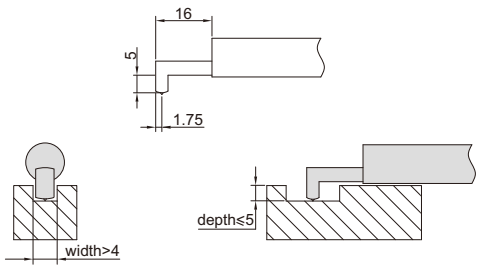
**SPECIFICATION OF PROBES**

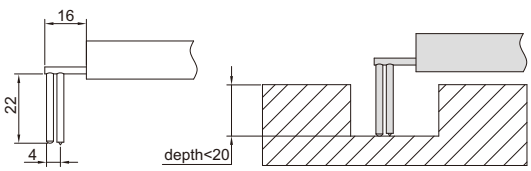
Unit: mm

**groove probe, code ISR-S400-SB20**



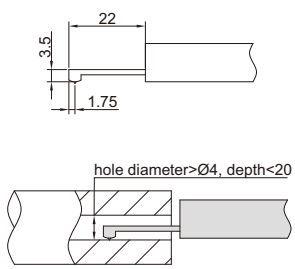

measure plane surfaces and grooves

**deep groove probe, code ISR-S400-SB120**



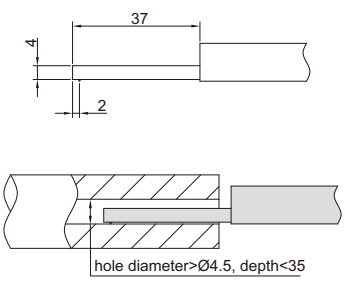

measure grooves with depth<20mm

**small hole probe, code ISR-S400-SB30**



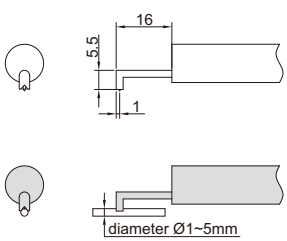

measure plane surfaces and holes with diameter>Ø4mm and depth<20mm

**deep hole probe, code ISR-S400-SB80**



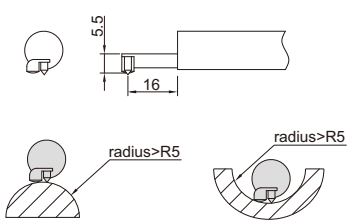

measure holes with diameter>Ø4.5mm and depth<35mm

**small rod probe, code ISR-S400-SB40**



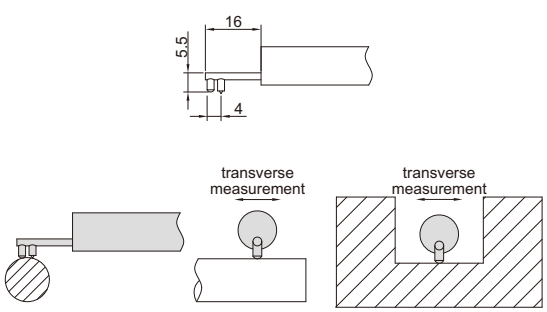

measure small rods with diameter Ø1~5mm

**cylinder/hole probe, code ISR-S400-SB110**



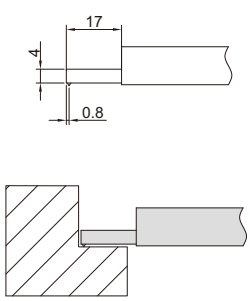

measure cylinders and holes with radius>Ø5mm

**transverse probe, code ISR-S400-SB50**




transverse measurement for plane surfaces, cylinders and grooves

**internal angle probe, code ISR-S400-SB140**




measure internal angles

# ROUGHNESS TESTER

DATA OUTPUT

CUSTOM-MADE PROBES ARE AVAILABLE

**ISR-S300**
(probe can't be changed)

**ISR-S400**
(probe can be changed)

- Automatic probe leveling
- Language: English, French, German, Italian, Spanish, Portuguese
- 12 roughness parameters
- Can set tolerance
- Measuring range up to 400μm, can measure grit and shot blasting
- Traverse length up to 16mm
- The probe can be set at 90°or 270°, for transverse measurement
- Memory of maximum 100 results

transverse measurement

adjustable stand (included)

measuring software (optional), can control the roughness tester, display roughness values, profile and curve, data statistics

probe cover (included), can put the small workpieces directly on the probe for measurement

printer (optional), print measuring results and roughness graphic

test stand (optional)

To be continued

Continued from previous page



**SPECIFICATION**

| Code | | ISR-S300 | ISR-S400 |
|---|---|---|---|
| Remark | | probe can't be changed | probe can be changed |
| Parameters | | Ra, Rq, Rt, Rz, Rc, Rmax, Rsm, Rpc, Rmr, R, AR, Rx | |
| Range | | Ra: 0~100μm, Rt: 0.05~400μm | |
| Accuracy | | ±3% | |
| Resolution (Ra) | | 0.001μm | |
| Probe | type | inductive | |
| | stylus radius/angle | 5μm/90° | |
| | stylus material | diamond | |
| Measuring force | | 0.75mN | |
| Measuring unit | | μm/μin | |
| Cut off | | 0.25/0.8/2.5mm | |
| Number of cut-offs | | 1 to 5 | |
| Traverse speed | | 1mm/s | |
| Memory | | 100 measurement results | |
| Output | | USB | |
| Power | | built-in rechargeable battery | |
| Dimension(L×W×H) | | 122×52×68mm | |
| Weight | | 650g | |

**STANDARD DELIVERY**

| | |
|---|---|
| Main unit | 1pc |
| Standard probe | 1pc |
| Calibration block | 1pc |
| Adjustable stand | 1pc |
| AC/DC adapter | 1pc |
| Probe cover | 1pc |

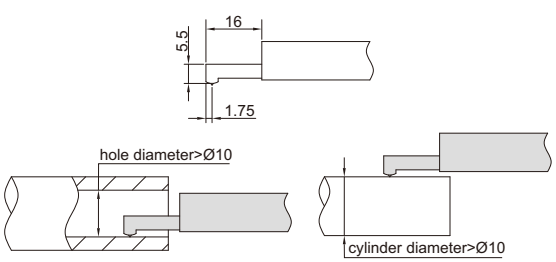
**OPTIONAL ACCESSORY**

| | |
|---|---|
| Extension rod (only for ISR-S400) | ISR-S400-ER100 |
| Probe (only for ISR-S400) | see details |
| Printer | ISR-S400-PRINTER |
| USB cable and software | ISR-S-SOFTWARE |
| Test stand | ISR-S400-DK |

**SPECIFICATION OF PROBES**

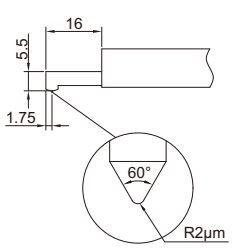
Unit: mm

**standard probe (included)**



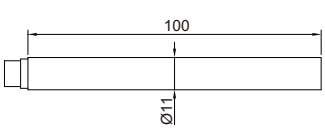

measure plane surfaces, holes and cylinders with diameter>Ø10mm

**small roughness probe (for ISR-S400, optional)**
**code ISR-S400-SB10R2**




measure surfaces with small roughness

**extension rod (for ISR-S400, optional)**
**code ISR-S400-ER100**



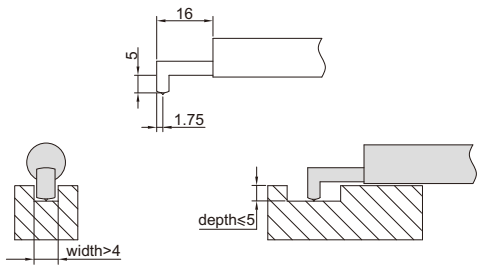

for long holes

To be continued

**SPECIFICATION OF PROBES**

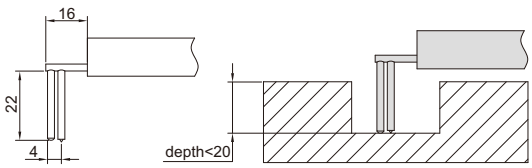
Unit: mm

**groove probe (for ISR-S400, optional)**
**code ISR-S400-SB20**



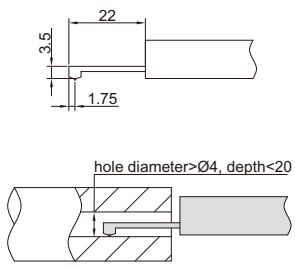

measure plane surfaces and grooves

**deep groove probe (for ISR-S400, optional)**
**code ISR-S400-SB120**



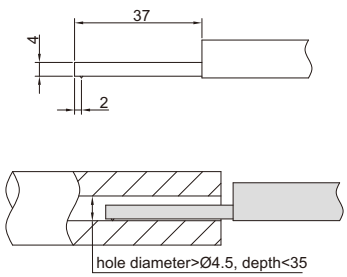

measure grooves with depth<20mm

**small hole probe (for ISR-S400, optional)**
**code ISR-S400-SB30**



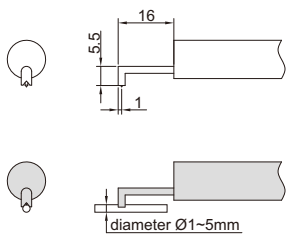

measure plane surfaces and holes with diameter>Ø4mm and depth<20mm

**deep hole probe (for ISR-S400, optional)**
**code ISR-S400-SB80**



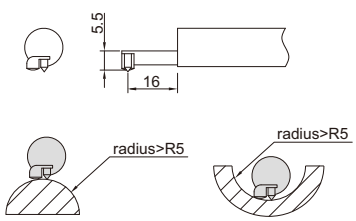

measure holes with diameter>Ø4.5mm and depth<35mm

**small rod probe (for ISR-S400, optional)**
**code ISR-S400-SB40**



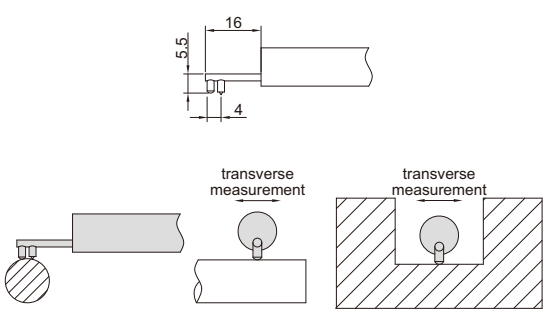

measure small rods with diameter Ø1~5mm

**cylinder/hole probe (for ISR-S400, optional)**
**code ISR-S400-SB110**



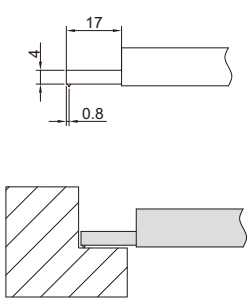

measure cylinders and holes with radius>R5mm

**transverse probe (for ISR-S400, optional)**
**code ISR-S400-SB50**




transverse measurement for plane surfaces, cylinders and grooves

**internal angle probe(for ISR-S400, optional)**
**code ISR-S400-SB140**




measure internal angles

# ROUGHNESS TESTER
# CODE ISR-C100

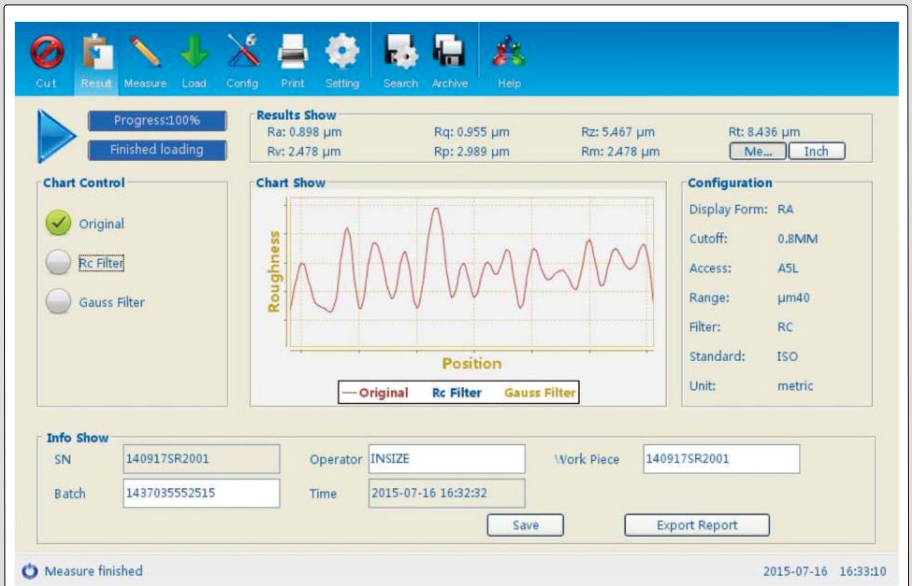
DATA OUTPUT

- 16 roughness parameters
- With probe position indicator
- Connected with printer via bluetooth
- Can display roughness values, profile, and curve
- Memory of maximum 100 results
- Automatic power off

**remote control (included)**

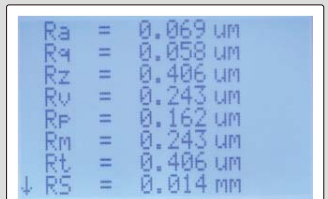
Android APP for mobile device (included), the roughness tester can be controlled by mobile phone or tablet via bluetooth, the maximum working distance is 5m

**measuring software for PC (included)**



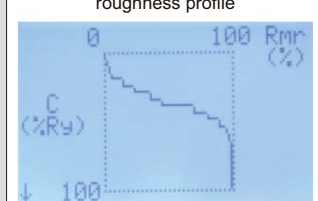

control the roughness tester,
display roughness values, profile and curve

**screen display**




measurement result

roughness profile




Rmr analysis

To be continued

Continued from previous page

probe cover (included)

can put the small workpieces directly on the probe for measurement

adjustable stand (included)

wireless printer (optional)

## SPECIFICATION

| | | |
|---|---|---|
| **Parameters** | | Ra, Rq, Rz, Rv, Rp, Rm, Rt, RS, Rsm R3z, R3y, Rz (JIS), Rku, Rsk, Rmax, Rpc |
| **Range** | | 160μm |
| **Accuracy** | | ±10% |
| **Resolution (Ra)** | | 0.001μm |
| **Probe** | **type** | inductive |
| | **stylus radius/angle** | 5μm/90° |
| | **stylus material** | diamond |
| **Measuring force** | | 0.4mN |
| **Measuring unit** | | μm/μin |
| **Cut off** | | 0.25/0.8/2.5mm |
| **Number of cut-offs** | | 1 to 5 |
| **Traverse speed** | | 0.5mm/s, 1mm/s |
| **Memory** | | 100 measurement results |
| **Output** | | USB and bluetooth |
| **Power** | | built-in rechargeble battery |
| **Dimension (L×W×H)** | | 140×52×48mm |
| **Weight** | | 440g |

## STANDARD DELIVERY

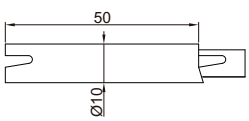
| | |
|---|---|
| **Main unit** | 1pc |
| **Standard probe** | 1pc |
| **Calibration block and support** | 1pc of each |
| **Adjustable stand** | 1pc |
| **Probe cover** | 1pc |
| **USB cable and software for PC** | 1pc |
| **Android APP for mobile device** | 1pc |
| **AC/DC adapter** | 1pc |

## OPTIONAL ACCESSORY

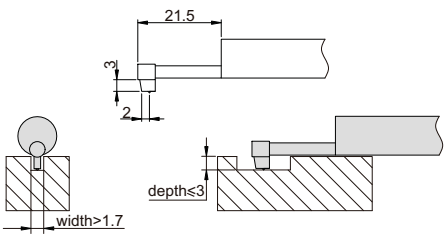
| | |
|---|---|
| **Extension rod** | **ISR-C100-ER** |
| **Groove probe** | **ISR-C100-130** |
| **Deep groove probe** | **ISR-C100-131** |
| **Test stand** | **ISR-C100-STAND** |
| **Wireless printer** | **ISR-C100-PRINTER** |

Unit: mm

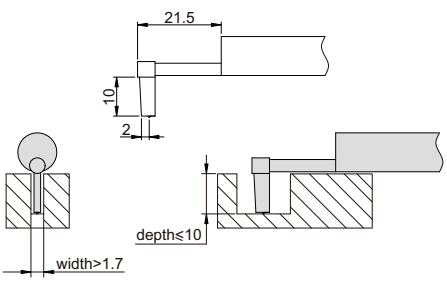
extension rod (optional), code ISR-C100-ER



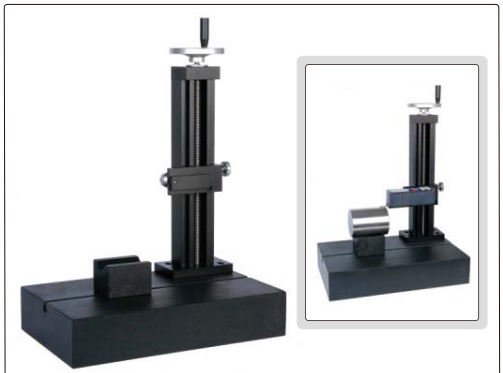

groove probe (optional), code ISR-C100-130




deep groove probe (optional), code ISR-C100-131




test stand (optional)



the maximum workpiece height is 310mm

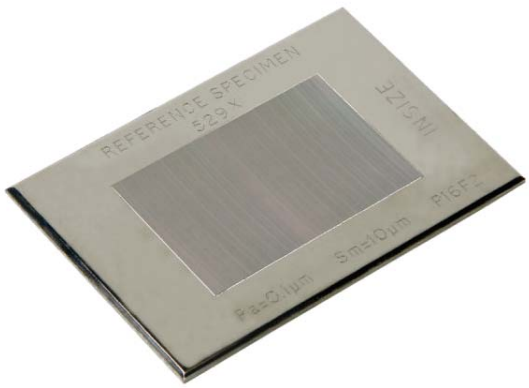
# SURFACE ROUGHNESS REFERENCE SPECIMEN

MEASURING ACCURACY 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

| Code | Roughness (Ra) |
|---|---|
| **ISR-RS525X** | 6.25µm* |
| **ISR-RS526X** | 3.15µm* |
| **ISR-RS527X** | 3.0µm* |
| **ISR-RS528X** | 0.5µm* |
| **ISR-RS529X** | 0.1µm* (not suitable for **ISR-S300**, **ISR-S400** and **ISR-S500**) |
| **ISR-RS530X** | 1.0µm* |
| **ISR-RS531X** | 0.3µm* (not suitable for **ISR-S300**, **ISR-S400** and **ISR-S500**) |

*The actual value may be slightly different




**ISR-RS529X**

# SURFACE ROUGHNESS SPECIMEN SET CODE ISR-CS130

- For checking, identifying and specifying the roughness by symbol
- Accuracy: +20% ~ -25%, Ra≤0.1µm
  Accuracy: +12% ~ -17%, Ra>0.1µm
- Meets ISO 2632
- Rust-proof, made of pure Nickel

| Machining method | Roughness (Ra) | Roughness (Rz) | Quantity |
|---|---|---|---|
| Flat lapping | 0.05, 0.1, 0.2µm | 0.55, 1, 1.6µm | 3pcs |
| | 2, 4, 8µin | | |
| Reaming | 0.4, 0.8, 1.6µm | 3, 6, 10µm | 3pcs |
| | 16, 32, 63µin | | |
| Plain grinding | 0.05, 0.1, 0.2, 0.4, 0.8, 1.6µm | 0.55, 1, 1.6, 3, 6, 10µm | 6pcs |
| | 2, 4, 8, 16, 32, 63µin | | |
| Horizontal milling | 0.4, 0.8, 1.6, 3.2, 6.3, 12.5µm | 2.5, 4, 8, 16, 32, 50µm | 6pcs |
| | 16, 32, 63, 125, 250, 500µin | | |
| Vertical milling | 0.4, 0.8, 1.6, 3.2, 6.3, 12.5µm | 2.5, 4, 8, 16, 32, 50µm | 6pcs |
| | 16, 32, 63, 125, 250, 500µin | | |
| Turning | 0.4, 0.8, 1.6, 3.2, 6.3, 12.5µm | 2.5, 4, 8, 16, 32, 50µm | 6pcs |
| | 16, 32, 63, 125, 250, 500µin | | |

## SHOT AND GRIT BLASTING SURFACE ROUGHNESS SPECIMEN

- 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 |

ISR-CS017

## SURFACE ROUGHNESS SPECIMEN

ISR-CS315

- For checking, identifying and specifying the roughness by symbol
- Accuracy: +20% ~ -25%, Ra≤0.1μm
  Accuracy: +12% ~ -17%, Ra>0.1μm
- Meets ISO 2632 (ISR-CS329 meets ISO 8503/1)
- Rust-proof, made of pure Nickel

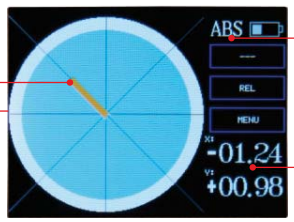
| Code | Machining method | | Roughness (Ra) | Roughness (Rz) | Quantity |
|---|---|---|---|---|---|
| ISR-CS315 | Surface grinding | | 0.025, 0.05, 0.1, 0.2, 0.4, 0.8, 1.6, 3.2μm | 0.29, 0.55, 0.91, 1.74, 2.6, 4.65, 7.87, 15.6μm | 8pcs |
| ISR-CS316 | Cylindrical grinding | | 0.025, 0.05, 0.1, 0.2, 0.4, 0.8, 1.6, 3.2μm | 0.3, 0.53, 0.88, 1.56, 2.64, 4.4, 7.71, 15.3μm | 8pcs |
| ISR-CS317 | Flat lapping | Criss-cross | 0.025, 0.05, 0.1, 0.2μm | 0.4, 0.6, 0.74, 1.26μm | 4pcs |
| | | Parallel | 0.025, 0.05, 0.1, 0.2μm | 0.34, 0.56, 1.12, 1.5μm | 4pcs |
| ISR-CS318 | Cylindrical lapping | | 0.025, 0.05, 0.1, 0.2μm | 0.46, 0.54, 0.63, 1.23μm | 4pcs |
| | Superfinishing | | 0.025, 0.05, 0.1, 0.2μm | 0.36, 0.7, 1, 1.4μm | 4pcs |
| 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 | 8pcs |
| 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 | 8pcs |
| 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 | 8pcs |
| ISR-CS322 | Reaming | | 0.4, 0.8, 1.6, 3.2μm | 1.7, 3.2, 6.4, 12.8μm | 4pcs |
| | Drilling | | 1.6, 3.2, 6.3, 12.5μm | 7.5, 15.5, 31, 60μm | 4pcs |
| 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 | 8pcs |
| 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 | 8pcs |
| 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 | 6pcs |
| 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 | 6pcs |
| ISR-CS329 | Grit blasting | | 3.2, 10.5, 18, 25μm | 19.2, 63, 108, 150μm | 4pcs |
| | Shot blasting | | 3.2, 8, 13, 18μm | 19.2, 48, 78, 108μm | 4pcs |
| 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 | 8pcs |
| ISR-CS333 | Hand filing | | 0.4, 0.8, 1.6, 3.2, 6.3μm | 3, 5.6, 12.4, 22.5, 61μm | 5pcs |
| ISR-CS334 | Castings | | 0.8, 1.6, 3.2, 6.3, 12.5, 25, 50μm | 3.2, 8, 16, 32, 56, 112, 225μm | 7pcs |
| ISR-CS335 | Honing | | 0.05, 0.1, 0.2, 0.4, 0.8, 1.6μm | 0.31, 0.56, 1, 2, 4.2, 9μm | 6pcs |
| ISR-CS336 | Polishing | | 0.0125, 0.025, 0.05, 0.1, 0.2μm | 0.29, 0.35, 0.67, 0.72, 1.52μm | 5pcs |

# DIGITAL LEVEL

DATA OUTPUT

ISE-2DT

color LCD and touch panel

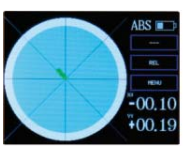



absolute/incremental mode

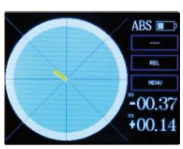
direction of incline

angle of incline

- Color LCD, touch panel
- X-Y axis measurement
- Set the tolerance and the display is shown in different colors



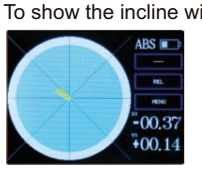

within the tolerance (green)

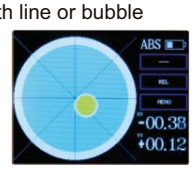


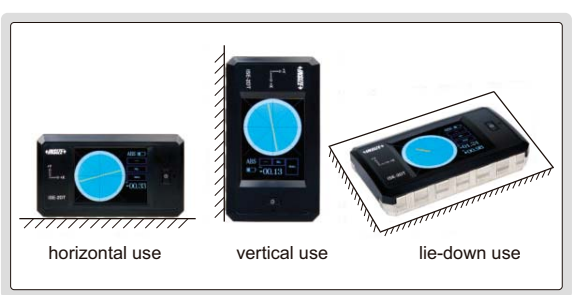

slightly out of the tolerance (yellow)

seriously out of the tolerance (red)

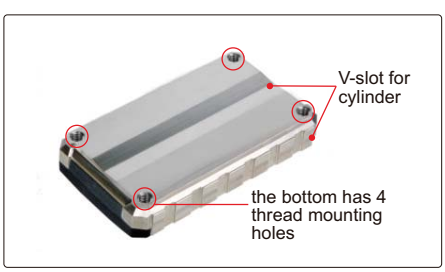
- To show the incline with line or bubble





horizontal use vertical use lie-down use




**SPECIFICATION**

| | |
|---|---|
| **Code** | **ISE-2DT** |
| **Measuring range** | ±30° |
| **Resolution** | 0.01°(=0.174mm/m) |
| **Accuracy** | ±0.03° (range 0~3°)<br>±0.05° (range >3°) |
| **Power supply** | rechargeable battery |
| **Dimension** | 115×66×23mm |
| **Weight** | 224g |

**STANDARD DELIVERY**

| | |
|---|---|
| **Main unit** | 1pc |
| **USB cable** | 1pc |

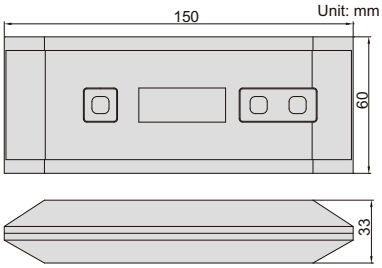
**OPTIONAL ACCESSORY**

| | |
|---|---|
| **Software** | **ISE-2DT-SOFTWARE** |

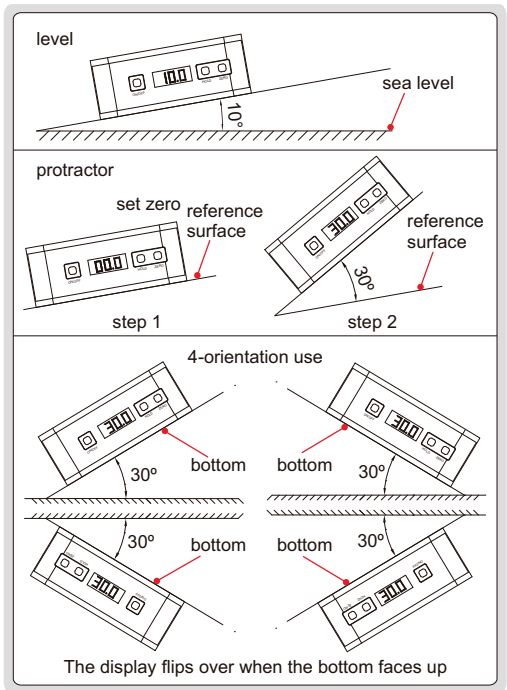
# DIGITAL LEVEL AND PROTRACTOR

**2173-360**

- Aluminum frame
- Magnetic bottom with V-groove for shafts
- Zero setting can be made on any plain surfaces
- Buttons: ON/OFF, ZERO, HOLD (keep the reading)
- CR2032 battery
- Automatic power off




| Code | Range | Resolution | Accuracy |
|---|---|---|---|
| **2173-360** | 0-360° (90°x4) | 0.1° (= 1.745 mm/m) | 0° and 90°: ±0.1°; others: ±0.2° |

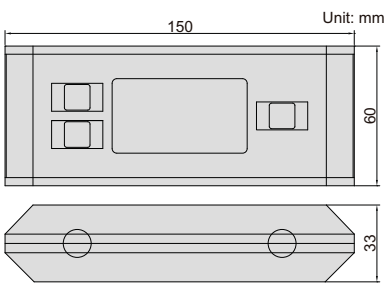



# DIGITAL LEVEL AND PROTRACTOR

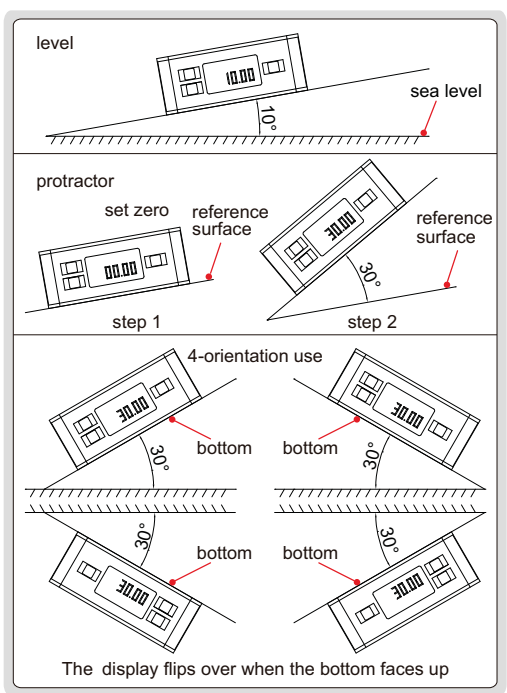
**IP54** WATERPROOF | ABSOLUTE LEVEL | BACKLIGHT | BUZZER ALARM AT 0° AND 90°

**2179-360**

- IP54 dust/waterproof
- Aluminum frame
- 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, absolute and incremental measurement, keep the reading, buzzer alarm, unit (mm/m, %, in/ft), backlight
- Two AAA batteries
- Automatic power off



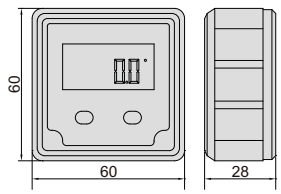

| Code | Range | Resolution | Accuracy |
|---|---|---|---|
| **2179-360** | 0-360° (90°x4) | 0.05°(=0.873mm/m) | 0° and 90°: ±0.1°; others: ±0.2° |



# DIGITAL LEVEL AND PROTRACTOR

BACKLIGHT | ABSOLUTE LEVEL | MAGNETIC BOTTOM | DISPLAY FLIPS OVER WHEN THE BOTTOM FACES UP

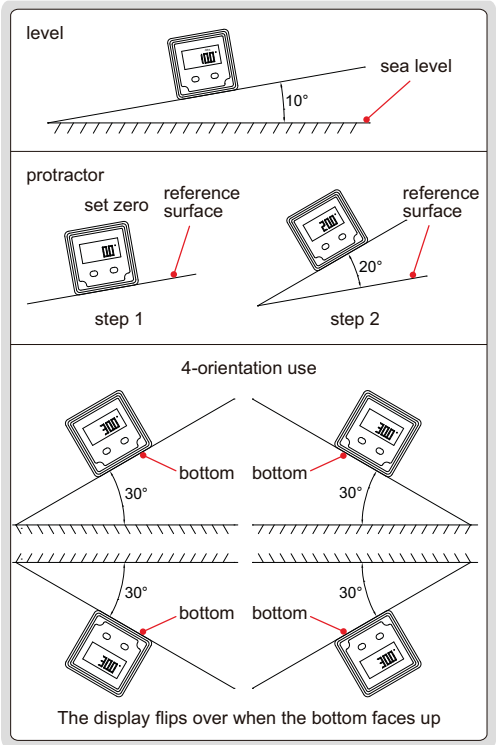
Unit: mm



**2170-1**

- 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 minutes 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

| Code | Range | Resolution | Accuracy |
|---|---|---|---|
| **2170-1** | 4x90° | 0.1°(=1.745mm/m) | at 0°and 90°: ±0.1°; others: ±0.2° |



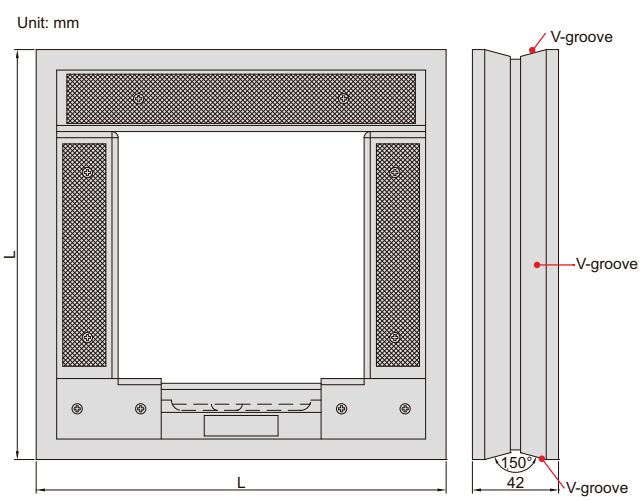

# FRAME LEVEL

**4906-200**

NO NEED TO SET ZERO BEFORE USE

PREMIUM QUALITY INSIZE PLUS MADE IN GERMANY

Unit: mm




| Code | Size (LxL) | Sensitivity |
|---|---|---|
| **4906-150** | 150x150mm | 0.02mm/m(=0.001°) |
| **4906-200** | 200x200mm | 0.02mm/m(=0.001°) |
| **4906-300** | 300x300mm | 0.02mm/m(=0.001°) |

- No need to set zero before use
- Three V-grooves for shafts (shafts dia. 19.3~115.9mm)
- With longitudinal vial

# BLOCK LEVEL

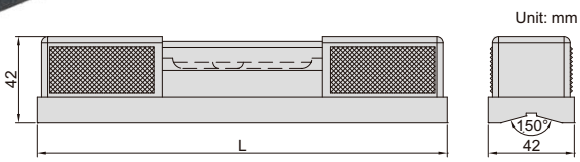
NO NEED TO SET ZERO BEFORE USE

- No need to set zero before use
- V-groove on bottom for shafts (shafts dia. 19.3~115.9mm)
- With longitudinal vial

| Code | Size (L) | Sensitivity |
|---|---|---|
| **4905-160** | 160mm | 0.02mm/m(=0.001°) |
| **4905-200** | 200mm | 0.02mm/m(=0.001°) |
| **4905-300** | 300mm | 0.02mm/m(=0.001°) |

**4905-200**

Unit: mm




# SHORT LEVEL

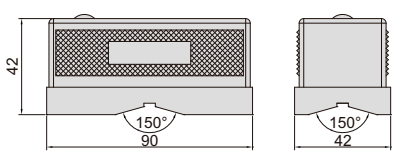
NO NEED TO SET ZERO BEFORE USE

- 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

| Code | Length | Sensitivity |
|---|---|---|
| **4907-90** | 90mm | 0.1mm/m(=0.0057°) |

**4907-90**

Unit: mm




# MINI LEVEL

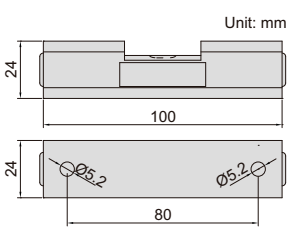
NO NEED TO SET ZERO BEFORE USE

- No need to set zero before use
- With mounting holes

| Code | Length | Sensitivity |
|---|---|---|
| **4908-100** | 100mm | 0.1mm/m(=0.0057°) |

**4908-100**

Unit: mm



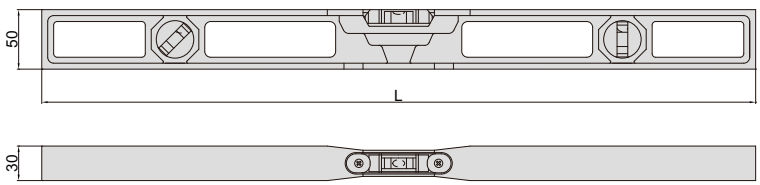
# ALUMINUM ALLOY LEVEL

4911-600

- Die casting aluminum alloy frame
- With three vials: 180°, 90° and 45°
- Zero position of vial 180° can be set

| Code | Length (L) | Accuracy |
|---|---|---|
| **4911-400** | 400mm | 0.75mm/m |
| **4911-600** | 600mm | 0.75mm/m |
| **4911-800** | 800mm | 0.75mm/m |

Unit: mm

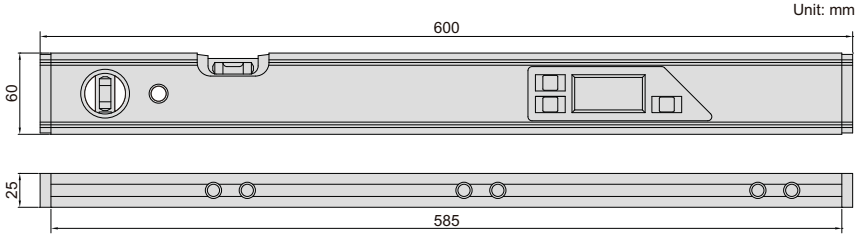



# DIGITAL LEVEL

ABSOLUTE LEVEL | BACKLIGHT | BUZZER ALARM AT 0° AND 90°

4910-600

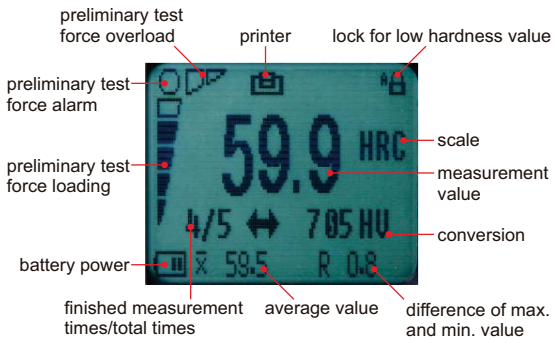
Unit: mm




- With transverse and longitudinal vials
- Used as level and protractor
- 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, unit (mm/m, %, in/ft) conversion, backlight
- The display flips over when the bottom faces up
- Two AAA batteries
- Automatic power off

| Code | Range | Resolution | Accuracy |
|---|---|---|---|
| **4910-600** | 0-360° (90°x4) | 0.1°(=1.745mm/m) | 0° and 90°: ±0.1°; others: ±0.2° |

# AUTOMATIC DIGITAL ROCKWELL HARDNESS TESTER
# CODE ISH-MRD200




- Tolerance measurement with alarm
- Set measurement times (2~9) to have average value and the difference of max. and min. value
- Convert to HV or HB automatically
- Memory of 1000 measurement values for browsing and output
- Measurement value can be sent to wireless printer automatically
- Calibration function compensates the measurement 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

Ø60mm flat anvil (included)

Ø150mm flat anvil (included)

V-type anvil (included)

wireless printer (optional)

## SPECIFICATION

| | |
|---|---|
| **Hardness scale** | HRA, HRB, HRC, HRD<br>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** | 1000 |
| **Max. workpiece height** | 170mm |
| **Max. workpiece depth** | 165mm (from the center of indenter) |
| **Power supply of the display unit** | built-in rechargeable battery |
| **Power supply** * | 220V, 50/60Hz |
| **Dimension** | 520×160×700mm |
| **Weight** | 60kg |

*Add "-U" on code No. when power supply is 110V, 50/60Hz

## STANDARD DELIVERY

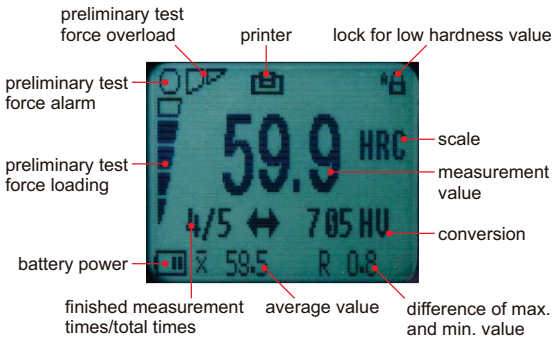
| | |
|---|---|
| **Main unit** | 1pc |
| **Ø60mm flat anvil** | 1pc |
| **Ø150mm flat anvil** | 1pc |
| **V-type anvil** | 1pc |
| **Diamond indenter** | 1pc |
| **Ø1.5875mm carbide ball indenter** | 1pc |
| **Hardness test block HRB88-95** | 1pc |
| **Hardness test block HRC60-65** | 1pc |
| **Hardness test block HRC20-30** | 1pc |
| **Anti-dust cover** | 1pc |
| **USB cable and software** | 1pc |
| **AC/DC adapter** | 1pc |

## OPTIONAL ACCESSORY

| | |
|---|---|
| **Wireless printer** | **ISH-DS-PRINTER** |
| **Ø3.175mm carbide ball indenter** | **ISH-EHK-INDENTER** |
| **Hardness test block HRB88-95** | **ISH-BHRB** |
| **Hardness test block HRC60-65** | **ISH-BHRC3** |
| **Hardness test block HRC20-30** | **ISH-BHRC1** |

# MANUAL DIGITAL ROCKWELL HARDNESS TESTER
# CODE ISH-RD200

DATA OUTPUT



- Tolerance measurement with alarm
- Set measurement times (2~9) to have average value and the difference of max. and min. value
- Convert to HV or HB automatically
- Memory of 1000 measurement values for browsing and output
- Measurement value can be sent to wireless printer automatically
- Calibration function compensates the measurement 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

Ø60mm flat anvil (included)

Ø150mm flat anvil (included)

V-type anvil (included)

wireless printer (optional)

## SPECIFICATION

| | |
|---|---|
| **Hardness scale** | HRA, HRB, HRC, HRD<br>HRF, HRG (with standard indenters) |
| | HRE, HRH, HRK<br>(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** | 1000 |
| **Max. workpiece height** | 170mm |
| **Max. workpiece depth** | 165mm (from the center of indenter) |
| **Power supply** | built-in rechargeable battery |
| **Dimension** | 520×160×700mm |
| **Weight** | 60kg |

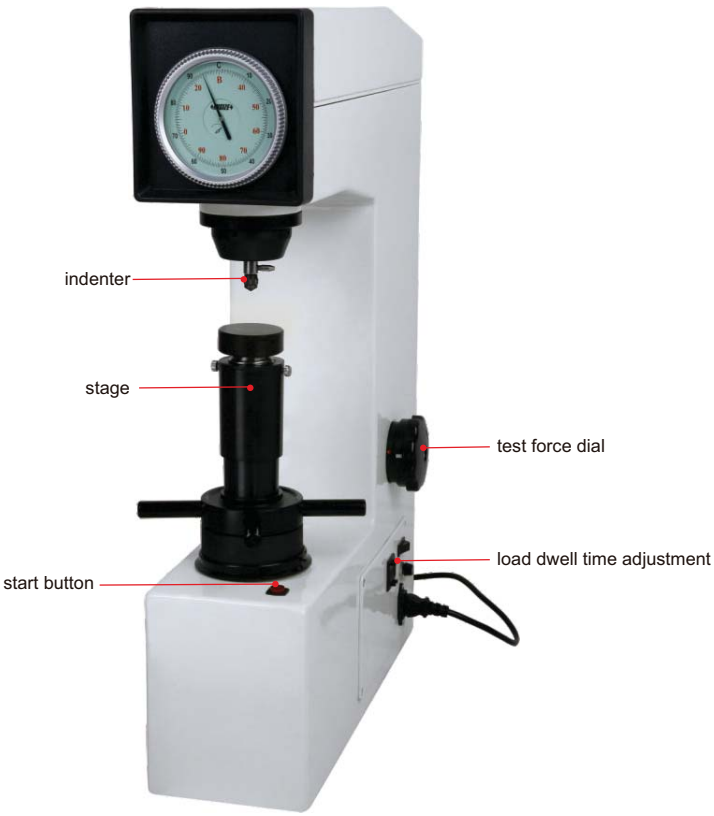
## STANDARD DELIVERY

| | |
|---|---|
| **Main unit** | 1pc |
| **Ø60mm flat anvil** | 1pc |
| **Ø150mm flat anvil** | 1pc |
| **V-type anvil** | 1pc |
| **Diamond indenter** | 1pc |
| **Ø1.5875mm carbide ball indenter** | 1pc |
| **Hardness test block HRB88-95** | 1pc |
| **Hardness test block HRC60-65** | 1pc |
| **Hardness test block HRC20-30** | 1pc |
| **Anti-dust cover** | 1pc |
| **USB cable and software** | 1pc |
| **AC/DC adapter** | 1pc |

## OPTIONAL ACCESSORY

| | |
|---|---|
| **Wireless printer** | **ISH-DS-PRINTER** |
| **Ø3.175mm carbide ball indenter** | **ISH-EHK-INDENTER** |
| **Hardness test block HRB88-95** | **ISH-BHRB** |
| **Hardness test block HRC60-65** | **ISH-BHRC3** |
| **Hardness test block HRC20-30** | **ISH-BHRC1** |

# AUTOMATIC ROCKWELL HARDNESS TESTER
# CODE ISH-MR150




MANUFACTURER INSPECTION CERTIFICATE

Ø60mm flat anvil (included)

Ø150mm flat anvil (included)

V-type anvil (included)

## 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. workpiece depth** | 165mm (from the center of indenter) |
| **Power supply** * | 220V, 50/60Hz |
| **Dimension** | 520×160×700mm |
| **Weight** | 60kg |

*Add “-U” on code No. when power supply is 110V, 50/60Hz

## STANDARD DELIVERY

| | |
|---|---|
| **Main unit** | 1pc |
| **Ø60mm flat anvil** | 1pc |
| **Ø150mm flat anvil** | 1pc |
| **V-type anvil** | 1pc |
| **Diamond indenter** | 1pc |
| **Ø1.5875mm carbide ball indenter** | 1pc |
| **Hardness test block HRB88~95** | 1pc |

## STANDARD DELIVERY

| | |
|---|---|
| **Hardness test block HRC60~65** | 1pc |
| **Hardness test block HRC20~30** | 1pc |
| **Anti-dust cover** | 1pc |

## OPTIONAL ACCESSORY

| | |
|---|---|
| **Hardness test block HRB88~95** | **ISH-BHRB** |
| **Hardness test block HRC60~65** | **ISH-BHRC3** |
| **Hardness test block HRC20~30** | **ISH-BHRC1** |

# MANUAL ROCKWELL HARDNESS TESTER
# CODE ISH-R150

Ø60mm flat anvil (included)

Ø150mm flat anvil (included)

V-type anvil (included)

**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. workpiece depth** | 165mm (from the center of indenter) |
| **Dimension** | 520×160×700mm |
| **Weight** | 60kg |

**STANDARD DELIVERY**

| | |
|---|---|
| **Main unit** | 1pc |
| **Ø60mm flat anvil** | 1pc |
| **Ø150mm flat anvil** | 1pc |
| **V-type anvil** | 1pc |
| **Diamond indenter** | 1pc |
| **Ø1.5875mm carbide ball indenter** | 1pc |
| **Hardness test block HRB88~95** | 1pc |

**STANDARD DELIVERY**

| | |
|---|---|
| **Hardness test block HRC60~65** | 1pc |
| **Hardness test block HRC20~30** | 1pc |
| **Anti-dust cover** | 1pc |

**OPTIONAL ACCESSORY**

| | |
|---|---|
| **Hardness test block HRB88~95** | **ISH-BHRB** |
| **Hardness test block HRC60~65** | **ISH-BHRC3** |
| **Hardness test block HRC20~30** | **ISH-BHRC1** |

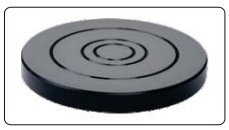
# BRINELL/ROCKWELL/VICKERS HARDNESS TESTER
# CODE ISH-BRV



projection screen with scale, for reading Rockwell hardness

MANUFACTURER INSPECTION CERTIFICATE

Ø60mm flat anvil for Rockwell (included)



Ø150mm flat anvil for Rockwell (included)

V-type anvil for Rockwell (included)

Ø60mm flat anvil for Vickers and Brinell (included)

V-type anvil for Vickers and Brinell (included)

## 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 (selectable) |
| **Max. workpiece height** | 180mm |
| **Max. workpiece depth** | 200mm (from the center of indenter) |
| **Power supply** * | 220V, 50/60Hz |
| **Dimension** | 546×300×767mm |
| **Weight** | 90kg |

*Add “-U” on code No. when power supply is 110V, 50/60Hz

## OPTIONAL ACCESSORY

| | |
|---|---|
| **Hardness test block HRB88~95** | **ISH-BHRB** |
| **Hardness test block HRC60~65** | **ISH-BHRC3** |
| **Hardness test block HRC20~30** | **ISH-BHRC1** |
| **Hardness test block 400-500HV30** | **ISH-BHV30** |
| **Hardness test block 180-220HBW2.5/187.5** | **ISH-BHB25B** |

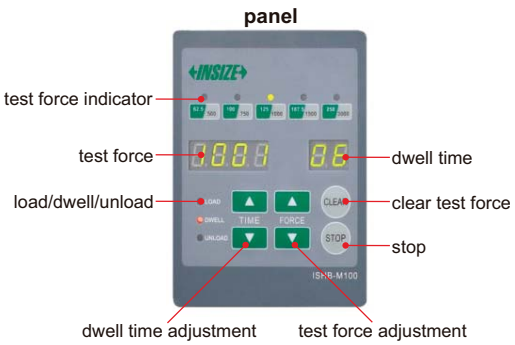
## STANDARD DELIVERY

| | |
|---|---|
| **Main unit** | 1pc |
| **Ø1.5875mm carbide ball indenter** | 1pc |
| **Diamond Rockwell indenter** | 1pc |
| **Ø5mm Brinell indenter** | 1pc |
| **Ø2.5mm Brinell indenter** | 1pc |
| **Vickers indenter** | 1pc |
| **Ø60mm flat anvil for Rockwell** | 1pc |
| **Ø150mm flat anvil for Rockwell** | 1pc |
| **V-anvil for Rockwell** | 1pc |
| **Ø60mm flat anvil for Vickers and Brinell** | 1pc |
| **V-type anvil for Vickers and Brinell** | 1pc |
| **Hardness test block HRB88~95** | 1pc |
| **Hardness test block HRC60~65** | 1pc |
| **Hardness test block HRC20~30** | 1pc |
| **Hardness test block 400-500HV30** | 1pc |
| **Hardness test block 180-220HBW2.5/187.5** | 1pc |
| **Anti-dust cover** | 1pc |

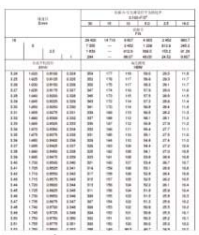
# AUTOMATIC BRINELL HARDNESS TESTER
# CODE ISHB-M100

AUTOMATIC TESTING AFTER PRELIMINARY TEST FORCE IS LOADED BY HAND

MANUFACTURER INSPECTION CERTIFICATE



measure indentation by measuring microscope


then find the hardness value from table

- Automatic testing after preliminary test force is loaded by hand
- Measure indentation by measuring microscope then find the hardness value from table
- Electronic close-loop load control system

Ø80mm flat anvil (included)

Ø180mm flat anvil (included)

V-type anvil (included)

measuring microscope (included)

## SPECIFICATION

| | | |
|---|---|---|
| Range | | 8~650HBW |
| Reading mode | | from table |
| Test force | | 62.5, 100, 125, 187.5, 250, 500, 750, 1000, 1500, 3000kgf |
| Max. height of workpiece | | 230mm |
| Max. depth of workpiece | | 160mm (from the center of indenter) |
| Stage elevation | | manual |
| Load control | | automatic (load/dwell/unload) |
| Load dwell time | | 5~60 second |
| Measuring microscope | magnification | 20X |
| | graduation | 0.01mm |
| Power supply * | | 220V, 50/60Hz |
| Dimension | | 550×210×750mm |
| Weight | | 90kg |

*Add "-U" on code No. when power supply is 110V, 50/60Hz

## STANDARD DELIVERY

| | |
|---|---|
| Main unit | 1pc |
| Ø80mm flat anvil | 1pc |
| Ø180mm flat anvil | 1pc |
| V-type anvil | 1pc |
| Ø2.5mm carbide ball indenter | 1pc |
| Ø5mm carbide ball indenter | 1pc |
| Ø10mm carbide ball indenter | 1pc |
| Hardness test block 150~250HBW2.5/187.5 | 1pc |
| Hardness test block 75~125HBW10/1000 | 1pc |
| Hardness test block 175~250HBW10/3000 | 1pc |
| Measuring microscope | 1pc |
| Anti-dust cover | 1pc |

## OPTIONAL ACCESSORY

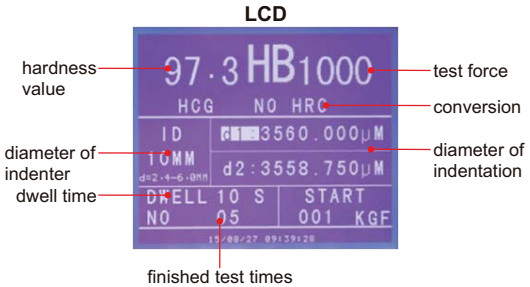
| | |
|---|---|
| Hardness test block 150~250HBW2.5/187.5 | ISH-BHB25B |
| Hardness test block 75~125HBW10/1000 | ISH-BHB10A |
| Hardness test block 175~250HBW10/3000 | ISH-BHB10B |
| Brinell indentation measuring system | ISHB-TSA/TAB |

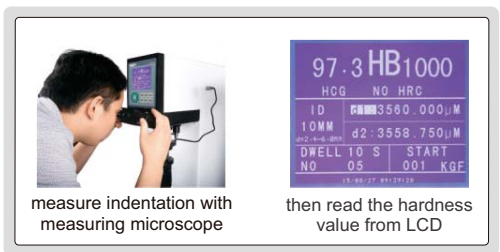
# AUTOMATIC DIGITAL BRINELL HARDNESS TESTER
# CODE ISHB-D200

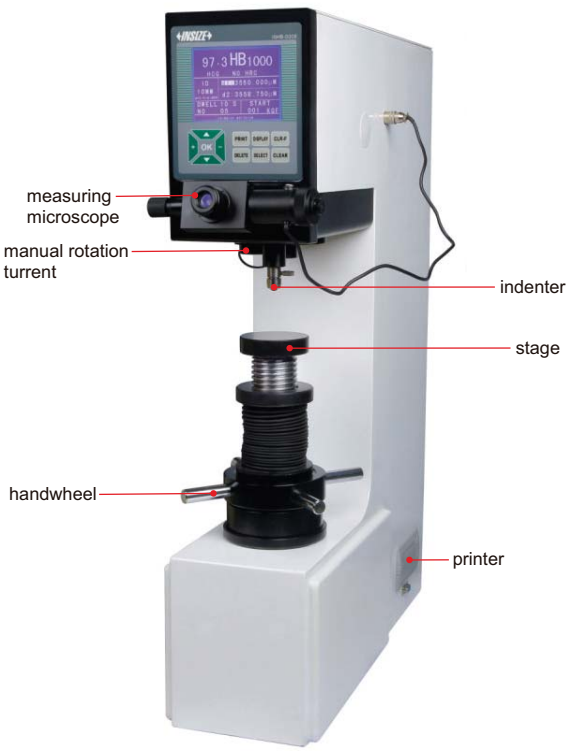
MANUFACTURER INSPECTION CERTIFICATE

**AUTOMATIC TESTING AFTER PRELIMINARY TEST FORCE IS LOADED BY HAND**

**LCD**




- Automatic testing after preliminary test force is loaded by hand
- Measure indentation by measuring microscope then read the hardness value from LCD
- Electronic close-loop load control system
- Can take tests up to 40 times and display maximum, minimum and average value
- Converted to HRA, HRB, HRC, HRD, HRF,HV, HK,HR15N, HR30N, HR45N, HR15T, HR30T, HR45T

Ø80mm flat anvil (included)

Ø180mm flat anvil (included)

V-type anvil (included)

**SPECIFICATION**

| | | |
|---|---|---|
| **Range** | | 8~650HBW |
| **Reading mode** | | directly read from LCD |
| **Test force** | | 62.5, 100, 125, 187.5, 250, 500, 750, 1000, 1500, 3000kgf |
| **Max. height of workpiece** | | 200mm |
| **Max. depth of workpiece** | | 135mm (from the center of indenter) |
| **Stage elevation** | | manual |
| **Load control** | | automatic (load/dwell/unload) |
| **Load dwell time** | | 5~60 second |
| **Measuring microscope** | **magnification** | 20X |
| | **resolution** | 0.625mm |
| **Power supply** * | | 220V, 50/60Hz |
| **Dimension** | | 550x210x750mm |
| **Weight** | | 90kg |

*Add "-U" on code No. when power supply is 110V, 50/60Hz

**STANDARD DELIVERY**

| | |
|---|---|
| **Main unit** | 1pc |
| **Ø80mm flat anvil** | 1pc |
| **Ø180mm flat anvil** | 1pc |
| **V-type anvil** | 1pc |
| **Ø2.5mm carbide ball indenter** | 1pc |
| **Ø5mm carbide ball indenter** | 1pc |
| **Ø10mm carbide ball indenter** | 1pc |
| **Hardness test block 150~250HBW2.5/187.5** | 1pc |
| **Hardness test block 75~125HBW10/1000** | 1pc |
| **Hardness test block 175~250HBW10/3000** | 1pc |
| **Anti-dust cover** | 1pc |

**OPTIONAL ACCESSORY**

| | |
|---|---|
| **Hardness test block 150~250HBW2.5/187.5** | **ISH-BHB25B** |
| **Hardness test block 75~125HBW10/1000** | **ISH-BHB10A** |
| **Hardness test block 175~250HBW10/3000** | **ISH-BHB10B** |
| **Brinell indentation measuring system** | **ISHB-TSA/TAB** |

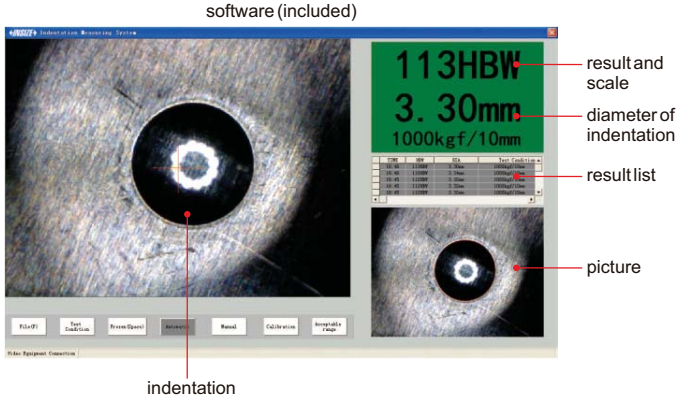
# BRINELL INDENTATION MEASURING SYSTEM

ISHB-TSA

- Connected to computer USB port
- Automatically measure the indentation
- Result saved to Excel automatically
- Low and high limits with judgement
- Calibration with indentation on standard hardness block

**application**

software (included)



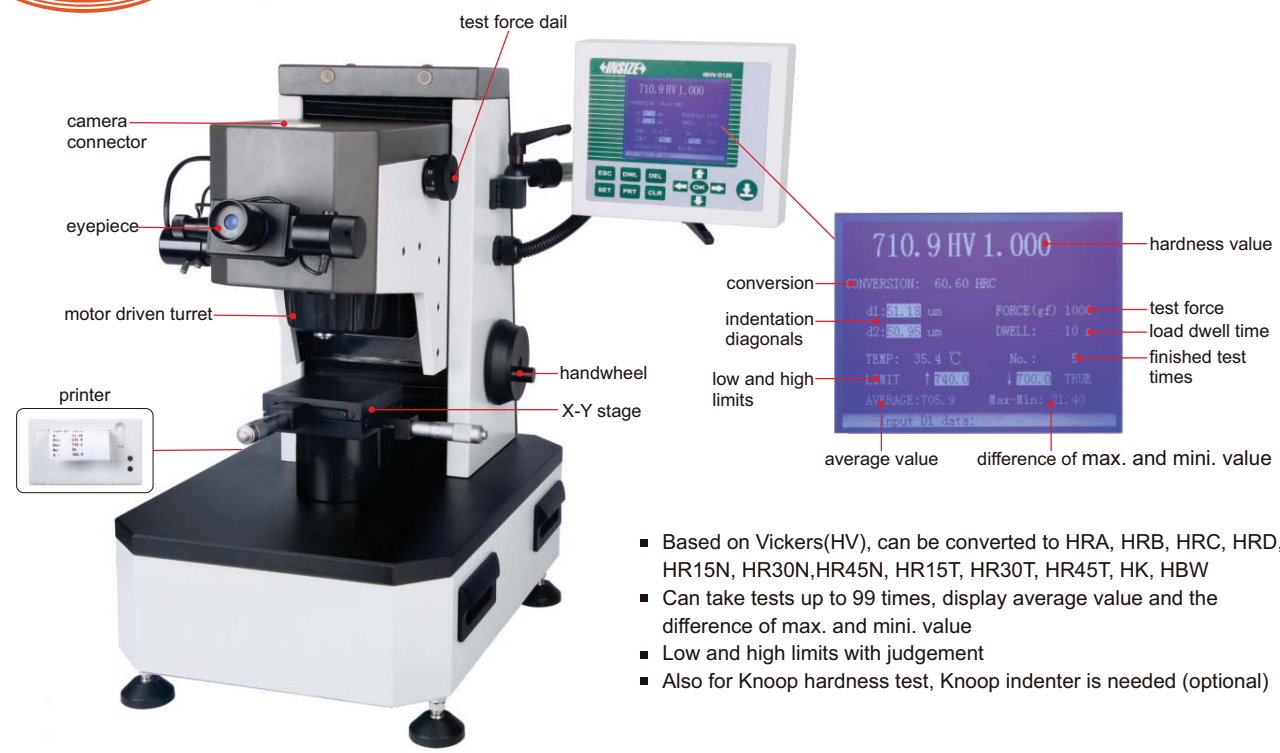

**SPECIFICATION**

| Code | | ISHB-TSA | ISHB-TSB |
|---|---|---|---|
| Applicable Brinell indenter | | Ø10mm | Ø2.5mm, Ø5mm |
| Hardness range | | 8 ~ 650HB | |
| Range of indentation diameter | | Ø2.4 ~ 6mm | Ø0.6 ~ 3mm |
| Test force | | 100, 250, 500, 1000, 1500, 3000kgf | 62.5, 125, 187.5, 250, 750kgf |
| Hardness resolution | | 1HB | |
| Length resolution | | 0.01mm | |
| Length accuracy | | ±1%(diameter of indentation) | |
| Camera | Sensor | 1/3.2" CMOS | |
| | Pixel | 2M (resolution 1024x768) | |
| | View filed | 9×6.8mm | 4.5×3.4mm |
| Dimension | | 170×54×54mm | |
| Weight | | 420g | |

**STANDARD DELIVERY**

| | |
|---|---|
| Main unit | 1pc |
| Software and dongle | 1pc of each |

# AUTOMATIC DIGITAL MICRO-VICKERS HARDNESS TESTER
# CODE ISHV-D120




- Based on Vickers(HV), can be converted to HRA, HRB, HRC, HRD, HR15N, HR30N,HR45N, HR15T, HR30T, HR45T, HK, HBW
- Can take tests up to 99 times, display average value and the difference of max. and mini. value
- Low and high limits with judgement
- Also for Knoop hardness test, Knoop indenter is needed (optional)

slice holder (included)

vice (included)

cylinder holder (included)

level (included)

## SPECIFICATION

| | | |
|---|---|---|
| **Range** | | 10 ~ 3000HV |
| **Test force** | | 0.01, 0.025, 0.05, 0.1, 0.2, 0.3, 0.5, 1kgf |
| **Vickers scales** | | HV0.01, HV0.025, HV0.05, HV0.1, HV0.2, HV0.3, HV0.5, HV1 |
| **Load control** | | automatic (load/dwell/unload) |
| **Load dwell time** | | 0 ~ 60 second |
| **Eyepiece** | **magnification** | 10X |
| | **resolution** | 0.01μm (≥10μm), 0.001μm (<10μm) |
| **Objective** | | 10X, 40X |
| **Total magnification** | | 100X (for observation)<br>400X (for measurement) |
| **Max. height of workpiece** | | 210mm |
| **Max. depth of workpiece** | | 135mm (from the center of indenter) |
| **X-Y stage** | | dimension: 100×100mm<br>travel range: 25×25mm<br>graduation: 0.01mm |
| **Power supply** * | | 220V, 50/60Hz |
| **Dimension** | | 490×320×530mm |
| **Weight** | | 45kg |

## STANDARD DELIVERY

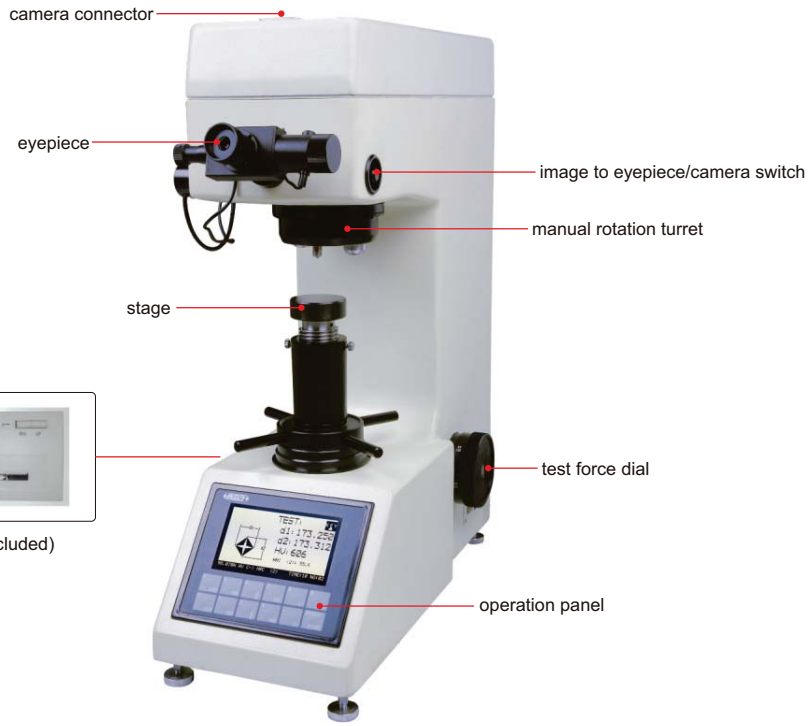
| | |
|---|---|
| **Main unit** | 1pc |
| **Micro Vickers indenter** | 1pc |
| **Hardness test block (400 ~ 500HV0.2)** | 1pc |
| **Hardness test block (700 ~ 800HV1)** | 1pc |
| **Slice holder** | 1pc |
| **Vice** | 1pc |
| **Cylinder holder** | 1pc |
| **Level** | 1pc |
| **Anti-dust cover** | 1pc |

## OPTIONAL ACCESSORY

| | |
|---|---|
| **Hardness test block (400 ~ 500HV0.2)** | **ISH-BHV02A** |
| **Hardness test block (700 ~ 800HV1)** | **ISH-BHV1** |
| **Knoop indenter** | **ISHV-D120-KNOOP** |
| **Measuring system** | **ISH-HVC** |

* Add “-U” on code No. when power supply is 110V, 50/60Hz

# DIGITAL VICKERS HARDNESS TESTER



printer (included)

Ø60mm flat anvil (included)

Ø150mm flat anvil (included)

V-type anvil (included)

- Based on Vickers(HV), converted to Rockwell(HRA, HRB, HRC, HRD, HRE, HRF, HRG, HRK), Brinell(HB), Superficial Rockwell(HR15N, HR15T, HR30N, HR30T, HR45N, HR45T), Shore(HS) and Strength(MPa)
- Memory of 27 measurement values for print, browsing and output
- LCD display with backlight
- Can measure Knoop hardness, Knoop indenter is needed

## SPECIFICATION

| Code | | ISH-DV10 | ISH-DV50 |
|---|---|---|---|
| Measuring range | | 8HV0.3 ~ 2500HV10 | 5HV1 ~ 2500HV50 |
| Test force | | 0.3, 0.5, 1, 3, 5, 10kgf | 1, 5, 10, 20, 30, 50kgf |
| Accuracy | | ±3% | ±3% (test force 1, 5, 10, 20kgf)<br>±2% (test force 30, 50kgf) |
| Eyepiece | magnification | 10X | 10X |
| | resolution | 0.0625μm | 0.25μm |
| Objective | | 10X, 20X | 10X |
| Total magnification | | 100X (for observation)<br>200X (for measuring) | 100X (for measuring) |
| Stage elevation | | manual | |
| Load control | | automatic (load/dwell/unload) | |
| Dwell time | | 5 ~ 60 second | |
| Max. workpiece height | | 160mm | |
| Max. workpiece depth | | 135mm | |
| Data output | | RS232C | |
| Power supply* | | 220V, 50/60Hz | |
| Dimension | | 540×270×650mm | |
| Weight | | 35kg | 45kg |

## STANDARD DELIVERY

| | |
|---|---|
| Main unit | 1 pc |
| Ø60mm flat anvil | 1 pc |
| Ø150mm flat anvil | 1 pc |
| V-type anvil | 1 pc |
| Vickers indenter | 1 pc |
| 10X objective | 1 pc |
| 20X objective | 1 pc (for ISH-DV10) |
| Vickers test block | 2 pcs |
| Anti-dust cover | 1 pc |

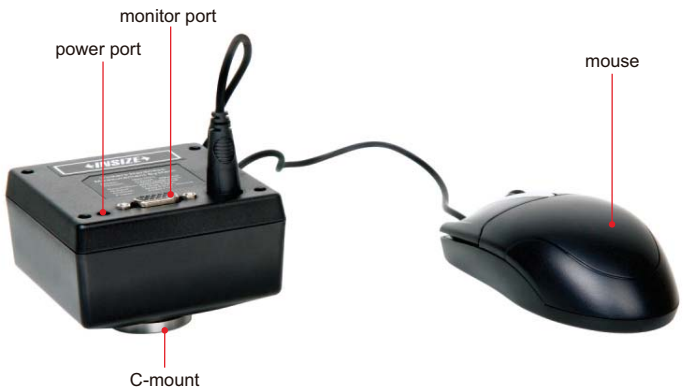
## OPTIONAL ACCESSORY

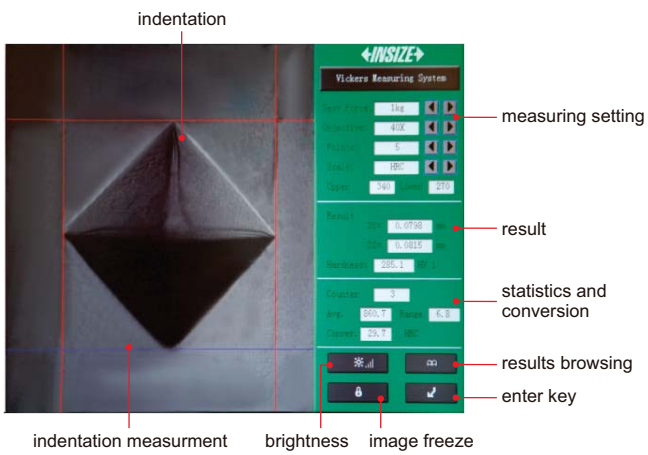
| | |
|---|---|
| Knoop indenter | ISH-KNOOP |
| Measuring system | ISH-HVC |
| Hardness test block 400-500HV5 | ISH-BHV5B |
| Hardness test block 400-500HV10 | ISH-BHV10A |
| Hardness test block 400-500HV30 | ISH-BHV30 |

*Add “-U” on code No. when power supply is 110V, 50/60Hz

COMPUTER IS NOT NEEDED

# VICKERS HARDNESS MEASURING SYSTEM
# CODE ISH-HVC




**application example**

- Computer is not needed. Use mouse to measure on monitor
- Set measuring times (maximum 9) to have average value and the difference of max. and min. value
- Convert to HRA, HRB, HRC, HB, HR45T, HR45N, HR30T, HR30N, HR15T, HR15N
- Memory of 9 last results for browsing
- Result can be printed automatically (wireless printer is optional)
- Hardness block calibration
- Tolerance measurement with alarm
- Image freeze function eliminates error due to vibration

**SPECIFICATION**

| | |
|---|---|
| **Sensor** | 1/2" CMOS |
| **Pixel** | 2M (resolution 800×600) |
| **Hardness measurement resolution** | 0.1HV |
| **Length measurement resolution** | 0.1μm |
| **Length measurement accuracy** | ±0.5% (diagonal length of indentation) |
| **Test force** | 0.01, 0.025, 0.05, 0.1, 0.2, 0.3, 0.5, 1 2, 2.5, 3, 5, 10, 20, 30, 50, 100, 120kgf |
| **Objective** | 1X, 2X, 4X, 10X, 20X, 40X |
| **Dimension** | 120×68×55mm |
| **Weight** | 500g |

wireless printer (optional)

**STANDARD DELIVERY**

| | |
|---|---|
| **Main unit** | 1pc |
| **Mouse** | 1pc |
| **AC/DC adapter** | 1pc |

**OPTIONAL ACCESSORY**

| | |
|---|---|
| **Wireless printer** | **ISH-DS-PRINTER** |

# PORTABLE LEEB HARDNESS TESTER
# CODE ISH-SPHA

MANUFACTURER INSPECTION CERTIFICATE

DATA OUTPUT

**included**

printer

hardness test block D

small support ring

- 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
- Low and high limits with judgement
- Touch screen operation, large display with backlight
- Language: English, Chinese, Italian, German, French and Portuguese
- Automatic power off
- According to ASTM A 956

**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** | 1pc |
| **Impact device D** | 1pc |
| **Printer** | 1pc |
| **Hardness test block D** | 1pc |
| **Small support ring** | 1pc |
| **Cleaning brush** | 1pc |
| **AC/DC adapter** | 1pc |
| **USB cable and software disc** | 1pc of each |
| **Pen for touch screen** | 1pc |

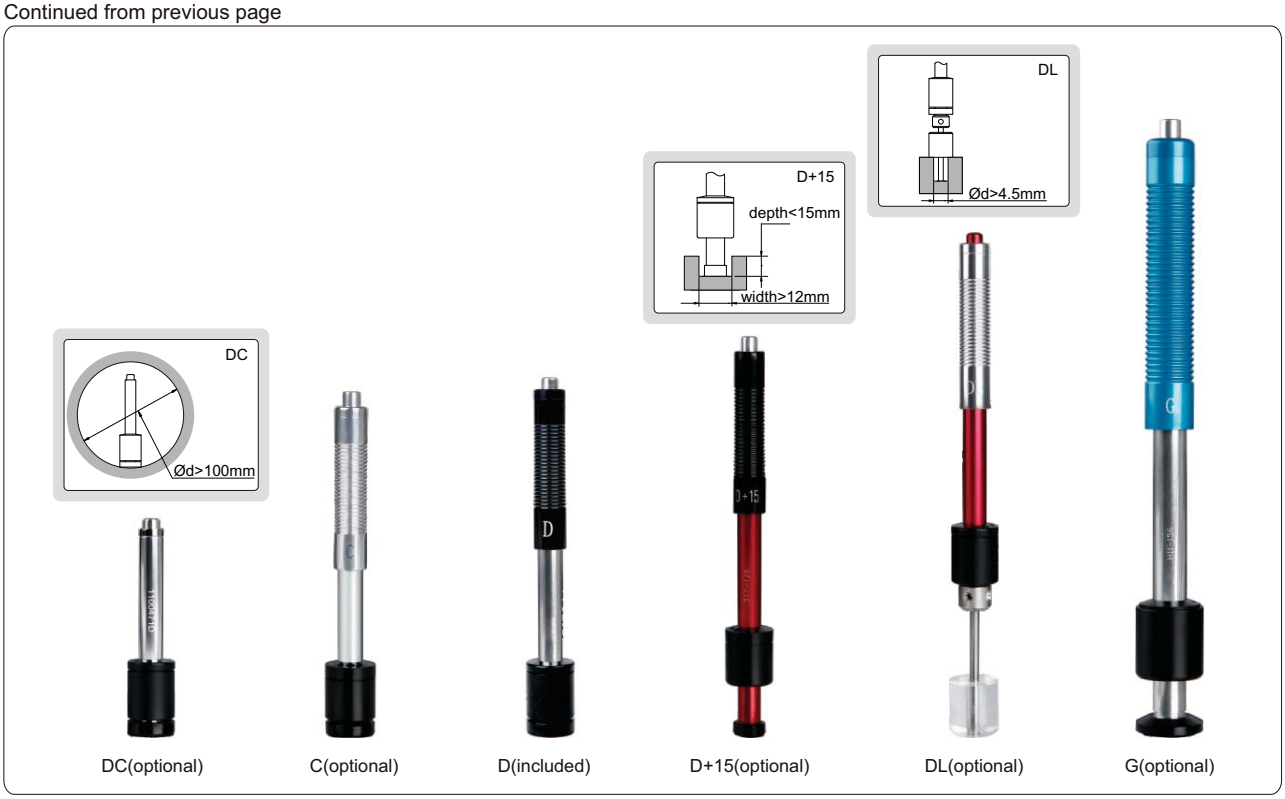
**OPTIONAL ACCESSORY**

| | |
|---|---|
| **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**** | **ISH-BHLD** |
| **Hardness test block G**** | **ISH-BHLG** |
| **Couplant** | **ISH-COUPLANT** |
| **Support rings** | page 362 |

** Hardness test block G (ISH-BHLG) is for impact device G (ISH-SPHA-G).
Hardness test block D (ISH-BHLD) is for all others impact devices.

To be continued

Continued from previous page




**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 | 5kg | 15kg |
| | on solid support | 2kg | 0.5kg | 2kg | 2kg | 2kg | 5kg |
| | coupled on plate | 0.1kg | 0.02kg | 0.1kg | 0.1kg | 0.1kg | 0.5kg |
| Minimum thickness of workpiece | | 5mm | 1mm | 5mm | 5mm | 5mm | 10mm |

**APPLICABLE MATERIAL AND HARDNESS RANGE**

| Material | Scale | DC | C | D | D+15 | DL | G |
|---|---|---|---|---|---|---|---|
| Steel & cast steel | HRC | 20-68 | 20-69.5 | 20-68 | 19.3-67.9 | 20.6-68.2 | |
| | HRB | 38-100 | 38.4-99.5 | 38-100 | | 37.0-99.9 | 47.7-99.9 |
| | HB | 81-654 | 80-683 | 81-654 | 80-638 | 81-646 | 90-646 |
| | HV | 81-955 | 80-996 | 81-955 | 180-818 | 80-950 | |
| | HS | 32-100 | 32-102 | 32-100 | 33-99 | 31-97 | |
| | Tensile strength (MPa) | | | 375-2639 | | | |
| Cast iron | HB | 93-334 | | 93-334 | | | 92-326 |
| | HV | | | | | | |
| | HRC | | | | | | |
| Tool steel | HRC | 20-67 | | 20-67 | | | |
| | HV | 80-898 | | 80-898 | | | |
| Stainless steel | HRB | 46-101 | | 46-101 | | | |
| | HV | 85-802 | | 85-802 | | | |
| | HB | 85-655 | | 85-655 | | | |
| Cast aluminum alloy | HB | 19-164 | | 19-164 | | | |
| | HRB | 23-84 | | 23-84 | | | |
| Brass | HB | 40-173 | | 40-173 | | | |
| | HRB | 13-95 | | 13-95 | | | |
| Bronze | HB | 60-290 | | 60-290 | | | |
| Copper | HB | 45-315 | | 45-315 | | | |

# PORTABLE LEEB HARDNESS TESTER
# CODE ISH-PHA

MANUFACTURER INSPECTION CERTIFICATE

- Supplied with impact device D
- Based on Leeb(HLD), converted to Vickers(HV), Brinell(HB), Rockwell(HRC and HRB), Shore(HS) and tensile strength(MPa)
- Connected with printer via bluetooth
- LCD display with backlight
- Automatic power off
- According to ASTM A 956

**included**

printer

hardness test block D

small support ring

**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 (direct measurement) |
| | | 2kg (on solid support) |
| | | 0.1kg (coupled on plate) |
| | minimum thickness: 5mm | |
| | minimum radius of curved surface: 11mm | |
| | maximum roughness (Ra): 1.6μm | |
| **Power supply** | 3×AAA batteries | |
| **Dimension** | 150×80×24mm | |
| **Weight** | 200g | |

**STANDARD DELIVERY**

| | |
|---|---|
| **Main unit** | 1pc |
| **Impact device D** | 1pc |
| **Printer** | 1pc |
| **Hardness test block D** | 1pc |
| **Small support ring** | 1pc |
| **Cleaning brush** | 1pc |
| **AC/DC adapter** | 1pc |

**OPTIONAL ACCESSORY**

| | |
|---|---|
| **Couplant** | **ISH-COUPLANT** |
| **Support rings** | page 362 |
| **Hardness test block D** | **ISH-BHLD** |

**APPLICABLE MATERIAL AND HARDNESS RANGE FOR 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 | | | | |

hardness test block D (included)

small support ring (included)

wireless printer (optional)

# PORTABLE LEEB HARDNESS TESTER
# CODE ISH-PHB

- Supplied with impact device D
- Set measurement times (1~9) to have average value
- 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
- Connected with printer via bluetooth
- Automatic power off
- According to ASTM A 956

**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: 11mm | |
| | maximum roughness(Ra): 1.6μm | |
| **Power supply** | 3×AAA batteries | |
| **Dimension** | 150×84×28mm | |
| **Weight** | 200g | |

**STANDARD DELIVERY**

| | |
|---|---|
| **Main unit** | 1pc |
| **Impact device D** | 1pc |
| **Hardness test block D** | 1pc |
| **Small support ring** | 1pc |
| **Cleaning brush** | 1pc |

**OPTIONAL ACCESSORY**

| | |
|---|---|
| **Wireless printer** | **ISH-DS-PRINTER** |
| **Couplant** | **ISH-COUPLANT** |
| **Support rings** | page 362 |
| **Hardness test block D** | **ISH-BHLD** |

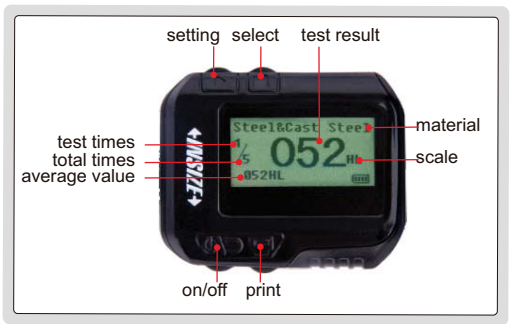
**APPLICABLE MATERIAL AND HARDNESS RANGE FOR IMPACT DEVICE D**

| 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 | | | | |

# PORTABLE LEEB HARDNESS TESTER
# CODE ISH-SPHD

MANUFACTURER INSPECTION CERTIFICATE

DATA OUTPUT



- Impact device D
- Based on Leeb(HLD), converted to Vickers(HV), Brinell(HB), Rockwell(HRC and HRB), Shore(HS) and tensile strength(MPa)
- Automatic direction correction
- Connected with printer via bluetooth
- Connected with computer via USB port
- Up to 500 test results can be saved
- According to ASTM A 956

**included**

printer

hardness test block D

small support ring

**SPECIFICATION**

| | | |
|---|---|---|
| **Min. reading** | 1HLD, 1HV, 1HB, 0.1HRC, 0.1HRB, 1HS | |
| **Accuracy** | ±6HLD (when HLD=800) | |
| **Output** | USB and bluetooth | |
| **Applicable workpiece** | minimum weight | 5kg (direct measurement) |
| | | 2kg (on solid support) |
| | | 0.1kg (coupled on plate) |
| | minimum thickness: 5mm | |
| | minimum radius of curved surface: 11mm | |
| | maximum roughness(Ra): 1.6μm | |
| **Power supply** | built-in rechargeable battery | |
| **Dimension** | 147×35×22mm | |
| **Weight** | 65g | |

**STANDARD DELIVERY**

| | |
|---|---|
| **Main unit** | 1pc |
| **Printer** | 1pc |
| **Hardness test block D** | 1pc |
| **Small support ring** | 1pc |
| **Cleaning brush** | 1pc |
| **AC/DC adapter** | 1pc |
| **USB cable and software disc** | 1pc of each |

**OPTIONAL ACCESSORY**

| | |
|---|---|
| **Couplant** | **ISH-COUPLANT** |
| **Support rings** | page 362 |
| **Hardness test block D** | **ISH-BHLD** |

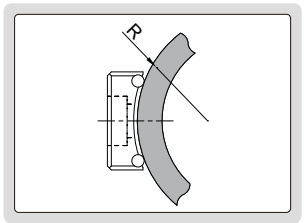
**APPLICABLE MATERIAL AND HARDNESS RANGE FOR IMPACT DEVICE D**

| Material | HLD | HV | HB | HRC | HRB | HS |
|---|---|---|---|---|---|---|
| Steel & cast steel | 300-900 | 81-955 | 81-654 | 20-68 | 38-100 | 32-100 |
| 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 | | | |

# SUPPORT RINGS FOR PORTABLE LEEB HARDNESS TESTER

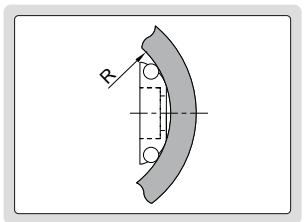
**type A**

**ISH-R1015**



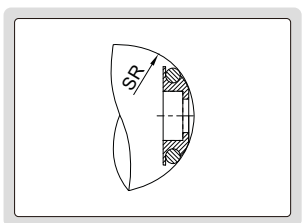

**type B**

**ISH-R1113**



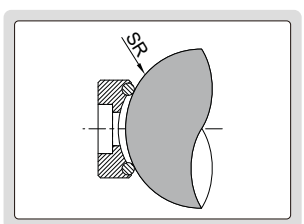

**type C**

**ISH-SR1113**



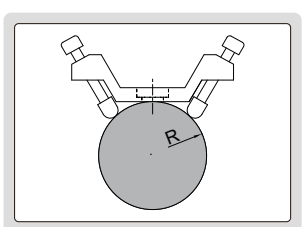

**type D**

**ISH-SR1015**




**type E**

**ISH-RUN**




**SPECIFICATION**

| Code | Type | Applicable workpiece | Range (mm) |
|---|---|---|---|
| **ISH-R1015** | A | cylindrical outside surface | R10 - 15 |
| **ISH-R14530** | | | R14.5 - 30 |
| **ISH-R2550** | | | R25 - 50 |
| **ISH-R1113** | B | cylindrical inside surface | R11 - 13 |
| **ISH-R12517** | | | R12.5 - 17 |
| **ISH-R16530** | | | R16.5 - 30 |
| **ISH-SR1113** | C | spherical inside surface | SR11 - 13 |
| **ISH-SR12517** | | | SR12.5 - 17 |
| **ISH-SR16530** | | | SR16.5 - 30 |
| **ISH-SR1015** | D | spherical outside surface | SR10 - 15 |
| **ISH-SR14530** | | | SR14.5 - 30 |
| **ISH-RUN** | E | cylindrical outside surface | R > 10 |

# ULTRASONIC HARDNESS TESTER
# CODE ISHU-460

DATA OUTPUT

MANUFACTURER INSPECTION CERTIFICATE

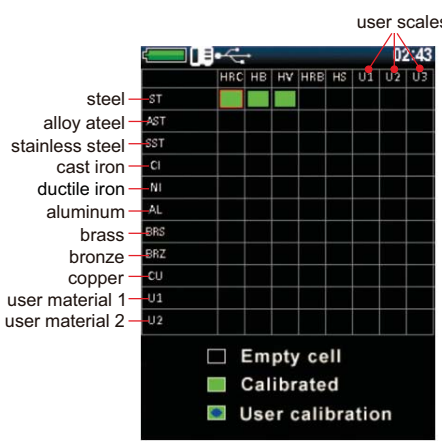
Application:
1. For steel, non-ferrous metal and alloy
2. Can test surface hardening layers(carburized, nitriding, high frequency hardened, etc.) and plating (like chrome plating)
3. Suitable for thin wall or edge of workpieces
4. Suitable for small areas like arc, conical surface and other complex shapes
5. Suitable for small or light workpieces
6. Suitable for narrow spaces, like grooves and blind holes
7. Can test large workpieces at any direction
8. Suitable for rough surfaces

- Small test indentation
- Test force and time are not affected by the operator
- Quick test, only 2 seconds
- Memory of 1000 test results
- Automatic power off
- Anti-dust and waterproof

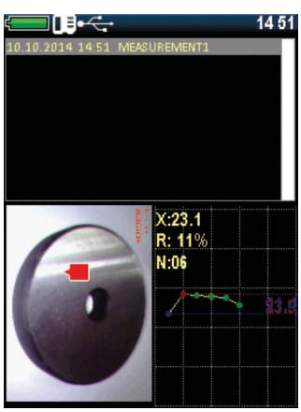
test flat surfaces
(with the cover)

test cylinder surfaces
(use V-groove on the cover)

test narrow areas
(remove the cover)




select the material and scale, use the corresponding standard hardness blocks or workpieces for calibration (calibration of HRC, HB and HV for steel are already made, calibration is needed before use other materials and scales)

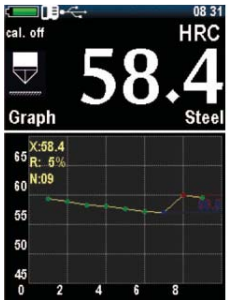



can take a picture on the workpiece and get a report with testing result and picture, the report can be sent to computer

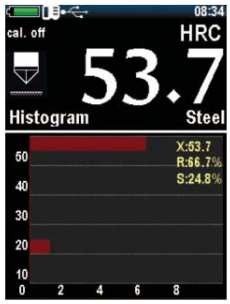
back

To be continued

Continued from previous page



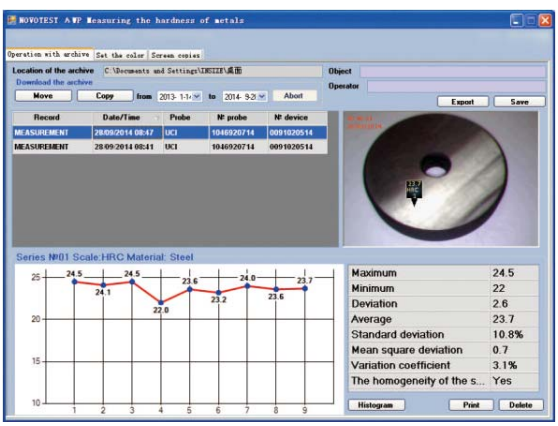

Graph display mode, show average value, relative range and test times




Histogram display mode, show average value, relative range and relative standard deviation

Statistics display mode, show maximum, minimum, deviation, average, relative range and test times

Smart display mode, can set tolerance, automatically reject the result when out of tolerance



software(included), can output data, get and print reports, screen capture, set screen colors of hardness tester

## SPECIFICATION

| | | |
|---|---|---|
| **Hardness scale** | | HV, HB, HRB, HRC, HS |
| **Resolution** | | 1HV, 1HB, 1HRB, 0.1HRC, 1HS |
| **Accuracy** | **HB** | ±10HB |
| | **HV** | ±15HV |
| | **HRC** | ±2HRC |
| **Minimum measuring area** | | Ø1mm |
| **Data output** | | USB |
| **Operating temperature** | | -20°C～+40°C |
| **Power supply** | | built-in rechargeable battery |
| **Dimension and weight of main unit** | | 160×80×40mm, 315g |

## STANDARD DELIVERY

| | |
|---|---|
| **Main unit** | 1pc |
| **Probe A** | 1pc |
| **AC/DC adapter** | 1pc |
| **USB cable and software** | 1pc |

## OPTIONAL ACCESSORY

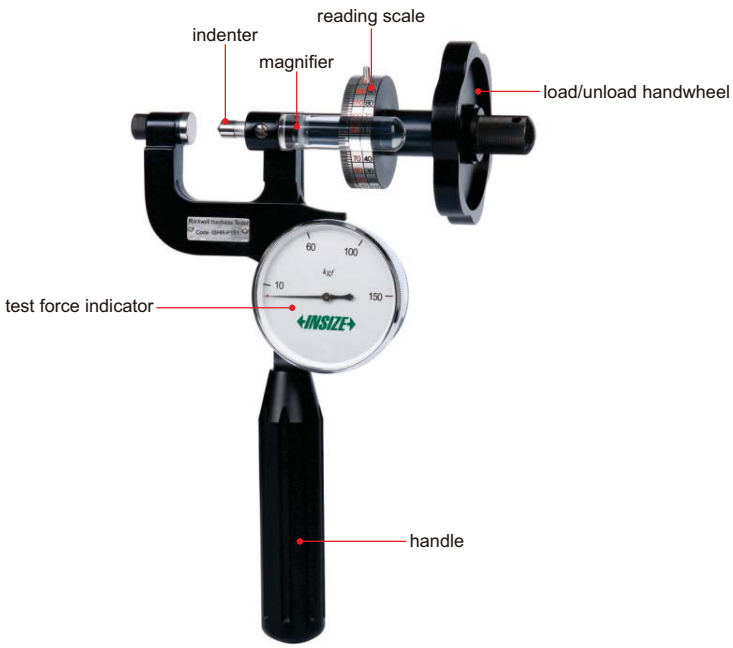
| | |
|---|---|
| **Probe B** | **ISHU-460-B** |
| **Couplant** | **ISH-COUPLANT** |

## SPECIFICATION OF PROBE

| | | |
|---|---|---|
| **Type** | A(standard) | B(optional) |
| **Measuring force** | 50N | 10N(small force) |
| **Application** | general use | plating |
| **Maximum roughness of workpiece (Ra)** | 2.5μm | 1.5μm |
| **Minimum weight of workpiece(direct measurement)** | 0.1kg* | 0.1kg* |
| **Minimum thickness of workpiece(direct measurement)** | 1mm* | 1mm* |
| **Minimum thickness of surface hardening layer or plating** | 0.1mm | 0.03mm |
| **Dimension and weight of probe** | 140×Ø37mm, 271g | 145×Ø37mm, 271g |

*If the weight or thickness of workpiece is less than required, the workpiece should be fixed or coupled on solid support.

# PORTABLE ROCKWELL HARDNESS TESTER
# CODE ISHR-P151



- According to ISO 6508, ASTM E18

flat anvil (included)

V-type anvil (included)

anvil extension for thin workpieces (included)

**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. workpiece depth** | 25mm |
| **Dimension** | 240×70×160mm |
| **Weight (with base)** | 2.5kg |

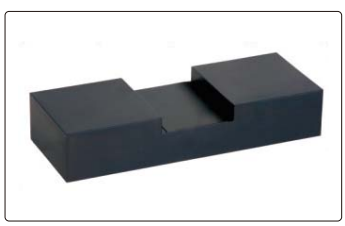
**STANDARD DELIVERY**

| | |
|---|---|
| **Main unit** | 1pc |
| **Diamond indenter** | 1pc |
| **Ø1.5875mm carbide ball indenter** | 2pcs |
| **Hardness test block HRC20 ~ 30** | 1pc |
| **Hardness test block HRC60 ~ 65** | 1pc |
| **Hardness test block HRB88 ~ 95** | 1pc |

| | |
|---|---|
| **Flat anvil** | 1pc |
| **V-type anvil** | 1pc |
| **Base** | 1pc |
| **Anvil extension** | 1pc |
| **Magnifier** | 2pcs |

# DIGITAL MAGNETIC ROCKWELL HARDNESS TESTER
# CODE ISHR-D121

- 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



flat anvil for test block (included)

**SPECIFICATION**

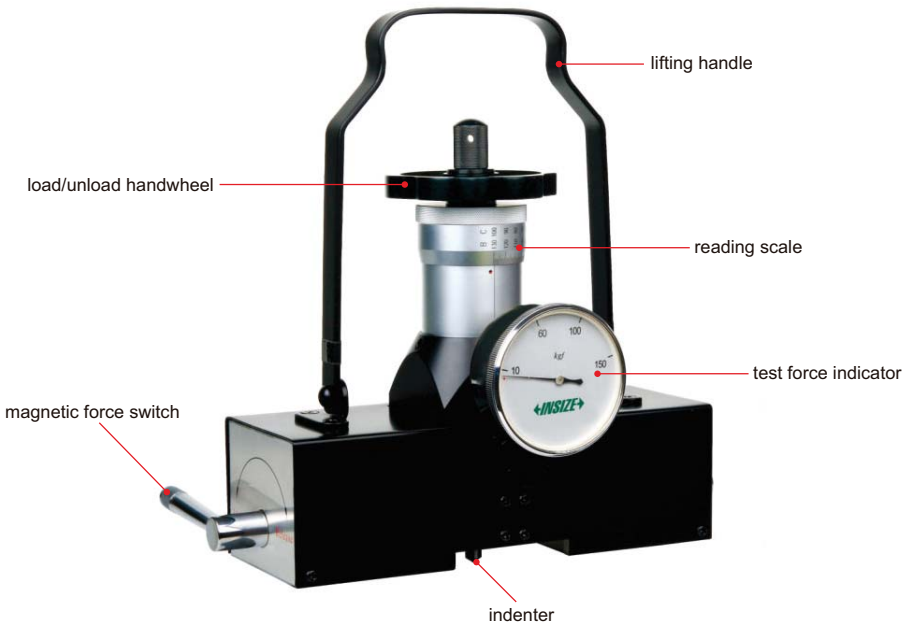
| | |
|---|---|
| **Hardness scale** | HRA, HRB, HRC |
| **Preliminary test force** | 10kg |
| **Test force** | 60kg, 100kg, 150kg |
| **Load control** | manual |
| **Min. reading** | 0.1HR |
| **Flat workpiece requirement** | length>190mm, width>60mm, thickness>5mm |
| **Cylinder or tube workpiece requirement** | length>200mm, diameter>Ø50mm, wall thickness>8mm |
| **Power supply** | 3×AAA batteries |
| **Dimension** | 245×105×230mm |
| **Weight** | 5.3kg |

**STANDARD DELIVERY**

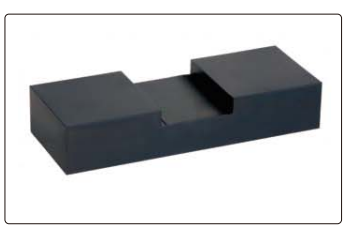
| | |
|---|---|
| **Main unit** | 1pc |
| **Flat anvil** | 1pc |
| **Diamond indenter** | 1pc |
| **Ø1.5875mm carbide ball indenter** | 1pc |

| | |
|---|---|
| **Hardness test block HRB85-95** | 1pc |
| **Hardness test block HRC60-70** | 1pc |
| **Hardness test block HRC20-30** | 1pc |

# 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)

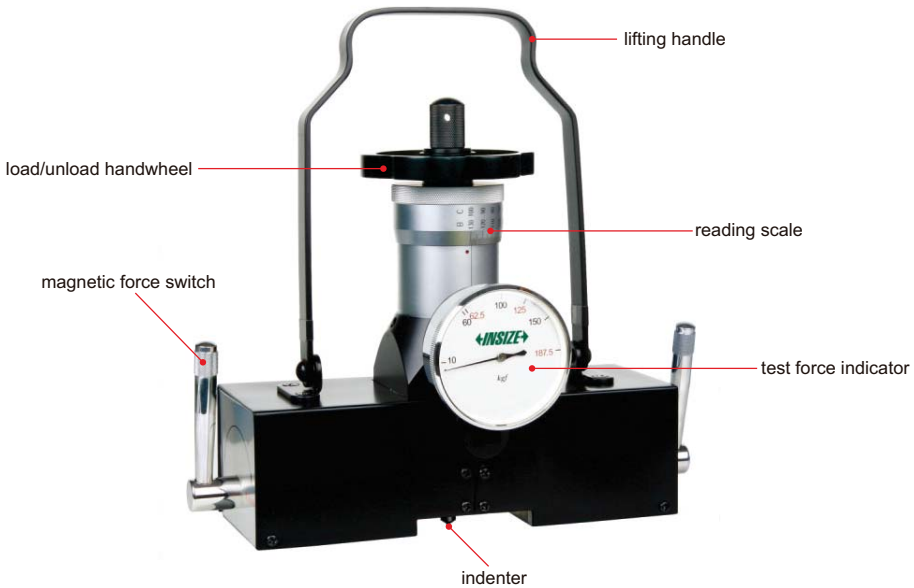
**SPECIFICATION**

| | |
|---|---|
| **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 |

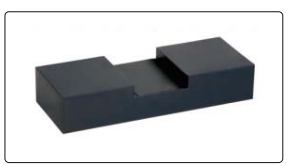
**STANDARD DELIVERY**

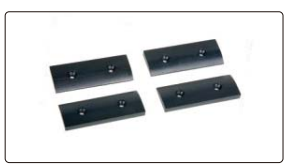
| | |
|---|---|
| **Main unit** | 1pc |
| **Diamond indenter** | 1pc |
| **Ø1.5875mm carbide ball indenter** | 2pcs |
| **Hardness test block HRC60-70** | 1pc |
| **Hardness test block HRC20-30** | 1pc |
| **Hardness test block HRB85-95** | 1pc |
| **Flat anvil** | 1pc |
| **Support** | 4pcs |
| **Magnifier with LED** | 1pc |

# 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**

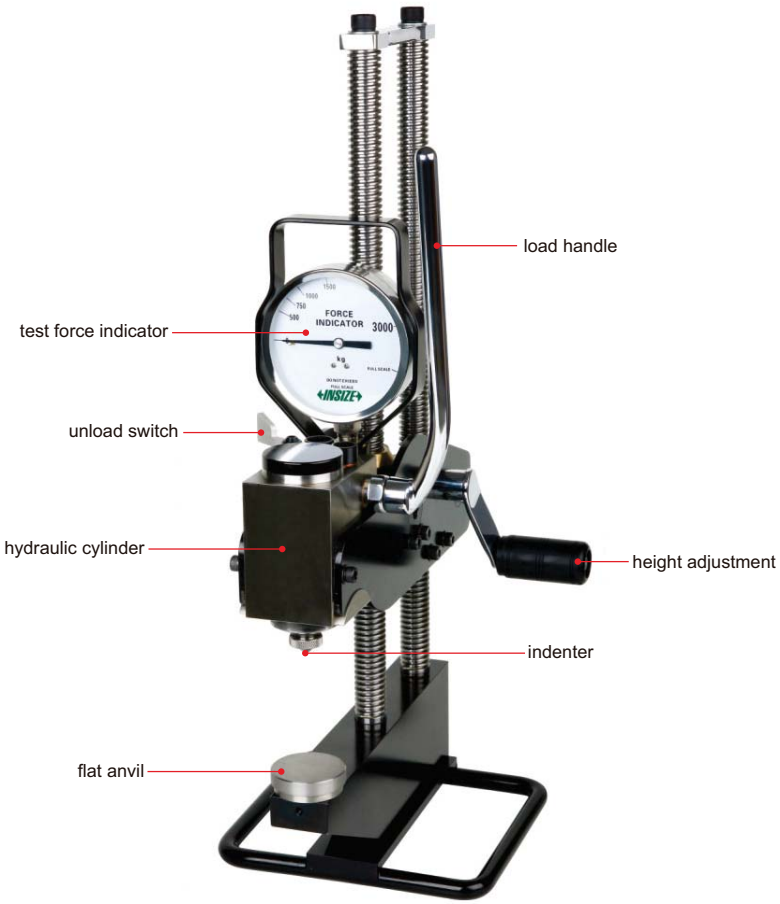
| | |
|---|---|
| **Rockwell scale** | HRA, HRB, HRC, HRD, HRF, HRG |
| **Brinell measuring range** | 20~650HBW |
| **Rockwell test force** | 10kg preload, 60kg, 100kg, 150kg total load |
| **Brinell test force** | 62.5kg, 125kg, 187.5kg |
| **Load control** | manual |
| **Min. Rockwell reading** | 1HR |
| **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** | 1pc |
| **Flat anvil** | 1pc |
| **Support** | 4pcs |
| **Diamond Rockwell indenter** | 1pc |
| **Ø1.5875mm carbide ball indenter** | 1pc |
| **Ø2.5mm Brinell indenter** | 1pc |

| | |
|---|---|
| **Hardness test block HRB85-95** | 1pc |
| **Hardness test block HRC60-70** | 1pc |
| **Hardness test block HRC20-30** | 1pc |
| **Brinell test block** | 1pc |
| **Measuring microscope** | 1pc |
| **Magnifier with LED** | 1pc |

# HYDRAULIC BRINELL HARDNESS TESTER
# CODE ISHB-H131



V-type anvil (included)

spherical anvil (included)

measuring microscope (included)

- According to ISO 6505, ASTM E10

**SPECIFICATION**

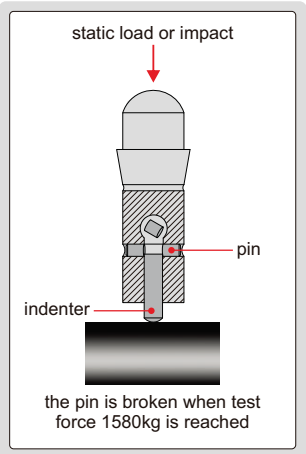
| | |
|---|---|
| **Measuring range** | 16~650HBW |
| **Test force** | 3000kg |
| **Indenter** | Ø10mm carbide ball |
| **Measuring microscope** | 20X, graduation 0.01mm |
| **Max. workpiece height** | 350mm |
| **Max. workpiece depth** | 90mm (from the center of indenter) |
| **Dimension** | 270×225×570mm |
| **Weight** | 13.8kg |

**STANDARD DELIVERY**

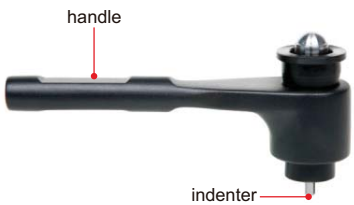
| | |
|---|---|
| **Main unit** | 1pc |
| **Flat anvil** | 1pc |
| **V-type anvil** | 1pc |
| **Spherical anvil** | 1pc |

| | |
|---|---|
| **Ø10mm carbide ball** | 2pcs |
| **Brinell test block** | 2pcs |
| **Measuring microscope** | 1pc |

# PIN BRINELL HARDNESS TESTER
# CODE ISHB-P101



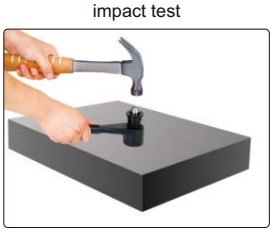
**static test clamp**




**impact test clamp**

static test

impact test



- 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

V-type anvil (included)

pins (included)

measuring microscope (included)

**SPECIFICATION**

| | |
|---|---|
| **Measuring range** | 100~350HBW<br>(with Ø7.26mm indenter, included)<br>350~650HBW<br>(with Ø4mm indenter, optional) |
| **Test force** | 1580kg |
| **Accuracy** | static test: ±3%<br>impact test: ±5% |
| **Measuring microscope** | 20X, graduation 0.01mm |
| **Max. workpiece height in static test** | 150mm |
| **Max. workpiece depth in static test** | 80mm (from the center of indenter) |
| **Dimension** | 195×60×350mm |
| **Weight** | 4.2kg |

**STANDARD DELIVERY**

| | |
|---|---|
| **Static test clamp** | 1pc |
| **Impact test clamp** | 1pc |
| **Flat anvil** | 1pc |
| **V-type anvil** | 1pc |
| **Ø7.26mm indenter** | 1pc |
| **Hardness test block** | 1pc |
| **Pin** | 250pcs |
| **Measuring microscope** | 1pc |

**OPTIONAL ACCESSORY**

| | |
|---|---|
| **Ø4mm indenter** | **ISHB-P101-INDENTER** |
| **Pin (250pcs)** | **ISHB-P101-PIN** |

# WEBSTER HARDNESS TESTER

ISHW-L20

- 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 | 1pc |
| Spare indenter | 1pc |
| Hardness test block | 1pc |
| Wrench | 1pc |

# BARCOL HARDNESS TESTER
# CODE ISHB-B300

- To measure the hardness of thick 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)<br>±1HBa (at 84~88HBa) |
| **Min. workpiece thickness** | 0.8mm |
| **Dimension** | 142×65×90mm |
| **Weight** | 500g |

**STANDARD DELIVERY**

| | |
|---|---|
| **Main unit** | 1pc |
| **Spare indenter** | 2pcs |
| **Hardness test block** | 2pcs |
| **Wrench** | 1pc |

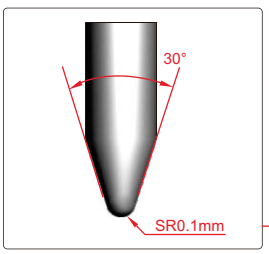
# DIGITAL SHORE DUROMETER

DATA OUTPUT

blunt taper indenter




**ISH-DSA**




sharp point indenter

**ISH-DSD**

- According to ISO868, ISO7619, ASTM D 2240
- Average and peak (max.) mode
- Dwell time is adjustable
- Low and high limits with judgement
- 500 memories
- Wireless connection to printer
- Handhold use or work with test stand (code **ISH-DS-STAND**)
- Automatic power off

calibration block (included)

printer (optional)

**SPECIFICATION**

| Code | ISH-DSA | ISH-DSD |
|---|---|---|
| Unit | Shore A | Shore D |
| Test material | soft plastic, soft rubber, etc. | hard plastic, hard rubber, etc. |
| Measuring range* | 0~100HA | 0~100HD |
| Resolution | 0.1HA | 0.1HD |
| Accuracy | ±1HA | ±1HD |
| Indenter protrusion | 2.5mm | |
| Output | wireless and USB | |
| Power supply | built-in rechargeable battery | |
| Dimension | 153×50×29mm | |
| Weight | 170g | |

**STANDARD DELIVERY**

| | |
|---|---|
| Main unit | 1 pc |
| Calibration block | 1 pc |
| USB cable and software | 1 pc |
| AC/DC adapter | 1 pc |

**OPTIONAL ACCESSORY**

| | |
|---|---|
| Printer | ISH-DS-PRINTER |
| Test stand | ISH-DS-STAND |
| 1kg weight block (for ISH-DSA) | ISH-DSA-W1 |
| 5kg weight block (for ISH-DSD) | ISH-DSD-W5 |

* Use **ISH-DSD** when measuring result is higher than 90HA
Use **ISH-DSA** when measuring result is lower than 20HD

# TEST STAND FOR DIGITAL SHORE DUROMETER
# CODE ISH-DS-STAND

5kg weight block (optional)
for **ISH-DSD**

- Can perform repeatable hardness measurement due to fewer possibilities of human error or measurement variations
- 1kg weight block is for **ISH-DSA**, 5kg weight block is for **ISH-DSD**

**SPECIFICATION**

| | |
|---|---|
| **Stage diameter** | Ø88mm |
| **Maximum workpiece height** | 75mm |
| **Dimension** | 125×163×350mm |
| **Weight** | 4kg |

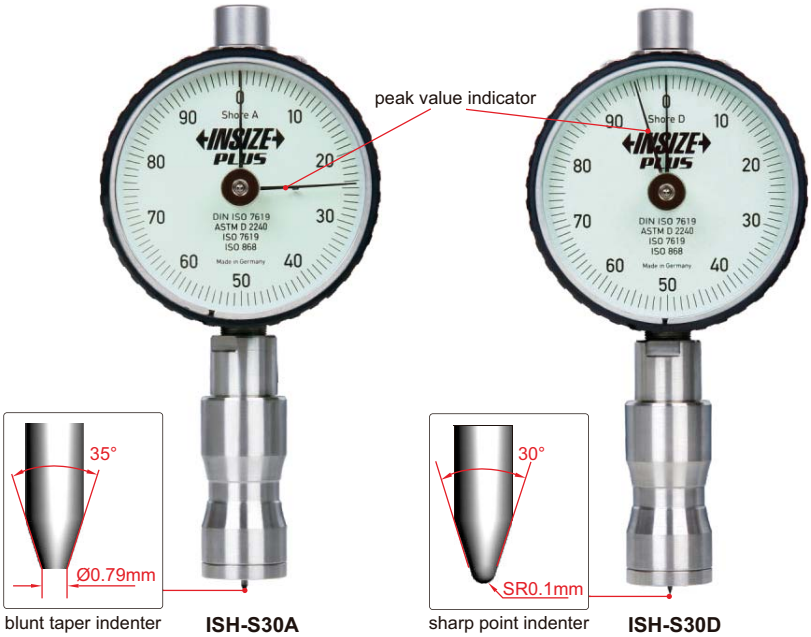
**STANDARD DELIVERY**

| | |
|---|---|
| **Test stand** | 1pc |
| **Durometer supporter** | 1pc |

**OPTIONAL ACCESSORY**

| | |
|---|---|
| **1kg weight block (for ISH-DSA)** | **ISH-DSA-W1** |
| **5kg weight block (for ISH-DSD)** | **ISH-DSD-W5** |

# SHORE DUROMETER




- According to ISO868, ISO7619, ASTM D 2240
- With peak value indicator
- Handhold use or work with test stand (code **ISH-OS2**)

**SPECIFICATION**

| Code | ISH-S30A | ISH-S30D |
|---|---|---|
| Unit | Shore A | Shore D |
| Test material | soft plastic, soft rubber, etc. | hard plastic, hard rubber, etc. |
| Measuring range* | 0~100HA | 0~100HD |
| Resolution | 1HA | 1HD |
| Accuracy | ±0.5HA | ±0.5HD |
| Indenter protrusion | 2.5mm | |
| Bezel diameter | 57mm | |
| Overall height | 121mm | |
| Weight | 184g | |

*Use **ISH-S30D** when measuring result is higher than 90HA
Use **ISH-S30A** when measuring result is lower than 20HD

# HARDNESS TEST BLOCK FOR SHORE DUROMETER

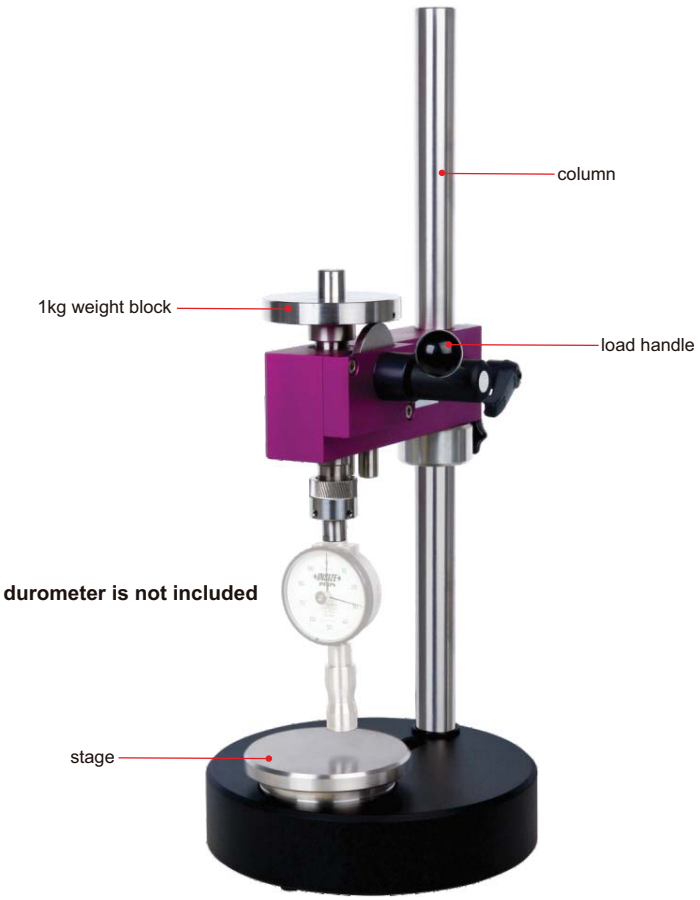
**ISH-S30A-BLOCK**

**ISH-S30D-BLOCK**

**SPECIFICATION**

| Code | ISH-S30A-BLOCK | ISH-S30D-BLOCK |
|---|---|---|
| Type | Shore A | Shore D |
| Hardness value | 7pcs/set: 30, 40, 50, 60, 70, 80, 90HA | 3pcs/set：60, 75, 85HD |

# TEST STAND FOR SHORE DUROMETER
# CODE ISH-OS2



calibration block (included)

4kg weight block (optional)
for **ISH-S30D**

- Can perform repeatable hardness measurement due to fewer possibilities of human error or measurement variations
- Special structure for stable loading
- 1kg weight block is for **ISH-S30A**, 4kg weight block is for **ISH-S30D**

**SPECIFICATION**

| | |
|---|---|
| **Stage diameter** | Ø98mm |
| **Maximum workpiece height** | 180mm |
| **Maximum workpiece depth** | 115mm (from test point to column) |
| **Weight block** | 1kg (for **ISH-S30A**) |
| **Dimension** | Ø200×500mm |
| **Weight** | 18kg |

**STANDARD DELIVERY**

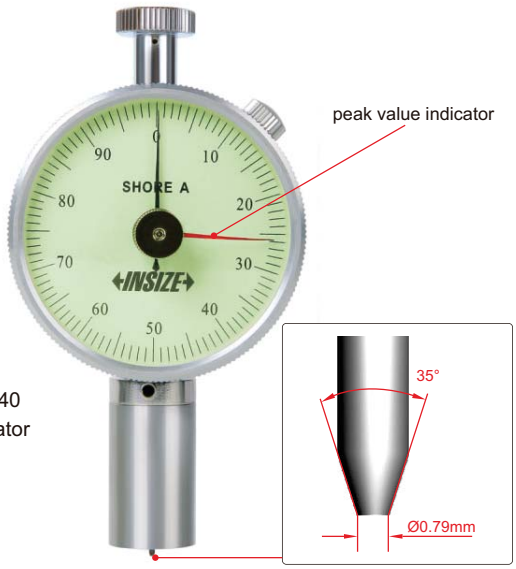
| | |
|---|---|
| **Test stand** | 1pc |
| **Calibration block** | 1pc |

**OPTIONAL ACCESSORY**

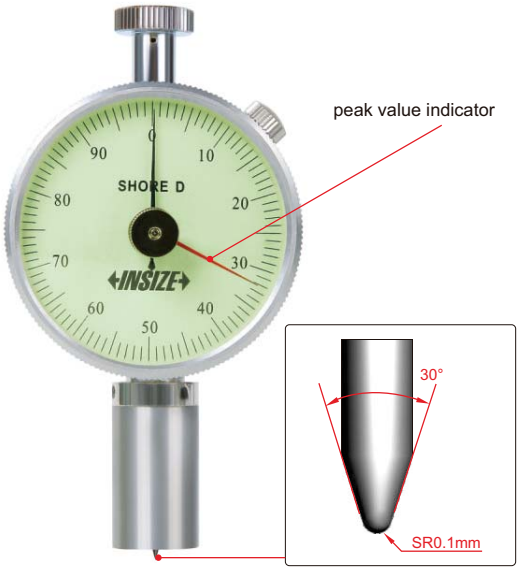
| | |
|---|---|
| **4kg weight block (for ISH-S30D)** | **ISH-OS2-W4** |

# SHORE DUROMETER

- 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**

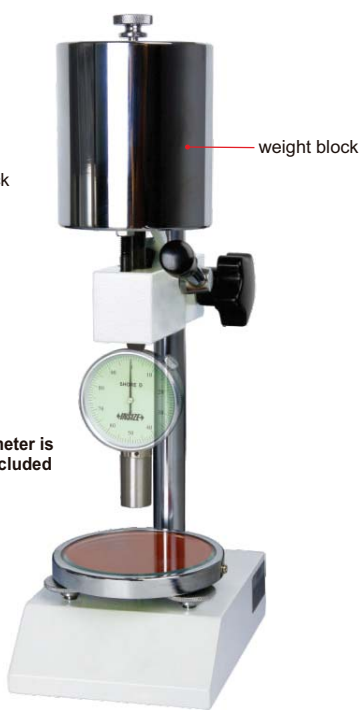
| Code | ISH-SAM | ISH-SDM |
|---|---|---|
| Scale | Shore A | Shore D |
| Application | nature rubber, soft elastomer, etc. | hard rubber, plastic, hard elastomer, etc. |
| Measuring range* | 10~90HA | 20~90HD |
| Graduation | 1HA | 1HD |
| Indenter protrusion | 2.5mm | |
| Dimension | 115×60×25mm | |
| Weight | 160g | |

*Use **ISH-SDM** when measuring result is higher than 90HA
Use **ISH-SAM** when measuring result is lower than 20HD

# TEST STAND FOR SHORE DUROMETER

- Can perform repeatable hardness measurement due to fewer possibilities of human error or measurement variations

**ISH-STAC**




**ISH-STD**

**SPECIFICATION**

| Code | ISH-STAC | ISH-STD |
|---|---|---|
| Applicable durometer | ISH-SAM | ISH-SDM |
| Stage diameter | Ø100mm | Ø100mm |
| Maximum workpiece height | 75mm | 75mm |
| Weight block | 1kg | 5kg |

# DIGITAL FORCE GAGE

MANUFACTURER INSPECTION CERTIFICATE

DATA OUTPUT

ISF-1DF100

- Push and pull test
- Units: N, gf, kgf, ozf, lbf
- 500 memories
- Automatic power off
- Metal case
- LCD display with backlight, can turn 180°
- Overload alarm

push/pull accessory (included)

printer (optional)

## 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.), low and high limits with judgement | | | | |
| Power supply | built-in rechargeable battery | | | | |
| Dimension | 150×73×33mm | | | | |
| Weight | 450g | | | | |

## STANDARD DELIVERY

| | |
|---|---|
| Main unit | 1pc |
| AC/DC adapter | 1pc |
| USB cable and software | 1pc |
| Push/pull accessory | 6pcs (flat push tip, V push tip, knife-edge push tip, point push tip, pull clamp, extension rod) |

## OPTIONAL ACCESSORY

| | |
|---|---|
| Printer | ISF-DF-PRINTER |
| Test stand | ISF-MT1K |

# DIGITAL FORCE GAGE (HIGH RESOLUTION)

DATA OUTPUT

MANUFACTURER INSPECTION CERTIFICATE

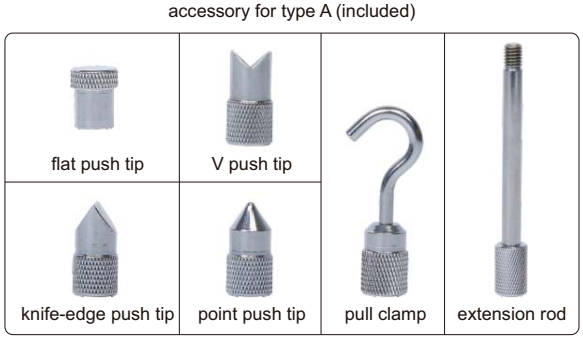
**ISF-DF100A type A**

**ISF-DF5KA type B**

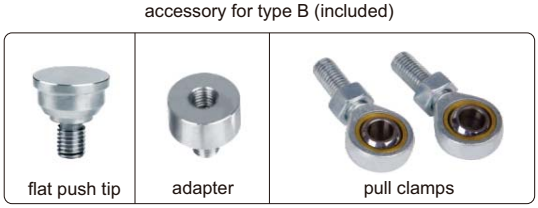
- Push and pull test
- Peak (max.) and tracking mode
- Units: mN, N, gf, kgf, ozf, lbf
- Low and high limits with judgement
- 1000 memories
- Automatic power off
- Metal case, touch buttons
- LCD display with backlight, can automatically turn 180°
- Overload alarm

printer (optional)

accessory for type A (included)




accessory for type B (included)




## SPECIFICATION

| Code | ISF-DF 5A | ISF-DF 10A | ISF-DF 20A | ISF-DF 50A | ISF-DF 100A | ISF-DF 200A | ISF-DF 500A | ISF-DF 1KA | ISF-DF 2KA | ISF-DF 5KA | ISF-DF 10KA | ISF-DF 20KA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | A (internal sensor) | | | | | | | | B (external sensor) | | | |
| Load capacity (N) | 5 | 10 | 20 | 50 | 100 | 200 | 500 | 1000 | 2000 | 5000 | 10000 | 20000 |
| Resolution (N) | 0.0005 | 0.001 | 0.005 | 0.005 | 0.01 | 0.05 | 0.05 | 0.1 | 1 | 1 | 10 | 10 |
| Accuracy | ±0.3% (of load capacity ) | | | | | | | | | | | |
| Power supply | built-in rechargeable battery | | | | | | | | | | | |

## STANDARD DELIVERY

| Code | ISF-DF 5A | ISF-DF 10A | ISF-DF 20A | ISF-DF 50A | ISF-DF 100A | ISF-DF 200A | ISF-DF 500A | ISF-DF 1KA | ISF-DF 2KA | ISF-DF 5KA | ISF-DF 10KA | ISF-DF 20KA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Main unit | 1pc | | | | | | | | 1pc | | | |
| AC/DC adapter | 1pc | | | | | | | | 1pc | | | |
| USB cable and software | 1pc | | | | | | | | 1pc | | | |
| Push/pull accessory | 6pcs (flat push tip, V push tip, knife-edge push tip, point push tip, pull clamp, extension rod) | | | | | | | | 4pcs (flat push tip, adapter, pull clamps) | | | |

## OPTIONAL ACCESSORY

| | |
|---|---|
| Printer | ISF-DF-PRINTER |
| Test stand | ISF-MT1K |

# TEST STAND
# CODE ISF-MT1K

force gages are not included

digital scale (optional)

horizontal orientation test

- For tensile and compress test with force gages (code **ISF-1DFxx** and **ISF-DFxx**)
- Can be used in vertical and horizontal orientation

**SPECIFICATION**

| | |
|---|---|
| **Load capacity** | 1000N |
| **Travel** | 200mm (3mm vertical movement per revolution of handwheel) |
| **Dimension** | 196 x 250 x 446mm |
| **Weight** | 13kg |

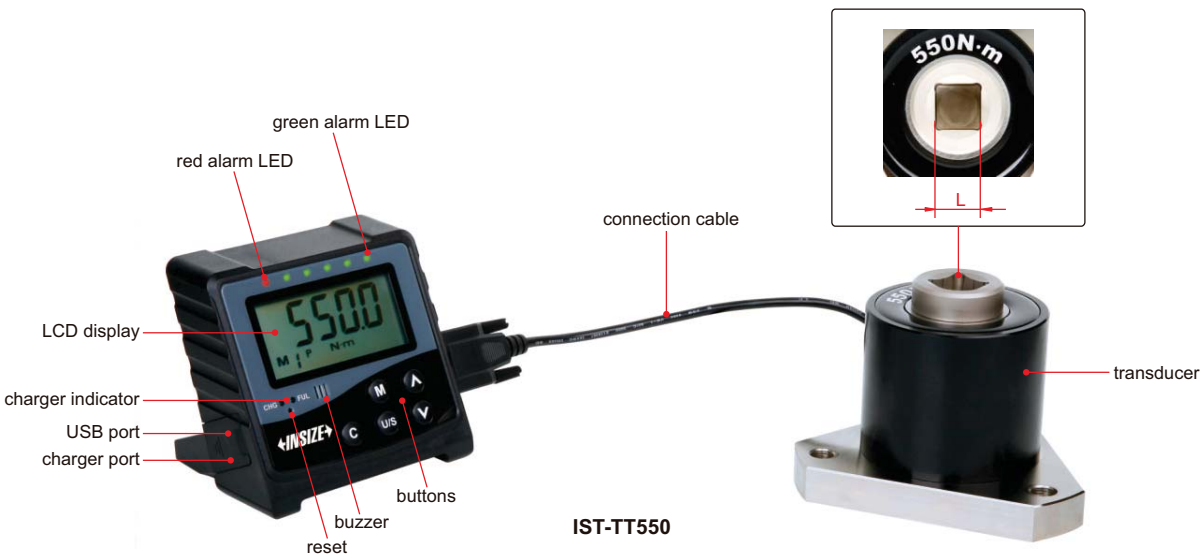
**OPTIONAL ACCESSORY**

| | |
|---|---|
| **Digital scale (range: 200mm, resolution: 0.01mm/0.0005")** | **ISF-MT1K-SCALE** |

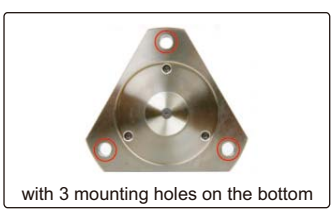
# DIGITAL TORQUE TESTER

ATTENTION: NOT SUITABLE FOR ELECTRIC WRENCHES, IMPACTWRENCHES OR PNEUMATIC WRENCHES

DATA OUTPUT




- With external sensor, to test torque wrenches, torque screwdrivers and other torque tools
- Clockwise and counter-clockwise operation
- Peak and track working modes
- Unit: N.m, in.lb, kg.cm
- Target torque value can be set (9 target torque values can be saved and selected quickly), with audible and visible alarm:
  – Green LED light on and buzzer sounds when the value is 90%~100% of target torque
  – Both green and red LED light on and buzzer sounds when the target torque value is reached
- Memory of 250 measurement values for browsing and output
- Power off in 5 minutes automatically



with 3 mounting holes on the bottom

adaptor (included)

**SPECIFICATION**

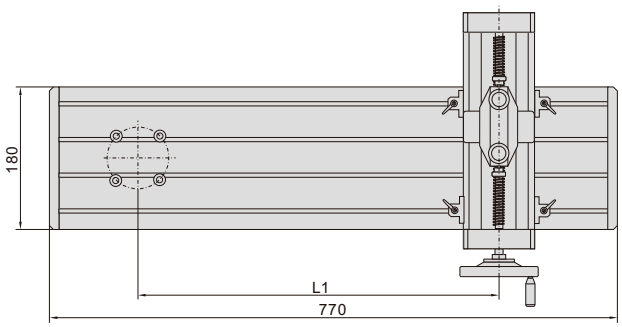
| Code | IST-TT5 | IST-TT50 | IST-TT220 | IST-TT550 | IST-TT2200 |
|---|---|---|---|---|---|
| Range | 0.5~5N.m | 5~50N.m | 22~220N.m | 55~550N.m | 220~2200N.m |
| Accuracy | ±1% (clockwise and counter-clockwise) | | | | |
| Resolution | 0.001N.m | 0.01N.m | 0.1N.m | 0.1N.m | 1N.m |
| Square socket (L) | 1/4" | 3/8" | 1/2" | 3/4" | 1" |
| Power supply | built-in rechargeable battery | | | | |
| Adaptor | no | 3/8" to 1/4" | 1/2" to 3/8"<br>3/8" to 1/4" | 3/4" to 1/2"<br>1/2" to 3/8" | 1" to 3/4"<br>3/4" to 1/2" |
| Transducer dimension | 60×60×47mm | 89×89×65mm | 109×109×73mm | 140×140×97mm | 160×160×116mm |
| Weight | 0.7kg | 1.1kg | 1.4kg | 2.8kg | 4.7kg |

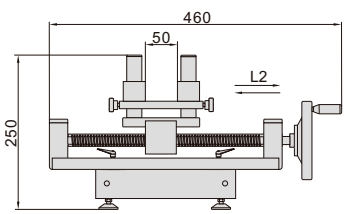
**STANDARD DELIVERY**

| | |
|---|---|
| Main unit | 1pc |
| Transducer with 1m cable | 1pc |
| AC/DC adapter | 1pc |
| USB cable and software | 1pc |
| Adaptor | refer to the above |

# TORQUE WRENCH TEST STAND
# CODE IST-TS500

Unit: mm




**application example**

digital torque tester (optional)

adaptor (optional, for digital torque tester **IST-TT5**, **IST-TT50**, **IST-TT220**)

- Work with digital torque testers (**IST-TT5, IST-TT50, IST-TT220, IST-TT550**)

**SPECIFICATION**

| **Digital torque tester** | **IST-TT5** (optional) | **IST-TT50** (optional) | **IST-TT220** (optional) | **IST-TT550** (optional) |
|---|---|---|---|---|
| **Applicable torque wrenches** | 0.5 ~ 5N.m | 5 ~ 50N.m | 22 ~ 220N.m | 220 ~ 340N.m |
| **Arm length (L1)** | 150 ~ 550mm, adjustable | | | |
| **Maximum travel (L2)** | 200mm | | | |
| **Weight** | 12kg | | | |

**OPTIONAL ACCESSORY**

| | |
|---|---|
| **Digital torque tester** | **IST-TT5**, **IST-TT50**, **IST-TT220**, **IST-TT550** |
| **Adaptor** | **IST-TS500-BLOCK** (necessary for **IST-TT5**, **IST-TT50** and **IST-TT220**, not needed for **IST-TT550**) |

# DIGITAL BOTTLE CAP TORQUE TESTER

DATA OUTPUT

- Measure the open and tighten torque of bottle cap
- Units: 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

**two display modes**

data mode

graph mode

printer (optional)

**SPECIFICATION**

| Code | IST-DCT2 | IST-DCT5 | IST-DCT10 | IST-DCT20 |
|---|---|---|---|---|
| Load capacity | 2N.m | 5N.m | 10N.m | 20N.m |
| Resolution | 0.001N.m | 0.001N.m | 0.01N.m | 0.01N.m |
| Clamping range | Ø19.5~190mm | | | |
| Accuracy | ±0.5% (of load capacity) | | | |
| Measuring mode | tracking, peak (max.), first peak, double peak, low and high limits with judgement | | | |
| Output | wireless and USB | | | |
| Power supply | built-in rechargeable battery | | | |
| Dimension | 200×197×142mm | | | |
| Weight | 2.5kg | | | |

**STANDARD DELIVERY**

| | |
|---|---|
| Main unit | 1pc |
| AC/DC adapter | 1pc |
| USB cable and software | 1pc |

**OPTIONAL ACCESSORY**

| | |
|---|---|
| Printer | ISH-DS-PRINTER |

# DIGITAL TORQUE SCREWDRIVER

**IST-SD200**

MANUFACTURER INSPECTION CERTIFICATE

- Clockwise and counter-clockwise operation
- Unit: cN.m, in.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 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

**SPECIFICATION**

| Code | | IST-SD50 | IST-SD200 | IST-SD400 |
|---|---|---|---|---|
| Range | | 10~50cN.m | 40~200cN.m | 80~400cN.m |
| Accuracy | clockwise | ±3% | ±2.5% | ±2.5% |
| | counter-clockwise | ±4% | ±3.5% | ±3.5% |
| Resolution | | 0.1cN.m | 0.1cN.m | 0.1cN.m |
| Size of shank (L) | | 1/4" | 1/4" | 1/4" |
| Power supply | | 1×AAA battery | | |
| Length | | 193mm | 203mm | 203mm |
| Weight | | 190g | 200g | 200g |

**OPTIONAL ACCESSORY**

| Calibration cable | IST-SD-CABLE |
|---|---|

# SMALL RANGE DIGITAL TORQUE WRENCH

**IST-WP20**

MANUFACTURER INSPECTION CERTIFICATE

- 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 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)

**SPECIFICATION**

| Code | | IST-WP12 | IST-WP20 |
|---|---|---|---|
| Range | | 2.4~12N.m | 4~20N.m |
| Accuracy | clockwise | ±3% | ±3% |
| | counter-clockwise | ±4% | ±4% |
| Resolution | | 0.01N.m | 0.01N.m |
| Square driver (L) | | 1/4" | 1/4" |
| Power supply | | 1×AAA battery | |
| Length | | 260mm | 260mm |
| Weight | | 430g | 430g |

**OPTIONAL ACCESSORY**

| Calibration cable | IST-W-CABLE |
|---|---|

# SHORT HANDLE DIGITAL TORQUE WRENCH

MANUFACTURER INSPECTION CERTIFICATE

**IST-WS60**

- 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 in 5 minutes automatically
- Non-slip grip handle
- With damp record
- With overload record (once the torque reaches 110% of the maximum range)

**SPECIFICATION**

| Code | | IST-WS30 | IST-WS30A | IST-WS60 | IST-WS85 |
|---|---|---|---|---|---|
| Range | | 6~30N.m | 6~30N.m | 12~60N.m | 17~85N.m |
| Accuracy | clockwise | ±3% | | | |
| | counter-clock wise | ±4% | | | |
| Resolution | | 0.01N.m | 0.01N.m | 0.01N.m | 0.1N.m |
| Square driver (L) | | 1/4" | 3/8" | 3/8" | 3/8" |
| Power supply | | 2×AAA batteries | | | |
| Length | | 215mm | 215mm | 225mm | 271mm |
| Weight | | 750g | 830g | 917g | 1000g |

**OPTIONAL ACCESSORY**

| Calibration cable | IST-WS-CABLE |
|---|---|

# DIGITAL TORQUE WRENCH

MANUFACTURER INSPECTION CERTIFICATE

**IST-W135A**

- 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 overload record (once the torque reaches 110% of the maximum range)

**SPECIFICATION**

| Code | Range | Accuracy | Resolution | Square driver (L) | Power supply | Length | Weight |
|---|---|---|---|---|---|---|---|
| **IST-W30A** | 6~30N.m | clockwise: ±2%<br>counter-clockwise: ±3% | 0.01N.m | 1/4" | 2×AA batteries | 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** | 100~500N.m | clockwise: ±2.5%<br>counter-clockwise: ±3.5% | 0.1N.m | 3/4" | | 950mm | 2.1kg |
| **IST-W850A** | 170~850N.m | | 0.1N.m | 3/4" | | 1220mm | 2.55kg |
| **IST-W1200A** | 240~1200N.m | | 1N.m | 1" | | 1800mm | 13kg |
| **IST-W1500A** | 300~1500N.m | | 1N.m | 1" | | 1800mm | 13kg |
| **IST-W2000A** | 400~2000N.m | | 1N.m | 1" | | 1800mm | 14kg |

**OPTIONAL ACCESSORY**

| | |
|---|---|
| **Calibration cable** | **IST-W-CABLE** |

# DIGITAL ANGLE TORQUE WRENCH

MANUFACTURER INSPECTION CERTIFICATE

**IST-1W135A**

- Clockwise and counter-clockwise operation
- Set the desired torque first. After reaching the desired torque, set the angle and turn the wrench at this angle to apply extra torque
- Unit: N.m, in.lb, ft.lb, kg.cm, degree
- Peak and track working mode
- 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 90%~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 5 minutes automatically
- Non-slip grip handle
- With damp record
- With overload record (once the torque reaches 110% of the maximum range)

Set the desired torque first. After reaching the desired torque, set the angle and turn the wrench at this angle to apply extra torque

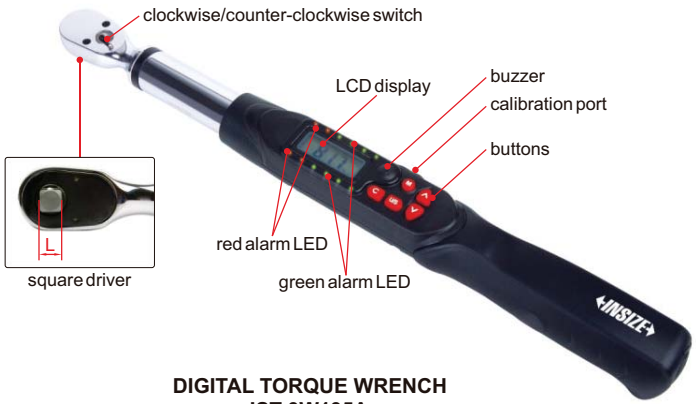
**SPECIFICATION**

| Code | | IST-1W30A | IST-1W135A | IST-1W200A | IST-1W340A |
|---|---|---|---|---|---|
| Range | torque | 6~30N.m | 27~135N.m | 40~200N.m | 68~340N.m |
| | angle | 0~999° | | | |
| Accuracy | clockwise | ±2% | | | |
| | counter-clock wise | ±3% | | | |
| | angle | ±2° (rotate 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 | | 2xAA batteries, for 110 hours working | | | |
| Length | | 390mm | 415mm | 530mm | 650mm |
| Weight | | 830g | 950g | 1400g | 1600g |

**OPTIONAL ACCESSORY**

| | |
|---|---|
| Calibration cable | IST-1W-CABLE |

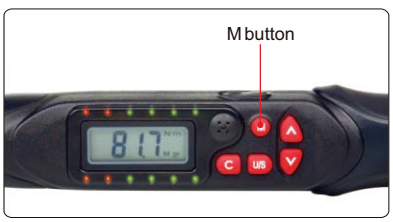
# WIRELESS DATA TRANSFER DIGITAL TORQUE WRENCH




**DIGITAL TORQUE WRENCH**
**IST-3W135A**

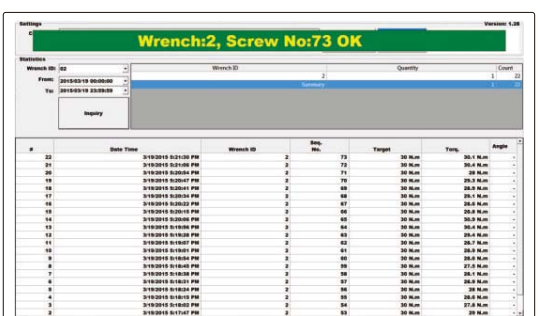
**RECEIVER**
**IST-3WREC**

MANUFACTURER INSPECTION CERTIFICATE



up to 10 pcs torque wrench can be connected to one receiver, the maximum working distance is 300m

- Wireless data transfer to computer
- 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)




press “M” button to transfer data to computer when test value is within the tolerance

## DIGITAL TORQUE WRENCH SPECIFICATION

| Code | | IST-3W30A | IST-3W135A | IST-3W200A | IST-3W340A |
|---|---|---|---|---|---|
| Range | | 6~30N.m | 27~135N.m | 40~200N.m | 68~340N.m |
| Accuracy | clockwise | ±2% | | | |
| | counter-clock wise | ±3% | | | |
| Tolerance setting range | | -25%~+25% (target torque value) | | | |
| Resolution | | 0.01N.m | 0.1N.m | 0.1N.m | 0.1N.m |
| Square driver (L) | | 1/4" | 3/8" | 1/2" | 1/2" |
| Working frequency | | ISM433MHz (432.0~433.8MHz, adjustable) | | | |
| Power supply | | 2xAA batteries, for 110 hours working | | | |
| Length | | 390mm | 415mm | 530mm | 650mm |
| Weight | | 760g | 940g | 1340g | 1540g |

## RECEIVER SPECIFICATION

| Code | IST-3WREC |
|---|---|
| Working frequency | ISM433MHz (432.0 ~ 433.8MHz adjustable) |
| Power supply | DC 24V, 0.5A |
| Dimension | 200×108×31mm |
| Weight | 500g |

## OPTIONAL ACCESSORY

| Calibration cable | IST-3W-CABLE |
|---|---|

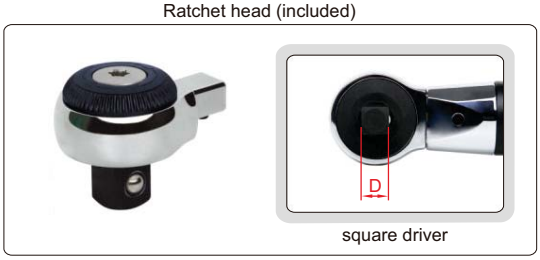
# INTERCHANGEABLE HEAD DIGITAL TORQUE WRENCH

MANUFACTURER INSPECTION CERTIFICATE

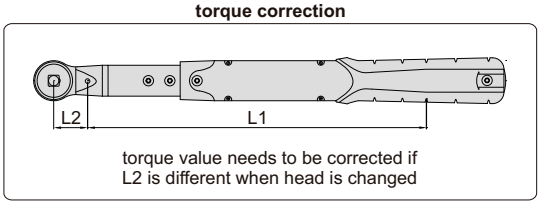
**IST-2W135A**

- Clockwise and counter-clockwise operation
- Unit: N.m, in.lb, ft.lb, kg.cm, degree
- 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 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)

Ratchet head (included)




**torque correction**




torque value needs to be corrected if L2 is different when head is changed

**SPECIFICATION**

| Code | | IST-2W30A | IST-2W135A | IST-2W200A | IST-2W340A |
|---|---|---|---|---|---|
| Range | | 6 ~ 30N.m | 27 ~ 135N.m | 40 ~ 200N.m | 68 ~ 340N.m |
| Accuracy | clockwise | ±2% | | | |
| | counter-clock wise | ±3% | | | |
| Resolution | | 0.01N.m | 0.1N.m | 0.1N.m | 0.1N.m |
| Socket size (A×B) | | 12×9mm | 12×9mm | 18×14mm | 18×14mm |
| Arm length (L1) | | 272.7mm | 287.7mm | 381.2mm | 501.2mm |
| Power supply | | 2xAA batteries, for 110 hours working | | | |
| Weight | | 1400g | 1570g | 2170g | 2320g |

**RATCHET HEAD (included) SPECIFICATION**

| Code of torque wrench | IST-2W30A | IST-2W135A | IST-2W200A | IST-2W340A |
|---|---|---|---|---|
| Square driver (D) | 1/4" | 3/8" | 1/2" | 1/2" |
| Length (L2) | 29mm | 29mm | 40mm | 40mm |

**STANDARD DELIVERY**

| | |
|---|---|
| Torque wrench | 1 pc |
| Ratchet head | 1 pc |

**OPTIONAL ACCESSORY**

| | |
|---|---|
| Calibration cable | IST-1W-CABLE |
| Interchangeable head | refer to next page |

To be continued

Continued from previous page

**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<br>IST-2W340A |

**ADJUSTABLE SPANNER HEAD (optional)**

| Code | Open size | Applicable wrenches |
|---|---|---|
| IST-2W-A1 | 5 ~ 27mm | IST-2W135A |
| IST-2W-A2 | 5 ~ 30mm | IST-2W200A |
| IST-2W-A3 | 10 ~ 41mm | IST-2W340A |

**OPEN END HEAD (optional)**

| Code | Open size | Applicable wrenches |
|---|---|---|
| IST-2W-K7 | 7mm | IST-2W30A<br>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<br>IST-2W340A |
| 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 | |

**BOX END HEAD (optional)**

| Code | Open size | Applicable wrenches |
|---|---|---|
| IST-2W-M7 | 7mm | IST-2W30A<br>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-2W-M13A | 13mm | IST-2W200A<br>IST-2W340A |
| 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 | |

# TORQUE WRENCH

ACCURACY ±3%

ATTENTION: CLOCKWISE OPERATION ONLY

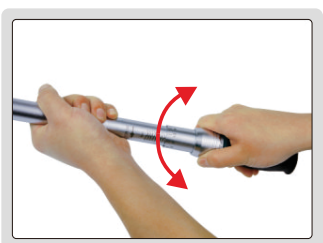
MANUFACTURER INSPECTION CERTIFICATE

**IST-2WM100**

- According to DIN ISO 6789, ASME B107.300-2010

Set torque:

step 1: unlock



step 2: set

step 3: lock

**SPECIFICATION**

| Code | IST-2WM25 | IST-2WM60 | IST-2WM100 | IST-2WM200 | IST-2WM340 | IST-2WM600 | IST-2WM800 |
|---|---|---|---|---|---|---|---|
| Range (clockwise) | 5~25N.m | 10~60N.m | 20~100N.m | 40~200N.m | 60~340N.m | 100~600N.m | 150~800N.m |
| Accuracy | ±3% | ±3% | ±3% | ±3% | ±3% | ±3% | ±3% |
| Graduation | 0.2N.m | 0.5N.m | 0.5N.m | 1N.m | 2N.m | 5N.m | 5N.m |
| Square driver (D) | 1/4" | 3/8" | 3/8" | 1/2" | 1/2" | 3/4" | 3/4" |
| Length | 281mm | 337mm | 436mm | 512mm | 614mm | 1050mm | 1240mm |
| Weight | 590g | 760g | 1320g | 1580g | 1800g | 5030g | 6110g |

# PRECISION CUTTING MACHINE
# CODE ISJ-CMA35

- Low noise
- Manual and automatic mode switch
- Built-in recycling water cooling system
- Ball bearing for long working life
- With currency overload protection

cutting blade

coolant

wrench

**SPECIFICATION**

| | |
|---|---|
| **Maximum cutting diameter** | Ø35mm |
| **Maximum cutting depth** | 200mm |
| **Diameter of cutting blade** | Ø255mm |
| **Hole diameter of cutting blade** | Ø31.75mm |
| **Feeding method** | manual or automatic |
| **Rotating speed** | 2500rpm |
| **Power supply** | AC 380V, 50Hz, 900W |
| **Dimension** | 830×900×1300mm |
| **Weight** | 226kg |

**STANDARD DELIVERY**

| | |
|---|---|
| **Main unit** | 1pc |
| **Cutting blade** | 2pcs |
| **Coolant** | 3 bottles |
| **Wrench** | 2pcs |

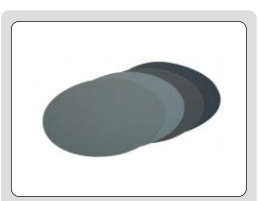
**OPTIONAL ACCESSORY**

| | |
|---|---|
| **Cutting blade** | **ISJ-CMA35-CUT** |
| **Coolant** | **ISJ-CMA35-COLT** |

# GRINDER AND POLISHER
# CODE ISJ-PMA200

- Low noise
- With motor overload protection

aluminum oxide powder


silicon carbide paper

polishing cloth

**SPECIFICATION**

| | |
|---|---|
| **Quantity of platen** | 2 |
| **Grinding method** | manual |
| **Platen diameter** | Ø200mm |
| **Rotation speed** | 50~600rpm (adjustable) |
| **Power supply** | AC 220V, 50Hz, 250W |
| **Dimension** | 750×690×460mm |
| **Weight** | 55kg |

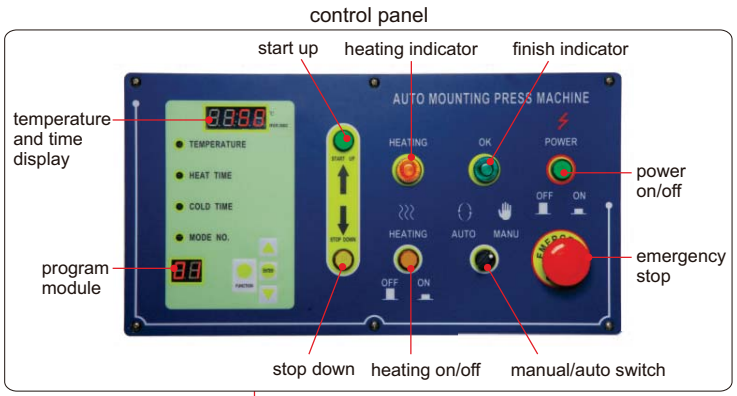
**STANDARD DELIVERY**

| | |
|---|---|
| **Main unit** | 1pc |
| **Aluminum oxide powder (100g)** | 1 bag |
| **Silicon carbide paper** | 4pcs |
| **Polishing cloth** | 2pcs |

**OPTIONAL ACCESSORY**

| | |
|---|---|
| **Aluminum oxide powder (100g)** | **ISJ-PMA200-ALU** |
| **Silicon carbide paper** | **ISJ-PMA200-SAN** |
| **Polishing cloth** | **ISJ-PMA200-CLT** |

# MOUNTING PRESS
# CODE ISJ-MMA32



- Low noise
- Water cooling system
- Can set temperature, heating time and cooling time
- Maximum 40 settings can be saved

spray

hot mounting resin

**SPECIFICATION**

| | |
|---|---|
| **Maximum diameter of workpiece** | Ø32mm |
| **Mounting quantity** | 1pc |
| **Power supply** | AC 220V, 50Hz, 1600W |
| **Dimension** | 580×550×590mm |
| **Weight** | 80kg |

**STANDARD DELIVERY**

| | |
|---|---|
| **Main unit** | 1pc |
| **Spray** | 1 bottle |
| **Hot mounting resin (1kg)** | 1 bag |

**OPTIONAL ACCESSORY**

| | |
|---|---|
| **Spray** | **ISJ-MMA32-LQD** |
| **Hot mounting resin (1kg)** | **ISJ-MMA32-PDR** |

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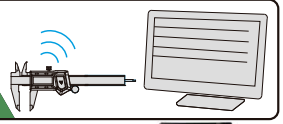
## DATA OUTPUT AND SOFTWARE



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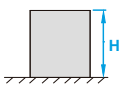
## HEIGHT

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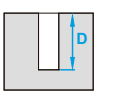


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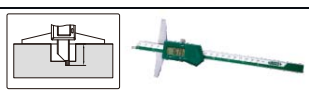

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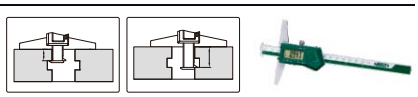

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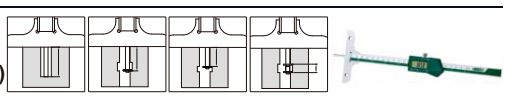

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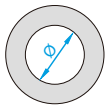


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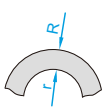
## ARC RADIUS

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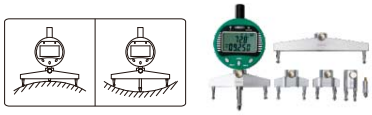

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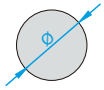

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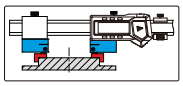

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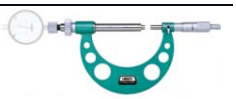

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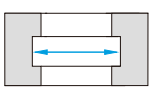

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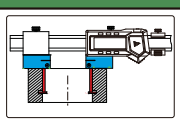

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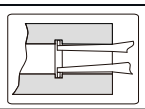

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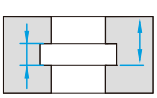

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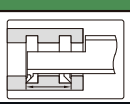

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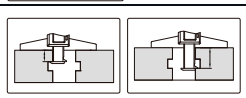

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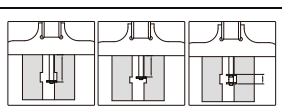

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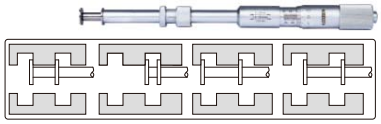
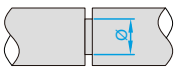


## EXTERNAL GROOVE DIAMETER



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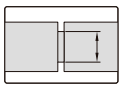

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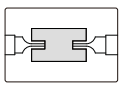

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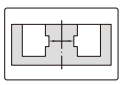

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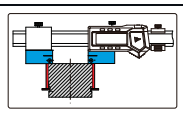

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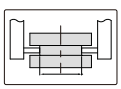

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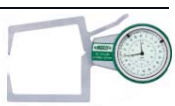

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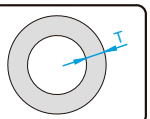

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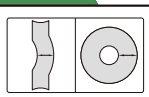

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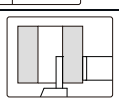

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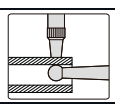

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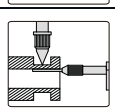

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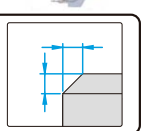

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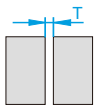


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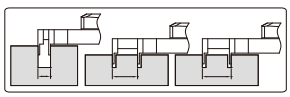

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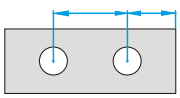

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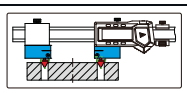

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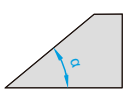


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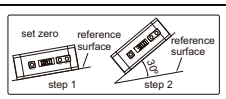

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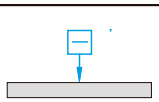

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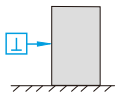

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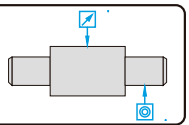

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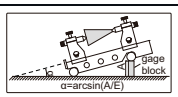

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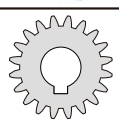

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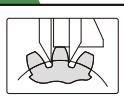

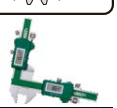

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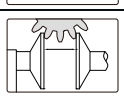

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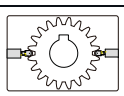

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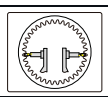

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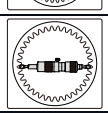

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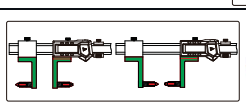

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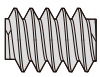

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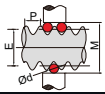

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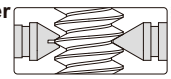

**Internal screw thread micrometer**
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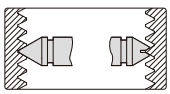
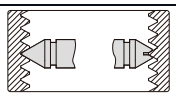


**Internal screw thread micrometer**
3641-, 3226- **(PAGE 109-110)**



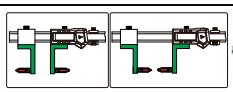
**Thread plug gage**
4130-, 4139-, 4131-, 4641-, 4642-
4643-, 4644- **(PAGE 186-194)**

**Thread ring gage**
4120-, 4129-, 4121-, 4631-, 4632-, 4633-,
4634- **(PAGE 188-194)**

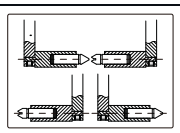
**Pitch gage**
4824-, 4820-
**(PAGE 215-216)**

**External thread measuring device**
ISQ-TE100
**(PAGE 277-278)**

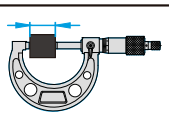
**Universal caliper**
1125-
**(PAGE 23-24)**



**Digital caliper with interchangeable points**
1526-, 1124-
**(PAGE 25-27)**



## MICROMETER CALIBRATION

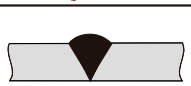


**Micrometer measuring force detector**
6315
**(PAGE 89)**

**Optical parallel**
4184-
**(PAGE 90)**

**Micrometer inspection gage block set**
4107-
**(PAGE 175)**

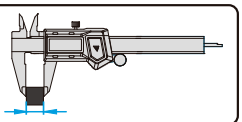
## WELDING



**Welding gage**
4830, 4831-,
4832-, 4836-,
4834-, 4838-,
4835-, 4840-
**(PAGE 222-227)**

**Pipe welding gage**
4841-, 4839-
**(PAGE 227-228)**

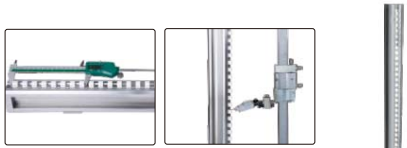
## CALIPER CALIBRATION



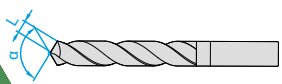
**Caliper inspection gage block set**
4108-
**(PAGE 176)**

**Caliper/height gage checker**
6884-
**(PAGE 180)**

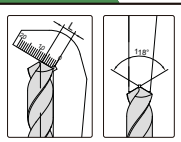
**Check master**
6882-
**(PAGE 181)**



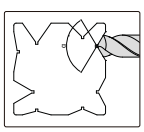
## DRILL BITS



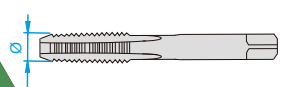
**Drill point gage**
4843-
**(PAGE 229)**



**Drill angle gage**
4842-
**(PAGE 229)**



## TAPS, REAMERS AND END MILLS



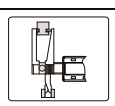
**V-anvil micrometer**
3290-, 3590-
**(PAGE 84)**

## JEWELLERY

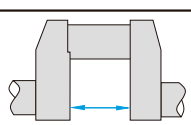
**Thickness gage**
2361-
**(PAGE 157)**

**Digital snap gage**
2167-
**(PAGE 165)**

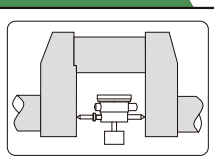
**Digital 3-purpose snap gage**
2164-
**(PAGE 166)**



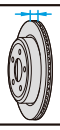
## CRANKSHAFT DEFLECTION



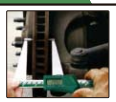
**Crankshaft tester**
2841-
**(PAGE 167)**



## CAR BRAKE



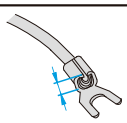
**Digital disk brake caliper**
1162-, 1167-
**(PAGE 39-40)**



**Digital drum brake caliper**
1168-
**(PAGE 40)**

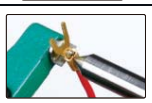
**Disc brake micrometer**
3288-, 3588-
**(PAGE 81)**

## CABLE CRIMP HEIGHT

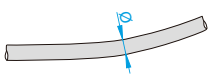


**Digital crimp height caliper**
1165-
**(PAGE 38)**

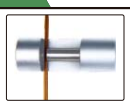
**Crimp height micrometer**
3266-, 3566-
**(PAGE 77)**



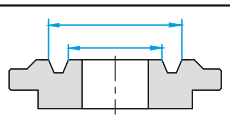
## WIRE DIAMETER



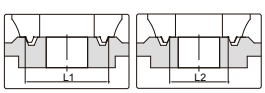

**Wire micrometer**
3285-
**(PAGE 88)**



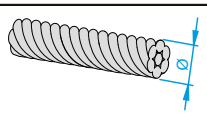
## RTJ RING GROOVE DIAMETER



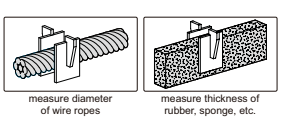
**Digital RTJ ring groove caliper**
1179-
**(PAGE 37)**



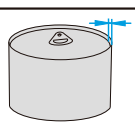
## WIRE ROPE DIAMETER, RUBBER AND SPONGE THICKNESS



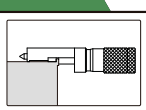

**Digital caliper with large measuring faces**
1172-
**(PAGE 38)**



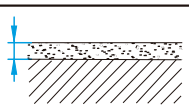
## CAN SEAM



**Can seam micrometer**
3293-
**(PAGE 89)**

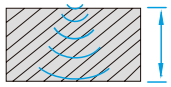


## COATING THICKNESS

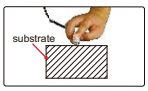


**Coating thickness gage**
ISO-2000FN,
ISO-1500F **(PAGE 318-319)**

## MEASURING THICKNESS FROM ONE SIDE

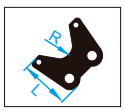


**Ultrasonic thickness gage (through coating)**
ISU-300D **(PAGE 320)**



**Ultrasonic thickness gage**
ISU-250C, ISU-200D
**(PAGE 321-322)**

## VISION MEASUREMENT



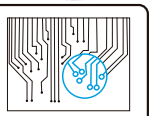
**Profile projector**
ISP-Z3015/A1000E
ISP-AZ3020/A5000E
ISP-W3020/A3000E
ISP-W4025/A7000E
**(PAGE 279-286)**

**Vision measuring system**
ISD-V150/V250/V300, ISD-A100-P
**(PAGE 287-290)**

**Digital measuring microscope**
ISM-WF200, ISM-PM200SB/600SB/PM160LA
**(PAGE 291-294)**

**Portable measuring microscope**
ISM-PM20/40/50/100
**(PAGE 303)**

## VISION INSPECTION



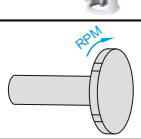
**Digital microscope**
ISM-WF200/PM200SB/PM600SB
/PM160LA/TV200/TV200W
**(PAGE 291-295)**

**Stereo microscope**
ISM-ZS50/ZS50T/ZS30
**(PAGE 296-297)**

**High magnification microscope**
ISM-M600-P/M1000/M2000
**(PAGE 298-301)**

**Portable measuring microscope**
ISM-PM20/40/50/100
**(PAGE 303)**

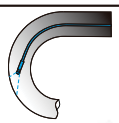
## ROTARY SPEED




**Digital LED tachometer/stroboscope**
ISQ-TS120K
**(PAGE 323)**

# APPLICATION INDEX

## VIDEOSCOPE AND BORESCOPE

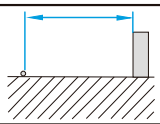


**Videoscope**
ISV-4000D/2000D/2001D/3000D/3001D/
VP60/RV/E10/E20**(PAGE 304-309)**

**Pipe videoscope**
ISV-VP280
**(PAGE 310)**

**Borescope**
ISV-1Hxxx/HF4030/HR6032/HMxxx/HPxxx
**(PAGE 311-317)**

## DISTANCE



**Laser distance meter**
ISN-L70
**(PAGE 324)**

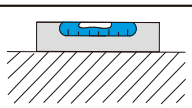
## SCALE

**Digital horizontal scale**
7101-
**(PAGE 269)**

**Digital vertical scale**
7102-
**(PAGE 270)**

**Linear scale**
ISL-A1-xxx/A5-xxx/B5-xxx
**(PAGE 271-272)**

## LEVEL



**Digital level**
ISE-2DT
**(PAGE 341)**

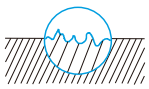
**Digital level and protractor**
2173-, 2179-, 2170-
**(PAGE 342-343)**

**Level**
4906-, 4905-, 4907-, 4908-
**(PAGE 343-344)**

**Aluminum alloy level**
4911-
**(PAGE 345)**

**Digital level**
4910-
**(PAGE 345)**

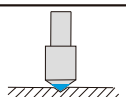
## ROUGHNESS



**Roughness tester**
ISR-S1000B/S1000A/S500/S300/S400/C100
**(PAGE 325-338)**

**Roughness specimen**
ISR-RSxxx, ISR-CS130, ISR-CSxxx
**(PAGE 339-340)**

## HARDNESS



**Rockwell (desk model)**
ISH-MRD200/RD200/MR150/R150/BRV
**(PAGE 346-350)**

**Rockwell (portable)**
ISHR-P151/D121/M111/B141
**(PAGE 365-368)**

**Brinell (desk model)**
ISH-BRV, ISHB-M100/D200
**(PAGE 350-352)**

**Brinell (portable)**
ISHR-B141/H131/P101
**(PAGE 368-370)**

**Vickers (desk model)**
ISH-BRV **(PAGE 350)**
ISHV-D120, ISH-DV10/DV50 **(PAGE 354-355)**

**Leeb (portable)**
ISH-SPHA/PHA/PHB/SPHD
**(PAGE 357-362)**

**Ultrasonic (portable)**
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**(PAGE 363-364)**

**Webster (portable)**
ISHW-L20/L20A/L20B/B70/B75/B92
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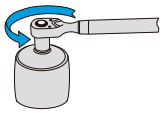
**Barcol (portable)**
ISHB-B300
**(PAGE 372)**

**Shore (portable)**
ISH-DSA/DSD, ISH-S30A/S30D, ISH-SAM/SDM
**(PAGE 373-377)**

## TORQUE



**Digital torque tester**
IST-TTxxx
**(PAGE 381)**

**Digital bottle cap torque tester**
IST-DCTxxx
**(PAGE 383)**

**Digital torque wrench screwdriver**
IST-SDxxx **(PAGE 384)**



**Torque wrench**
IST-WPxxx/WSxxx/Wxxx/1Wxxx/3Wxxx
/2Wxxx/2WMxxx **(PAGE 384-391)**

## METALLURGICAL ANALYZE

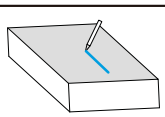
**Metallurgical microscope**
ISM-M2000
**(PAGE 301)**

**Precision cutting machine**
ISJ-CMA35
**(PAGE 392)**

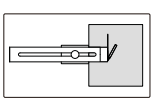
**Grinder and polisher**
ISJ-PMA200
**(PAGE 393)**

**Mounting press**
ISJ-MMA32
**(PAGE 394)**

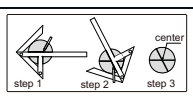
## MARK AND SCRIBE



**Marking gage**
7120-, 1275-
**(PAGE 234)**



**Center marking gage**
7205-
**(PAGE 235)**



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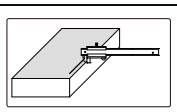

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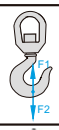


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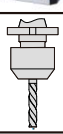

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