

2014
2015



MEASURING INSTRUMENTS

CATALOGUE NO. 2014E



QUALITY | INNOVATION | SERVICE | VALUE



Our aims:

- Quality products made to international standards with full guarantee
- 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

←INSIZE→ is our standard quality and made in Asia

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DIGITAL DEPTH GAGE



DIAL DEPTH GAGE



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INTERNAL AND EXTERNAL DIAMETER MEASUREMENT PAGE 86-112



THREE POINTS
INTERNAL MICROMETER



INSIDE MICROMETER



TUBULAR
INSIDE MICROMETER



BORE PLUG GAGE



BORE GAGE



SETTING RING



INTERNAL CHAMFER GAGE



LARGE DIAMETER GAGE



CIRCUMFERENCE TAPE



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CALIPER PAGE 5-33



DIGITAL CALIPER



DIAL CALIPER



VERNIER CALIPER



SPECIAL PURPOSE
CALIPER

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DIGITAL OUTSIDE
MICROMETER



OUTSIDE MICROMETER



INDICATING
MICROMETER



SPECIAL PURPOSE
MICROMETER



MICROMETER HEAD



MICROMETER STAND



OPTICAL PARALLEL

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INDICATOR PAGE 113-148



DIGITAL INDICATOR



DIAL INDICATOR



DIAL TEST INDICATOR



DIAL TEST
INDICATOR HOLDER



MAGNETIC STAND



DIAL GAGE STAND



CONCENTRICITY GAGE



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INTERNAL/EXTERNAL CALIPER GAGE



DIGITAL THICKNESS GAGE



THICKNESS GAGE



DIAL SNAP GAGE



DIGITAL SNAP GAGE



STEP AND GAP GAGE



CRANKSHAFT TESTER

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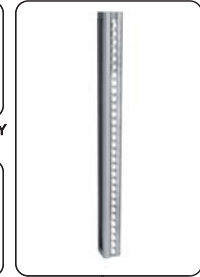
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GAGE BLOCKS



GAGE BLOCK ACCESSORY



CHECK MASTER



PIN GAGE



PLAIN PLUG GAGE



THREAD RING GAGE



THREAD PLUG GAGE



ANGLE GAGE BLOCK SET

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DIGITAL PROTRACTOR



PROTRACTOR



UNIVERSAL PROTRACTOR



SQUARE



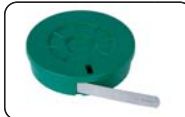
STRAIGHT EDGE

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FEELER GAGE



FEELER GAGE TAPE



PITCH GAGE



ANGLE GAGE



RADIUS GAGE



CHAMFER GAGE



TAPER GAGE



WELDING GAGE



DRILL POINT GAGE



INSIDE/OUTSIDE CALIPER



STRAIGHT EDGE



SCRIBER CALIPER



SCRIBER

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GRANITE SURFACE PLATE



MAGNALIUM STRAIGHT EDGE



GRANITE SQUARE



V-BLOCK SET



MAGNETIC V-BLOCK



PARALLEL SET



SINE BAR



ADJUSTABLE ANGLE BLOCK



PRECISION UNIVERSAL VISE



PRECISION VISE



CENTERING INDICATOR



3D TESTER



EDGE FINDER



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DIGITAL SCALE



LINEAR SCALE



COUNTER

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LINEAR GAGE AND DISPLAY UNIT



HIGH PRECISION LINEAR GAGE AND DISPLAY UNIT

16 PROFILE PROTRACTOR PAGE 250-255



PROFILE PROJECTOR



HORIZONTAL PROFILE PROJECTOR

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VISION MEASURING SYSTEM



VISION MEASURING SYSTEM

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DIGITAL MEASURING MICROSCOPE



ZOOM STEREO MICROSCOPE



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VIDEOSCOPE



PIPE VIDEOSCOPE



RIGID BORESCOPE

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ROUGHNESS TESTER



SURFACE ROUGHNESS SPECIMEN SET

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COATING THICKNESS GAGE



ULTRASONIC THICKNESS GAGE



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HARDNESS TESTER PAGE 311-335



DIGITAL ROCKWELL HARDNESS TESTER



MANUAL ROCKWELL HARDNESS TESTER



BRINELL/ROCKWELL/VICKERS HARDNESS TESTER



PORTABLE HARDNESS TESTER



MAGNETIC ROCKWELL HARDNESS TESTER



HYDRAULIC BRINELL HARDNESS TESTER



PIN BRINELL HARDNESS TESTER



WEBSTER HARDNESS TESTER



BARCOL HARDNESS TESTER



DIGITAL SHORE DUROMETER



SHORE DUROMETER

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TORQUE TESTER TORQUE WRENCH PAGE 338-342



DIGITAL TORQUE TESTER



TORQUE WRENCH

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LEVEL PAGE 305-310



DIGITAL LEVEL



DIGITAL LEVEL AND PROTRACTOR



DIGITAL LEVEL AND PROTRACTOR



FRAME LEVEL



BLOCK LEVEL



DIGITAL LEVEL

24

FORCE GAGE PAGE 336-337



DIGITAL FORCE GAGE



TESTING STAND

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PRECISION CUTTING MACHINE



GRINDER AND POLISHER



MOUNTING PRESS

WIRELESS DATA TRANSFER SYSTEM






receiver
7306-1



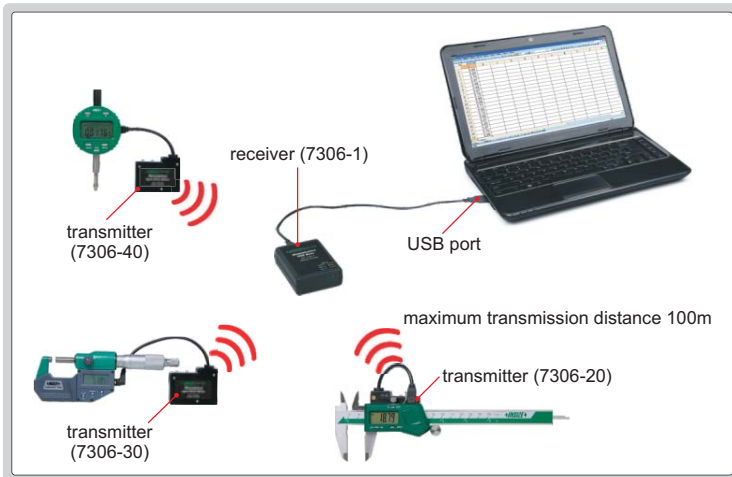
transmitter
7306-20

APPLICABLE FOR
OTHER BRANDS



| Code | Description | Applicable products |
|---------|------------------------------|---|
| 7306-1 | receiver (with USB cable) | |
| 7306-20 | transmitter module |  digital calipers and digital depth gages |
| 7306-30 | transmitter module |  digital micrometers (except 3108 and 3109) |
| 7306-40 | transmitter module |  digital indicators |

■ **CONNECTION:** one receiver can be connected to multi 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 adjustable.



■ **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 (INTERCHANGEABLE CABLE)



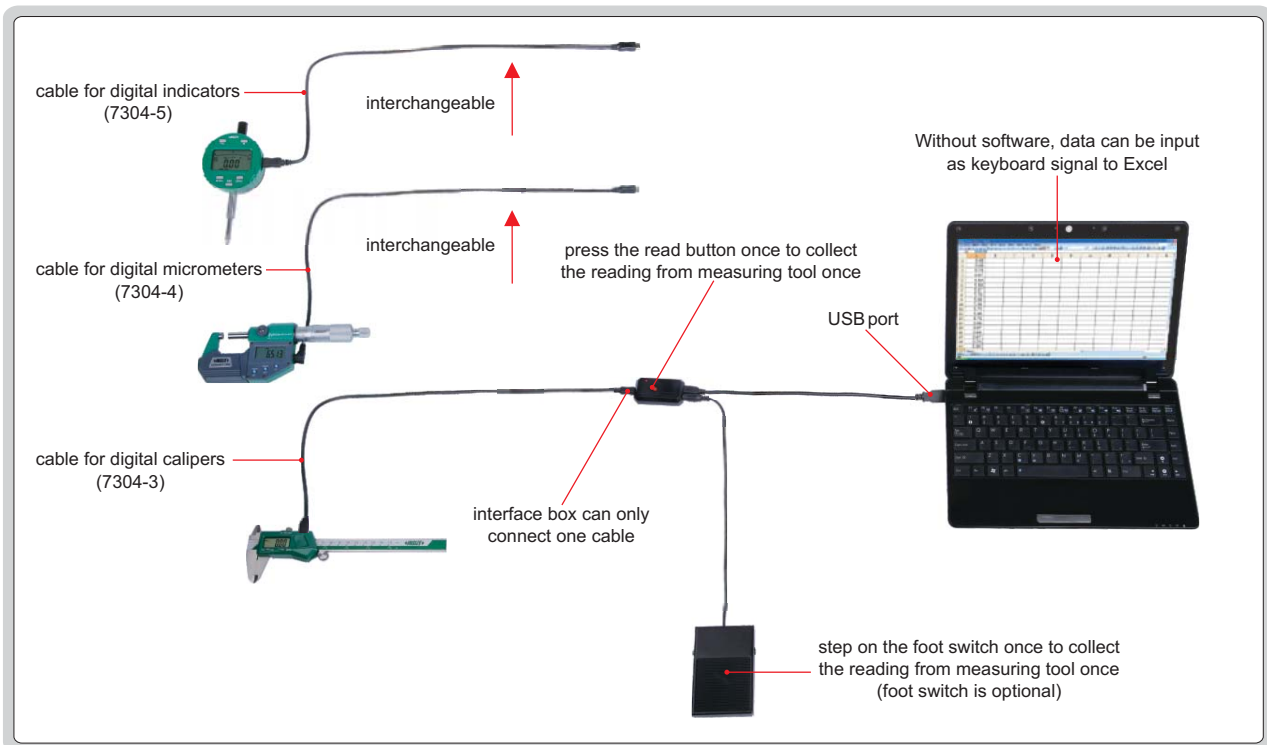
interface box
7304-1

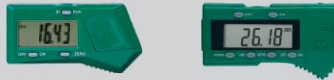




foot switch
7304-2



cable
7304-3



| Code | Description | Applicable products |
|--------|--------------------------------------|--|
| 7304-1 | interface box (USB, length 2m) | |
| 7304-2 | foot switch with cable (length 1.5m) | |
| 7304-3 | cable (length 0.5m) |  digital calipers and digital depth gages |
| 7304-4 | cable (length 0.5m) |  digital micrometers |
| 7304-5 | cable (length 0.5m) |  digital indicators |

DATA OUTPUT CABLE

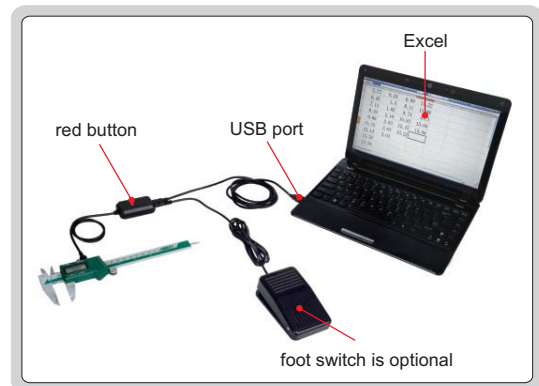






7302-SPC2A



7304-2

- 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



| Code | Description | Remark |
|------------|--------------------------------------|--|
| 7302-SPC1A | cable (length 2.5m) |  for digital calipers and digital depth gages |
| 7302-SPC2A | cable (length 2.5m) |  for digital micrometers |
| 7302-SPC3A | cable (length 2.5m) |  for digital indicators |
| 7302-SPC4 | cable (length 2.5m) |  for digital calipers 1103 series |
| 7304-2 | foot switch with cable (length 1.5m) | optional |

RS232 DATA OUTPUT CABLE



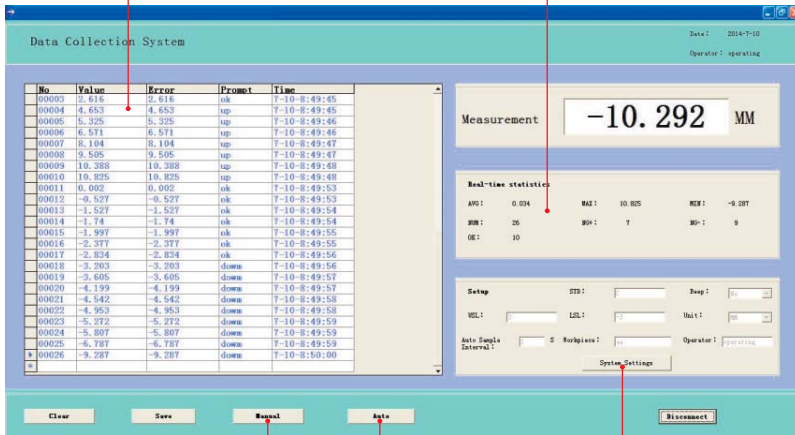
7305-SPC1A



foot switch (optional)
7304-2

automatic judgment
by setting tolerance

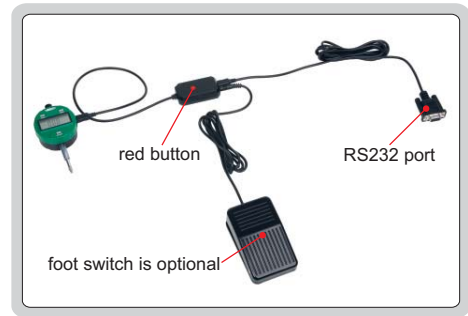
test result display (maximum value, minimum value,
total quantity of workpiece, quantity of passed and not passed,
quantity of exceed upper tolerance and exceed lower tolerance)



manual
sampling

automatic
sampling

set auto sample interval and tolerance

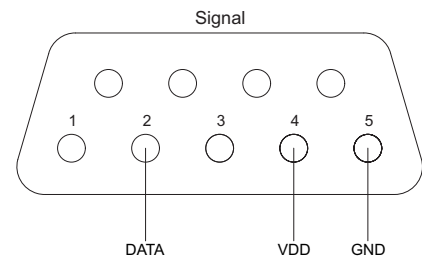


red button

RS232 port

foot switch is optional

- 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
- Supplied with software
- Voltage required: 5-10V
- Cable length 2.5m
- Optional accessory: foot switch (code 7304-2, cable length 1.5m)



| Code | Applicable products | | | | | |
|------------|---------------------|--|--|--|--|--------------------|
| 7305-SPC1A | | | | digital indicators | | digital protractor |
| 7305-SPC2 | | | | digital calipers and digital depth gages | | |

WATERPROOF DIGITAL CALIPER

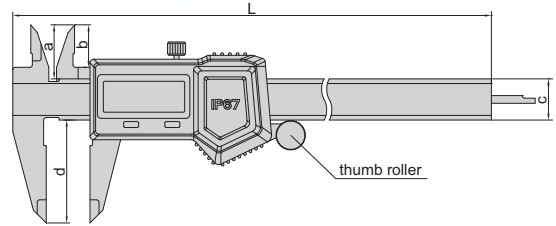


IP67
WATERPROOF

IT IS NECESSARY TO SET
ZERO AFTER POWER ON EACH TIME

1118-150B

- 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 |
|--------------------|---------------|----------|--------------|-----|----|------|----|----|
| 1118-150B* | 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 |
| 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 |

* Supplied with manufacturer calibration certificate

DIGITAL CALIPER



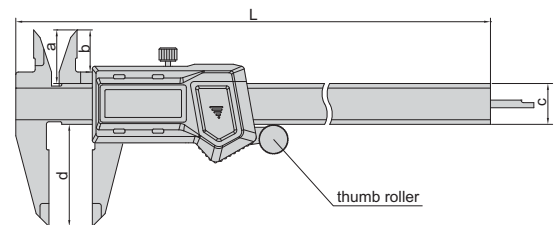
HIGH
PRECISION

ABSOLUTE
SYSTEM

DATA
OUTPUT

1103-150

- 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 system



(mm)

| Code | Range | Accuracy | Thumb roller | L | a | b | c | d |
|-------------------|---------------|----------|--------------|-----|----|------|----|----|
| 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 |
| 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 |

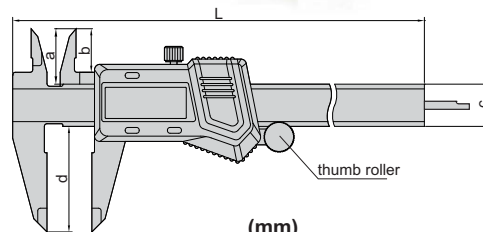
* Supplied with manufacturer calibration certificate

DIGITAL CALIPER



1114-150A

- Zinc alloy house for digital unit
- Resolution: 0.01mm/0.0005"
- Buttons: zero, on/off, mm/inch
- Battery CR2032
- Meet DIN862
- Made of stainless steel



(mm)

| Code | Range | Accuracy | Thumbroller | L | a | b | c | d |
|-------------|---------------|----------|-------------|-----|----|------|----|----|
| 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 |
| 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 |

* Supplied with manufacturer calibration certificate

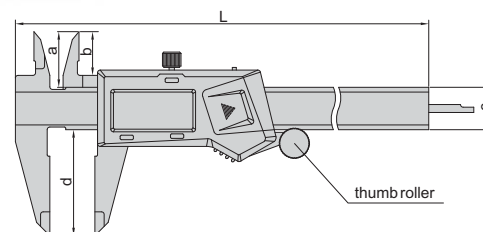
DIGITAL CALIPER



1108-150

DATA
OUTPUT

- 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 system



(mm)

| Code | Range | Accuracy | Thumb roller | L | a | b | c | d |
|------------|---------------|----------|--------------|-----|----|------|----|----|
| 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 |
| 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 |

* Supplied with manufacturer calibration certificate

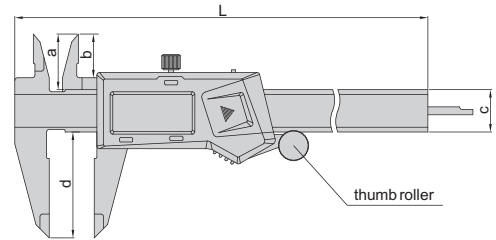
DATA
OUTPUT



METRIC DIGITAL CALIPER

1109-150

- 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 system



| Code | Range | Accuracy | Thumb roller | L | a | b | c | d | (mm) |
|------------|---------|----------|--------------|-----|----|------|----|----|------|
| 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 | |
| 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 | |

* Supplied with manufacturer calibration certificate

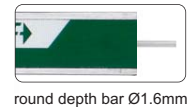
DATA
OUTPUT



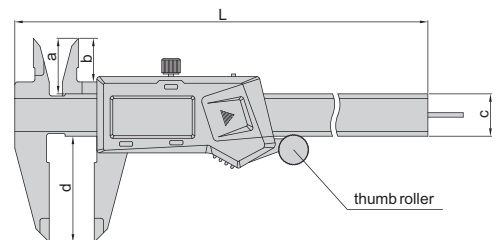
DIGITAL CALIPER WITH ROUND DEPTH BAR

1119-150

- 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 system



round depth bar Ø1.6mm



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

* Supplied with manufacturer calibration certificate

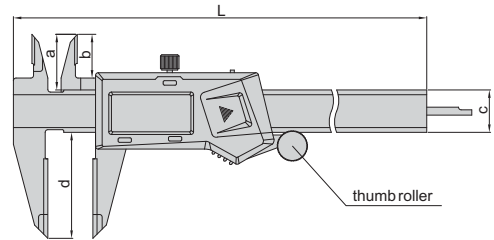


DIGITAL CALIPER WITH CARBIDE TIPPED JAWS

DATA
OUTPUT

1110-150A

- 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 system



| Code | Range | Accuracy | Thumb roller | L | a | b | c | d |
|-------------|---------------|----------|--------------|-----|----|------|----|----|
| 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 |
| 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 |

(mm)

* Supplied with manufacturer calibration certificate

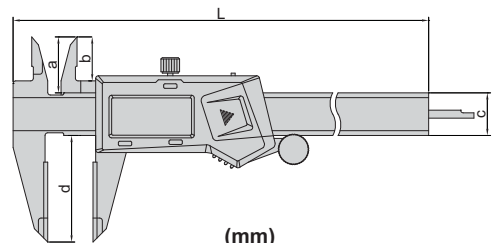


DIGITAL CALIPER WITH CERAMIC TIPPED JAWS

DATA
OUTPUT

1193-150

- 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, made of stainless steel
- Optional accessory: data output system



| Code | Range | Accuracy | Thumb roller | L | a | b | c | d |
|------------|---------------|----------|--------------|-----|----|------|----|----|
| 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 |
| 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 |

(mm)

ceramic tipped jaws



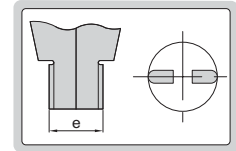
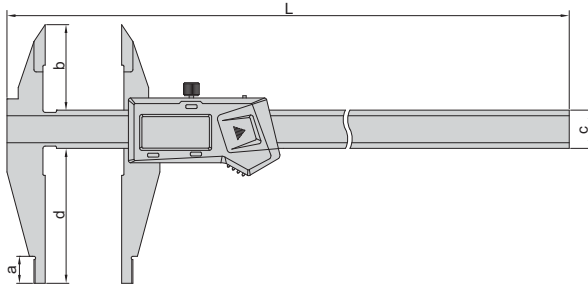
* Supplied with manufacturer calibration certificate

DATA
OUTPUT

DIGITAL CALIPER



1171-300



| 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 |

(mm)

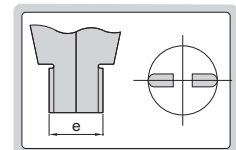
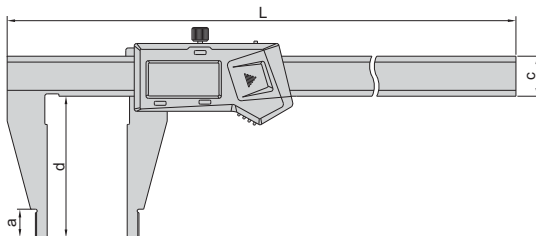
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output system

DATA
OUTPUT

DIGITAL CALIPER



1170-300



| 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 |

(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 system

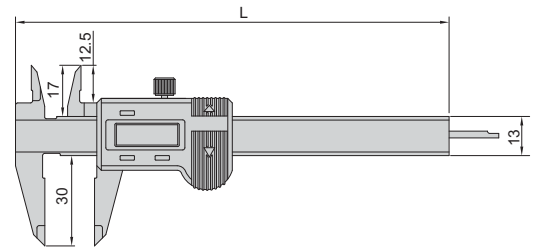


MINI DIGITAL CALIPER

- Resolution: 0.01mm/0.0005"
- Buttons: zero, mm/inch, on/off
- Battery SR44 or LR44
- Meet DIN862
- Made of stainless steel

1111-100

Unit: mm



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

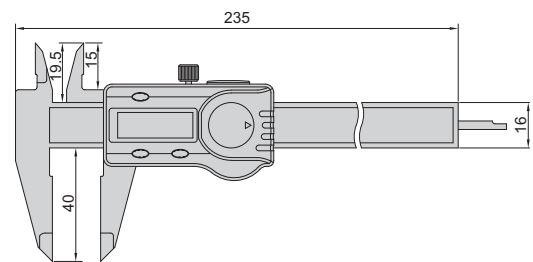


PLASTIC DIGITAL CALIPER

- 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

1139-150

Unit: mm



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

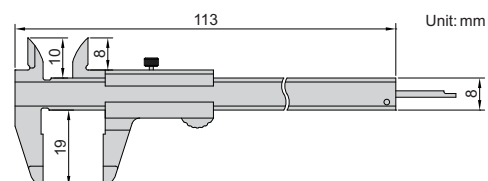


MINI VERNIER CALIPER

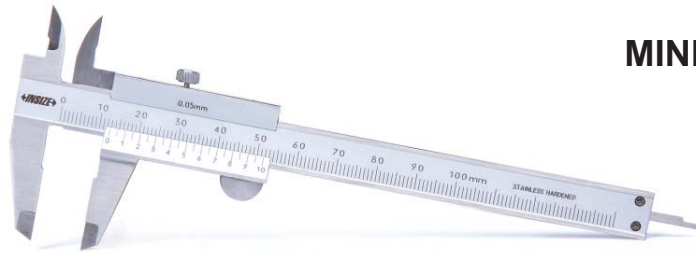
- Meet DIN862
- Made of stainless steel
- Satin chrome plated reading surface

1204-70

Unit: mm



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

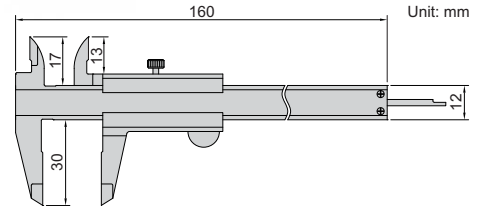


MINI VERNIER CALIPER

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

1203-1003

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

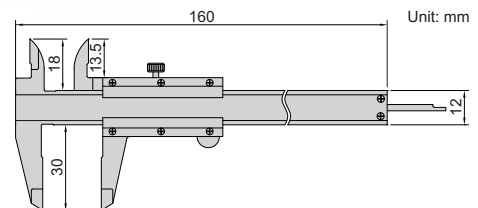


MINI VERNIER CALIPER

- 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 |



SHOCK PROOF



DIAL CALIPER

1312-150A

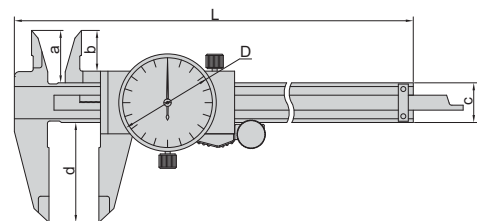
Dial indicator graduation: 0.02mm (mm)

| 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 |

- Shockproof dial indicator
- Made of stainless steel

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 calibration certificate

VERNIER CALIPER



1205-150S

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 |

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 |

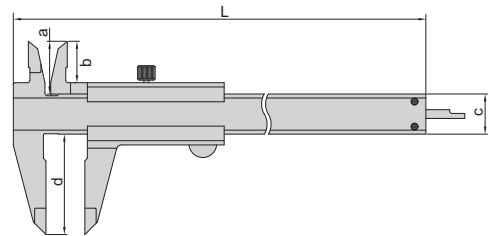
Graduation 0.05mm (mm)

| 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 0.05mm/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 |

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



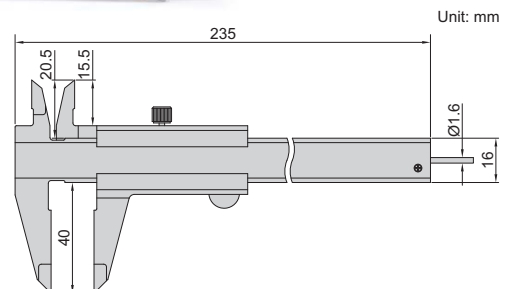
VERNIER CALIPER WITH ROUND DEPTH BAR



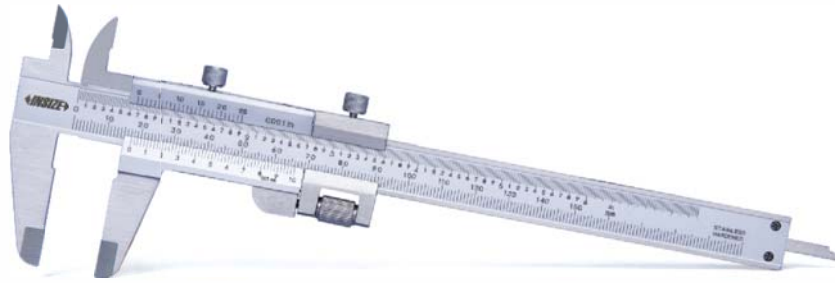
1202-150

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

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



VERNIER CALIPER WITH FINE ADJUSTMENT

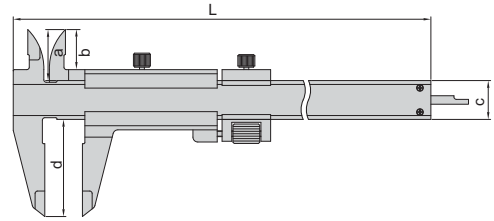


1233-130

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

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

(mm)



VERNIER CALIPER WITH THUMB CLAMP

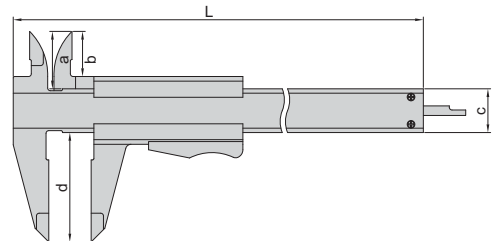


1223-150

Graduation 0.02mm/0.001"

| 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 |

(mm)



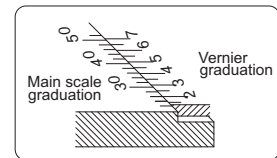
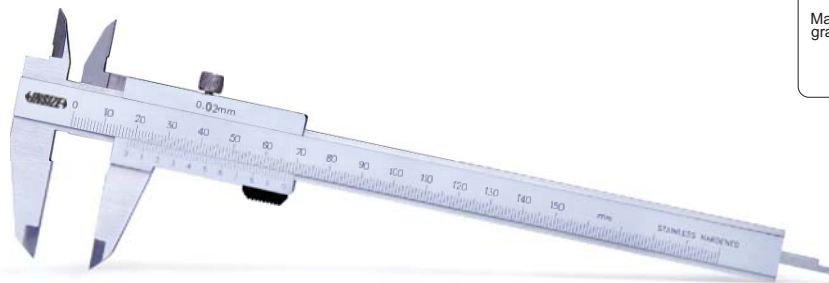
Graduation 0.05mm/1/128"

| 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 |

(mm)

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

NO PARALLAX VERNIER CALIPER



- No parallax
- Meet DIN862
- Made of stainless steel
- Satin chrome plated reading surface

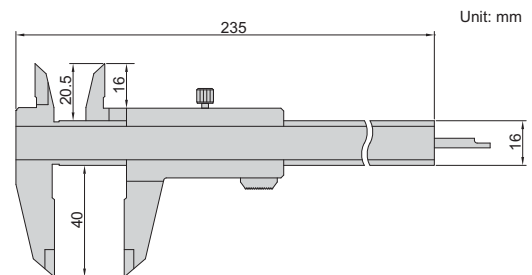
1212-1501

Graduation 0.02mm

| Code | Range | Accuracy |
|-----------|---------|----------|
| 1212-1501 | 0-150mm | ±0.03mm |

Graduation 0.05mm

| Code | Range | Accuracy |
|-----------|---------|----------|
| 1212-1503 | 0-150mm | ±0.05mm |



VERNIER CALIPER WITH CARBIDE TIPPED JAWS



1238-150

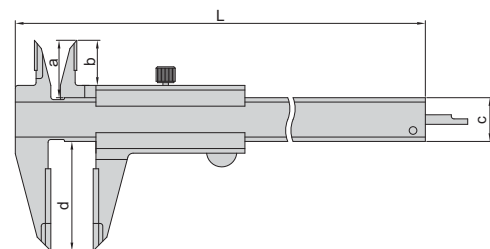
- Carbide tipped jaws for inside and outside measurements
- Meet DIN862
- Made of stainless steel
- Satin chrome plated reading surface

Graduation 0.02mm/0.001"

| Code | Range | Accuracy | L | a | b | c | d | (mm) |
|-----------|---------------|----------|-----|----|------|----|----|------|
| 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 | |

Graduation 0.05mm/1/128"

| Code | Range | Accuracy | L | a | b | c | d | (mm) |
|----------|---------------|----------|-----|----|------|----|----|------|
| 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 | |

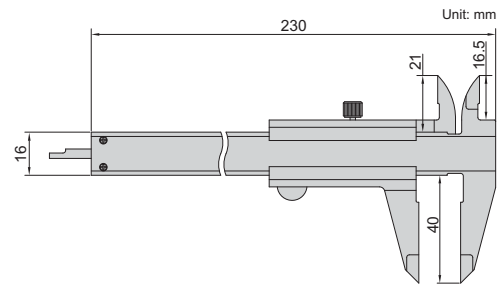


LEFT HAND VERNIER CALIPER



1239-150

- Graduation 0.05mm/1/128"
- Designed for left handers
- Meet DIN862
- Made of stainless steel
- Satin chrome plated reading surface



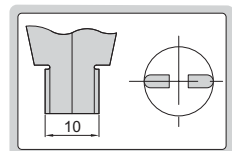
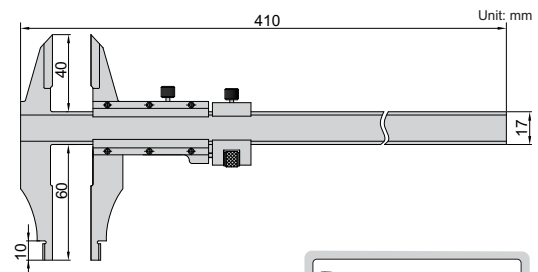
| Code | Range | Accuracy |
|----------|--------------|----------|
| 1239-150 | 0-150mm/0-6" | ±0.05mm |

VERNIER CALIPER



1217-3001

- Graduation 0.02mm
- With fine adjustment
- Made of stainless steel
- Satin chrome plated reading surface



| Code | Range | Accuracy |
|-----------|---------|----------|
| 1217-3001 | 0-300mm | ±0.03mm |

DIGITAL CALIPER

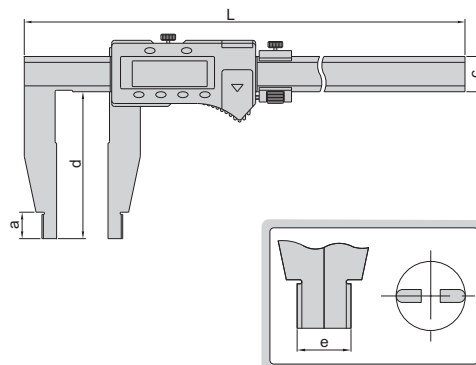
DATA
OUTPUT



(mm)

1106-501

| 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 system

DIGITAL CALIPER

DATA
OUTPUT

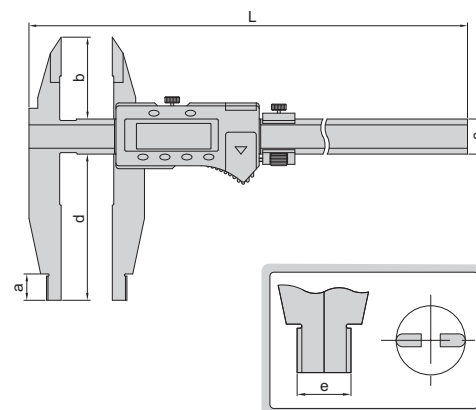


1117-501

- 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 system

(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

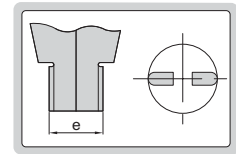
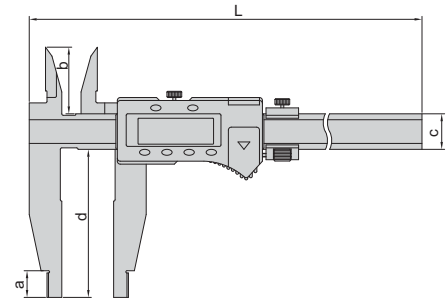


1136-501

- 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 system

(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

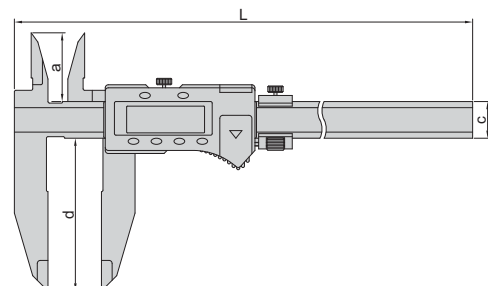


1135-601

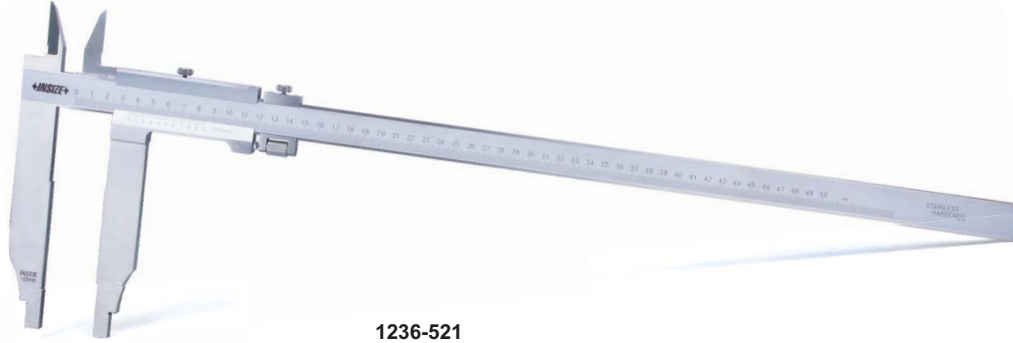
- Resolution: 0.01mm/0.0005"
- Button function: on/off, zero, mm/inch, ABS, data preset
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output system

(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

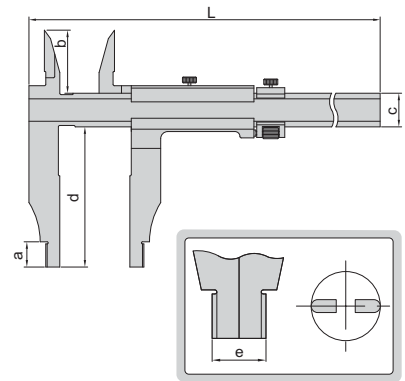
Graduation 0.02mm (mm)

| 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 |

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 |

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



VERNIER CALIPER

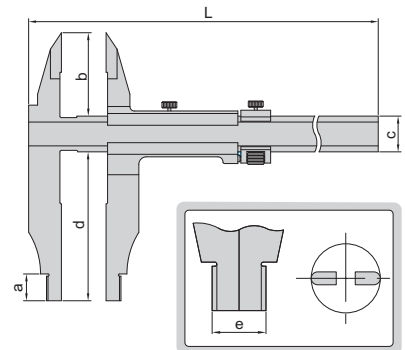


1207-514

- 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

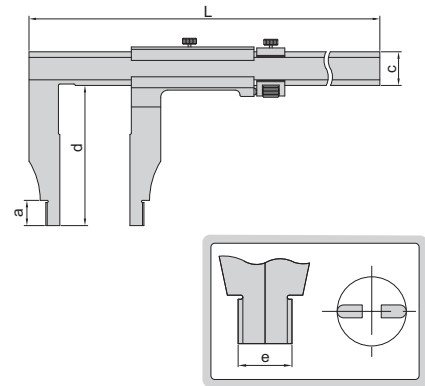
Graduation 0.02mm (mm)

| 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

Graduation 0.05mm/1/128" (mm)

| Code | Range | Accuracy | a | c | d | e | L |
|-----------|----------------|----------|----|----|-----|----|------|
| 1208-214 | 0-200mm/0-8" | ±0.06mm | 18 | 24 | 100 | 20 | 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 |



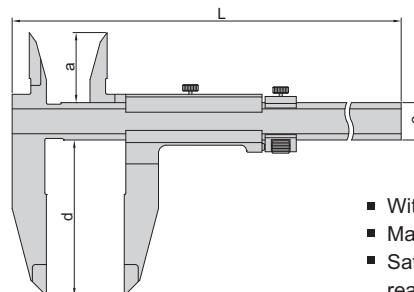
1210-611

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 |

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 |



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



VERNIER CALIPER

1214-500

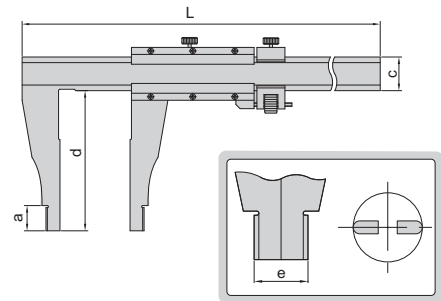
Graduation 0.02mm/0.001" (mm)

| 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

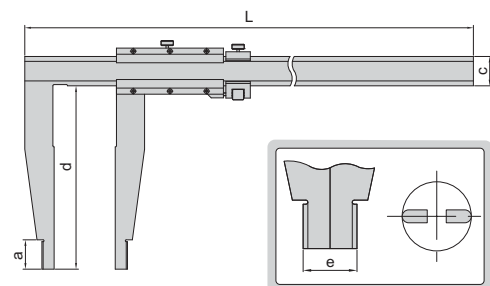
Graduation 0.02mm/0.001" (mm)

| 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 |

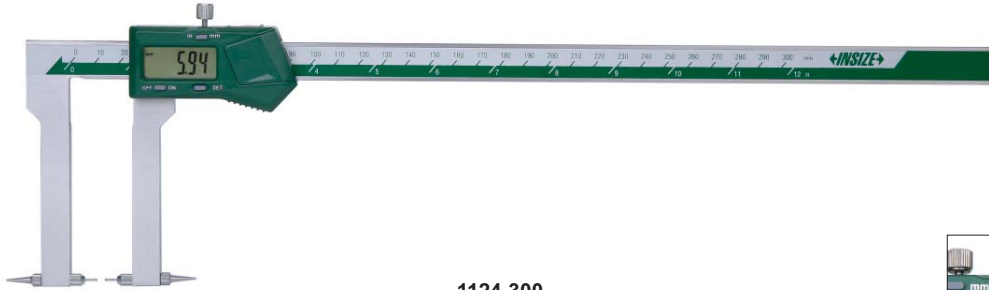
- With fine adjustment
- Made of stainless steel
- Satin chrome plated reading surface



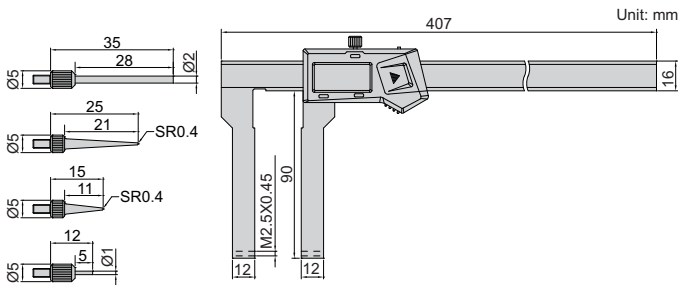
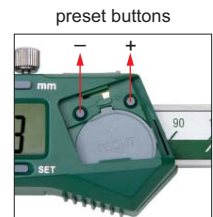
DATA
OUTPUT

DIGITAL CALIPER WITH INTERCHANGEABLE POINTS

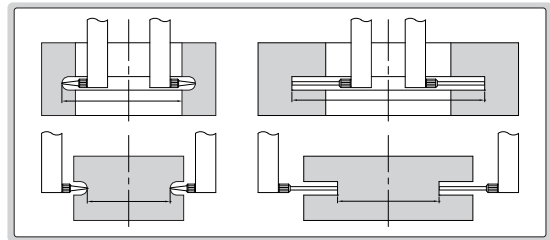
MORE POINTS ARE
AVAILABLE



1124-300

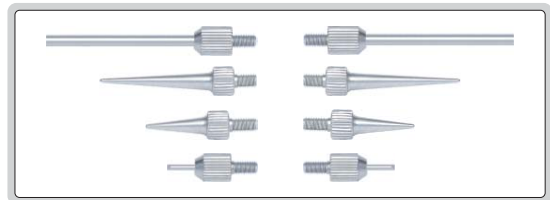


measure internal and external grooves



- 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: zero setting block for internal measurement, data output system, points (page 128~131)

4 pairs of points (included)



zero setting block for external
measurement (included)



zero setting block for internal
measurement (optional)



| Code | Range* | Accuracy |
|----------|---------------|----------|
| 1124-300 | 0-300mm/0-12" | ±0.04mm |

* Measuring range may change according to the points

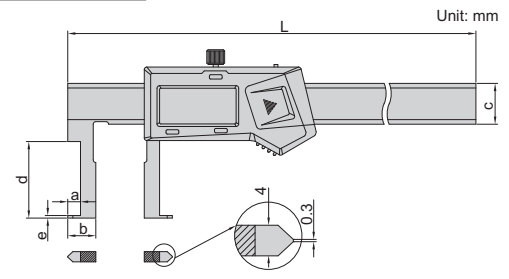
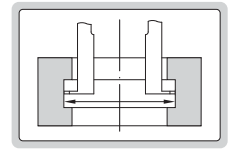
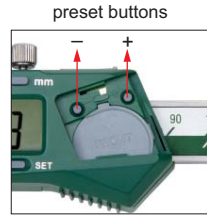
DIGITAL INSIDE GROOVE CALIPER

DATA OUTPUT



1120-150A

- 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: data output system



| 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 |

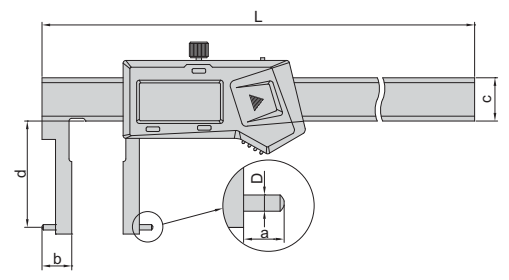
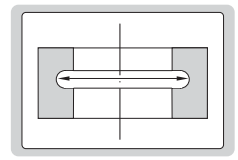
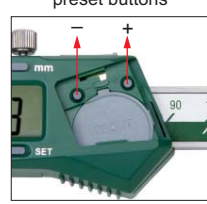
DIGITAL INSIDE POINT CALIPER

DATA OUTPUT



1121-150A

- 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: data output system



| 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 |

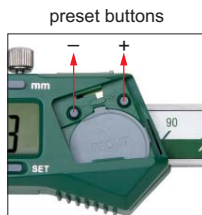
DIGITAL INSIDE GROOVE CALIPER

DATA
OUTPUT

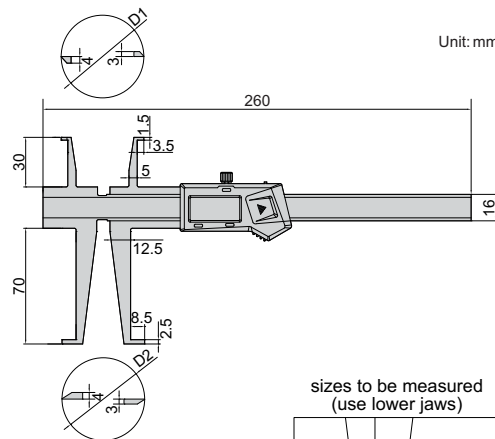


1176-150

- 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: data output system

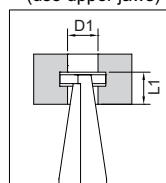


preset buttons

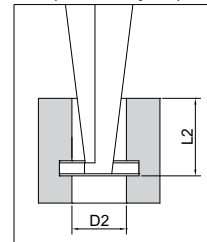


Unit: mm

sizes to be measured (use upper jaws)



sizes to be measured (use lower jaws)



(mm)

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

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

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

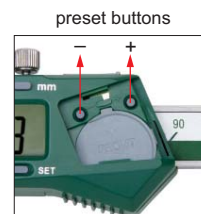
DIGITAL INSIDE GROOVE CALIPER

DATA
OUTPUT

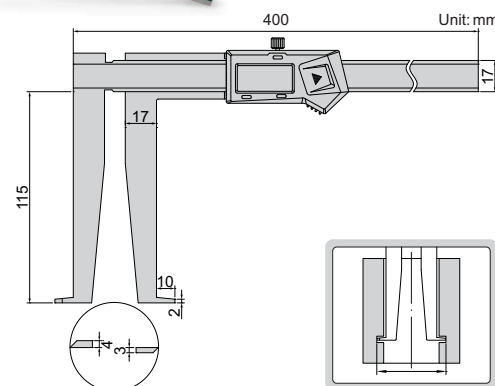


1178-300

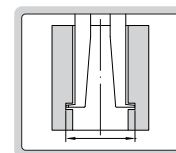
- Measure diameter of grooves inside bores
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, set, mm/inch, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output system



preset buttons



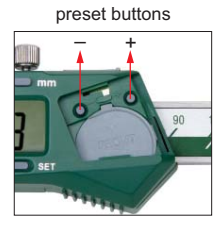
Unit: mm



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

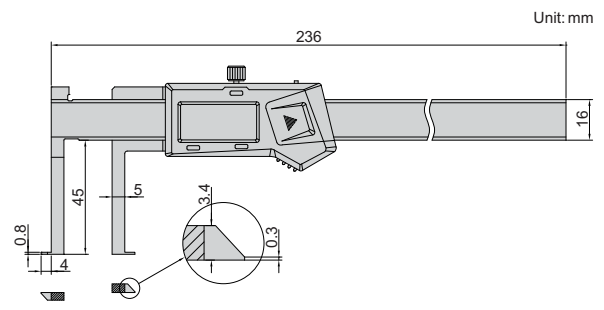
DIGITAL INSIDE GROOVE CALIPER

DATA OUTPUT



1520-150

- 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: data output system



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

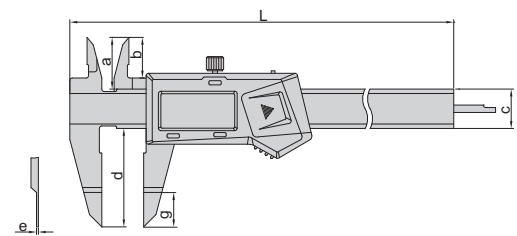
DIGITAL BLADE CALIPER

DATA OUTPUT



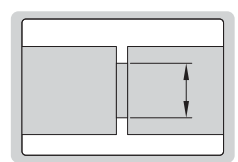
1188-150A

- 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 system



(mm)

| Code | Range | Accuracy | L | a | b | c | d | e | g |
|-----------|---------------|----------|-----|----|------|----|----|------|----|
| 1188-150A | 0-150mm/0-6" | ±0.03mm | 236 | 21 | 16 | 16 | 40 | 0.75 | 17 |
| 1188-200A | 0-200mm/0-8" | ±0.03mm | 286 | 24 | 19 | 16 | 50 | 0.75 | 17 |
| 1188-300A | 0-300mm/0-12" | ±0.04mm | 400 | 25 | 20.5 | 17 | 60 | 1.00 | 17 |

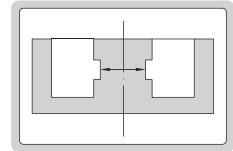


DATA
OUTPUT

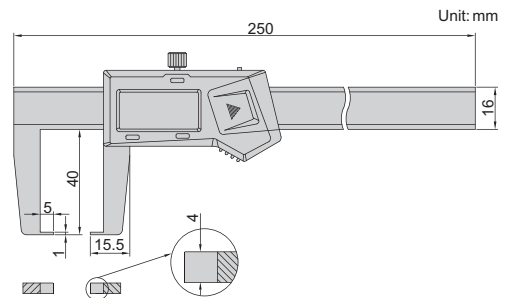
DIGITAL OUTSIDE NECK CALIPER



1187-150A



- 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: data output system



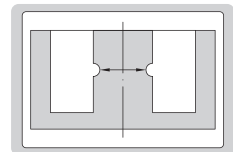
| Code | Range | Accuracy |
|-----------|--------------|----------|
| 1187-150A | 0-150mm/0-6" | ±0.04mm |

DATA
OUTPUT

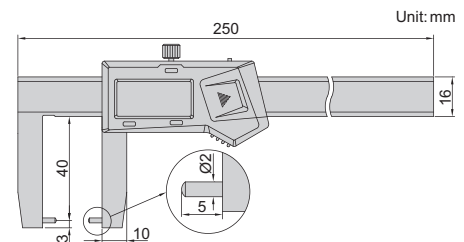
DIGITAL OUTSIDE POINT CALIPER



1185-150A



- 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: data output system



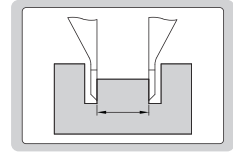
| Code | Range | Accuracy |
|-----------|--------------|----------|
| 1185-150A | 0-150mm/0-6" | ±0.04mm |

DIGITAL SMALL POINT CALIPER

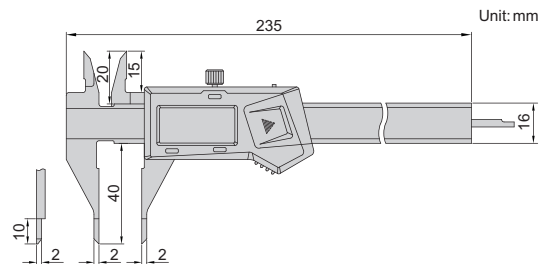
DATA
OUTPUT



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 system



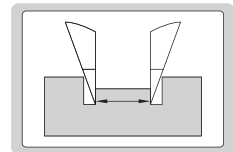
| Code | Range | Accuracy |
|----------|--------------|----------|
| 1169-150 | 0-150mm/0-6" | ±0.03mm |

DIGITAL POINT CALIPER

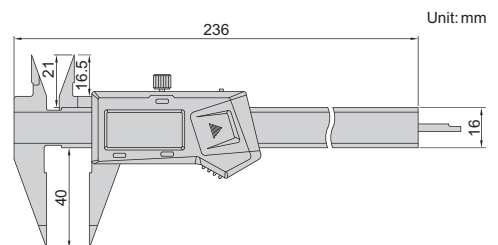
DATA
OUTPUT



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 system



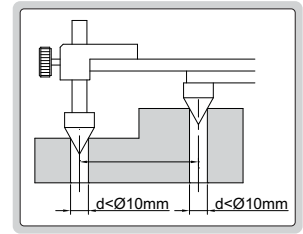
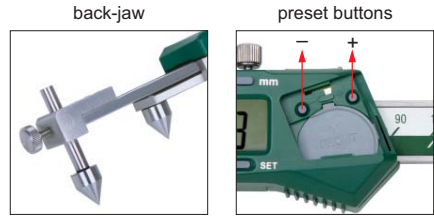
| Code | Range | Accuracy |
|-----------|--------------|----------|
| 1183-150A | 0-150mm/0-6" | ±0.03mm |

DATA
OUTPUT

BACK-JAW DIGITAL CENTERLINE CALIPER

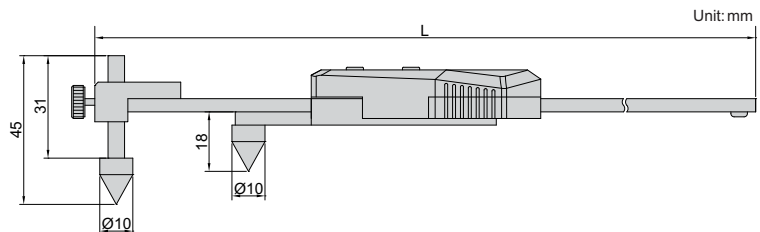


1177-200



- 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 system

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

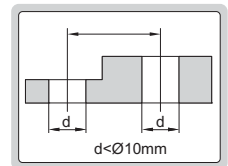


DIGITAL OFFSET CENTERLINE CALIPER

DATA
OUTPUT

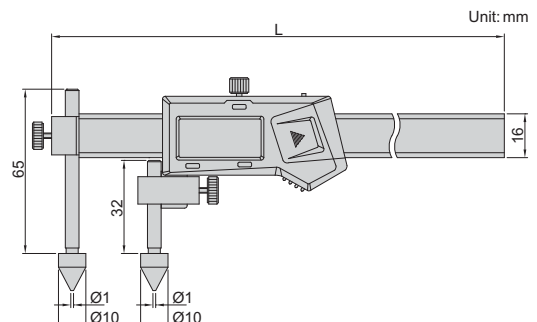
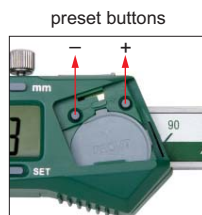


1192-150A



- 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 system

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



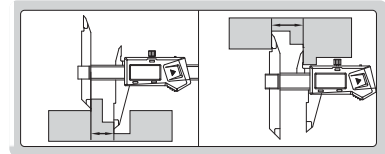
DIGITAL OFFSET CALIPER

DATA
OUTPUT

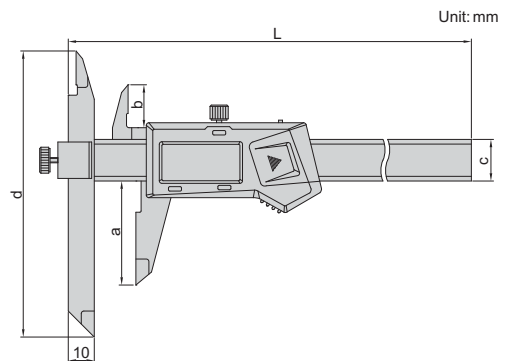


1186-150A

- 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 system



| 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 |



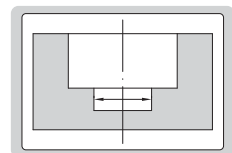
DIGITAL INSIDE KNIFE-EDGE CALIPER

DATA
OUTPUT

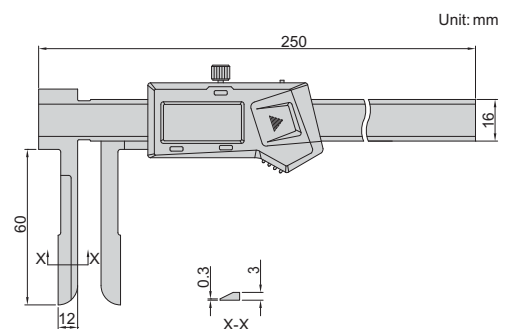


1123-150A

- 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 system



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



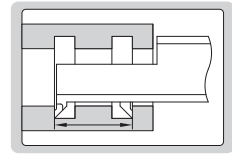
DATA
OUTPUT

DIGITAL HOOK CALIPER

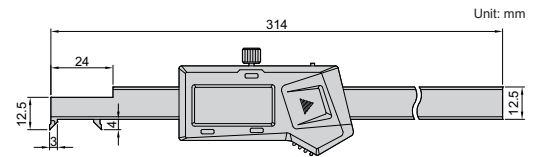


1122-200A

- 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 system



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



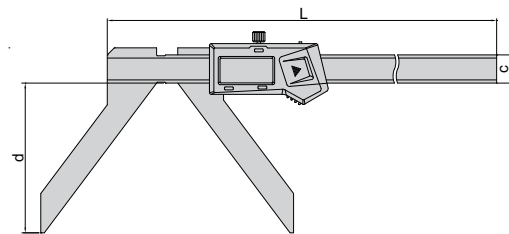
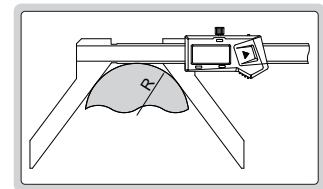
DATA
OUTPUT

DIGITAL ARC RADIUS CALIPER



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 system



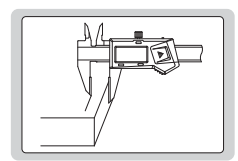
| Code | Range (R) | Accuracy | L | c | d |
|-----------|----------------|----------|-----|----|----|
| 1189-150B | 5-150mm/0.2-6" | ±0.05mm | 263 | 16 | 65 |
| 1189-200B | 5-200mm/0.2-8" | ±0.07mm | 313 | 16 | 85 |

DIGITAL SCRIBING CALIPER

DATA
OUTPUT

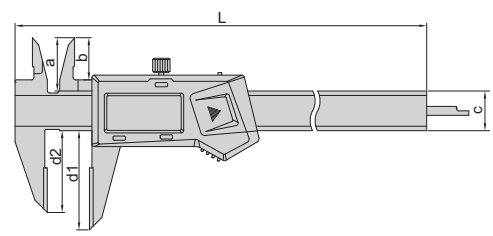


1166-150A



- 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 system

| 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 |

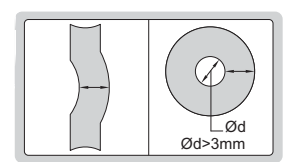


DIGITAL TUBE THICKNESS CALIPER

DATA
OUTPUT

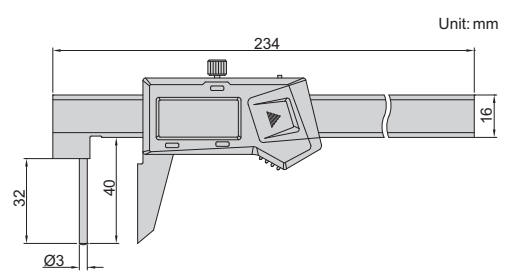


1161-150A



- 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 system

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



DIGITAL CRIMP HEIGHT CALIPER

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

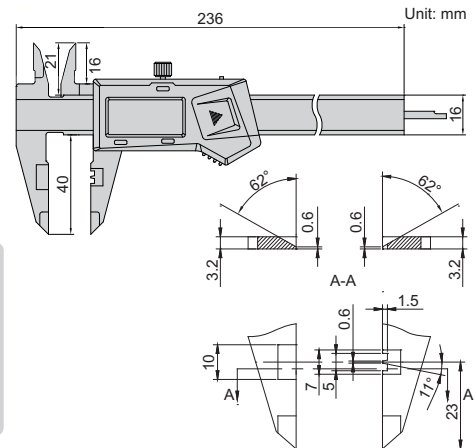
DATA
OUTPUT



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 system

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



DIGITAL CALIPER WITH LARGE MEASURING FACES

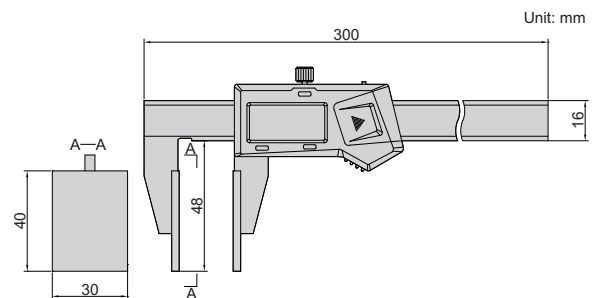
DATA
OUTPUT



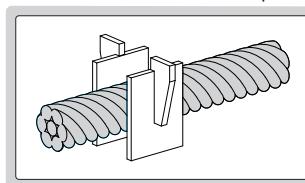
1172-200

- 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 system

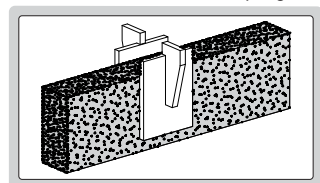
| Code | Range | Accuracy |
|----------|--------------|----------|
| 1172-200 | 0-200mm/0-8" | ±0.07mm |



measure diameter of wire ropes

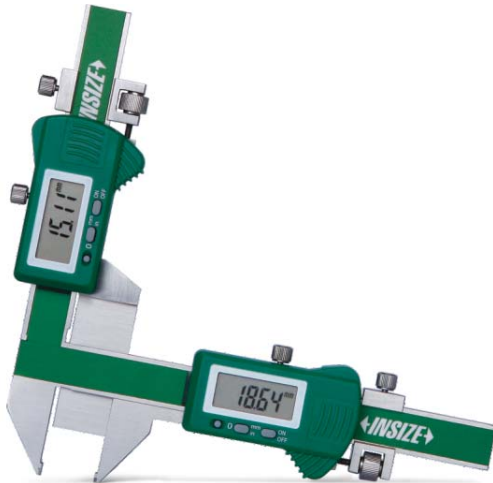


measure thickness of rubber, sponge, etc.

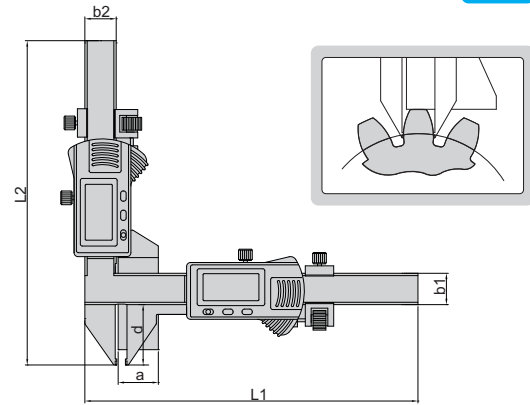


DIGITAL GEAR TOOTH CALIPER

DATA OUTPUT



1181-M25A



- Resolution: 0.01mm/0.0005"
- Carbide tips
- Buttons: zero, on/off, mm/inch
- Battery SR44 or LR44
- Data output
- Made of stainless steel
- Optional accessory: data output system

| 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 |

(mm)

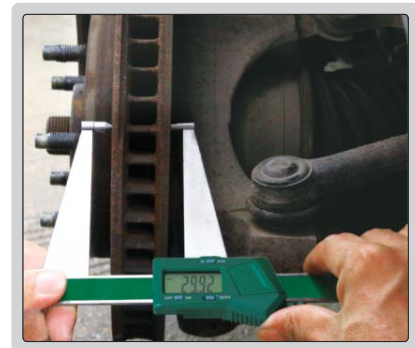
DIGITAL DISK BRAKE CALIPER

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

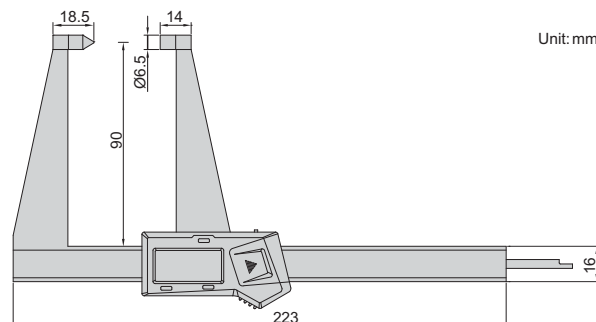
DATA OUTPUT



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 system



Unit: mm

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

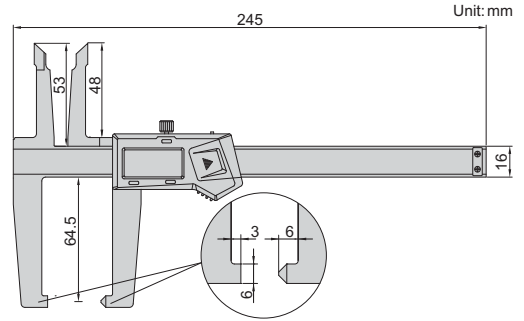
DATA
OUTPUT

DIGITAL DISK BRAKE AND PAD CALIPER



1167-150A

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



- 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 system



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

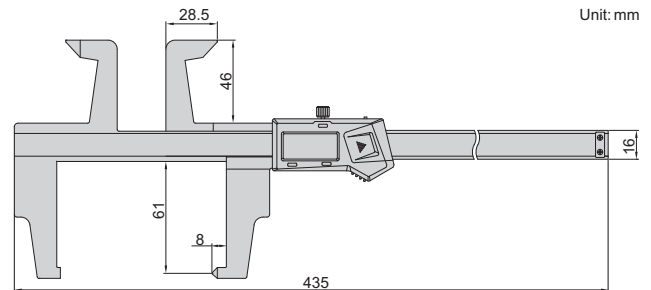
DATA
OUTPUT

DIGITAL DRUM BRAKE CALIPER



1168-300A

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



- 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 system



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

DIGITAL HEIGHT GAGE

DATA OUTPUT

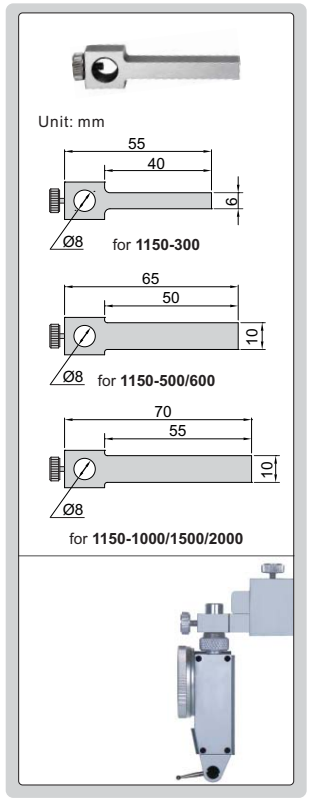
dial test indicator holder (included)



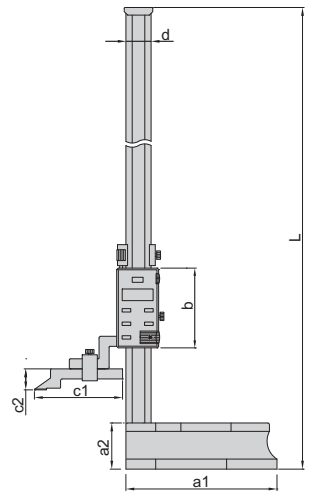
1150-1000



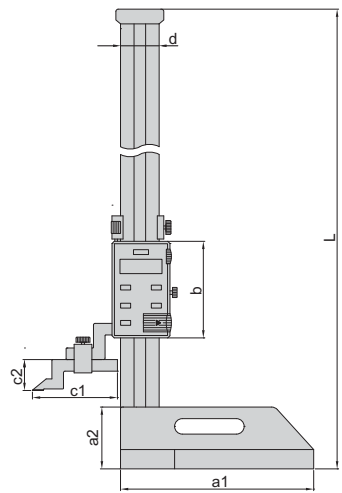
1150-500



- 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)
- SR44 or LR44 battery
- Data output
- Supplied with dial test indicator holder
- Optional accessory: data output cable (code 7301-SPC5)



type A



type B

| 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 |



7301-SPC5

DIGITAL HEIGHT GAGE

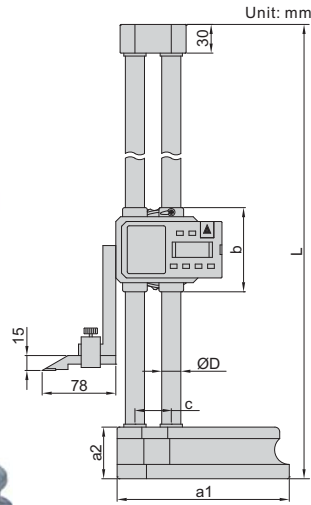


driving wheel

- Resolution: 0.01mm/0.001"
- Buttons: on/off, zero, mm/inch, ABS/INC, preset +, preset -, set
- ABS/INC is for absolute and incremental measurement
- Carbide tipped scriber
- Made of stainless steel (except the base)
- SR44 or LR44 battery
- With driving wheel
- Optional accessory: dial test indicator holder (code 6293-6)



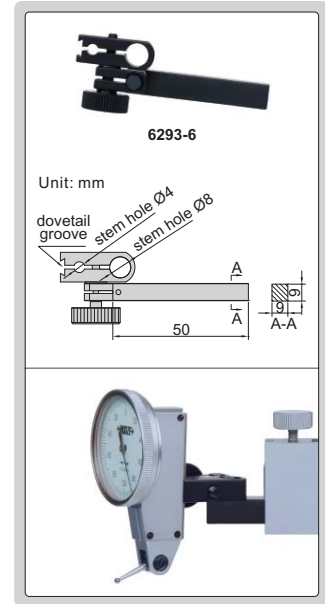
1151-300



(mm)

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

dial test indicator holder (optional)



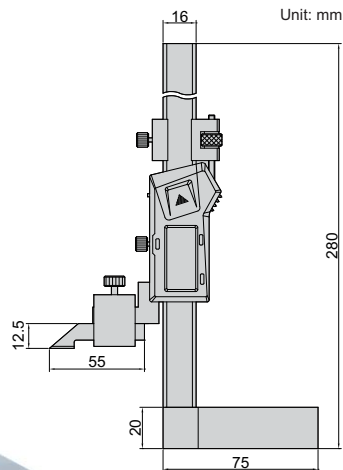
DATA
OUTPUT

DIGITAL HEIGHT GAGE

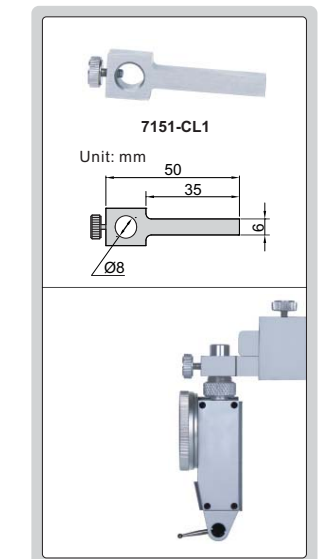
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Carbide tipped scriber
- With fine adjustment
- Made of stainless steel
- Battery CR2032
- Data output
- Optional accessory: data output system, dial test indicator holder (code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



1154-150

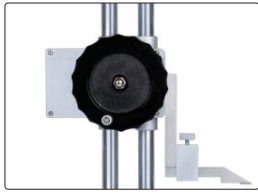


dial test indicator holder (optional)



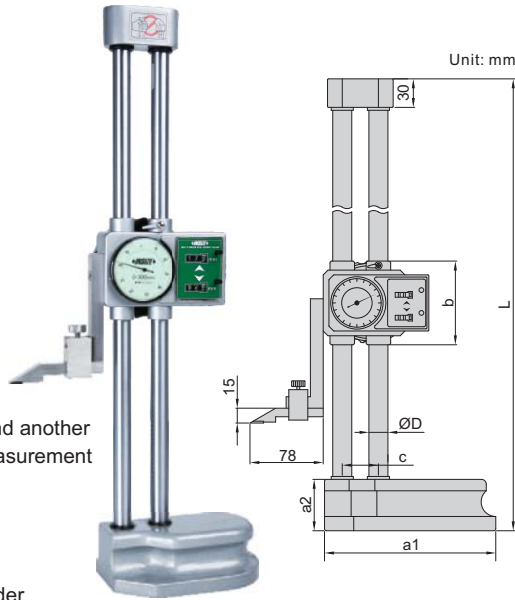
| Code | Range | Accuracy |
|----------|--------------|----------|
| 1154-150 | 0-150mm/0-6" | ±0.03mm |

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)

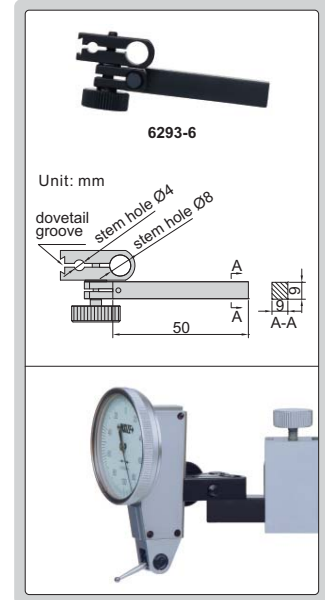


1351-300

(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 |

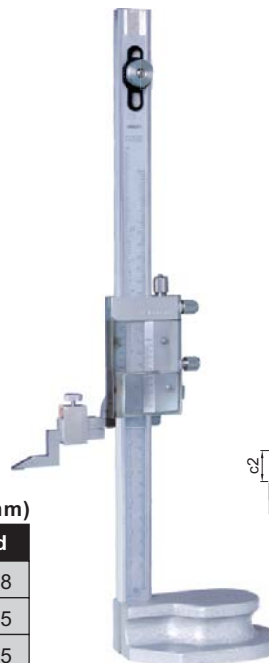
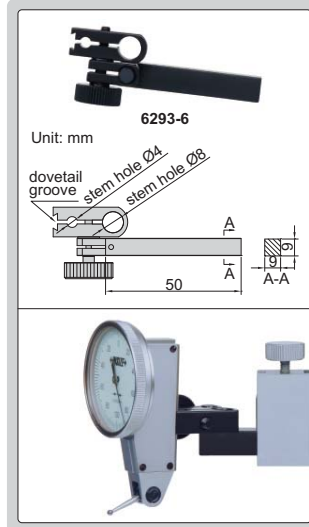
dial test indicator holder (optional)



VERNIER HEIGHT GAGE

dial test indicator holder (optional)

- 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), not suitable for 1250-1000

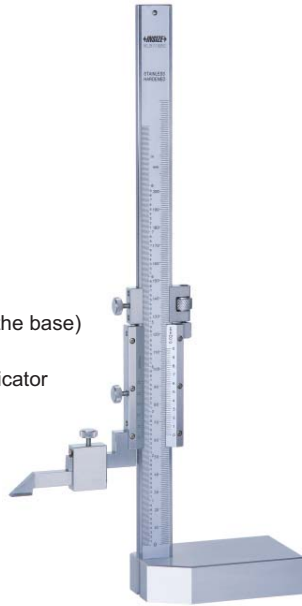


1250-300

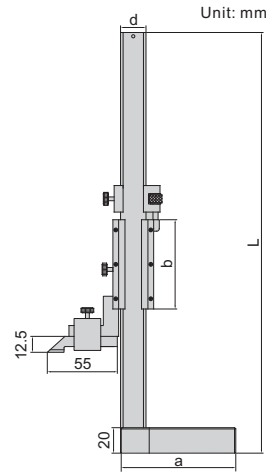
| Code | Range | Accuracy | L | a1 | a2 | b | c1 | c2 | d |
|-----------|----------------|----------|------|-----|----|----|-----|----|----|
| 1250-300 | 0-300mm/0-12" | ±0.04mm | 545 | 135 | 43 | 75 | 80 | 30 | 28 |
| 1250-450 | 0-450mm/0-18" | ±0.05mm | 720 | 180 | 54 | 85 | 80 | 41 | 35 |
| 1250-600 | 0-600mm/0-24" | ±0.05mm | 870 | 180 | 54 | 85 | 80 | 41 | 35 |
| 1250-1000 | 0-1000mm/0-40" | ±0.07mm | 1310 | 270 | 70 | 85 | 204 | 50 | 40 |

VERNIER HEIGHT GAGE

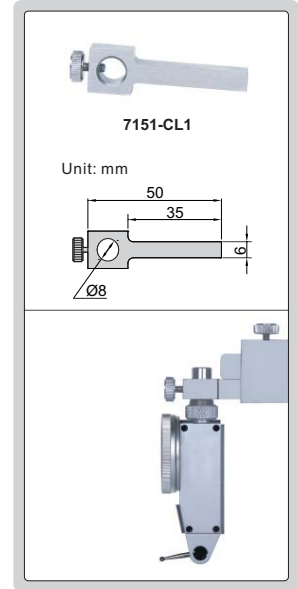
- Graduation 0.02mm/0.001"
- Carbide tipped scriber
- Made of stainless steel (except the base)
- Satin chrome plated scale
- Optional accessory: dial test indicator holder (code 7151-CL1)



1253-200



dial test indicator holder (optional)



| 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 |

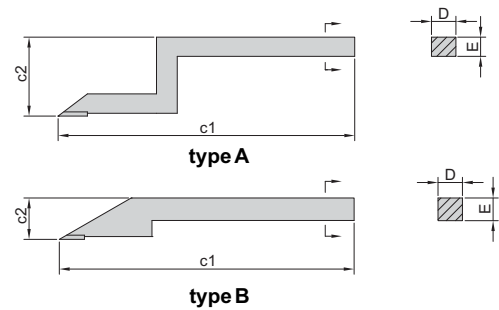
(mm)

SCRIBER FOR HEIGHT GAGES



7150-SC1

- Carbide tipped



| 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 | 1151-300, 1151-450, 1151-600, 1351-300, 1351-450, 1351-600 | B | 78 | 15 | 9 | 9 |
| 7150-SC6 | 1250-300 | A | 80 | 30 | 9 | 9 |
| 7150-SC7 | 1250-450, 1250-600 | A | 80 | 41 | 9 | 9 |
| 7150-SC8 | 1250-1000 | A | 204 | 50 | 10 | 16 |
| 7150-SC9 | 1253-150, 1253-200, 1154-150 | B | 55 | 12.5 | 6 | 8 |

(mm)

WATERPROOF DIGITAL DEPTH GAGE

IP67
WATERPROOF

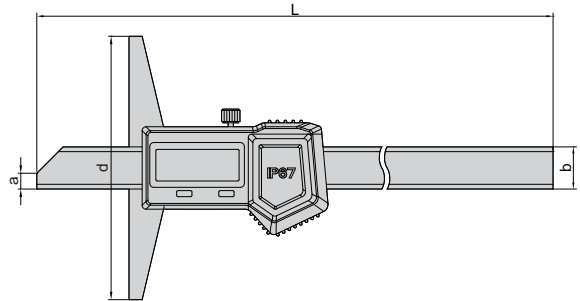
IT IS NECESSARY TO SET ZERO AFTER POWER ON EACH TIME



1149-150

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

| Code | Range | Accuracy | L | a | b | d | (mm) |
|----------|---------------|----------|-----|---|----|-----|------|
| 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" | ±0.04mm | 390 | 6 | 16 | 150 | |



DIGITAL DEPTH GAGE

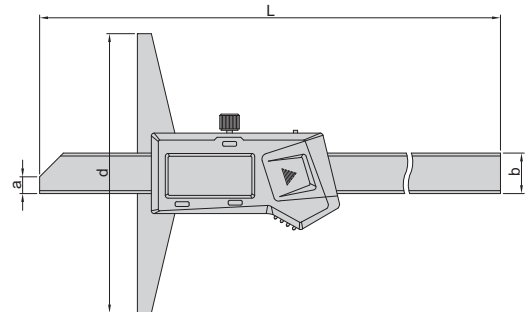
DATA OUTPUT



1141-150A

- 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 system

| Code | Range | Accuracy | L | a | b | d | (mm) |
|-----------|---------------|----------|-----|---|------|-----|------|
| 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" | ±0.04mm | 380 | 6 | 14.5 | 150 | |
| 1141-500A | 0-500mm/0-20" | ±0.05mm | 585 | 7 | 15 | 150 | |



CAN BE INSTALLED WITH EXTENSION BASE

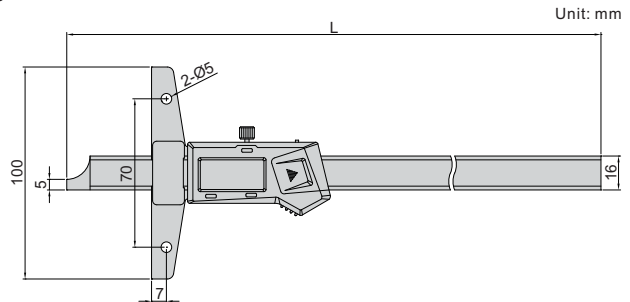
DATA OUTPUT

DIGITAL DEPTH GAGE



1147-300

- 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 system, extension base (code 6141)



extension base (optional)



| Code | Range | Accuracy | L | (mm) |
|----------|---------------|----------|-----|------|
| 1147-150 | 0-150mm/0-6" | ±0.03mm | 237 | |
| 1147-200 | 0-200mm/0-8" | ±0.03mm | 287 | |
| 1147-300 | 0-300mm/0-12" | ±0.04mm | 403 | |

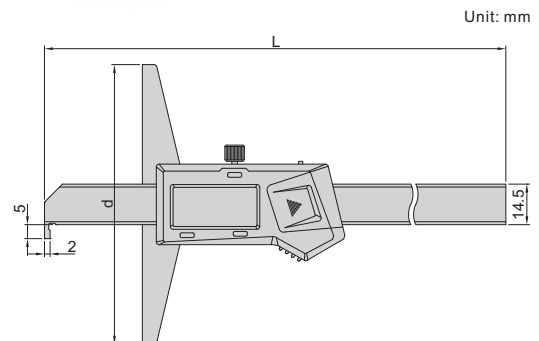
DATA OUTPUT

DIGITAL HOOK DEPTH GAGE

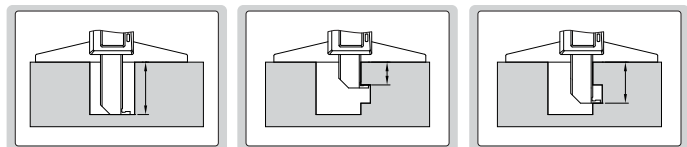


1142-150A

- 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 system



| Code | Range | Accuracy | L | d | (mm) |
|-----------|---------------|----------|-----|-----|------|
| 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 | |



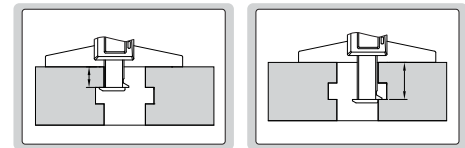
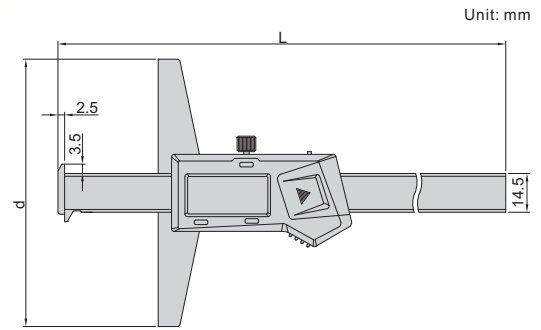
DIGITAL DOUBLE HOOK DEPTH GAGE

DATA OUTPUT



1144-150A

- 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 system



(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" | ±0.04mm | 383 | 150 |

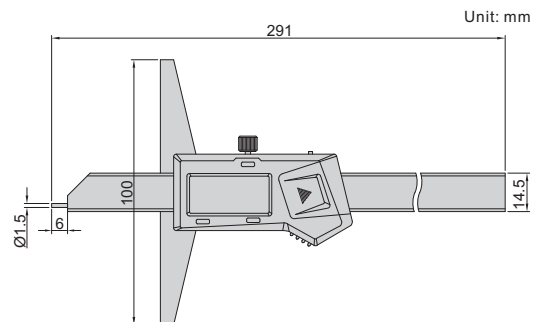
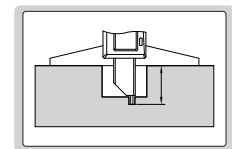
DIGITAL POINT DEPTH GAGE

DATA OUTPUT



1143-200A

- 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 system



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

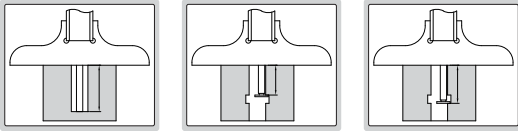
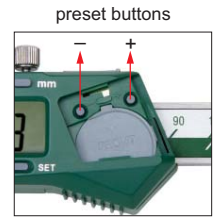
DATA
OUTPUT

DIGITAL DEPTH GAGE WITH ROUND DEPTH BAR

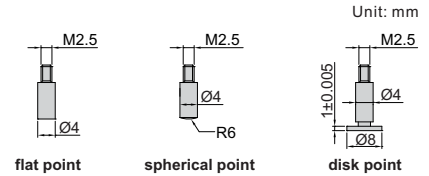


1148-200

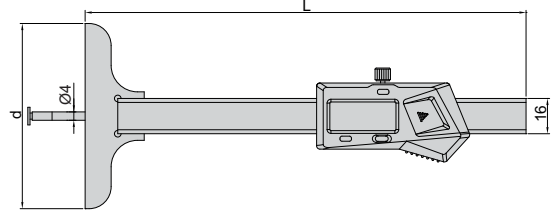
CAN MEASURE DEPTH OF
SMALL HOLES (>Ø4mm)



- 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 system



| Code | Range | Accuracy | L | d |
|----------|--------------|----------|-----|-----|
| 1148-100 | 0-100mm/0-4" | ±0.02mm | 200 | 85 |
| 1148-200 | 0-200mm/0-8" | ±0.03mm | 300 | 101 |



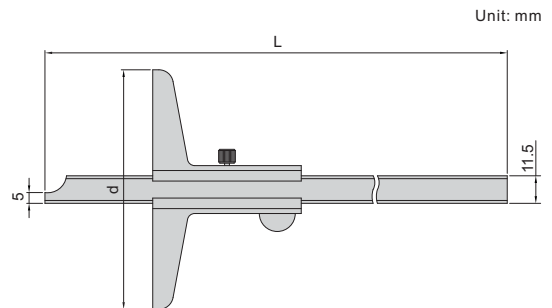
VERNIER DEPTH GAGE



1240-2001

| 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 |

| 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 |



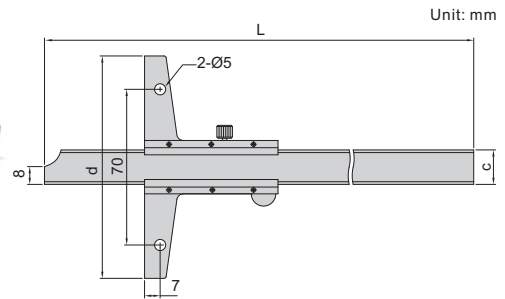
- Made of stainless steel
- Satin chrome plated reading surface

VERNIER DEPTH GAGE



1247-1501

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



Unit: mm

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 |

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 |

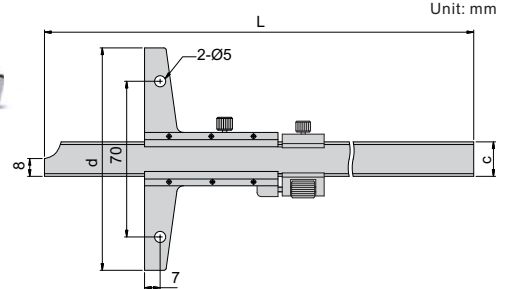
| Range | L | c | d |
|----------|------|----|-----|
| 0-150mm | 240 | 16 | 100 |
| 0-200mm | 290 | 16 | 100 |
| 0-300mm | 390 | 16 | 100 |
| 0-600mm | 704 | 18 | 150 |
| 0-1000mm | 1124 | 18 | 200 |

VERNIER DEPTH GAGE



1249-1501

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



Unit: mm

Graduation 0.02mm

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

Graduation 0.05mm

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

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

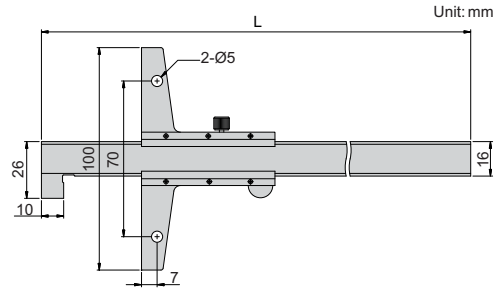
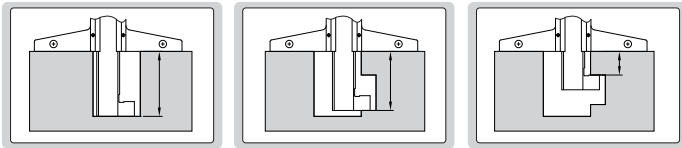
VERNIER HOOK DEPTH GAGE



1248-1501

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

extension base (optional)



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 |

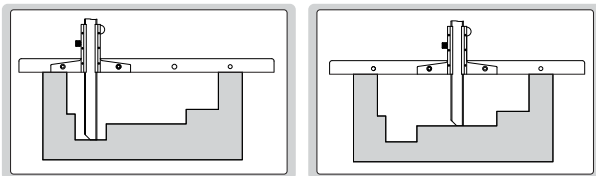
Graduation 0.05mm

| 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 |

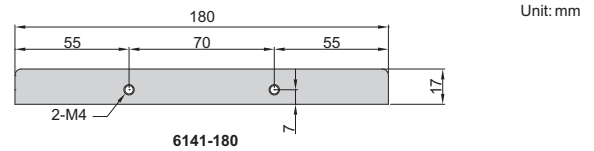
EXTENSION BASE



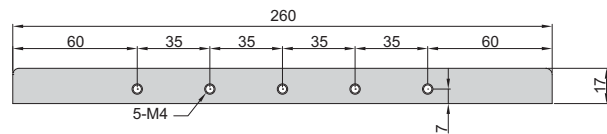
6141-260



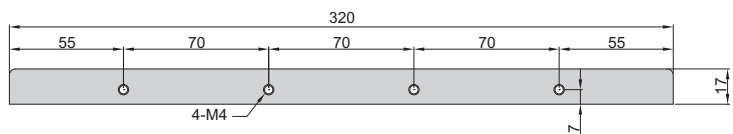
- Supplied with two screws
- Made of stainless steel
- Suitable for depth gauges series **1147**, **1247**, **1248** and **1249**



6141-180



6141-260



6141-320

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

VERNIER DEPTH GAGE

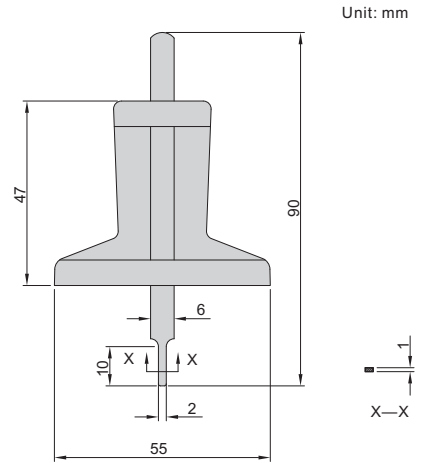
BASIC MODEL



- Graduation: 0.1mm
- Made of stainless steel

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

1244-30



DIGITAL DEPTH GAGE

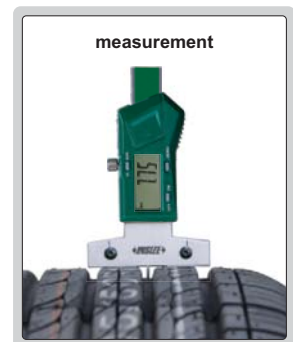
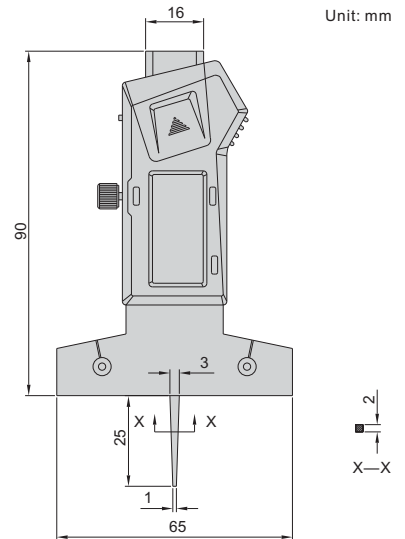
DATA OUTPUT



1145-25A

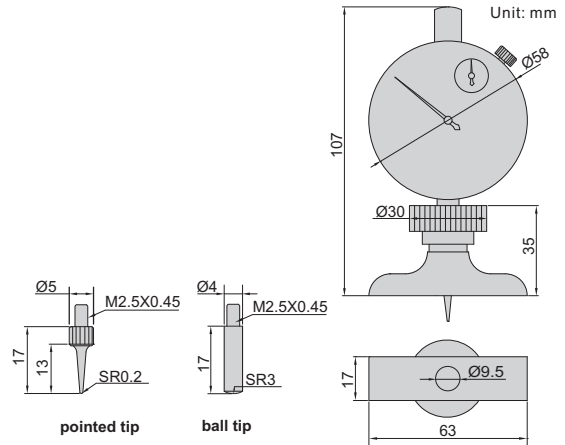
- Measure depth of small groove and hole, also measure depth of tire tread
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Supplied with zero set surface
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: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

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



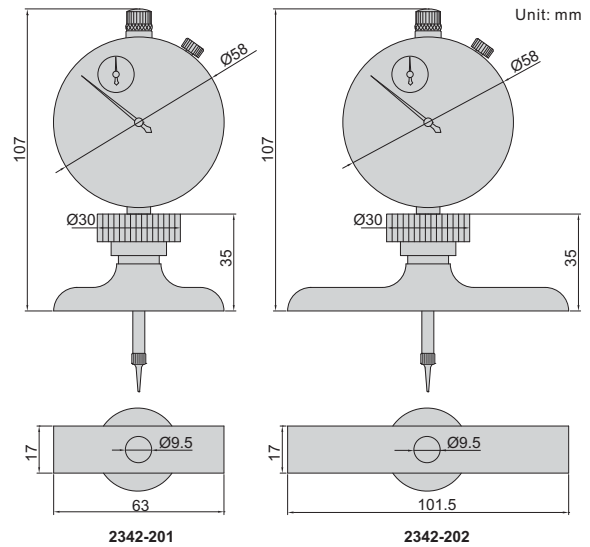
DIAL DEPTH GAGE

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



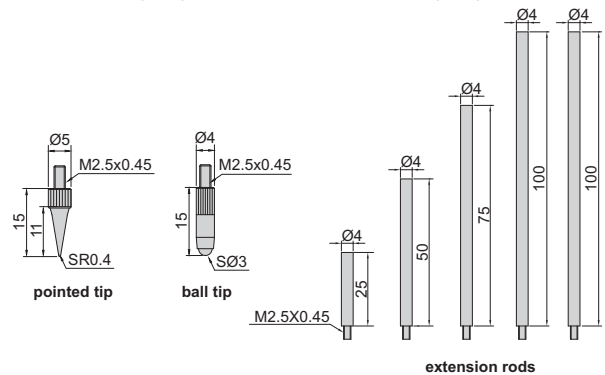
| Code | Range | Dial indicator stroke | Dial indicator graduation | Accuracy |
|-----------|--------|-----------------------|---------------------------|----------|
| 2341-101A | 0-10mm | 10mm | 0.01mm | ±0.017mm |

DIAL DEPTH GAGE



- 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

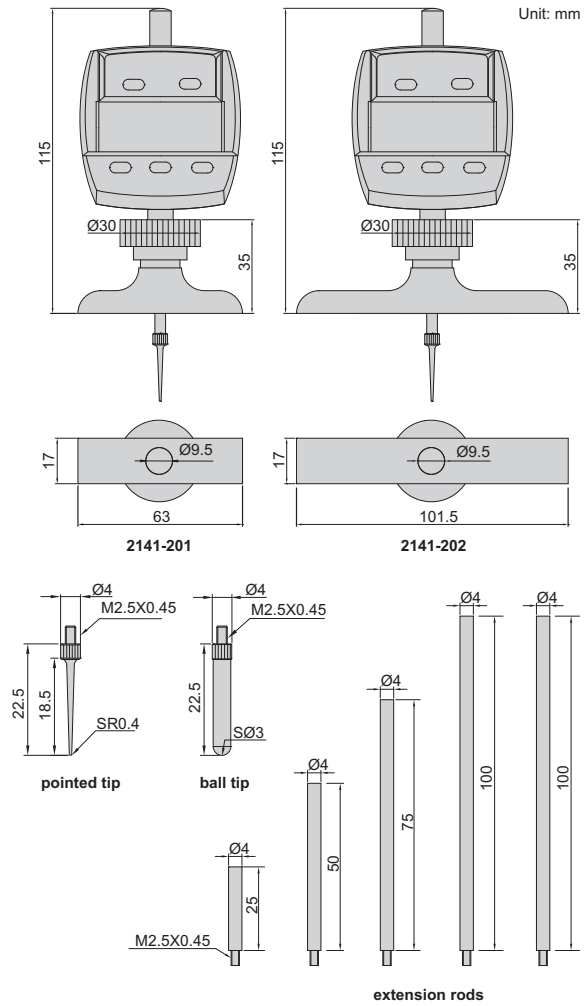
| Code | Range | Dial indicator stroke | Base |
|----------|---------|-----------------------|------------|
| 2342-201 | 0-300mm | 30mm | 63x17mm |
| 2342-202 | 0-300mm | 30mm | 101.5x17mm |



DIGITAL DEPTH GAGE



2141-202



Unit: mm

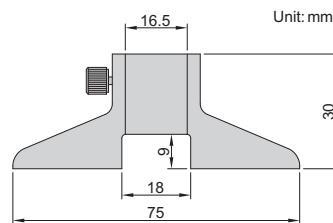
- Mode button: to track the minimum or maximum reading
- '+/-' button: to change measuring direction
- CR2032 battery, automatic power off
- Stainless steel base
- Extension rods: 25mm(1pc), 50mm(1pc), 75mm(1pc), 100mm(2pcs)
- Supplied with pointed tip and ball tip

| Code | Range | Digital indicator stroke | Digital indicator resolution | Accuracy | Base |
|----------|---------------|--------------------------|------------------------------|----------|------------|
| 2141-201 | 0-300mm/0-12" | 25.4mm/1" | 0.005mm/0.0005" | ±0.03mm | 63x17mm |
| 2141-202 | 0-300mm/0-12" | 25.4mm/1" | 0.005mm/0.0005" | ±0.03mm | 101.5x17mm |

DEPTH BASE ATTACHMENT



6140



Unit: mm



Code
6140

- To increase the stability of depth measurement
- Suitable for 0-150mm and 0-200mm of vernier calipers, digital calipers and dial calipers with beam width of 16mm
- Made of stainless steel

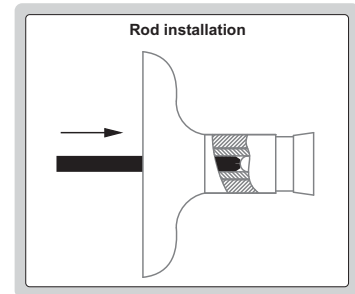
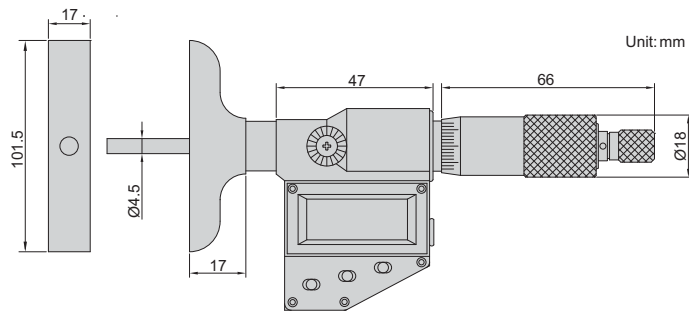
IP54
WATERPROOF

DATA
OUTPUT

DIGITAL DEPTH MICROMETER



3540-50



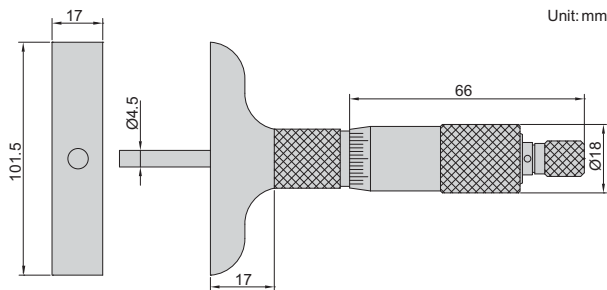
- Resolution: 0.001mm/0.00005"
- Micrometer head accuracy: $\pm 3\mu\text{m}$
- Rod accuracy: $\pm (2+L/75)\mu\text{m}$, L is the measuring range in mm
- Button function: on/off, set, mm/inch, ABS/INC, data output
- IP54 dust/waterproof
- Data output
- SR44 or LR44 battery, automatic power off
- Rods with flat end
- Ratchet stop
- Optional accessory: data output system

| 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



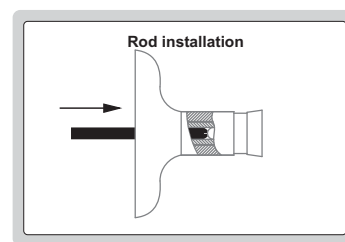
3240-100



Unit: mm

| 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 |

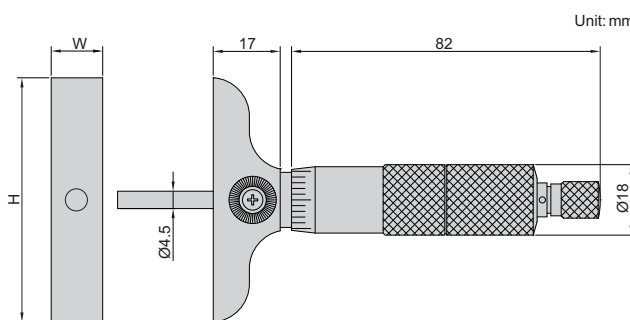
- Graduation: 0.01mm
- Micrometer head accuracy: $\pm 3\mu\text{m}$
- Rod accuracy: $\pm (2+L/75)\mu\text{m}$, L is the measuring range in mm
- Rods with flat end
- Ratchet stop



DEPTH MICROMETER



3241-100



Unit: mm

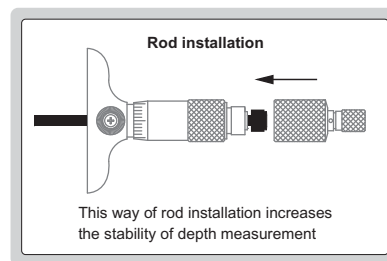
Base: HxW=101.5x17mm

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

Base: HxW=63x17mm

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



NON-ROTATING SPINDLE DIGITAL MICROMETER

- 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")



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

NON-ROTATING
SPINDLE

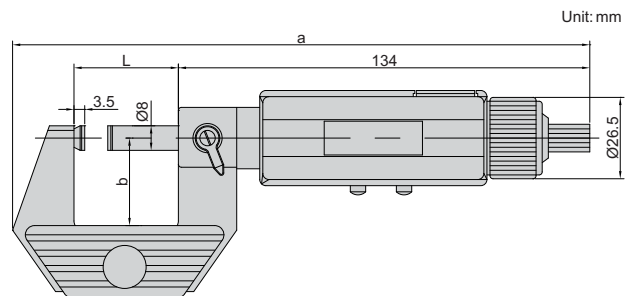
DATA
OUTPUT



3631-25

| 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 |

(mm)



NON-ROTATING SPINDLE DIGITAL MICROMETER

- 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 SUITABLE FOR
MASS PRODUCTION

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

NON-ROTATING
SPINDLE

DATA
OUTPUT



3632-25

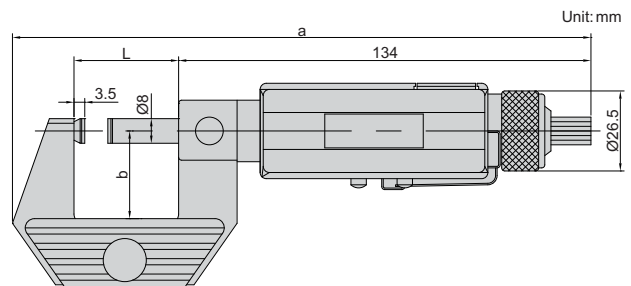
lever device

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

retracting stroke 1.5mm (max.)

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

(mm)



DIGITAL OUTSIDE MICROMETER

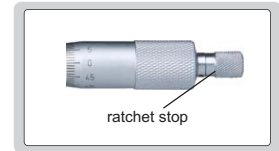
IP65
WATERPROOF

DATA
OUTPUT



3101-25A

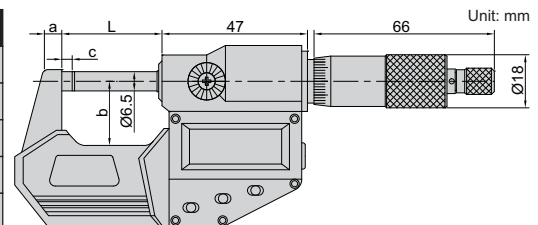
- Resolution 0.001mm/0.00005"
(resolution of **3101-275A** and **3101-300A** is 0.001mm/0.0001")
- IP65 dust/waterproof
- Button function: on/off, set, mm/inch, ABS/INC, data output
- Data output
- SR44 or LR44 battery, automatic power off
- Carbide measuring faces
- Supplied with spherical anvil
- Setting standards are included (except 0-25mm/0-1")
- Optional accessory: data output system



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 |

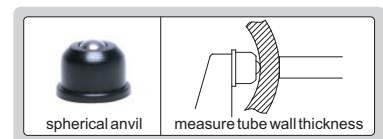


Ratchet friction thimble type

(mm)

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

* Supplied with manufacturer calibration certificate



METRIC DIGITAL OUTSIDE MICROMETER



3108-25A

Ratchet stop type (mm)

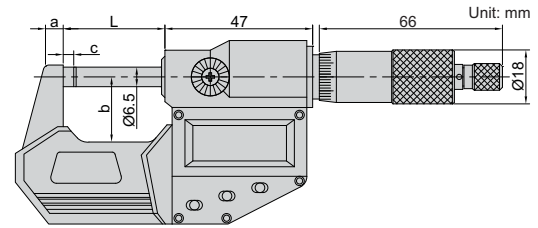
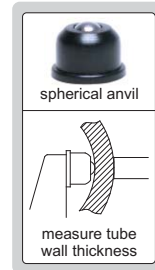
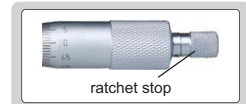
| Code | Range | Accuracy | L | a | b | c |
|------------|-----------|----------|-------|----|------|-----|
| 3108-25A* | 0-25mm | ±2µm | 32.5 | 6 | 24 | 3 |
| 3108-50A* | 25-50mm | ±2µm | 57.5 | 8 | 32 | 3 |
| 3108-75A* | 50-75mm | ±3µm | 82.5 | 8 | 44.5 | 3 |
| 3108-100A* | 75-100mm | ±3µm | 107.5 | 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 |

Ratchet friction thimble type (mm)

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

* Supplied with manufacturer calibration certificate

**IP54
WATERPROOF**



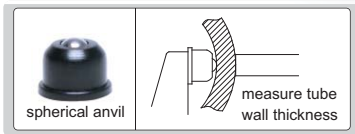
- Resolution 0.001mm
- IP54 dust/waterproof
- Button function: on/off, set, ABS/INC
- Without data output
- SR44 or LR44 battery, automatic power off
- Carbide measuring faces
- Supplied with spherical anvil
- Setting standards are included (except 0-25mm)

DIGITAL OUTSIDE MICROMETER

**BASIC
MODEL**



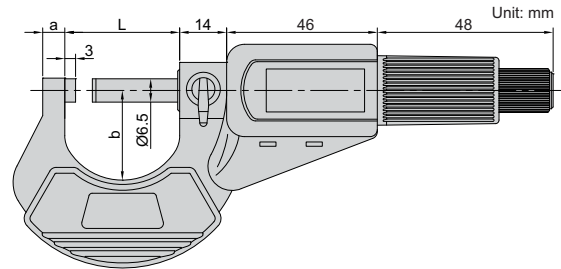
3109-25A



(mm)

| Code | Range | Accuracy | L | a | b |
|------------|---------------|----------|-----|----|------|
| 3109-25A* | 0-25mm/0-1" | ±2µm | 32 | 6 | 27.5 |
| 3109-50A* | 25-50mm/1-2" | ±2µm | 57 | 8 | 37 |
| 3109-75A* | 50-75mm/2-3" | ±3µm | 82 | 8 | 50 |
| 3109-100A* | 75-100mm/3-4" | ±3µm | 107 | 10 | 61 |

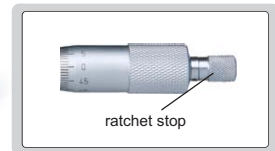
* Supplied with manufacturer calibration certificate



- Resolution 0.001mm/0.00005"
- Button function: on/off, set, mm/inch, ABS/INC
- Without data output
- SR44 or LR44 battery, automatic power off
- Carbide measuring faces
- Ratchet thimble
- Supplied with spherical anvil
- Setting standards are included (except 0-25mm/0-1")



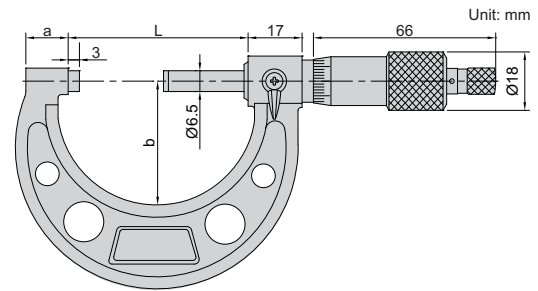
OUTSIDE MICROMETER



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

Metric (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 |



Metric (ratchet 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 |

Imperial (ratchet stop type) (mm)

| Code | Range | Accuracy | L | a | b |
|-----------|-------|----------|-----|------|----|
| 3203-1A * | 0-1" | 0.00015" | 32 | 9 | 28 |
| 3203-2A * | 1-2" | 0.00015" | 57 | 14 | 38 |
| 3203-3A * | 2-3" | 0.0002" | 82 | 15 | 49 |
| 3203-4A * | 3-4" | 0.0002" | 107 | 15 | 60 |
| 3203-5A * | 4-5" | 0.00025" | 133 | 16.5 | 73 |
| 3203-6A * | 5-6" | 0.00025" | 158 | 16.5 | 85 |

* Supplied with manufacturer calibration certificate

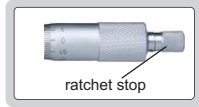
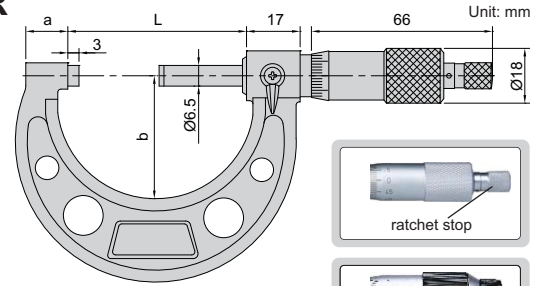
Metric micrometer set (ratchet stop type)

| 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 |

1µm GRADUATION OUTSIDE MICROMETER



3210-25A



Ratchet stop type (mm)

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

Ratchet 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 |

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

Micrometer set (ratchet stop type)

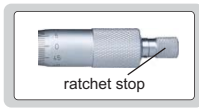
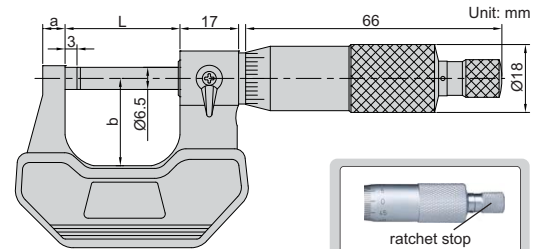
| Code | Range | Micrometers included |
|-------------|---------|---|
| 3210-753A* | 0-75mm | 3210-25A, 3210-50A, 3210-75A |
| 3210-1004A* | 0-100mm | 3210-25A, 3210-50A, 3210-75A, 3210-100A |
| 3210-1506A | 0-150mm | 3210-25A, 3210-50A, 3210-75A, 3210-100A, 3210-125A, 3210-150A |

* Supplied with manufacturer calibration certificate

OUTSIDE MICROMETER



3202-25A



Ratchet stop type (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 |
| 3202-125A | 100-125mm | 6µm | 133 | 8 | 70 |
| 3202-150A | 125-150mm | 6µm | 158 | 8 | 82 |
| 3202-175A | 150-175mm | 7µm | 183 | 8 | 95 |
| 3202-200A | 175-200mm | 7µm | 209 | 8 | 107 |

Ratchet friction thimble type (mm)

| Code | Range | Accuracy | L | a | b |
|------------|---------|----------|----|---|----|
| 3202-25FA* | 0-25mm | 4µm | 32 | 6 | 24 |
| 3202-50FA* | 25-50mm | 4µm | 57 | 8 | 32 |

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

Micrometer set (ratchet stop type)

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

* Supplied with manufacturer calibration certificate

LONG SPINDLE OUTSIDE MICROMETER

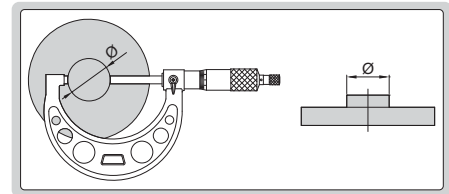
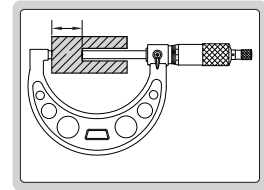
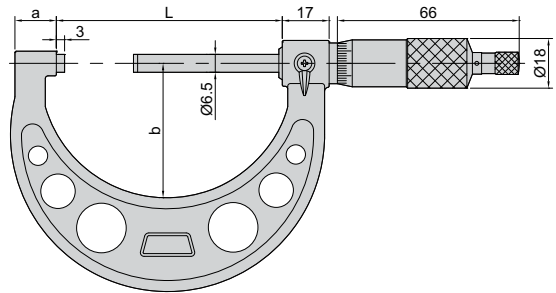


3209-25

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

| 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 |

Unit: mm



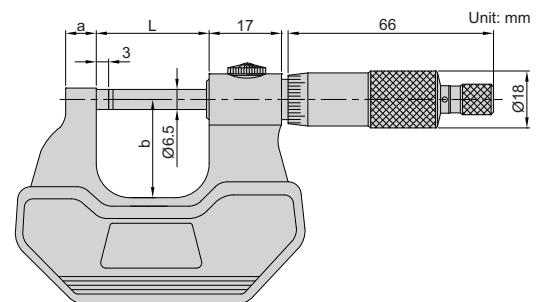
OUTSIDE MICROMETER FOR LEFT AND RIGHT HAND



front



back



3236-25B

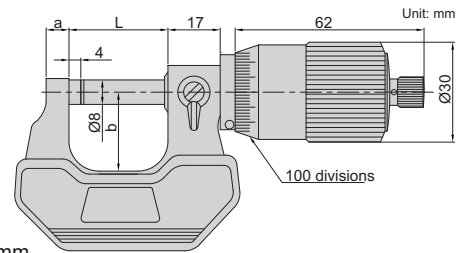
| Code | Range | Accuracy | L | a | b |
|----------|---------|----------|----|---|----|
| 3236-25B | 0-25mm | 4μm | 32 | 6 | 24 |
| 3236-50B | 25-50mm | 4μm | 57 | 8 | 32 |

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

QUICK FEEDING OUTSIDE MICROMETER



3208-25B



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

| 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 |

(mm)

OUTSIDE MICROMETER WITH INTERCHANGEABLE ANVILS

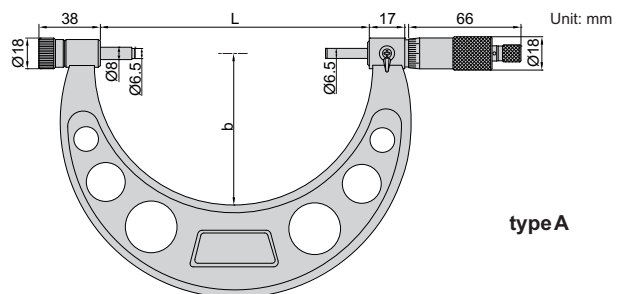


3206-150A

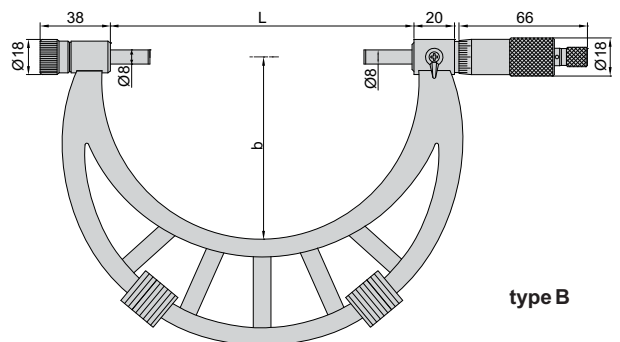
- Graduation 0.01mm
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards



3206-400



type A



type B

| Code | Range | Type | Accuracy | L | b |
|-----------|------------|------|----------|------|-----|
| 3206-50A | 0-50mm | A | 4µm | 58 | 35 |
| 3206-100A | 0-100mm | A | 5µm | 108 | 57 |
| 3206-150A | 0-150mm | A | 6µm | 158 | 82 |
| 3206-151A | 50-150mm | A | 6µm | 158 | 82 |
| 3206-200A | 100-200mm | A | 7µm | 208 | 114 |
| 3206-300A | 150-300mm | A | 9µm | 308 | 165 |
| 3206-301A | 200-300mm | A | 9µm | 308 | 165 |
| 3206-400 | 300-400mm | B | 11µm | 409 | 224 |
| 3206-500 | 400-500mm | B | 13µm | 509 | 275 |
| 3206-600 | 500-600mm | B | 14µm | 609 | 321 |
| 3206-700 | 600-700mm | B | 16µm | 709 | 371 |
| 3206-800 | 700-800mm | B | 18µm | 809 | 426 |
| 3206-900 | 800-900mm | B | 20µm | 909 | 476 |
| 3206-1000 | 900-1000mm | B | 22µm | 1009 | 576 |

(mm)

DIGITAL OUTSIDE MICROMETER WITH INTERCHANGEABLE ANVILS

IP54
WATERPROOF

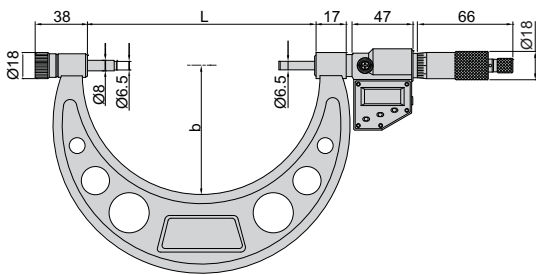
DATA
OUTPUT



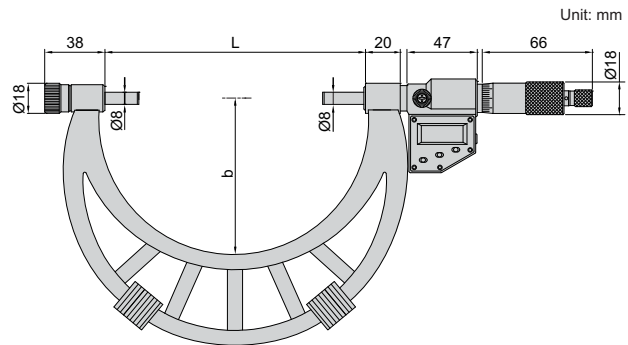
3506-100A



3506-400A



type A



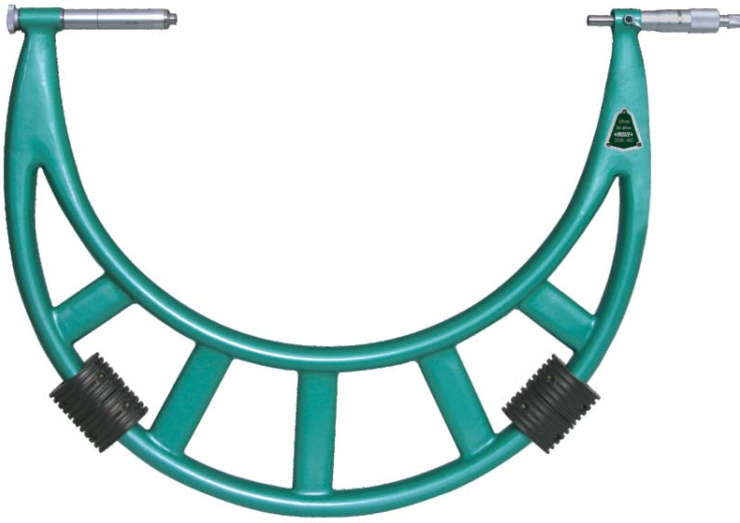
type B



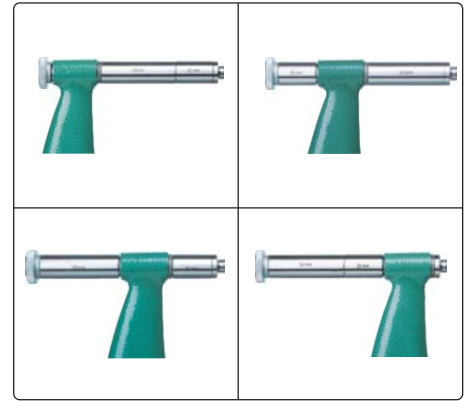
| Code | Range | Type | Accuracy | L | b |
|-------------------|-------------------|------|----------|------|-----|
| 3506-100A | 0-100mm/0-4" | A | ±5µm | 105 | 57 |
| 3506-150A | 0-150mm/0-6" | A | ±6µm | 155 | 82 |
| 3506-300A | 150-300mm/6-12" | A | ±8µm | 305 | 165 |
| 3506-301A | 200-300mm/8-12" | A | ±8µm | 305 | 165 |
| 3506-400A | 300-400mm/12-16" | B | ±9µm | 405 | 224 |
| 3506-500A | 400-500mm/16-20" | B | ±11µm | 505 | 275 |
| 3506-600A | 500-600mm/20-24" | B | ±12µm | 605 | 321 |
| 3506-700A | 600-700mm/24-28" | B | ±13µm | 705 | 371 |
| 3506-800A | 700-800mm/28-32" | B | ±15µm | 805 | 426 |
| 3506-900A | 800-900mm/32-36" | B | ±16µm | 905 | 476 |
| 3506-1000A | 900-1000mm/36-40" | B | ±17µm | 1005 | 576 |

- 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
- SR44 or LR44 battery, automatic power off
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards
- Optional accessory: data output system

OUTSIDE MICROMETER WITH EXTENSION ANVIL COLLAR

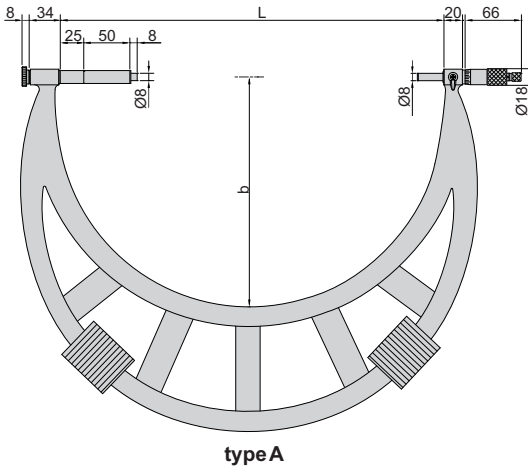


3205-400

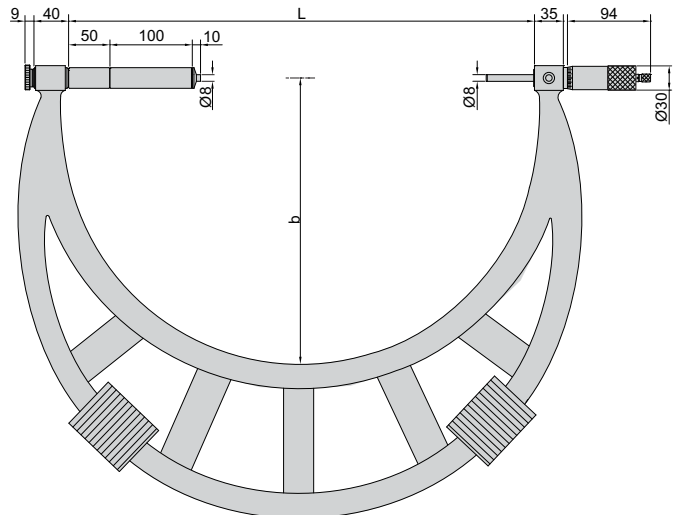


adjust collars for different measuring ranges

Unit: mm



type A



type B

(mm)

| Code | Range | Type | Accuracy | L | b |
|-----------|-------------|------|----------|------|------|
| 3205-400 | 300-400mm | A | 11µm | 410 | 250 |
| 3205-500 | 400-500mm | A | 13µm | 510 | 295 |
| 3205-600 | 500-600mm | A | 14µm | 610 | 345 |
| 3205-700 | 600-700mm | A | 16µm | 710 | 395 |
| 3205-800 | 700-800mm | A | 18µm | 810 | 445 |
| 3205-900 | 800-900mm | A | 20µm | 910 | 495 |
| 3205-1000 | 900-1000mm | A | 22µm | 1010 | 545 |
| 3205-1200 | 1000-1200mm | B | 22µm | 1210 | 645 |
| 3205-1400 | 1200-1400mm | B | 24µm | 1410 | 745 |
| 3205-1600 | 1400-1600mm | B | 28µm | 1610 | 845 |
| 3205-1800 | 1600-1800mm | B | 31µm | 1810 | 945 |
| 3205-2000 | 1800-2000mm | B | 34µm | 2010 | 1045 |

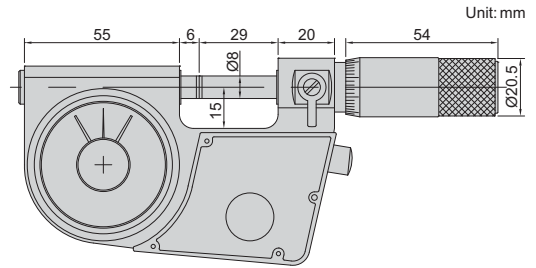
- Graduation 0.01mm
- Adjust collars for different measuring ranges
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards

INDICATING MICROMETER



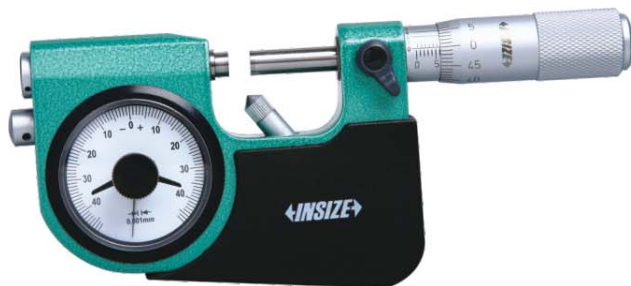
3333-25

- 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 |

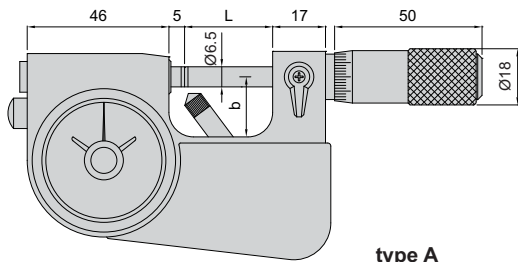
INDICATING MICROMETER



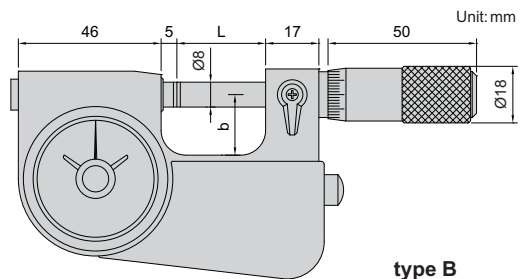
3332-25



3332-25B



type A



type B

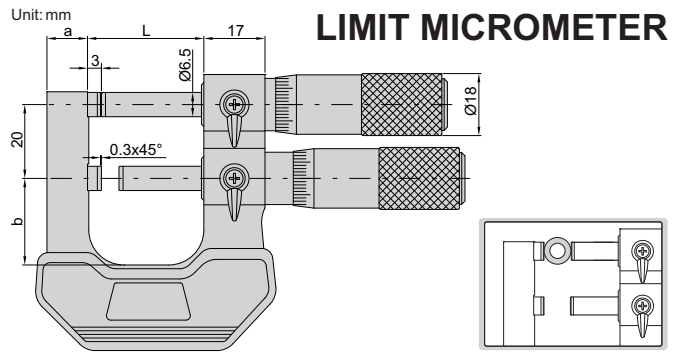
| Code | Micrometer head range | Micrometer head accuracy | Type | L | b |
|----------|-----------------------|--------------------------|------|-------|----|
| 3332-25 | 0-25mm | 4µm | A | 28.5 | 19 |
| 3332-50 | 25-50mm | 4µm | A | 53.5 | 30 |
| 3332-75 | 50-75mm | 5µm | A | 78.5 | 45 |
| 3332-100 | 75-100mm | 5µm | A | 103.5 | 57 |
| 3332-25B | 0-25mm | 4µm | B | 28.5 | 19 |

(mm)

- 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)



3235-25A



LIMIT MICROMETER

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

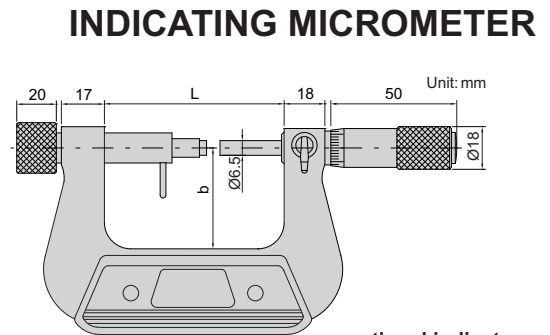
(mm)

- 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)



dial indicator is not included

3331-25A



INDICATING MICROMETER

| 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 |

(mm)

- Micrometer head graduation 0.01mm
- Anvil retracting range: 8mm
- Optional indicators: dial indicator, range 10mm, graduation 0.01mm (code **2308-10FA**)
- Carbide measuring faces
- Supplied with setting standards (except 0-25mm)

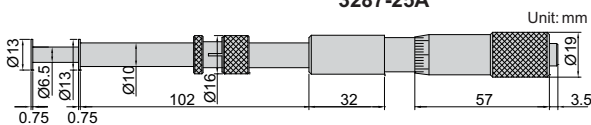
optional indicators



2308-10FA



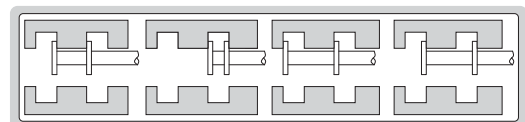
3287-25A



GROOVE MICROMETER

| 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 |

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



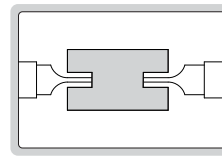
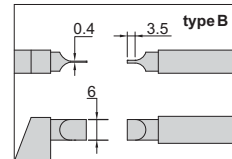
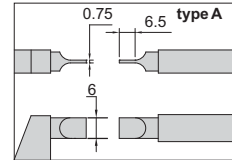
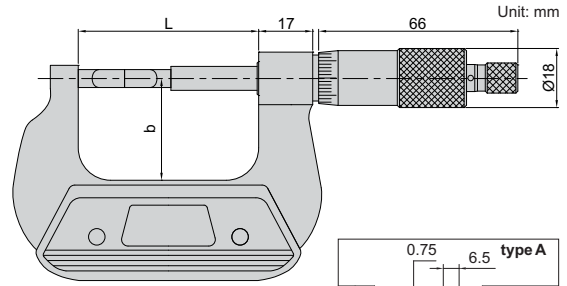
BLADE MICROMETER

NON-ROTATING SPINDLE



3232-25A

| 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

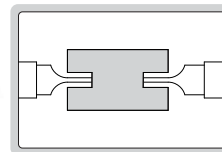
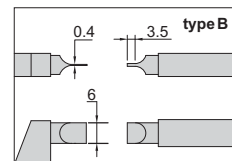
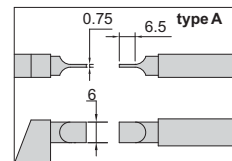
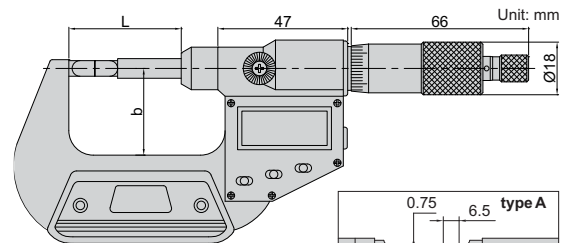
DATA OUTPUT

NON-ROTATING SPINDLE



3532-25A

| 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 |

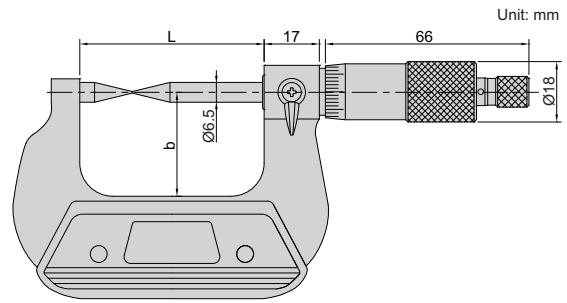


- Measure the groove diameter of shafts and keyways
- Resolution 0.001mm/0.00005"
- Non-rotating spindle
- Button function: on/off, set, mm/inch, ABS/INC, data output
- Data output
- SR44 or LR44 battery, automatic power off
- Ratchet stop
- Supplied with setting standards (except 0-25mm/0-1")
- Optional accessory: data output system

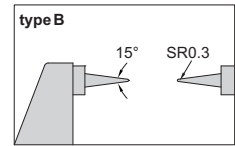
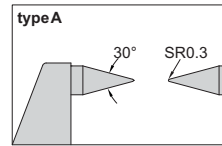
POINT MICROMETER



3230-25A



| 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)

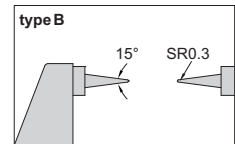
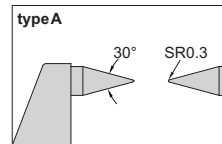
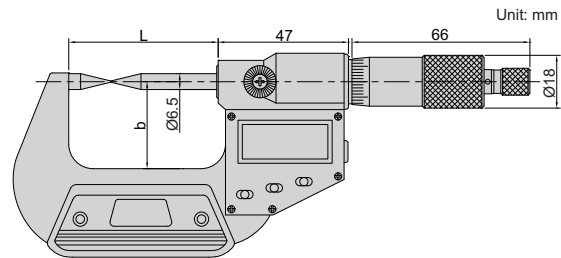
IP54
WATERPROOF

DATA
OUTPUT



3530-25A

DIGITAL POINT MICROMETER



| 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 |

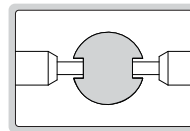
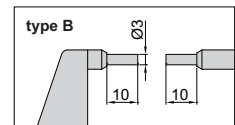
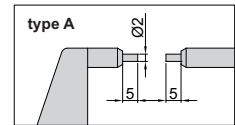
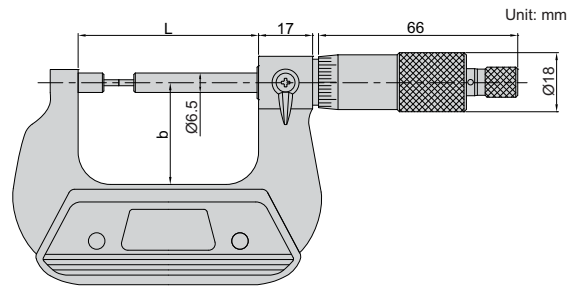
- Measure the web thickness of drills, small grooves and keyways
- Resolution 0.001mm/0.00005"
- IP54 dust/waterproof
- Button function: on/off, set, mm/inch, ABS/INC, data output
- Data output
- SR44 or LR44 battery, automatic power off
- Ratchet stop
- Carbide tips
- Supplied with setting standards (except 0-25mm/0-1")
- Optional accessory: data output system

SPLINE MICROMETER



3233-25BA

| 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

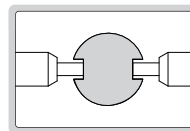
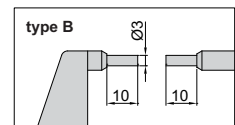
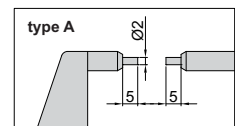
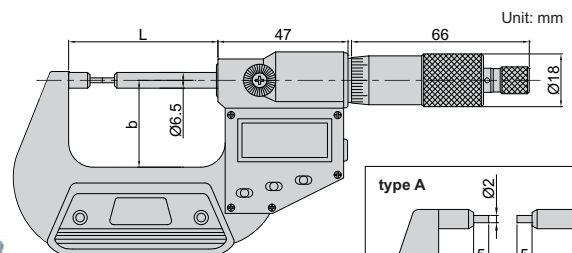


3533-25BA

| 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 |

IP54
WATERPROOF

DATA
OUTPUT



- 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
- SR44 or LR44 battery, automatic power off
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards (except 0-25mm/0-1")
- Optional accessory: data output system

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

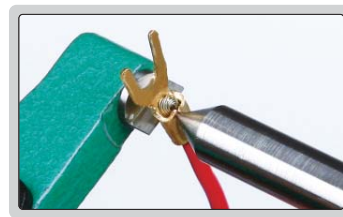
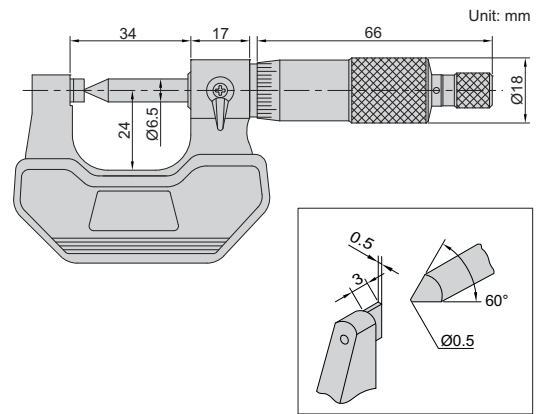


3266-25BA

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

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

CRIMP HEIGHT MICROMETER



DIGITAL CRIMP HEIGHT MICROMETER

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

IP54
WATERPROOF

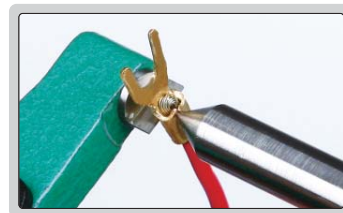
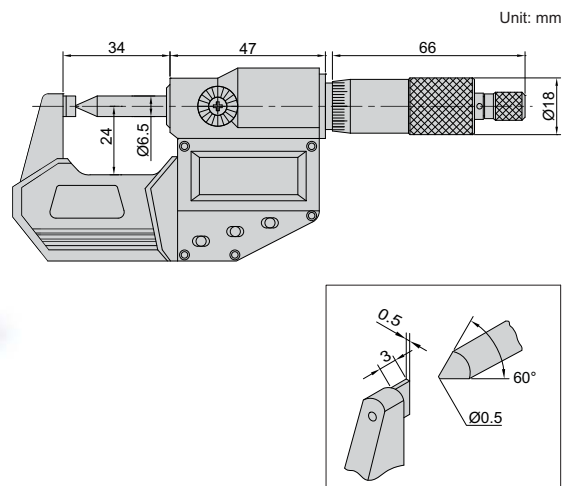
DATA
OUTPUT



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
- SR44 or LR44 battery, automatic power off
- Ratchet stop
- Optional accessory: data output system

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

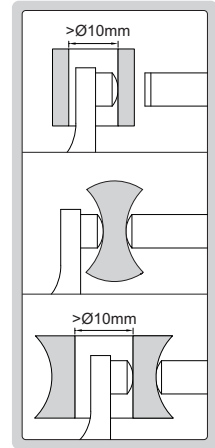
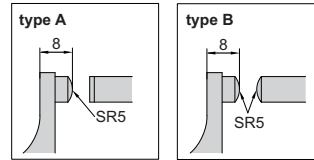
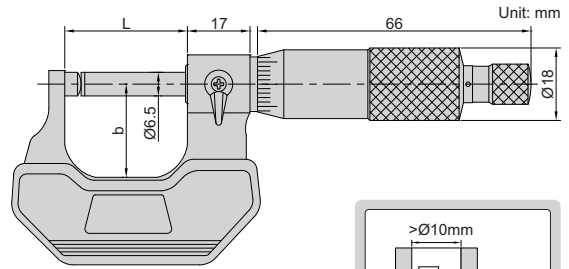


SPHERICAL ANVIL TUBE MICROMETER



3260-25A

| 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)

DIGITAL SPHERICAL ANVIL TUBE MICROMETER

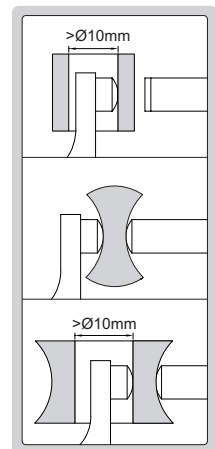
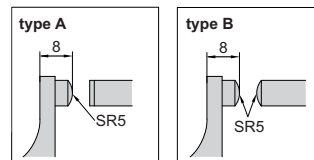
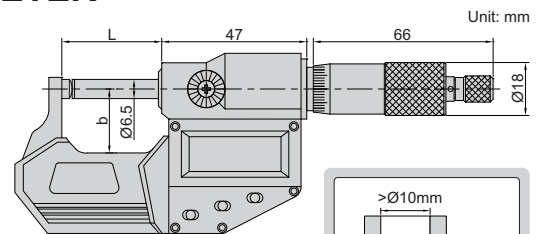
DATA
OUTPUT

IP54
WATERPROOF



3560-25A

| Code | Range | Type | Accuracy | L | b |
|------------|---------------|------|----------|-----|------|
| 3560-25A | 0-25mm/0-1" | A | ±4μm | 32 | 24 |
| 3560-50A | 25-50mm/1-2" | A | ±4μm | 57 | 32 |
| 3560-75A | 50-75mm/2-3" | A | ±5μm | 82 | 44.5 |
| 3560-100A | 75-100mm/3-4" | A | ±5μm | 107 | 57 |
| 3560-25SA | 0-25mm/0-1" | B | ±4μm | 32 | 24 |
| 3560-50SA | 25-50mm/1-2" | B | ±4μm | 57 | 32 |
| 3560-75SA | 50-75mm/2-3" | B | ±5μm | 82 | 44.5 |
| 3560-100SA | 75-100mm/3-4" | B | ±5μm | 107 | 57 |

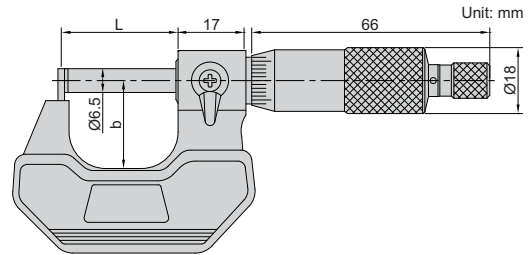


- Measure wall thickness of tubes
- Resolution 0.001mm/0.00005"
- IP54 dust/waterproof
- Button function: on/off, set, mm/inch, ABS/INC, data output
- Data output
- SR44 or LR44 battery, automatic power off
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards (except 0-25mm/0-1")
- Optional accessory: data output system

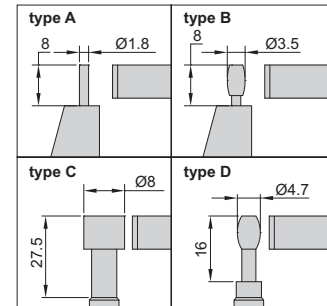
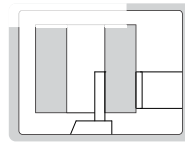
CYLINDRICAL ANVIL TUBE MICROMETER



3261-25A



| 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 |



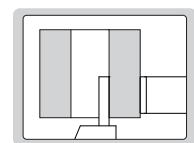
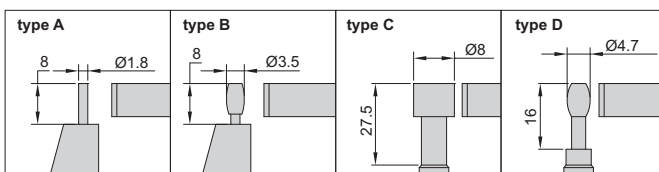
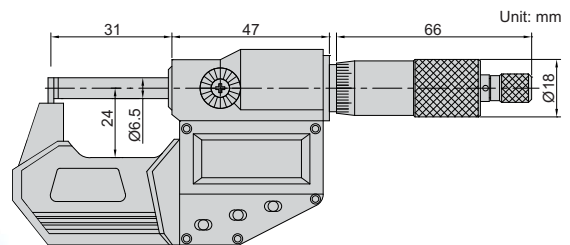
- Measure wall thickness of tubes
- Graduation 0.01mm
- Ratchet stop
- Carbide spindle tip
- Supplied with setting standards (except 0-25mm)

DATA OUTPUT
IP54 WATERPROOF

DIGITAL CYLINDRICAL ANVIL TUBE MICROMETER



3561-25A



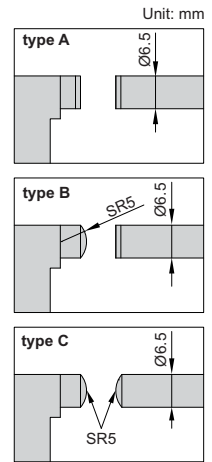
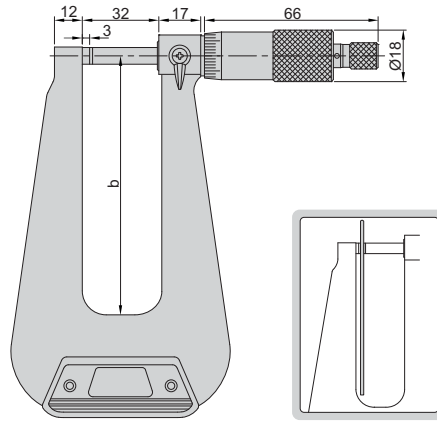
| Code | Range | Type | Accuracy |
|-----------|-------------|------|----------|
| 3561-25A | 0-25mm/0-1" | A | ±6µm |
| 3561-25BA | 0-25mm/0-1" | B | ±6µm |
| 3561-25CA | 0-25mm/0-1" | C | ±6µm |
| 3561-25DA | 0-25mm/0-1" | D | ±6µm |

- 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
- SR44 or LR44 battery, automatic power off
- Ratchet stop
- Carbide spindle tip
- Supplied with setting standards (except 0-25mm/0-1")
- Optional accessory: data output system

SHEET METAL MICROMETER



3239-253



(mm)

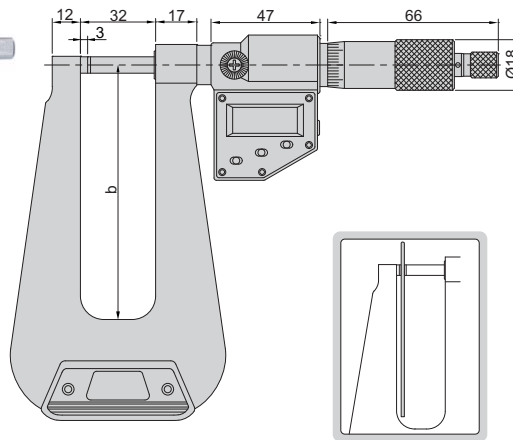
| Code | Range | Type | Accuracy | b |
|-----------|--------|------|----------|-----|
| 3239-253 | 0-25mm | A | 5µm | 155 |
| 3239-253F | 0-25mm | B | 5µm | 155 |
| 3239-254F | 0-25mm | B | 6µm | 310 |
| 3239-253S | 0-25mm | C | 5µm | 155 |

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

DIGITAL SHEET METAL MICROMETER

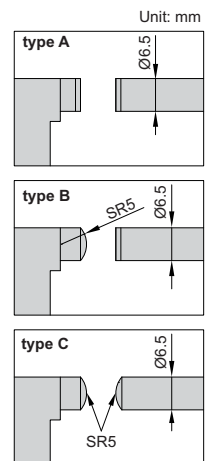


3539-253A



DATA
OUTPUT

IP54
WATERPROOF



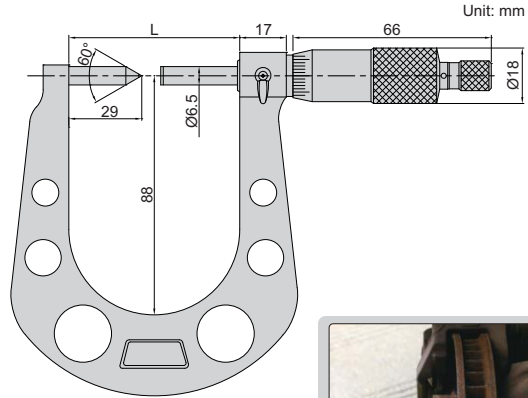
(mm)

| 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
- SR44 or LR44 battery, automatic power off
- Ratchet stop
- Carbide measuring faces
- Optional accessory: data output system

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

DISK BRAKE MICROMETER



3288-33A

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

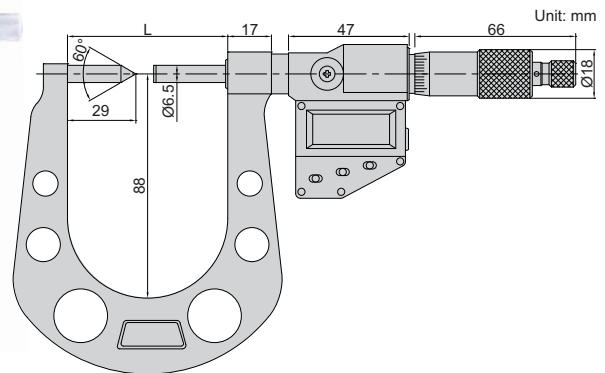
- Measure thickness of disk brakes
- Graduation 0.01mm
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards

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

DIGITAL DISK BRAKE MICROMETER

DATA
OUTPUT

IP54
WATERPROOF



3588-33A

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

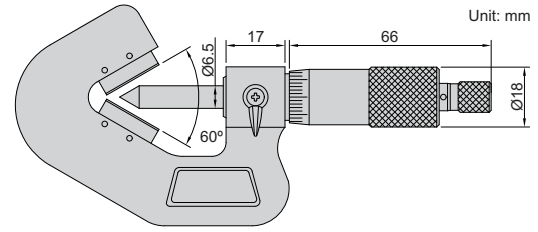
- Measure thickness of disk brakes
- Resolution 0.001mm/0.00005"
- IP54 dust/waterproof
- Button function: on/off, set, mm/inch, ABS/INC, data output
- Data output
- SR44 or LR44 battery, automatic power off
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards
- Optional accessory: data output system

V-ANVIL MICROMETER

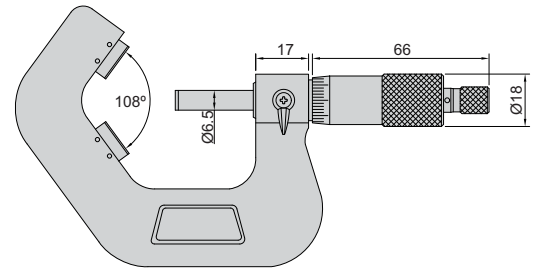


3290-153A

| 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

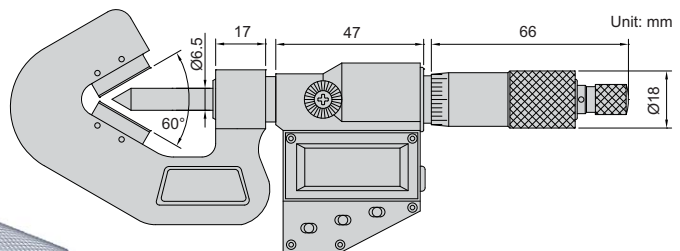
- Measure the outside diameter of cutting tools (such as taps, reamers, end mills) with 3 or 5 flutes
- Graduation 0.01mm
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards

DIGITAL V-ANVIL MICROMETER



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 |



DATA
OUTPUT

IP54
WATERPROOF

- 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
- SR44 or LR44 battery, automatic power off
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards
- Optional accessory: data output system

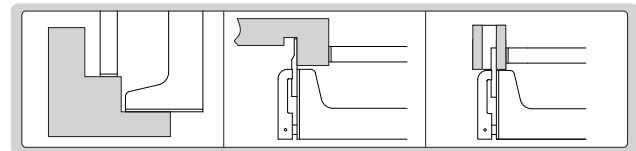
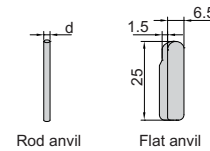
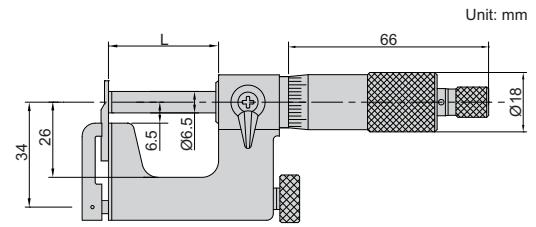
INTERCHANGEABLE ANVIL MICROMETER



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)

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



DATA
OUTPUT

IP54
WATERPROOF

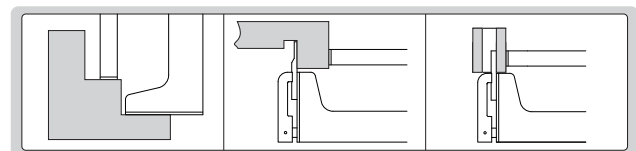
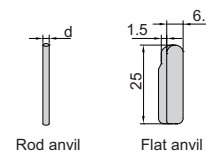
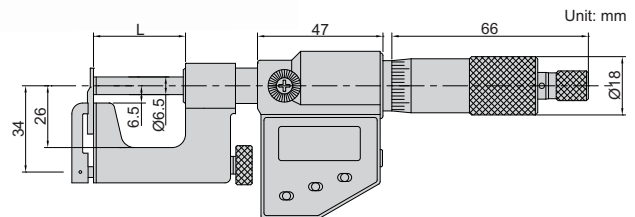
DIGITAL INTERCHANGEABLE ANVIL MICROMETER



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
- SR44 or LR44 battery, automatic power off
- Ratchet stop
- Carbide spindle tip
- Setting standards are included (except 0-25mm/0-1")
- Optional accessory: data output system

| 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 |

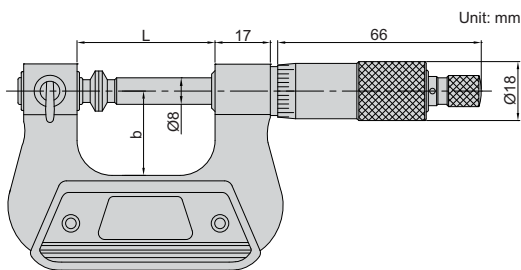


NON ROTATING SPINDLE UNIVERSAL MICROMETER

NON-ROTATING
SPINDLE



3280-25A



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

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

standard anvil/spindle tip

Unit: mm

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

optional 55° anvil/spindle tip

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

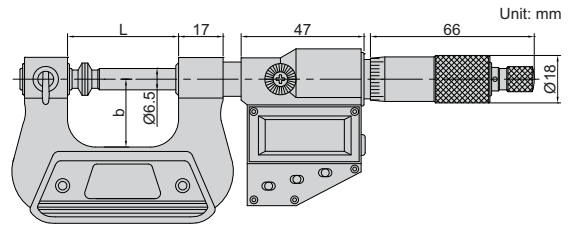
DATA
OUTPUT

IP54
WATERPROOF

DIGITAL UNIVERSAL MICROMETER



3580-25A



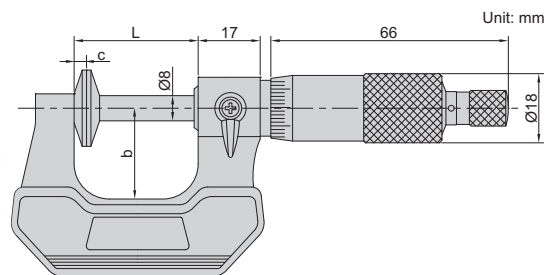
- Resolution 0.001mm/0.00005"
- IP54 dust/waterproof
- Button function: on/off, set, mm/inch, ABS/INC, data output
- Data output
- SR44 or LR44 battery, automatic power off
- Ratchet stop
- Supplied with 7 pairs of anvil/spindle tip (same as series 3280, previous page)
- Setting standards are included (except 0-25mm/0-1")
- Optional accessory: 55° anvil/spindle tip code 3280-SP1 and 3280-SP2 (same as series 3280, previous page), data output system

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

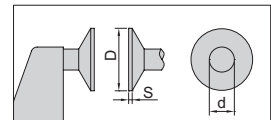
DISK MICROMETER



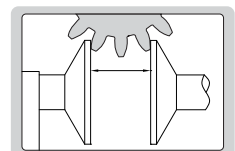
3282-25



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



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

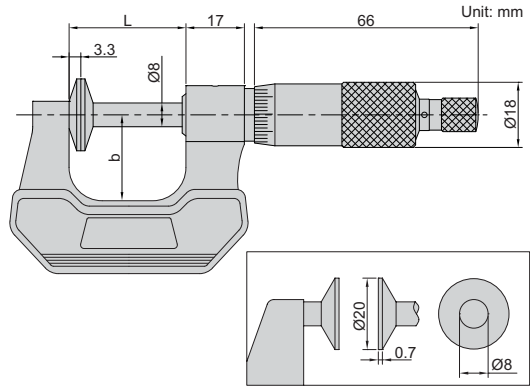


NON ROTATING SPINDLE DISK MICROMETER

NON-ROTATING SPINDLE

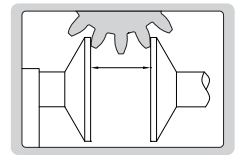


3294-25



| (mm) | | | | |
|----------|----------|----------|-----|----|
| Code | Range | Accuracy | L | b |
| 3294-25 | 0-25mm | 4µm | 34 | 24 |
| 3294-50 | 25-50mm | 4µm | 59 | 32 |
| 3294-75 | 50-75mm | 5µm | 85 | 45 |
| 3294-100 | 75-100mm | 5µm | 110 | 57 |

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



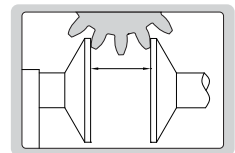
DIGITAL NON ROTATING SPINDLE DISK MICROMETER

DATA OUTPUT

NON-ROTATING SPINDLE

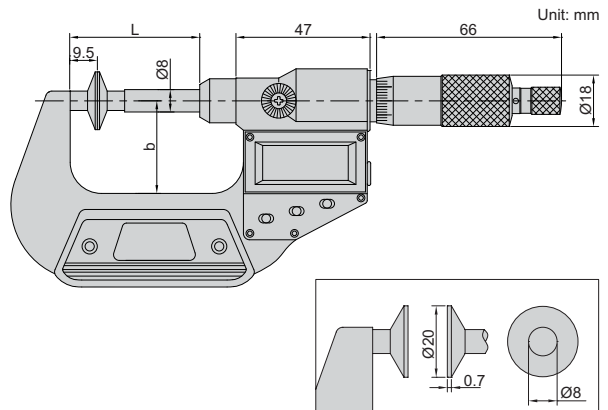


3594-25A



- 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
- SR44 or LR44 battery, automatic power off
- Ratchet stop
- Supplied with setting standards
- Optional accessory: data output system

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

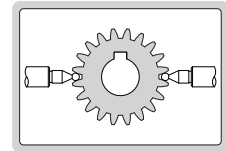
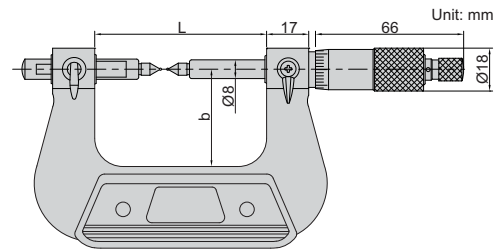


ball tips are not included



3291-25

GEAR TOOTH MICROMETER



| Code | Range | Micrometer head accuracy | Ball tips accuracy | L | b |
|----------|-----------|--------------------------|--------------------|-------|------|
| 3291-25 | 0-25mm | 4µm | 8µm | 67 | 38 |
| 3291-50 | 25-50mm | 4µm | 8µm | 92.4 | 50 |
| 3291-75 | 50-75mm | 5µm | 10µm | 117.6 | 62 |
| 3291-100 | 75-100mm | 5µm | 10µm | 143 | 70 |
| 3291-125 | 100-125mm | 6µm | 15µm | 168.2 | 82 |
| 3291-150 | 125-150mm | 6µm | 15µm | 192 | 94.5 |
| 3291-175 | 150-175mm | 7µm | 15µm | 217 | 107 |

(mm)

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

ball tips are not included

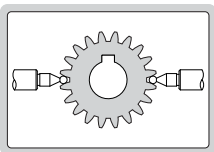
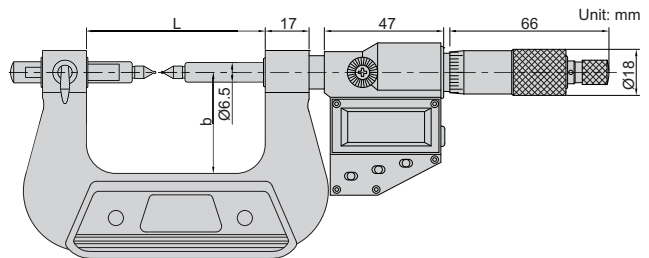


3591-25A

DIGITAL GEAR TOOTH MICROMETER

DATA
OUTPUT

IP54
WATERPROOF



| Code | Range | Micrometer head accuracy | Ball tips accuracy | L | b |
|-----------|---------------|--------------------------|--------------------|-------|----|
| 3591-25A | 0-25mm/0-1" | ±4µm | 8µm | 67 | 38 |
| 3591-50A | 25-50mm/1-2" | ±4µm | 8µm | 92.4 | 50 |
| 3591-75A | 50-75mm/2-3" | ±5µm | 10µm | 117.6 | 62 |
| 3591-100A | 75-100mm/3-4" | ±5µm | 10µm | 143 | 70 |

(mm)

- 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
- SR44 or LR44 battery, automatic power off
- Ratchet stop
- Supplied with setting standards (except 0-25mm/0-1")
- Optional accessory: ball tips (code 7391, next page), data output system

BALL TIPS FOR GEAR TOOTH MICROMETER

| 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 tips | |



7391-T5



MEASURING TIPS FOR SCREW THREAD MICROMETER

Metric and unified thread (60° thread angle)

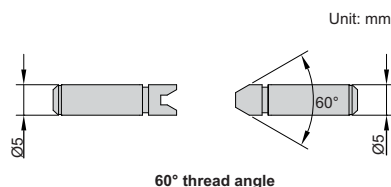
| Code | Pitch |
|----------|---------------------------------------|
| 7381-T11 | 0.4-0.5mm/ 64-48TPI |
| 7381-T12 | 0.6-0.9mm/ 44-28TPI |
| 7381-T13 | 1-1.75mm/ 24-14TPI |
| 7381-T14 | 2-3mm/ 13-9TPI |
| 7381-T15 | 3.5-5mm/ 8-5TPI |
| 7381-T16 | 5.5-7mm/ 4.5-3.5TPI |
| 7381-TS | 6 pairs/set, including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



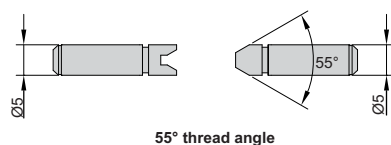
7381-T11

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 |



60° thread angle



55° thread angle

NON-ROTATING SPINDLE

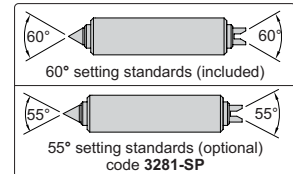
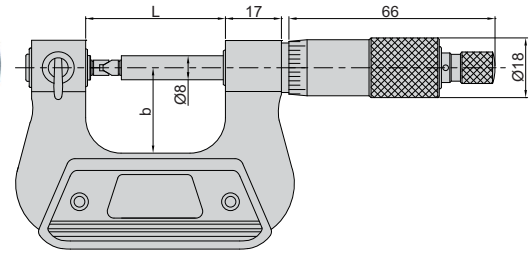
measuring tips are not included



3281-25A

SCREW THREAD MICROMETER

Unit: mm



| Code | Range | Micrometer head accuracy | Measuring tips accuracy | L | b |
|-----------|-----------|--------------------------|-------------------------|-------|------|
| 3281-25A | 0-25mm | 4µm | 8µm | 42 | 26 |
| 3281-50A | 25-50mm | 4µm | 8µm | 67 | 38 |
| 3281-75A | 50-75mm | 5µm | 10µm | 92 | 50 |
| 3281-100A | 75-100mm | 5µm | 10µm | 117.6 | 62 |
| 3281-125A | 100-125mm | 6µm | 15µm | 143 | 70 |
| 3281-150A | 125-150mm | 6µm | 15µm | 168.2 | 82 |
| 3281-175A | 150-175mm | 7µm | 15µm | 192 | 94.5 |
| 3281-200A | 175-200mm | 7µm | 15µm | 217 | 107 |

(mm)

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

DIGITAL SCREW THREAD MICROMETER

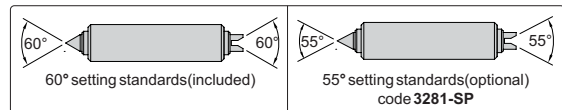
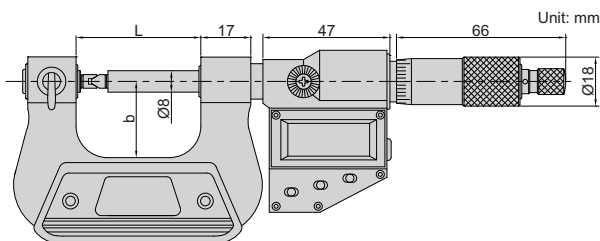
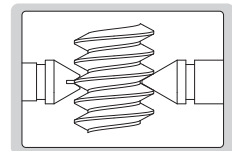
measuring tips are not included



3581-25A

DATA OUTPUT

NON-ROTATING SPINDLE



| Code | Range | Micrometer head accuracy | Measuring tips accuracy | L | b |
|-----------|---------------|--------------------------|-------------------------|-------|----|
| 3581-25A | 0-25mm/0-1" | ±4µm | 8µm | 42 | 26 |
| 3581-50A | 25-50mm/1-2" | ±4µm | 8µm | 67 | 38 |
| 3581-75A | 50-75mm/2-3" | ±5µm | 10µm | 92 | 50 |
| 3581-100A | 75-100mm/3-4" | ±5µm | 10µm | 117.6 | 62 |

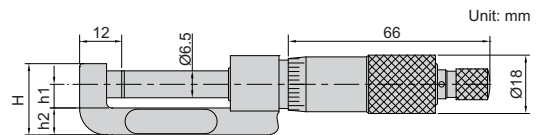
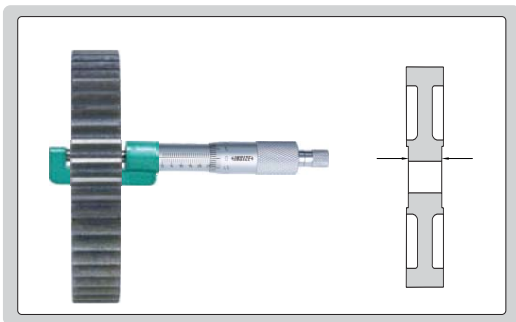
(mm)

- Measure pitch diameter of screw threads
- Resolution 0.001mm/0.00005"
- Button function: on/off, set, mm/inch, ABS/INC, data output
- Data output
- SR44 or LR44 battery, automatic power off
- Non-rotating spindle
- Ratchet stop
- Supplied with 60° setting standards (except 0-25mm/0-1")
- Optional accessory: 55° setting standards (code 3281-SP), measuring tips (code 7381, previous page), data output system

HUB MICROMETER



3292-25



| Code | Range | Accuracy | h1 | h2 | H |
|----------|----------|----------|-----|----|------|
| 3292-25 | 0-25mm | 4µm | 6 | 9 | 18.7 |
| 3292-50 | 25-50mm | 4µm | 6.5 | 11 | 21.2 |
| 3292-75 | 50-75mm | 5µm | 6.5 | 11 | 21.2 |
| 3292-100 | 75-100mm | 5µm | 6.5 | 11 | 21.2 |

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

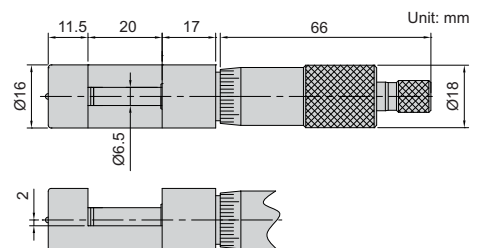
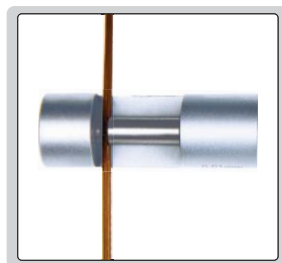
WIRE MICROMETER



3285-10

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

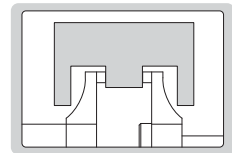
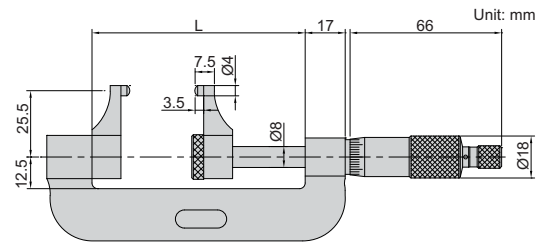
| Code | Range | Accuracy |
|---------|--------|----------|
| 3285-10 | 0-10mm | 4µm |



CALIPER TYPE MICROMETER



3238-25



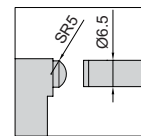
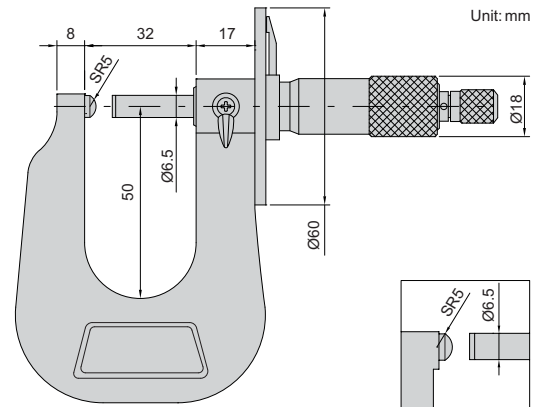
| (mm) | | | |
|---------|---------|-----------|----|
| Code | Range | Accuracy | L |
| 3238-25 | 0-25mm | 5 μ m | 56 |
| 3238-50 | 25-50mm | 6 μ m | 81 |

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

SHEET METAL MICROMETER

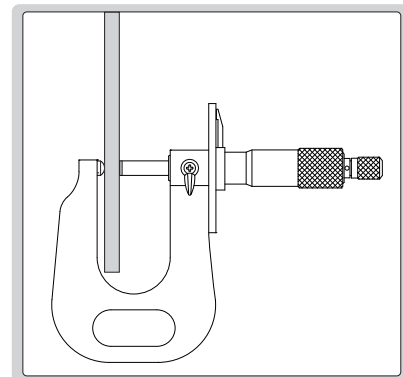


3263-25A



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

| Code | Range | Accuracy |
|----------|--------|-----------|
| 3263-25A | 0-25mm | 4 μ m |

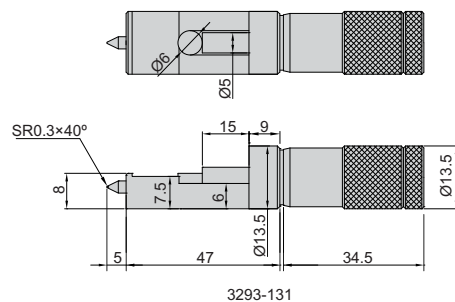


CAN SEAM MICROMETER

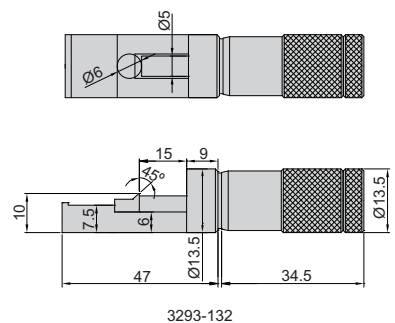
Unit: mm



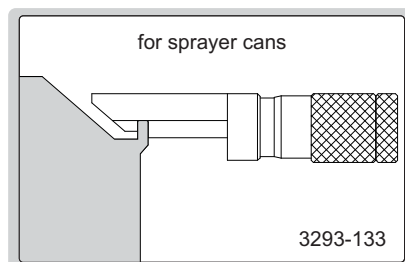
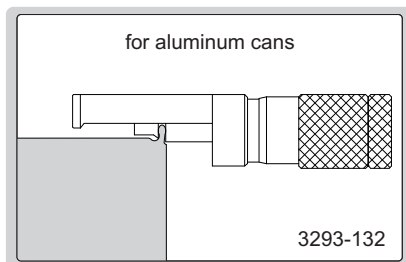
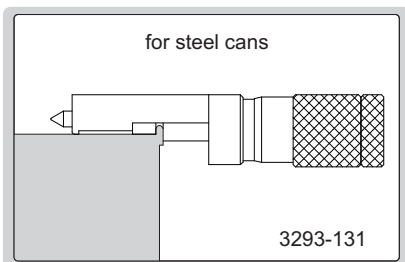
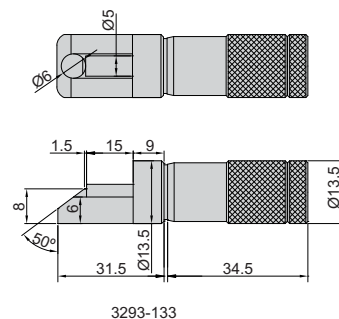
3293-131



3293-132



3293-133

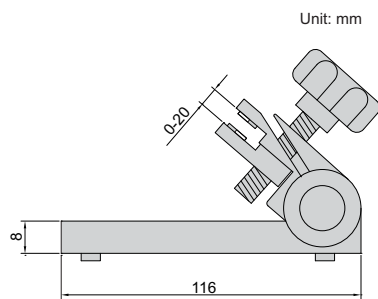


| Code | Range | Accuracy |
|----------|--------|----------|
| 3293-131 | 0-13mm | 4µm |
| 3293-132 | 0-13mm | 4µm |
| 3293-133 | 0-13mm | 4µm |

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



6300



MICROMETER STAND



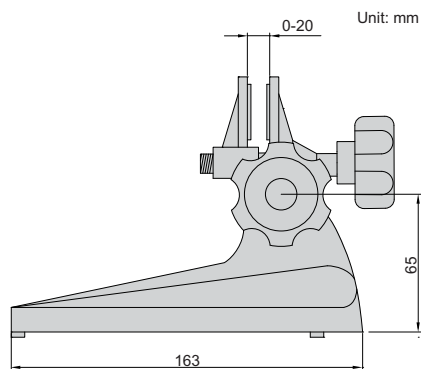
Code

6300

- Suitable for micrometers up to 100mm



6301



MICROMETER STAND



Code

6301

- Suitable for micrometers up to 100mm



4184-41A

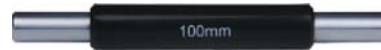
OPTICAL PARALLEL

| 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 |

- Check the flatness and parallelism of measuring faces of micrometer

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 |



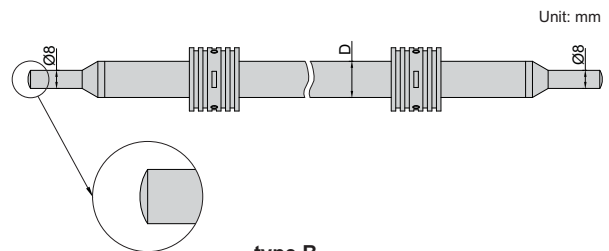
6310-100



type A



6310-300



type B

DATA
OUTPUT

IP54
WATERPROOF



6353-25W

- Resolution 0.001mm/0.00005"
- IP54 dust/waterproof
- Button function: on/off, set, mm/inch, ABS/INC, data output
- Data output
- SR44 or LR44 battery, automatic power off
- Ratchet stop
- Optional accessory: data output system

Rotating spindle

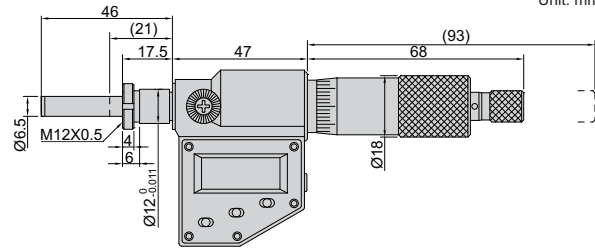
| Code | Range | Stem | Spindle tip | Accuracy |
|-----------|-------------|----------------|-----------------|----------|
| 6353-25 | 0-25mm/0-1" | with clamp nut | flat (carbide) | ±2μm |
| 6353-25W | 0-25mm/0-1" | plain | flat (carbide) | ±2μm |
| 6353-25S | 0-25mm/0-1" | with clamp nut | spherical (SR5) | ±2μm |
| 6353-25WS | 0-25mm/0-1" | plain | spherical (SR5) | ±2μm |
| 6353-50W | 0-50mm/0-2" | plain | flat (carbide) | ±4μm |

Non-rotating spindle

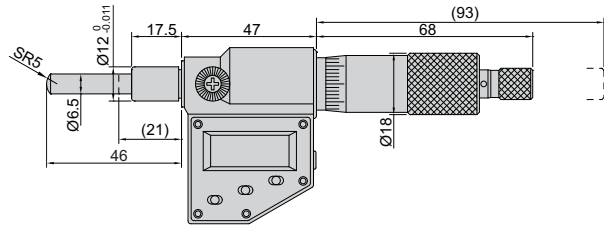
| Code | Range | Stem | Spindle tip | Accuracy |
|----------|-------------|-------|----------------|----------|
| 6354-25W | 0-25mm/0-1" | plain | flat (carbide) | ±2μm |

DIGITAL MICROMETER HEAD

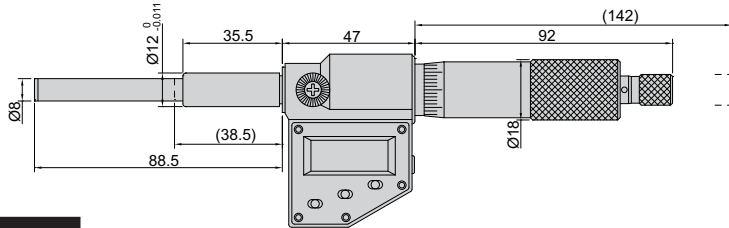
Unit: mm



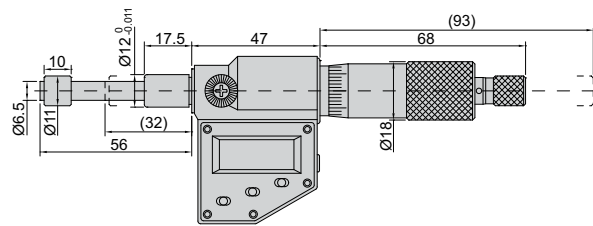
6353-25



6353-25WS



6353-50W



6354-25W



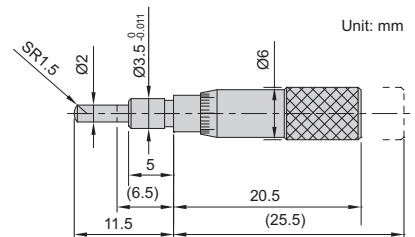
6372-5WS

- Graduation 0.02mm

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

SMALL MICROMETER HEAD

Unit: mm

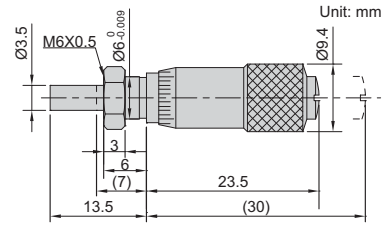


SMALL MICROMETER HEAD

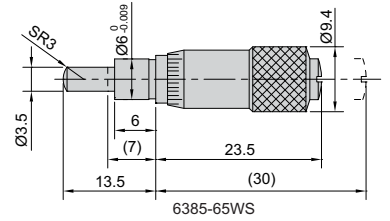


- Graduation 0.01mm

6385-65W



6385-65



6385-65WS

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

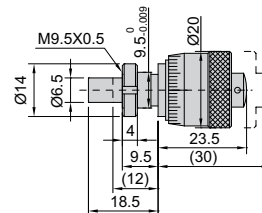
LARGE THIMBLE MICROMETER HEAD



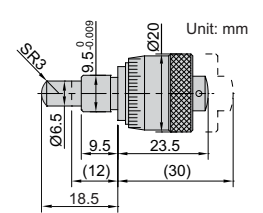
6373-65



6373-13

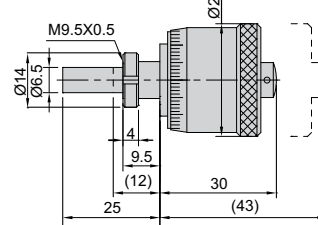


6373-65

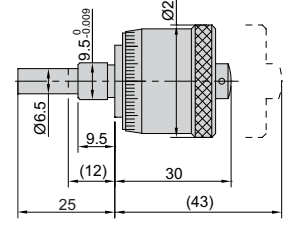


6373-65WS

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



6373-13



6373-13W

- Large thimble diameter for easy reading
- Graduation 0.01mm

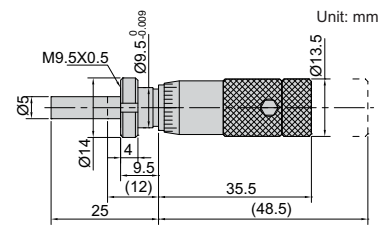
MICROMETER HEAD WITH ZERO ADJUSTABLE THIMBLE



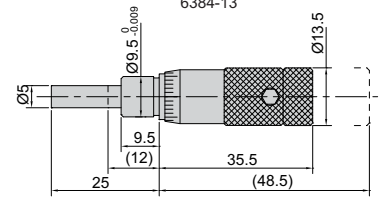
6384-13W

- 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) | 3 μ m |
| 6384-13W | 0-13mm | plain | flat (carbide) | 3 μ m |



6384-13



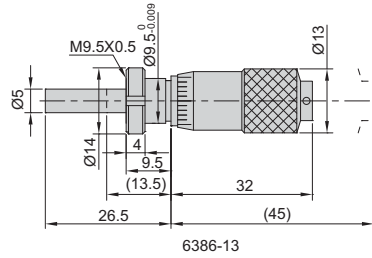
6384-13W

MICROMETER HEAD

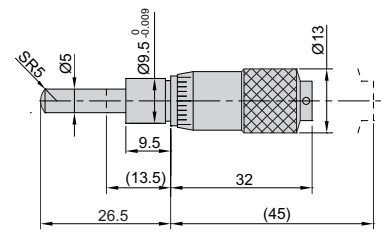
Unit: mm



6386-13W



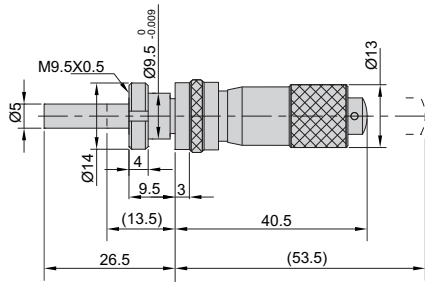
6386-13



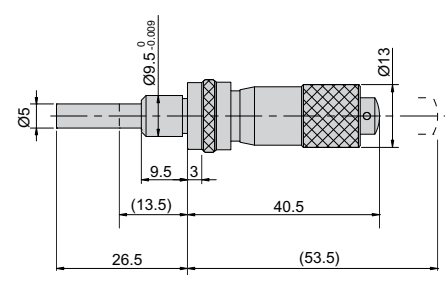
6386-13WS



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 |

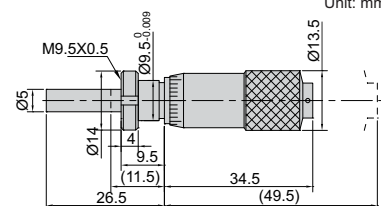


6387-15WS

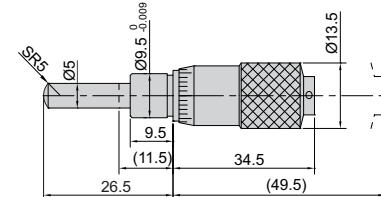
■ Graduation 0.01mm

MICROMETER HEAD

Unit: mm



6387-15



6387-15WS

| 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 |

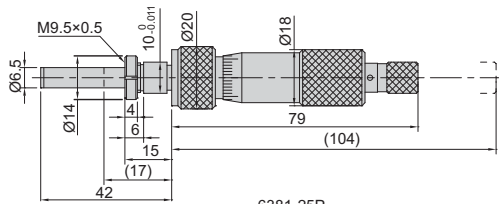
MICROMETER HEAD



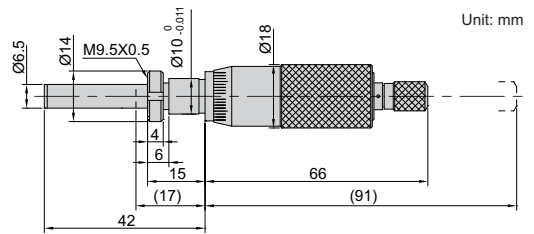
6381-25



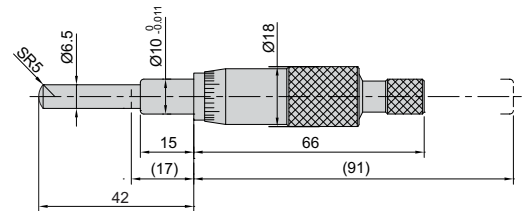
6381-25P



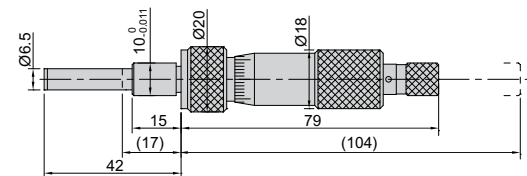
6381-25P



6381-25



6381-25WS



6381-25WP

Unit: mm

| 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 |

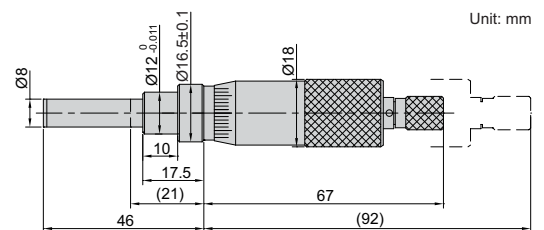
- Graduation 0.01mm
- Ratchet stop

NON ROTATING SPINDLE MICROMETER HEAD



6377-25W

- Graduation 0.01mm
- Ratchet stop
- Non rotating spindle



Unit: mm

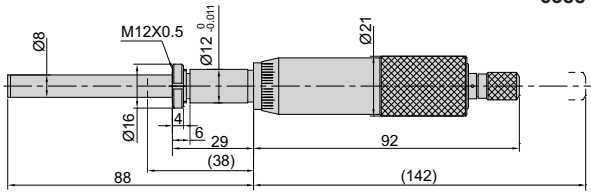
| Code | Range | Stem | Spindle tip | Accuracy |
|----------|--------|-------|----------------|----------|
| 6377-25W | 0-25mm | plain | flat (carbide) | 3µm |

LARGE MICROMETER HEAD

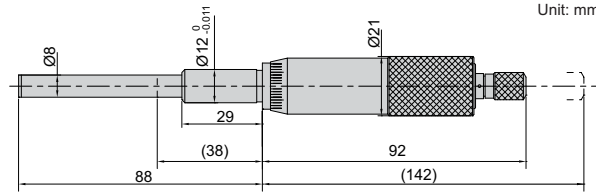


6388-50W

Unit: mm



6388-50



6388-50W

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

- Graduation 0.01mm
- Ratchet stop

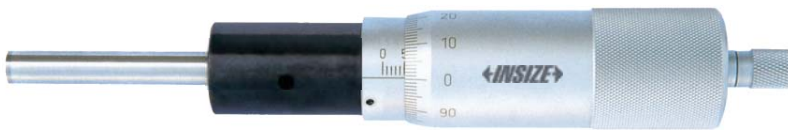
QUICK SPINDLE FEEDING MICROMETER HEAD



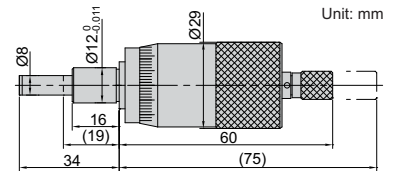
6375-15W



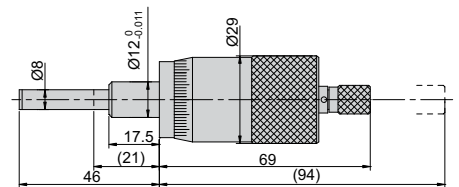
6375-25W



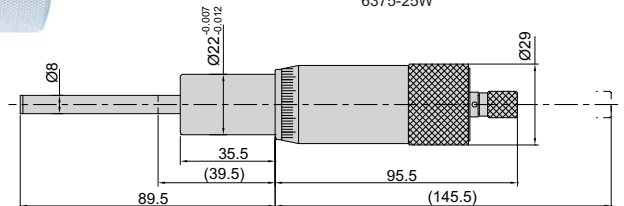
6375-50W



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

THREE POINTS INTERNAL MICROMETER



3227- 4



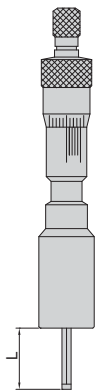
3227- 8



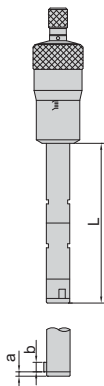
3227- 16



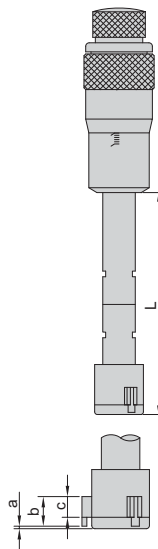
3227- 125



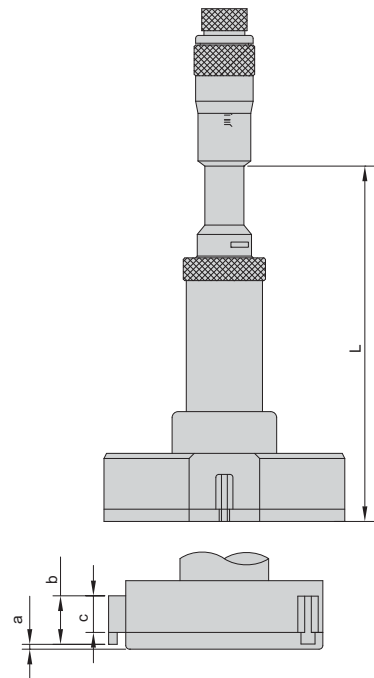
Type A
3-6mm, carbide points
two points



Type B
6-12mm, steel points
three points



Type C
12-100mm, carbide points
three points



Type D
100-300mm, carbide points
three points

setting ring



3-100mm: included
100-300mm: optional

extension rod



3-6mm: optional
6-300mm: included

interchangeable jaws



100-300mm: have two sets
of interchangeable jaws

To be continued

Continued from previous page

- 3-12mm: graduation 0.001mm
12-300mm: graduation 0.005mm
- Ratchet stop
- Optional accessory: setting rings (code **6312**)

Individual

(mm)

| Code | Range | Type | Accuracy | Setting ring (included) | Extension rod (included) | L | a | b | c |
|------------|-----------|------|----------|-------------------------|--------------------------|------|-----|------|------|
| 3227-4 * | 3-4mm | A | 4µm | Ø4mm | — | 22.5 | — | — | — |
| 3227-5 * | 4-5mm | A | 4µm | Ø5mm | — | 22.5 | — | — | — |
| 3227-6 * | 5-6mm | A | 4µm | Ø6mm | — | 22.5 | — | — | — |
| 3227-8 * | 6-8mm | B | 4µm | Ø6mm | 100mm | 54.5 | 1.5 | 2.5 | — |
| 3227-10 * | 8-10mm | B | 4µm | Ø8mm | 100mm | 54.5 | 1.5 | 2.5 | — |
| 3227-12 * | 10-12mm | B | 4µm | Ø10mm | 100mm | 54.5 | 1.5 | 2.5 | — |
| 3227-16 * | 12-16mm | C | 4µm | Ø16mm | 150mm | 80 | 0.5 | 6 | 4.5 |
| 3227-20 * | 16-20mm | C | 4µm | Ø16mm | 150mm | 80 | 0.5 | 6 | 4.5 |
| 3227-25 * | 20-25mm | C | 4µm | Ø25mm | 150mm | 90 | 0.5 | 8 | 6 |
| 3227-30 * | 25-30mm | C | 4µm | Ø25mm | 150mm | 90 | 0.5 | 8 | 6 |
| 3227-40 * | 30-40mm | C | 4µm | Ø40mm | 150mm | 97 | 0.5 | 14 | 12 |
| 3227-50 * | 40-50mm | C | 5µm | Ø40mm | 150mm | 97 | 0.5 | 14 | 12 |
| 3227-63 * | 50-63mm | D | 5µm | Ø62mm | 150mm | 114 | 0.5 | 17.5 | 14.5 |
| 3227-75 * | 62-75mm | D | 5µm | Ø62mm | 150mm | 114 | 0.5 | 17.5 | 14.5 |
| 3227-88 * | 75-88mm | D | 5µm | Ø87mm | 150mm | 114 | 0.5 | 17.5 | 14.5 |
| 3227-100 * | 87-100mm | D | 5µm | Ø87mm | 150mm | 114 | 0.5 | 17.5 | 14.5 |
| 3227-125 * | 100-125mm | D | 5µm | — | 150mm | 145 | 0.5 | 19.5 | 14.5 |
| 3227-150 * | 125-150mm | D | 5µm | — | 150mm | 145 | 0.5 | 19.5 | 14.5 |
| 3227-175 * | 150-175mm | D | 5µm | — | 150mm | 145 | 0.5 | 19.5 | 14.5 |
| 3227-200 * | 175-200mm | D | 5µm | — | 150mm | 145 | 0.5 | 19.5 | 14.5 |
| 3227-225 | 200-225mm | D | 7µm | — | 150mm | 145 | 0.5 | 19.5 | 14.5 |
| 3227-250 | 225-250mm | D | 7µm | — | 150mm | 145 | 0.5 | 19.5 | 14.5 |
| 3227-275 | 250-275mm | D | 7µm | — | 150mm | 145 | 0.5 | 19.5 | 14.5 |
| 3227-300 | 275-300mm | D | 7µm | — | 150mm | 145 | 0.5 | 19.5 | 14.5 |

Set

| Code | Range | Micrometers (included) | Setting ring (included) | Extension rod (included) |
|-------------|----------|-------------------------------------|-------------------------|--------------------------|
| 3227-363 * | 3-6mm | 3-4mm, 4-5mm, 5-6mm | Ø4mm, Ø5mm, Ø6mm | — |
| 3227-123 * | 6-12mm | 6-8mm, 8-10mm, 10-12mm | Ø6mm, Ø8mm, Ø10mm | 100mm |
| 3227-202 * | 12-20mm | 12-16mm, 16-20mm | Ø16mm | 150mm |
| 3227-504 * | 20-50mm | 20-25mm, 25-30mm, 30-40mm, 40-50mm | Ø25mm, Ø40mm | 150mm |
| 3227-1004 * | 50-100mm | 50-63mm, 62-75mm, 75-88mm, 87-100mm | Ø62mm, Ø87mm | 150mm |

* Supplied with manufacturer calibration certificate

DIGITAL THREE POINTS INTERNAL MICROMETER

DATA
OUTPUT

IP54
WATERPROOF



3127-4



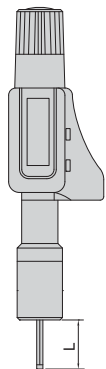
3127-12



3127-40

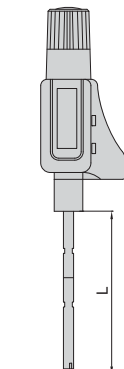


3127-125



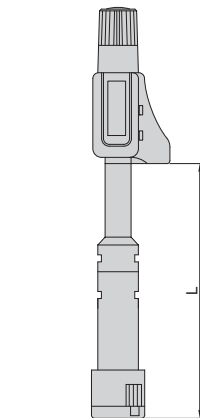
Type A

3-6mm, carbide points
two points



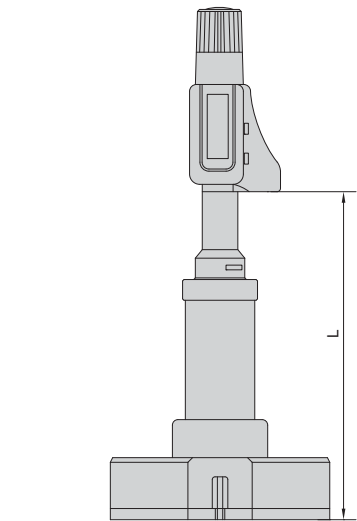
Type B

6-12mm, steel points
three points



Type C

12-100mm, carbide points
three points



Type D

100-300mm, carbide points
three points

setting ring



3-100mm: included
100-300mm: optional

extension rod



3-6mm: optional
6-300mm: included

interchangeable jaws



100-300mm: have two sets
of interchangeable 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
- SR44 or LR44 battery, automatic power off
- Ratchet stop
- Optional accessory: data output system, setting ring (code **6312**)

Individual

(mm)

| Code | Range | Type | Accuracy | Setting ring (included) | Extension rod (included) | L | a | b | c |
|-----------|------------------------|------|----------|-------------------------|--------------------------|------|-----|------|------|
| 3127-4* | 3-4mm/0.12-0.16" | A | 4µm | Ø4mm | — | 22.5 | — | — | — |
| 3127-5* | 4-5mm/0.16-0.20" | A | 4µm | Ø5mm | — | 22.5 | — | — | — |
| 3127-6* | 5-6mm/0.20-0.24" | A | 4µm | Ø6mm | — | 22.5 | — | — | — |
| 3127-8* | 6-8mm/0.24-0.31" | B | 4µm | Ø6mm | 100mm | 54.5 | 1.5 | 2.5 | — |
| 3127-10* | 8-10mm/0.31-0.39" | B | 4µm | Ø8mm | 100mm | 54.5 | 1.5 | 2.5 | — |
| 3127-12* | 10-12mm/0.39-0.47" | B | 4µm | Ø10mm | 100mm | 54.5 | 1.5 | 2.5 | — |
| 3127-16* | 12-16mm/0.47-0.63" | C | 4µm | Ø16mm | 150mm | 80 | 0.5 | 6 | 4.5 |
| 3127-20* | 16-20mm/0.63-0.79" | C | 4µm | Ø16mm | 150mm | 80 | 0.5 | 6 | 4.5 |
| 3127-25* | 20-25mm/0.79-0.98" | C | 4µm | Ø25mm | 150mm | 90 | 0.5 | 8 | 6 |
| 3127-30* | 25-30mm/0.98-1.18" | C | 4µm | Ø25mm | 150mm | 90 | 0.5 | 8 | 6 |
| 3127-40* | 30-40mm/1.18-1.57" | C | 4µm | Ø40mm | 150mm | 97 | 0.5 | 14 | 12 |
| 3127-50* | 40-50mm/1.57-1.97" | C | 5µm | Ø40mm | 150mm | 97 | 0.5 | 14 | 12 |
| 3127-63* | 50-63mm/1.97-2.48" | D | 5µm | Ø62mm | 150mm | 114 | 0.5 | 17.5 | 14.5 |
| 3127-75* | 62-75mm/2.44-2.95" | D | 5µm | Ø62mm | 150mm | 114 | 0.5 | 17.5 | 14.5 |
| 3127-88* | 75-88mm/2.95-3.46" | D | 5µm | Ø87mm | 150mm | 114 | 0.5 | 17.5 | 14.5 |
| 3127-100* | 87-100mm/3.43-3.94" | D | 5µm | Ø87mm | 150mm | 114 | 0.5 | 17.5 | 14.5 |
| 3127-125* | 100-125mm/3.94-4.92" | D | 5µm | — | 150mm | 150 | 0.5 | 19.5 | 14.5 |
| 3127-150* | 125-150mm/4.92-5.91" | D | 5µm | — | 150mm | 150 | 0.5 | 19.5 | 14.5 |
| 3127-175* | 150-175mm/5.91-6.89" | D | 5µm | — | 150mm | 150 | 0.5 | 19.5 | 14.5 |
| 3127-200* | 175-200mm/6.89-7.87" | D | 5µm | — | 150mm | 150 | 0.5 | 19.5 | 14.5 |
| 3127-225 | 200-225mm/7.87-8.86" | D | 7µm | — | 150mm | 150 | 0.5 | 19.5 | 14.5 |
| 3127-250 | 225-250mm/8.86-9.84" | D | 7µm | — | 150mm | 150 | 0.5 | 19.5 | 14.5 |
| 3127-275 | 250-275mm/9.84-10.83" | D | 7µm | — | 150mm | 150 | 0.5 | 19.5 | 14.5 |
| 3127-300 | 275-300mm/10.83-11.81" | D | 7µm | — | 150mm | 150 | 0.5 | 19.5 | 14.5 |

Set

| Code | Range | Micrometers (included) | Setting ring (included) | Extension rod (included) |
|------------|---------------------|-------------------------------------|-------------------------|--------------------------|
| 3127-363* | 3-6mm/0.12-0.24" | 3-4mm, 4-5mm, 5-6mm | Ø4mm, Ø5mm, Ø6mm | — |
| 3127-123* | 6-12mm/0.24-0.47" | 6-8mm, 8-10mm, 10-12mm | Ø6mm, Ø8mm, Ø10mm | 100mm |
| 3127-202* | 12-20mm/0.47-0.79" | 12-16mm, 16-20mm | Ø16mm | 150mm |
| 3127-504* | 20-50mm/0.79-1.97" | 20-25mm, 25-30mm, 30-40mm, 40-50mm | Ø25mm, Ø40mm | 150mm |
| 3127-1004* | 50-100mm/1.97-3.94" | 50-63mm, 62-75mm, 75-88mm, 87-100mm | Ø62mm, Ø87mm | 150mm |

* Supplied with manufacturer calibration certificate

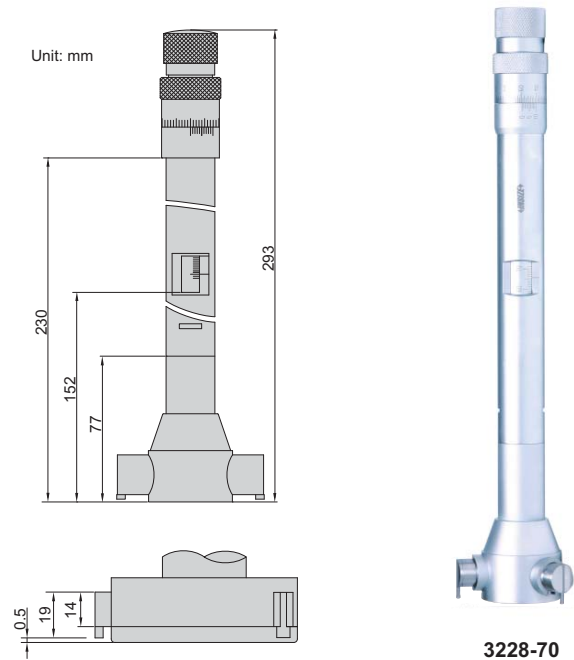
WIDE RANGE THREE POINTS INTERNAL MICROMETER



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

| Code | Range | Accuracy | Setting ring |
|-----------|-----------|----------|--------------|
| 3228-70* | 50-70mm | 5μm | Ø50mm |
| 3228-100* | 70-100mm | 5μm | Ø70mm |
| 3228-150* | 100-150mm | 6μm | Ø100mm |
| 3228-250* | 150-250mm | 8μm | Ø150mm |
| 3228-300* | 200-300mm | 9μm | — |

* Supplied with manufacturer calibration certificate

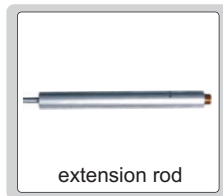


DIGITAL WIDE RANGE THREE POINTS INTERNAL MICROMETER

- Resolution 0.001mm/0.00005"
- IP54 dust/waterproof
- Buttons: on/off, set, mm/inch, ABS/INC
- Data output
- SR44 or LR44 battery, automatic power off
- Carbide measuring faces
- Ratchet stop
- Supplied with extension rods
- Setting rings are included (except 200-300mm)
- Optional accessory: data output system

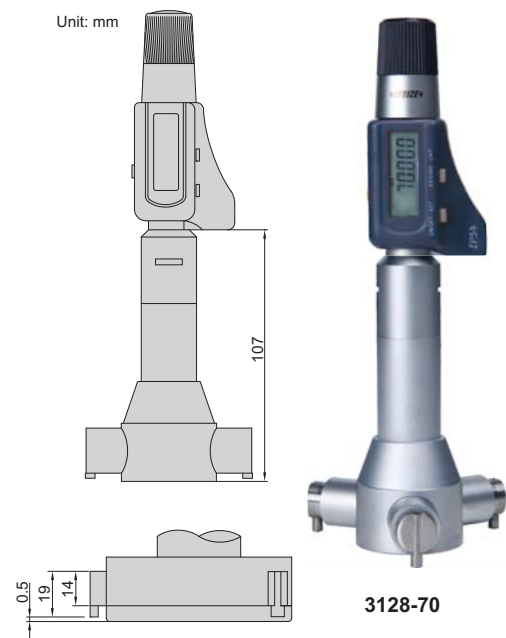
DATA
OUTPUT

IP54
WATERPROOF



| Code | Range | Accuracy | Setting ring | Extension rod |
|-----------|-----------------------|----------|--------------|---------------|
| 3128-70* | 50-70mm/1.97-2.76" | 5μm | Ø50mm | 150mm |
| 3128-100* | 70-100mm/2.76-3.94" | 5μm | Ø70mm | 150mm |
| 3128-150* | 100-150mm/3.94-5.91" | 6μm | Ø100mm | 150mm |
| 3128-250* | 150-250mm/5.91-9.84" | 8μm | Ø150mm | 150mm |
| 3128-300* | 200-300mm/7.87-11.81" | 9μm | — | 150mm |

* Supplied with manufacturer calibration certificate

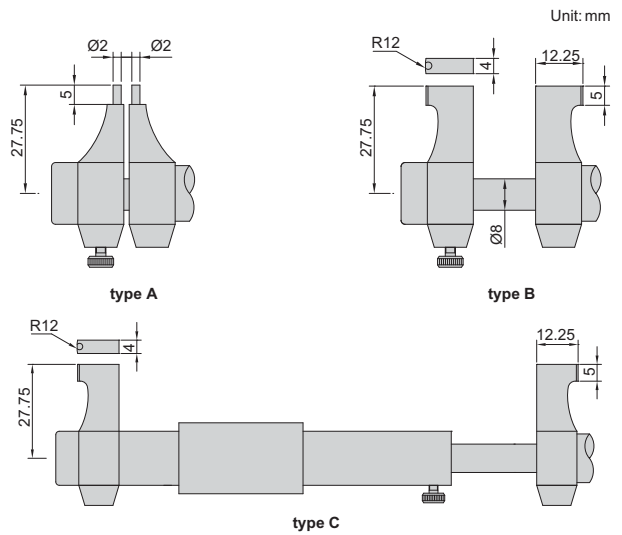


INSIDE MICROMETER



3220-50

| Code | Range | Type | Setting ring | Accuracy |
|----------|-----------|------|--------------|------------|
| 3220-30 | 5-30mm | A | 5mm | 7 μ m |
| 3220-50 | 25-50mm | B | 25mm | 8 μ m |
| 3220-75 | 50-75mm | B | — | 8 μ m |
| 3220-100 | 75-100mm | C | — | 8 μ m |
| 3220-125 | 100-125mm | C | — | 9 μ m |
| 3220-150 | 125-150mm | C | — | 9 μ m |
| 3220-175 | 150-175mm | C | — | 10 μ m |
| 3220-200 | 175-200mm | C | — | 10 μ m |
| 3220-225 | 200-225mm | C | — | 11 μ m |
| 3220-250 | 225-250mm | C | — | 11 μ m |
| 3220-275 | 250-275mm | C | — | 12 μ m |
| 3220-300 | 275-300mm | C | — | 12 μ m |



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

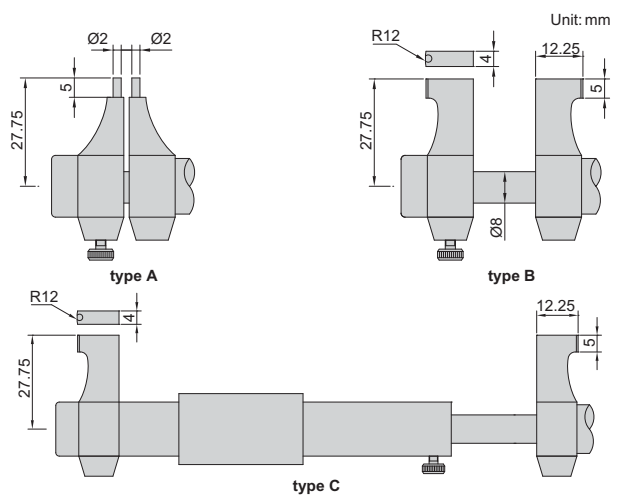
DATA
OUTPUT



3520-30

| Code | Range | Type | Setting ring | Accuracy |
|----------|-----------------|------|--------------|--------------|
| 3520-30 | 5-30mm/0.2-1.2" | A | 5mm | $\pm 5\mu$ m |
| 3520-50 | 25-50mm/1-2" | B | 25mm | $\pm 6\mu$ m |
| 3520-75 | 50-75mm/2-3" | B | — | $\pm 7\mu$ m |
| 3520-100 | 75-100mm/3-4" | C | — | $\pm 8\mu$ m |

DIGITAL INSIDE MICROMETER



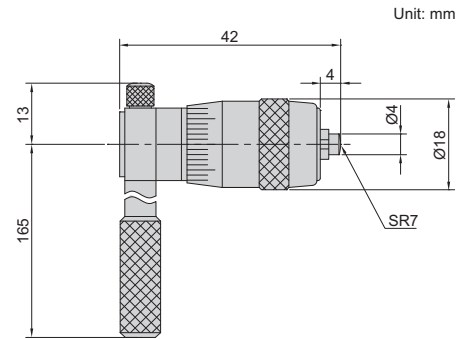
- Resolution 0.001mm/0.00005"
- Button function: on/off, set, mm/inch, ABS/INC, data output
- Data output
- SR44 or LR44 battery, automatic power off
- Ratchet stop
- Carbide measuring faces
- Optional accessory: data output system, setting ring (code 6312)

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: $(6+L/50)\mu\text{m}$
L=maximum measuring length (mm)
- Optional accessory: setting ring (code 6312)

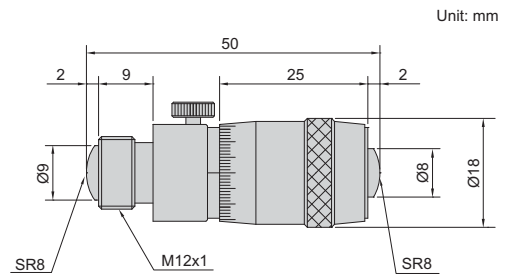
TUBULAR INSIDE MICROMETER



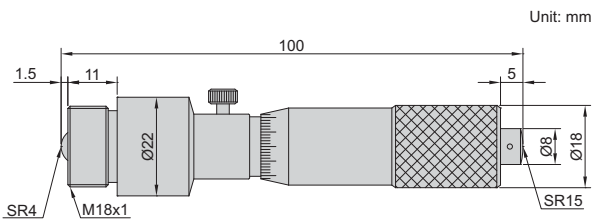
3222-150

- Graduation 0.01mm
- Accuracy: $(3+n+L/50)\mu\text{m}$
n=number of rods, L=maximum measuring length(mm)
- Supplied with setting standards
- Carbide measuring faces

| 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



- Graduation 0.01mm
- Accuracy: $(3+n+L/50)\mu\text{m}$
n=number of rods, L=maximum measuring length(mm)
- Supplied with setting standards
- Carbide measuring faces



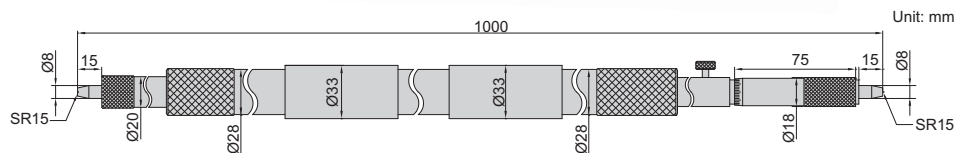
3225-500

| 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: $(7+n+L/50)\mu\text{m}$
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) |

TUBULAR INSIDE MICROMETER



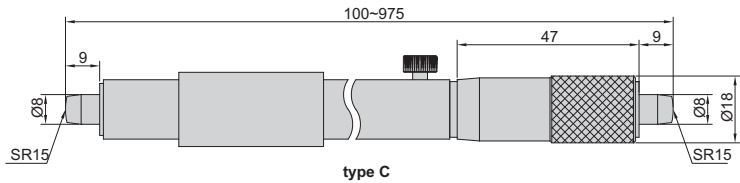
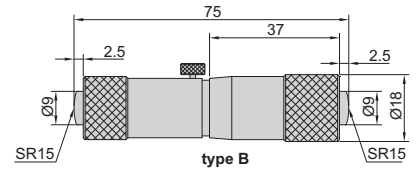
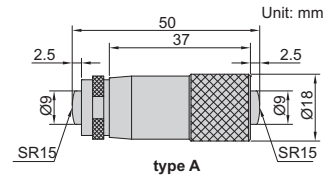
3229-225

- Graduation 0.01mm
- Carbide measuring faces

| 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 |



INTERNAL MICROMETER WITH INTERCHANGEABLE ANVILS

- Graduation: 0.01mm
- Optional accessory:
 - ball tips (code 7391)
 - screw thread tips (code 7381)
 - setting block for screw thread tips

| Code | Range |
|-----------|-----------|
| 3226-1001 | 75-100mm |
| 3226-1251 | 100-125mm |
| 3226-1501 | 125-150mm |
| 3226-1751 | 150-175mm |
| 3226-2001 | 175-200mm |
| 3226-2251 | 200-225mm |
| 3226-2501 | 225-250mm |
| 3226-2751 | 250-275mm |
| 3226-3001 | 275-300mm |



tips are not included

3226-1001

tips are not included



ball tips



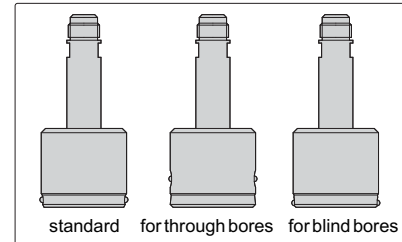
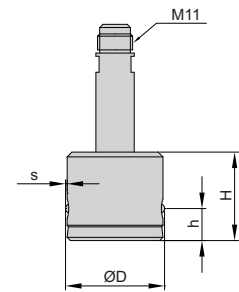
screw thread tips



zero block for screw thread tips



BORE PLUG GAGE



SPECIFICATION

(mm)

| Range | 2-3 | 3.1-4 | 4.1-6 | 6.1-9 | 9.1-12 | 12.1-20 | 20.1-40 | 40.1-60 | 60.1-130 |
|----------------------|-------------------|-------|-------|-------|--------|---------|---------|---------|----------|
| Travel of point (s) | 0.15 | 0.15 | 0.15 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| Height of point (h) | standard | 1 | 1.5 | 1.5 | 2.5 | 2.5 | 2.5 | 3.5 | 4 |
| | for through bores | — | 6 | 6 | 6 | 10 | 10 | 10 | 10 |
| | for blind bores | 0.7 | 1 | 1 | 1 | 1 | 1 | 1.2 | 1.2 |
| Height of sleeve (H) | 17.5 | 26 | 10 | 15 | 15 | 15 | 20 | 28 | 33 |
| Repeatability (µm) | 1 | 1 | 1 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 1 |

BORE PLUG GAGE

| Code | Type |
|--------------|---|
| 4653-A□□□□□□ | standard, non chrome plated sleeve |
| 4653-B□□□□□□ | for through bores, non chrome plated sleeve |
| 4653-C□□□□□□ | for blind bores, non chrome plated sleeve |
| 4653-D□□□□□□ | standard, chrome plated sleeve |
| 4653-E□□□□□□ | for through bores, chrome plated sleeve |
| 4653-F□□□□□□ | for blind bores, chrome plated sleeve |

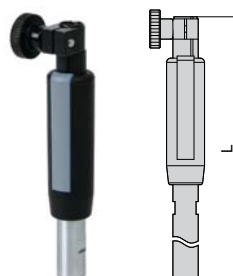
Ordering examples:

| Code | Type | Range (mm) |
|--------------|---|------------|
| 4653-A30D6H7 | standard, non chrome plated sleeve | 30.6H7 |
| 4653-E18D2H8 | for through bores, chrome plated sleeve | 18.2H8 |

Note: "D" stands for "."

HANDLE (mm)

| Code | Length (L) |
|-----------|------------|
| 4653-150 | 45 |
| 4653-1105 | 105 |
| 4653-1235 | 235 |



SPLIT TYPE DIAL BORE GAGE



dial indicator
is not included



type A

dial indicator
is not included



type B

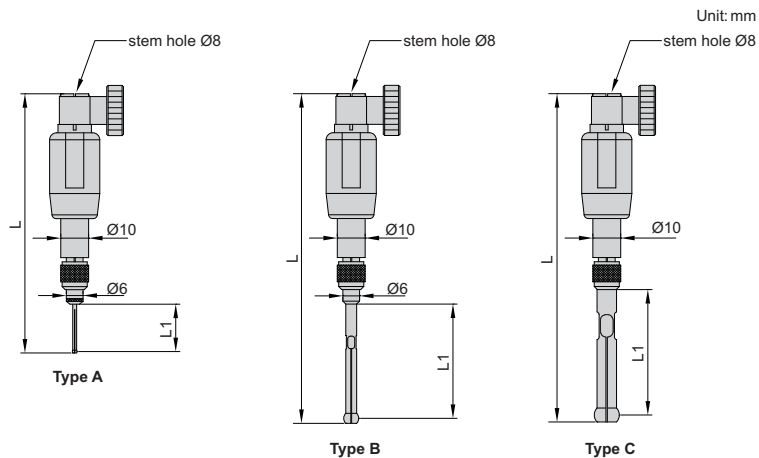
dial indicator
is not included



type C



2421-121



- Split type contact points
- Accuracy (without indicator): 3 μ m (measuring range 0.95~10mm), 4 μ m (measuring range 10~20.6mm)
- Repeatability (without indicator): 1 μ m
- Setting rings and dial indicators are optional
- Optional accessory: setting ring (code 6312)

(mm)

| Code | Range | Quantity of points | Measuring range of points | Measuring depth (L1) | Total length (L) | Type of points | Applicable setting ring (optional) |
|----------|-----------|--------------------|---------------------------|----------------------|------------------|----------------|------------------------------------|
| 2421-1D4 | 0.95-1.55 | 5 | 0.95 - 1.15 | 13 | 89 | A | 1 |
| | | | 1.07 - 1.25 | 13 | 89 | A | 1.1 |
| | | | 1.17 - 1.35 | 13 | 89 | A | 1.2 |
| | | | 1.27 - 1.45 | 13 | 89 | A | 1.3 |
| | | | 1.37 - 1.55 | 13 | 89 | A | 1.4 |

To be continued

Continued from previous page

(mm)

| Code | Range | Quantity of points | Measuring range of points | Measuring depth (L1) | Total length (L) | Type of points | Applicable setting ring (optional) |
|----------|-----------|--------------------|---------------------------|----------------------|------------------|----------------|------------------------------------|
| 2421-4 | 1.5-4.2 | 10 | 1.5-1.9 | 17 | 93 | A | 1.75 |
| | | | 1.8-2.2 | 17 | 93 | A | 2 |
| | | | 2.05-2.45 | 17 | 93 | A | 2.25 |
| | | | 2.3-2.7 | 25 | 101 | A | 2.5 |
| | | | 2.55-2.95 | 25 | 101 | A | 2.75 |
| | | | 2.8-3.2 | 25 | 101 | A | 3 |
| | | | 3.05-3.45 | 25 | 101 | A | 3.25 |
| | | | 3.3-3.7 | 25 | 101 | A | 3.5 |
| | | | 3.55-3.95 | 25 | 101 | A | 3.75 |
| | | | 3.8-4.2 | 25 | 101 | A | 4 |
| 2421-7D5 | 4.15-7.8 | 7 | 4.15-4.8 | 41 | 118 | B | 4.5 |
| | | | 4.7-5.3 | 41 | 118 | B | 5 |
| | | | 5.2-5.8 | 41 | 118 | B | 5.5 |
| | | | 5.7-6.3 | 41 | 118 | B | 6 |
| | | | 6.2-6.8 | 41 | 118 | B | 6.5 |
| | | | 6.7-7.3 | 41 | 118 | B | 7 |
| | | | 7.2-7.8 | 45 | 118 | C | 7.5 |
| 2421-12 | 7.7-12.5 | 6 | 7.7-8.3 | 45 | 118 | C | 8 |
| | | | 8.2-8.8 | 45 | 118 | C | 8.5 |
| | | | 8.7-9.3 | 45 | 118 | C | 9 |
| | | | 9.2-10.5 | 45 | 118 | C | 10 |
| | | | 10.2-11.5 | 45 | 118 | C | 11 |
| | | | 11.2-12.5 | 45 | 118 | C | 12 |
| 2421-20 | 12.2-20.6 | 8 | 12.2-13.5 | 45 | 118 | C | 13 |
| | | | 13.4-14.6 | 45 | 118 | C | 14 |
| | | | 14.4-15.6 | 45 | 118 | C | 15 |
| | | | 15.4-16.6 | 45 | 118 | C | 16 |
| | | | 16.4-17.6 | 45 | 118 | C | 17 |
| | | | 17.4-18.6 | 45 | 118 | C | 18 |
| | | | 18.4-19.6 | 45 | 118 | C | 19 |
| | | | 19.4-20.6 | 45 | 118 | C | 20 |
| 2421-121 | 4.15-12.5 | 13 | 4.15-4.8 | 41 | 118 | B | 4.5 |
| | | | 4.7-5.3 | 41 | 118 | B | 5 |
| | | | 5.2-5.8 | 41 | 118 | B | 5.5 |
| | | | 5.7-6.3 | 41 | 118 | B | 6 |
| | | | 6.2-6.8 | 41 | 118 | B | 6.5 |
| | | | 6.7-7.3 | 41 | 118 | B | 7 |
| | | | 7.2-7.8 | 45 | 118 | C | 7.5 |
| | | | 7.7-8.3 | 45 | 118 | C | 8 |
| | | | 8.2-8.8 | 45 | 118 | C | 8.5 |
| | | | 8.7-9.3 | 45 | 118 | C | 9 |
| | | | 9.2-10.5 | 45 | 118 | C | 10 |
| | | | 10.2-11.5 | 45 | 118 | C | 11 |
| | | | 11.2-12.5 | 45 | 118 | C | 12 |

BORE GAGE FOR SMALL HOLES

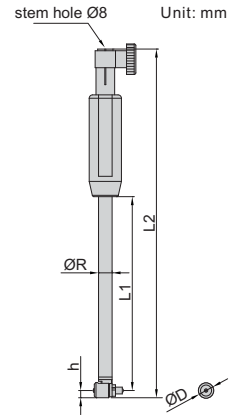


- Applicable for 0.01mm or 0.001mm graduation dial indicators
- Carbide contact point and anvil
- Optional accessory: dial indicator or dial comparator, setting ring (code 6312)

dial comparator is not included



2425-6



| Code | Range | Accuracy (without dial comparator) | Repeatability (without dial comparator) | L1 | L2 | ØR | ØD | h |
|---------|---------|------------------------------------|---|-----|-----|----|-----|------|
| 2425-6 | 4.5-6mm | 2µm | 0.5µm | 80 | 147 | 4 | 4 | 2 |
| 2425-8 | 6-8mm | 2µm | 0.5µm | 100 | 165 | 5 | 5.2 | 2.6 |
| 2425-12 | 8-12mm | 2µm | 0.5µm | 100 | 166 | 5 | 6.5 | 3.25 |
| 2425-20 | 12-20mm | 2µm | 0.5µm | 110 | 204 | 8 | 9 | 4.5 |

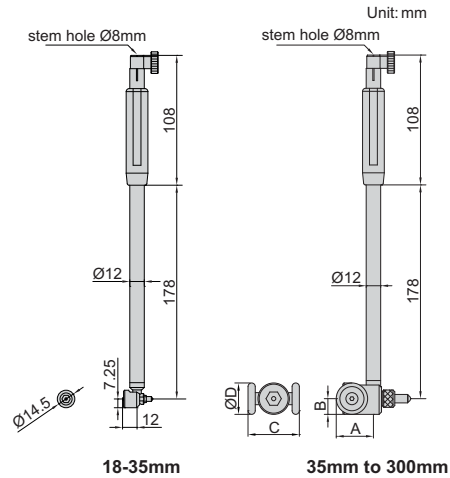
DIAL BORE GAGE



contact points



- Applicable for 0.01mm or 0.001mm graduation dial indicators
- Optional accessory:
 - Dial indicator or dial comparator
 - Setting ring (code 6312)
 - Long handle (code 7352)



18-35mm

35mm to 300mm

dial comparator is not included



2422-150

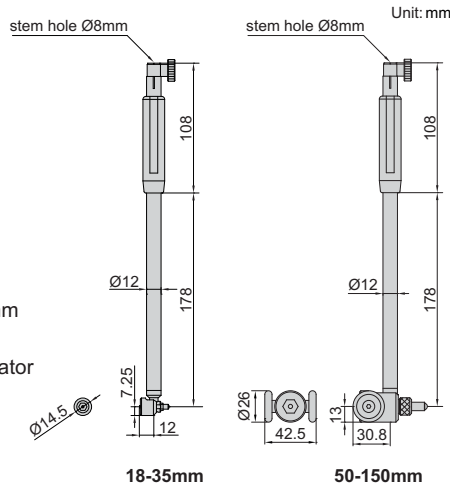
| Code | Range | Accuracy (without dial comparator) | Repeatability (without dial comparator) |
|----------|-----------|------------------------------------|---|
| 2422-35 | 18-35mm | 4µm | 2µm |
| 2422-60 | 35-60mm | 4µm | 2µm |
| 2422-150 | 50-150mm | 4µm | 2µm |
| 2422-300 | 150-300mm | 4µm | 2µm |

| Range | A | B | C | ØD |
|-----------|------|------|------|----|
| 35-60mm | 19.5 | 10.5 | 28 | 21 |
| 50-150mm | 30.8 | 13 | 42.5 | 26 |
| 150-300mm | 30.8 | 13 | 76.5 | 26 |



BORE GAGE SET

dial comparator is not included



- Includes bore gages 18-50mm and 50-150mm
- Optional accessory:
 - 0.01mm or 0.001mm graduation dial indicator or dial comparator
 - Setting ring (code 6312)
 - Long handle (code 7352)

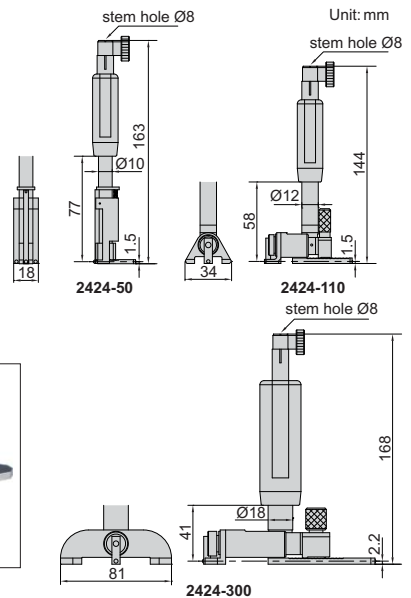
| Code | Range | Accuracy (without dial comparator) | Repeatability (without dial comparator) |
|---------|------------|------------------------------------|---|
| 2423-S2 | 18 - 150mm | 4µm | 2µm |



dial indicator is not included



BORE GAGE FOR BLIND HOLES



- To measure diameter of shallow and blind holes
- Optional accessory:
 - 0.01mm or 0.001mm graduation dial indicators
 - Setting ring (code 6312)
 - Long handle (code 7352)

| Code | Range | Accuracy (without dial indicator) | Repeatability (without dial indicator) |
|----------|-----------|-----------------------------------|--|
| 2424-50 | 20-50mm | 4µm | 1µm |
| 2424-110 | 50-110mm | 4µm | 1µm |
| 2424-300 | 110-300mm | 4µm | 1µm |

ROTARY BORE GAGE

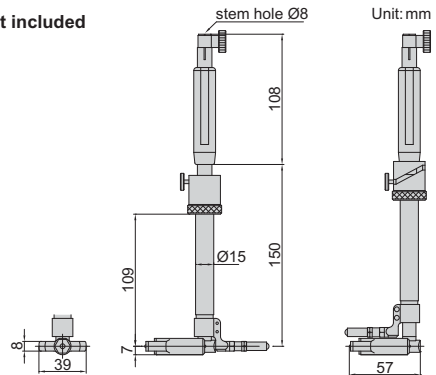


- Rotary anvil, to measure bores with small opening
 D: bore diameter to be measured,
 d: minimum opening diameter (see right drawing)
 $d=57\text{mm}$ ($D \leq 95\text{mm}$)
 $d=D-38$ ($D > 95\text{mm}$)
- Optional accessory:
 - 0.01mm or 0.001mm graduation dial indicator or dial comparator
 - Setting ring (code 6312)
 - Long handle (code 7352)

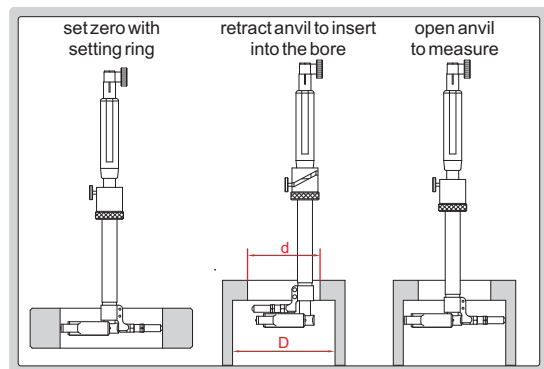


2921-150

dial indicator is not included



Unit: mm



| Code | Range | Accuracy (without dial indicator) | Repeatability* (without dial indicator) |
|----------|----------|--------------------------------------|--|
| 2921-150 | 80-150mm | 2µm | 1µm |

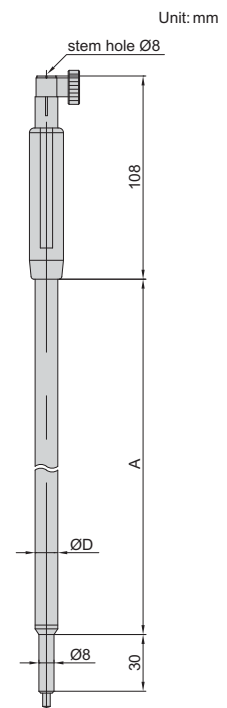
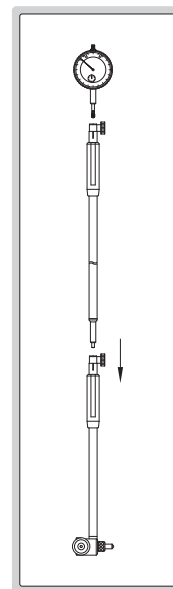
* Repeatability includes the error of rotary anvil

LONG HANDLE



- To assist deep-hole measurement
- Can be used for bore gages
 2422, 2423, 2424 and 2921

7352-500



Unit: mm

| Code | Applicable bore gages | A | ØD |
|-----------|-----------------------|-----|----|
| 7352-500 | above 35mm | 438 | 12 |
| 7352-1000 | | 938 | 12 |

BORE GAGE FOR SMALL HOLES

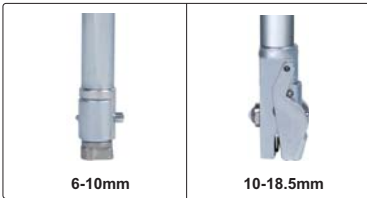
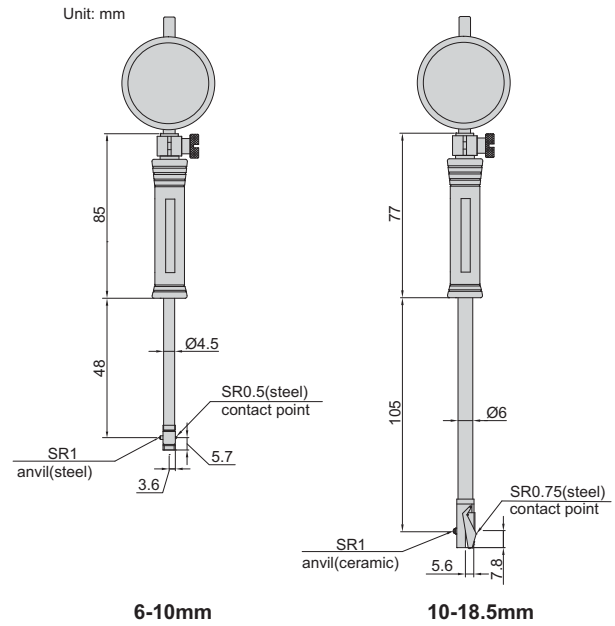


2852-10



2152-18

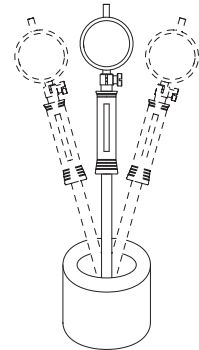
DATA OUTPUT



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



The minimum value tracking function can find the diameter automatically.



Optional accessory: setting ring (code 6312)

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

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

PRECISION BORE GAGE FOR SMALL HOLES



2853-10

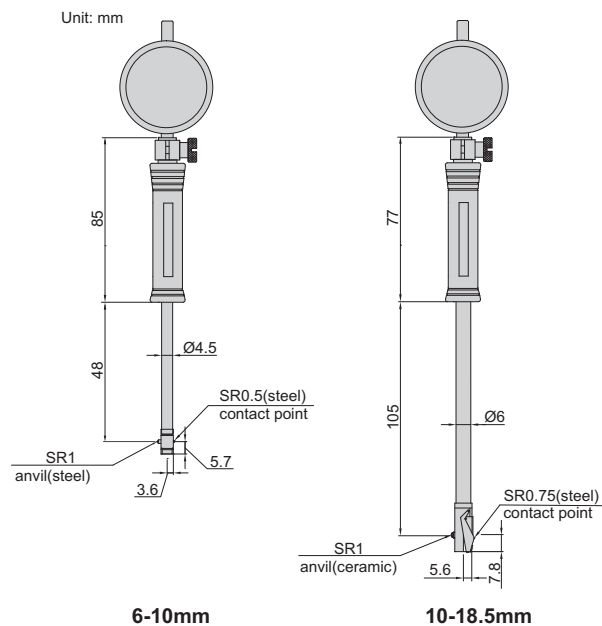


ceramic anvil



2153-18

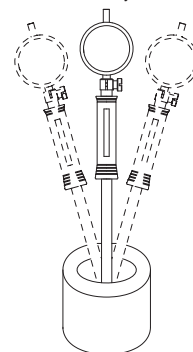
DATA OUTPUT



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



The minimum value tracking function can find the diameter automatically.

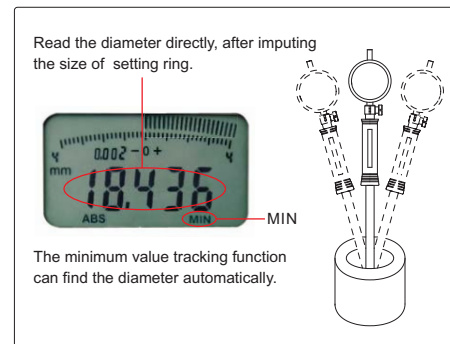
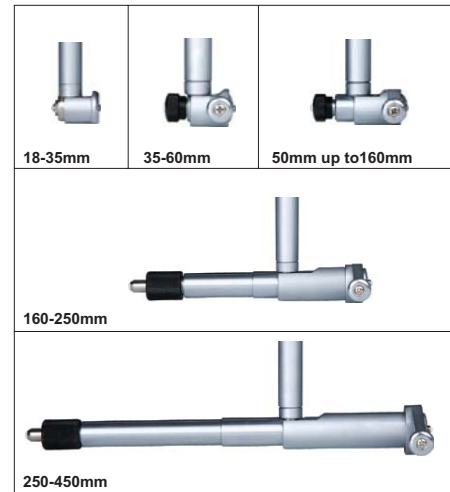


Optional accessory: setting ring (code 6312)

| Code | Range | Indicator | Accuracy | Repeatability |
|---------|-----------|------------------------------------|----------|---------------|
| 2853-10 | 6-10mm | dial indicator, range 1mm, | ±0.005mm | 0.002mm |
| 2853-18 | 10-18.5mm | graduation 0.001mm (code 2313-1FA) | ±0.005mm | 0.002mm |

| Code | Range | Indicator | Accuracy | Repeatability |
|---------|-----------|--|----------|---------------|
| 2153-10 | 6-10mm | digital indicator, range 12.7mm/0.5", | ±0.005mm | 0.002mm |
| 2153-18 | 10-18.5mm | resolution 0.001mm/0.00005" (code 2108-101F) | ±0.005mm | 0.002mm |

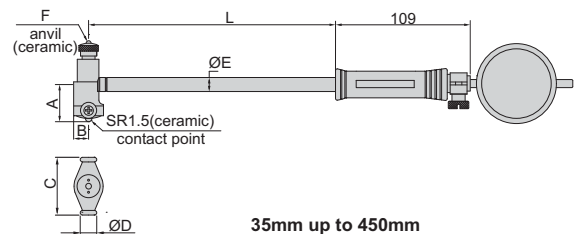
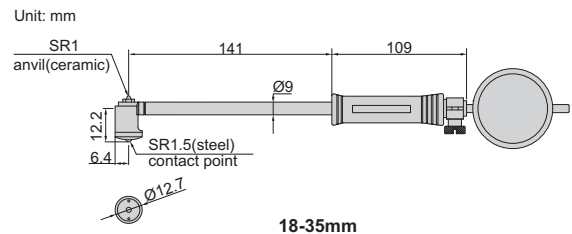
BORE GAGE



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

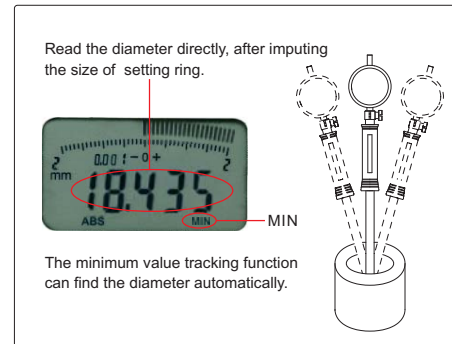
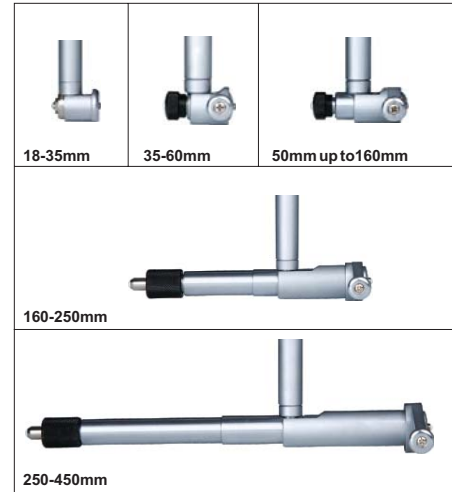
| Code | Range | Indicator | Accuracy | Repeatability |
|-----------|-----------|---|----------|---------------|
| 2322-35A | 18-35mm | dial indicator, range 10mm, graduation 0.01mm (code 2308-10FA) | ±0.015mm | 0.003mm |
| 2322-60A | 35-60mm | | ±0.018mm | 0.003mm |
| 2322-100A | 50-100mm | | ±0.018mm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



| 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 |

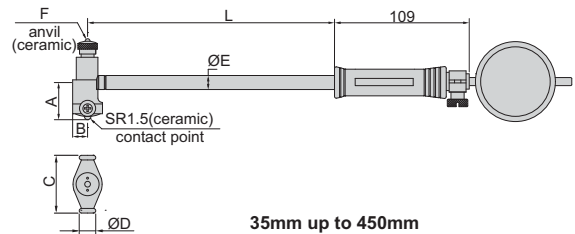
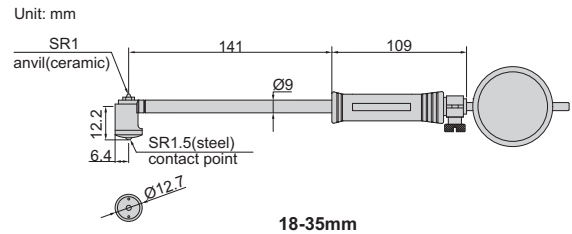
PRECISION BORE GAGE



Optional accessory: setting ring (code 6312)

| Code | Range | Indicator | Accuracy | Repeatability |
|-----------|-----------|---|----------|---------------|
| 2825-35A | 18-35mm | dial indicator, range 1mm, graduation 0.001mm (code 2313-1FA) | ±0.006mm | 0.002mm |
| 2825-60A | 35-60mm | | ±0.007mm | 0.002mm |
| 2825-100A | 50-100mm | | ±0.007mm | 0.002mm |
| 2825-160A | 50-160mm | | ±0.007mm | 0.002mm |
| 2825-161A | 100-160mm | | ±0.007mm | 0.002mm |
| 2825-250A | 160-250mm | | ±0.007mm | 0.002mm |
| 2825-450A | 250-450mm | | ±0.007mm | 0.002mm |

| Code | Range | Indicator | Accuracy | Repeatability |
|----------|-----------|--|----------|---------------|
| 2126-35 | 18-35mm | digital indicator, range 12.7mm/0.5", resolution 0.001mm/0.00005" (code 2108-101F) | ±0.006mm | 0.002mm |
| 2126-60 | 35-60mm | | ±0.007mm | 0.002mm |
| 2126-100 | 50-100mm | | ±0.007mm | 0.002mm |
| 2126-160 | 50-160mm | | ±0.007mm | 0.002mm |
| 2126-161 | 100-160mm | | ±0.007mm | 0.002mm |
| 2126-250 | 160-250mm | | ±0.007mm | 0.002mm |
| 2126-450 | 250-450mm | | ±0.007mm | 0.002mm |



| 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



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 35-60mm 50-160mm | 18-35mm ±0.015mm 35-60mm ±0.018mm 50-160mm ±0.018mm | 0.003mm |

PRECISION BORE GAGE SET

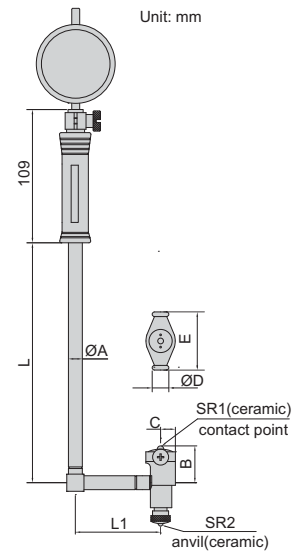
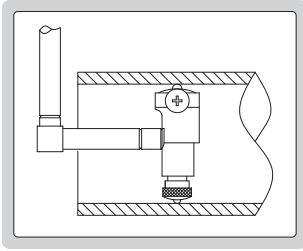


2829-S3

- Optional accessory:
setting ring (code 6312)

| Code | Range | Indicator | Bore gages included | Accuracy | Repeatability |
|---------|----------|---|--------------------------------|---|---------------|
| 2829-S3 | 18-160mm | dial indicator code 2313-1FA range 1mm, graduation 0.001mm | 18-35mm 35-60mm 50-160mm | 18-35mm ±0.006mm 35-60mm ±0.007mm 50-160mm ±0.007mm | 0.002mm |

BORE GAGE

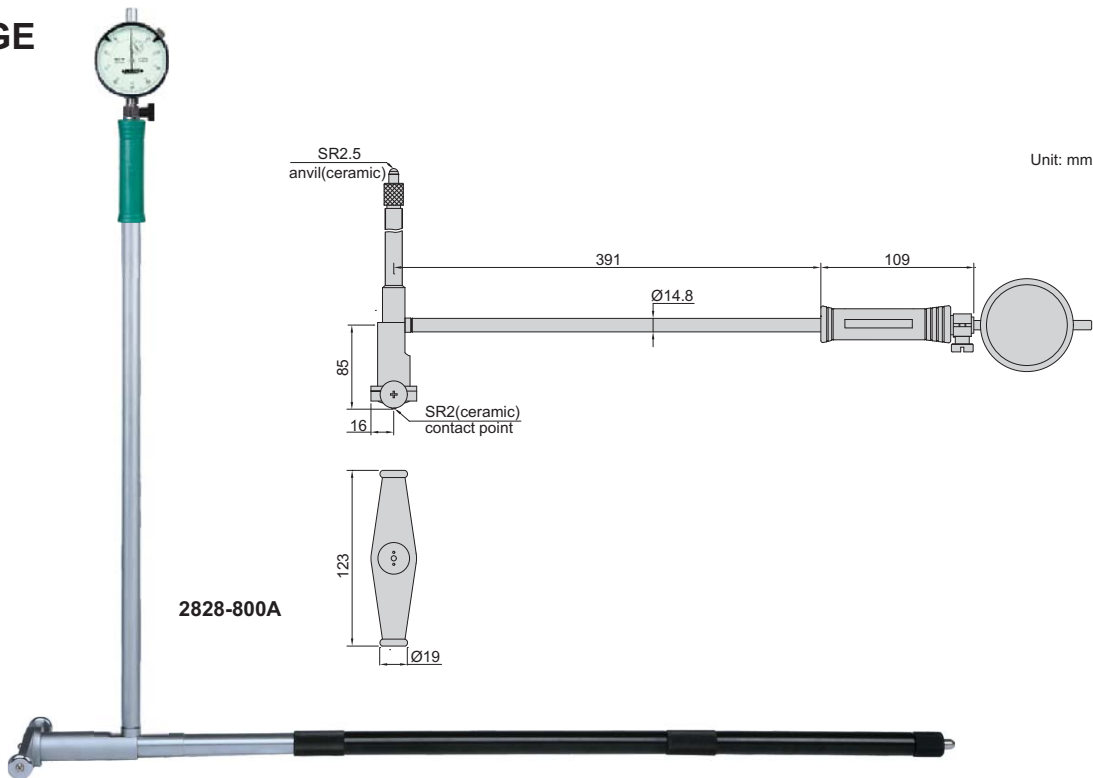


- Optional accessory: setting ring (code 6312)

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

| Range | (mm) | | | | | | |
|-----------|------|------|------|----|-------|-----|------|
| | 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



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

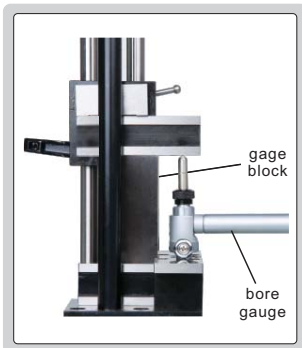
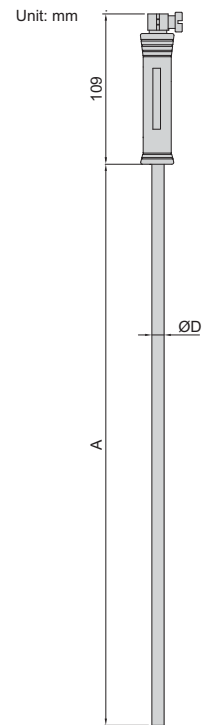
LONG HANDLE

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

| (mm) | | | |
|-----------|---|-----|------|
| Code | Applicable bore gages | A | ØD |
| 7351-EX11 | 35-60mm, 50-100mm, 50-160mm, 100-160mm | 475 | 13 |
| 7351-EX12 | | 980 | 13 |
| 7351-EX21 | 160-250mm, 250-450mm | 480 | 14.5 |
| 7351-EX22 | | 980 | 14.5 |



7351-EX11



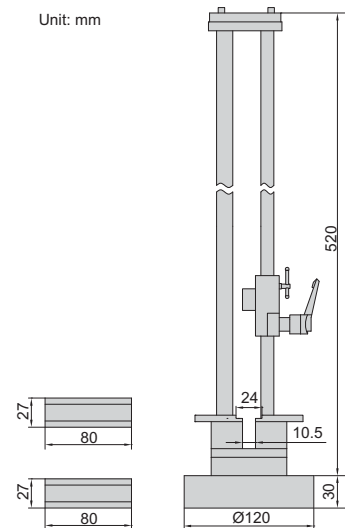
- Used together with gauge blocks to set bore gages

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



2395-400

BORE GAGE SETTER



ANVIL FOR BORE GAGES



7350-160

- For 2852, 2152, 2853, 2153, 2322, 2122, 2825, 2126, 2824, 2125, 2827, 2829, 2127, 2129

| Code | Applicable bore gauges | 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 |

- 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):
 - Ø3-100mm: ±3µm
 - Ø100-300mm: ±5µm
 For example, the ordered size is Ø10.125mm, the size marked on the setting ring when supplied may be Ø10.128mm
- Accuracy (the accuracy of the size marked on the setting ring, which is checked on direction of the marking line):
 - Ø3-100mm: ±1µm
 - Ø100-250mm: ±2µm
 - Ø250-300mm: ±2.5µm
- Cylindricity:
 - Ø3-100mm: ±1µm
 - Ø100-250mm: ±2µm
 - Ø250-300mm: ±2.5µm

CAN SUPPLY CUSTOM SETTING RING FROM Ø3.000MM TO Ø300.000MM, FOR EXAMPLE, Ø17.085MM

SETTING RING



6312-20

| Code | Nominal Size | Code | Nominal Size | Code | Nominal Size | Code | Nominal Size | Code | Nominal Size |
|----------|--------------|----------|--------------|----------|--------------|----------|--------------|-----------|--------------|
| 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 |
| 6312-15* | Ø15mm | 6312-29* | Ø29mm | 6312-43* | Ø43mm | 6312-80* | Ø80mm | | |
| 6312-16* | Ø16mm | 6312-30* | Ø30mm | 6312-44* | Ø44mm | 6312-85* | Ø85mm | | |

* Supplied with manufacturer calibration certificate



INTERNAL CHAMFER GAGE

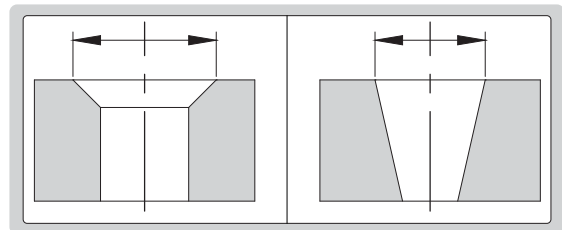


- Measure end diameter of chamfer or taper holes
- Graduation: 0.01mm
- With limit pointers

| Code | Range |
|---------|------------|
| 2941-20 | 0.5-20.1mm |
| 2941-40 | 20-40mm |

2941-20

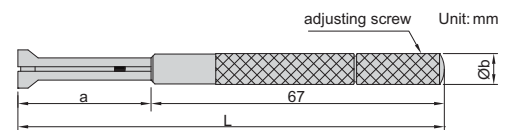
measure end diameter of chamfer or taper holes



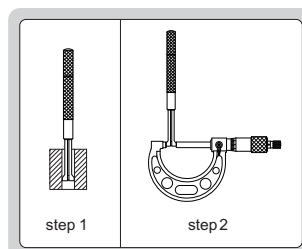
SMALL HOLE GAGE SET



4208-1



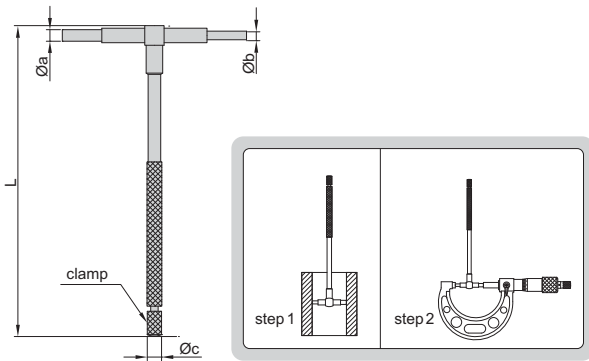
- 4 gages per set
- For small holes, slots and grooves, etc.
- Satin chrome finish



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

| Range | L | a | Øb (mm) |
|----------|-------|------|---------|
| 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

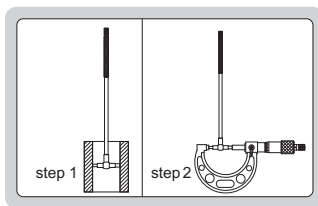
(mm)

| 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 19-32mm, 32-54mm 54-90mm, 90-150mm |

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

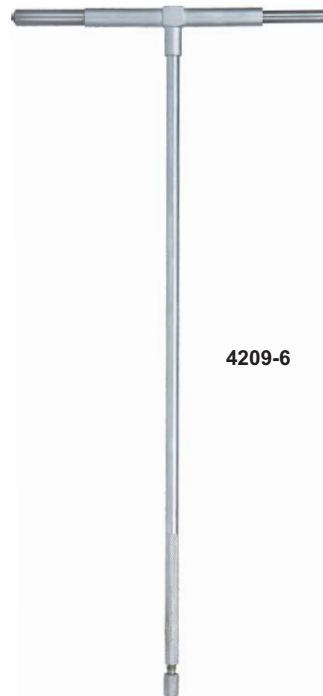
LONG HANDLE TELESCOPING GAGE



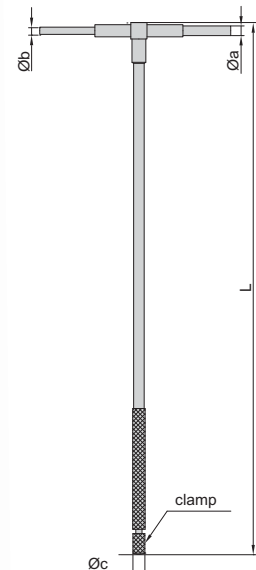
- For quick measurement of inside diameter of deep holes and width of slots
- Satin chrome finish

(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 |

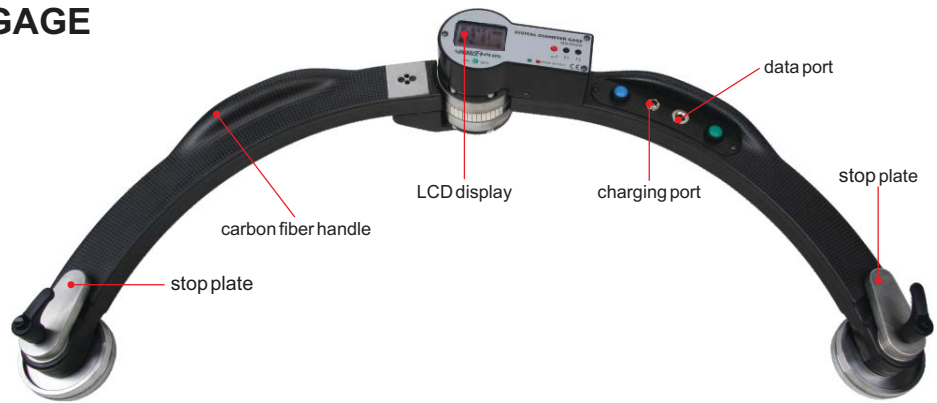


4209-6



LARGE DIAMETER GAGE CODE ISQ-RA500

DATA
OUTPUT



- To measure large external or internal diameters
- Automatic judgment and display external (EXT) or internal diameter (INT)
- Carbon fiber handle, light in weight
- Backlight LCD display, can rotate 180° for easy reading
- Memory of 10 readings and average calculation
- With minimum measurement mode (MIN)
- Angle can be displayed



external diameter measurement



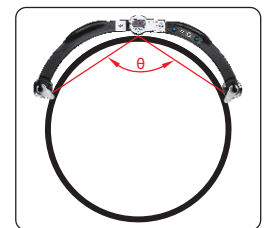
internal diameter measurement

SPECIFICATION

| | | |
|--------------|---|----------------|
| Range | EXT | Ø500 ~ 6000mm |
| | INT | Ø1100 ~ 6000mm |
| Resolution | 0.01mm | |
| Accuracy | ±(0.02+0.1D²)mm (D is the diameter to be measured, in m) | |
| Power supply | rechargeable battery (for 6 hours working) | |
| Weight | 3.8kg | |

STANDARD DELIVERY

| | |
|--------------------|-----|
| Main unit | 1pc |
| AC/DC adapter | 1pc |
| Cable and software | 1pc |



display of angle



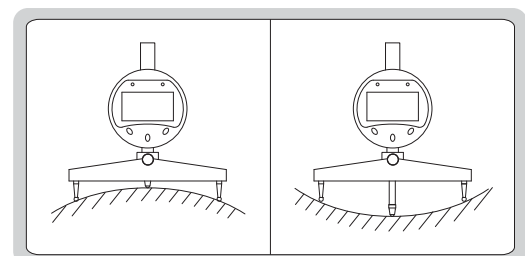
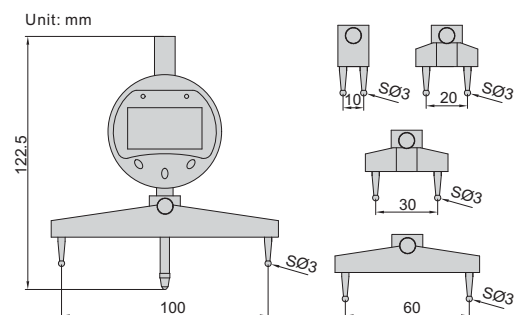
2183

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

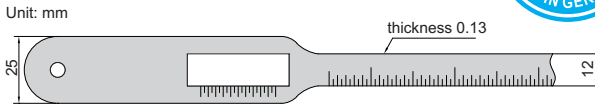
| Code | Range of radius (R) | Resolution | Accuracy (mm) |
|------|---------------------|------------------|---------------|
| 2183 | 5-700mm/0.2-27.5" | 0.005mm/0.00005" | ±0.01R* |

* R is the radius to be measured

DIGITAL RADIUS GAGE



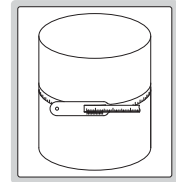
CIRCUMFERENCE TAPE



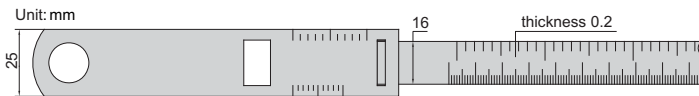
7116-115

- Measure diameter of cables, thin plastic pipes, etc., which may deform
- Laser engraved scale
- Made of stainless steel

| Code | Diameter range | Graduation | Accuracy |
|----------|----------------|------------|----------|
| 7116-115 | Ø20-115mm | 0.05mm | ±0.10mm |
| 7116-230 | Ø100-230mm | 0.05mm | ±0.10mm |
| 7116-330 | Ø200-330mm | 0.05mm | ±0.15mm |
| 7116-620 | Ø300-620mm | 0.05mm | ±0.20mm |



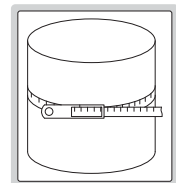
CIRCUMFERENCE TAPE



7115-3460

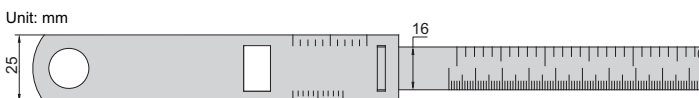
- Measure diameter and circumference of pipes, trees, tires, etc.
- Laser engraved scale
- Made of stainless steel

| Code | Circumference range | Diameter range | Graduation | Accuracy | |
|-----------|---------------------|----------------|------------|---------------|----------|
| | | | | Circumference | Diameter |
| 7115-950 | 150-950mm | Ø50-300mm | 0.1mm | ±0.50mm | ±0.15mm |
| 7115-2200 | 940-2200mm | Ø300-700mm | 0.1mm | ±0.60mm | ±0.20mm |
| 7115-3460 | 2190-3460mm | Ø700-1100mm | 0.1mm | ±0.60mm | ±0.20mm |
| 7115-4720 | 3450-4720mm | Ø1100-1500mm | 0.1mm | ±0.75mm | ±0.25mm |
| 7115-5980 | 4710-5980mm | Ø1500-1900mm | 0.1mm | ±0.90mm | ±0.30mm |



CIRCUMFERENCE TAPE

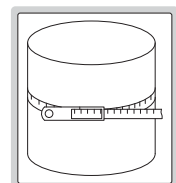
BASIC MODEL



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 |



DIGITAL INDICATOR

DATA OUTPUT



2112-10

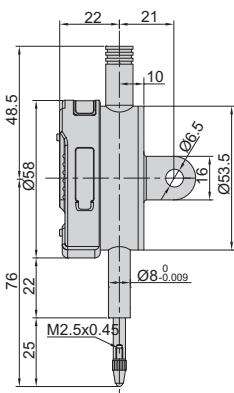


2112-251

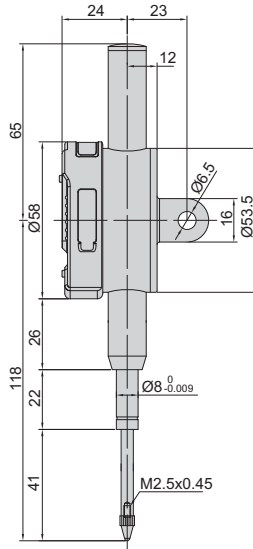


2112-501

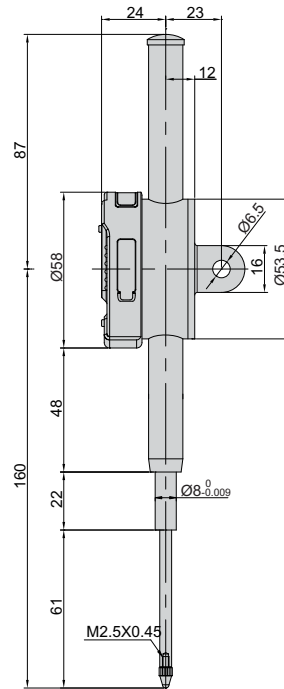
Unit: mm



2112-10
2112-101



2112-25
2112-251



2112-50
2112-501

- Button function: on/off, inch/mm, zero
- CR2032 battery, automatic power off
- Data output
- Optional accessory: data output system, backs (page 132), contact points (page 128~131)

Resolution 0.001mm/0.00005"

| Code | Range | Accuracy | Hysteresis | Remark |
|-------------|-------------|----------|------------|-----------|
| 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 |
| 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 |

Resolution 0.01mm/0.0005"

| Code | Range | Accuracy | Hysteresis | Remark |
|------------|-------------|----------|------------|-----------|
| 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 |
| 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 |

* Supplied with manufacturer calibration certificate

WATERPROOF DIGITAL INDICATOR

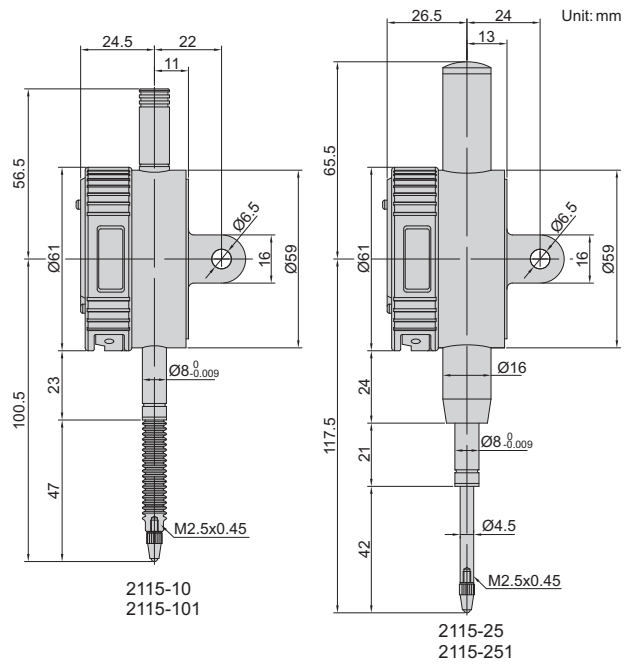
DATA OUTPUT WATERPROOF



2115-10

2115-25

- Dust/waterproof
- Button function: on/off, zero, mm/inch
- CR2032 battery, automatic power off
- Data output
- Optional accessory: data output system, backs (page 132), contact points (page 128~131)



Resolution 0.001mm/0.00005"

| Code | Range | Dust/waterproof | Accuracy | Hysteresis | Remark |
|------------|-------------|-----------------|----------|------------|-----------|
| 2115-101* | 12.7mm/0.5" | IP65 | 5µm | 2µm | lug back |
| 2115-251* | 25.4mm/1" | IP54 | 5µm | 3µm | lug back |
| 2115-101F* | 12.7mm/0.5" | IP65 | 5µm | 2µm | flat back |
| 2115-251F* | 25.4mm/1" | IP54 | 5µm | 3µm | flat back |

Resolution 0.01mm/0.0005"

| Code | Range | Dust/waterproof | Accuracy | Hysteresis | Remark |
|-----------|-------------|-----------------|----------|------------|-----------|
| 2115-10* | 12.7mm/0.5" | IP65 | 20µm | 10µm | lug back |
| 2115-25* | 25.4mm/1" | IP54 | 20µm | 10µm | lug back |
| 2115-10F* | 12.7mm/0.5" | IP65 | 20µm | 10µm | flat back |
| 2115-25F* | 25.4mm/1" | IP54 | 20µm | 10µm | flat back |

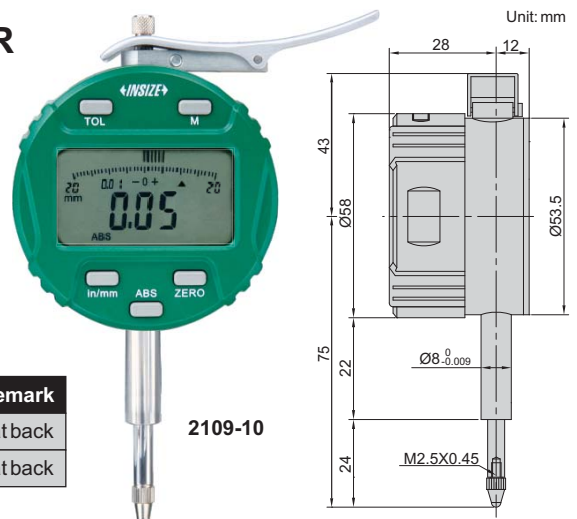
* Supplied with manufacturer calibration certificate

DIGITAL INDICATOR WITH LIFTING LEVER

- 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./range measurement, inch/metric conversion, absolute/incremental measurement
- CR2032 battery, automatic power off
- Data output
- Optional accessory: data output system, backs (page 132), contact points (page 128~131)

| Code | Range | Resolution | Accuracy | Hysteresis | Remark |
|-----------|-----------|------------------|----------|------------|-----------|
| 2109-10* | 10mm/0.4" | 0.01mm/0.0005" | 20µm | 10µm | flat back |
| 2109-101* | 10mm/0.4" | 0.001mm/0.00005" | 5µm | 2µm | flat back |

* Supplied with manufacturer calibration certificate



2109-10

DATA
OUTPUT

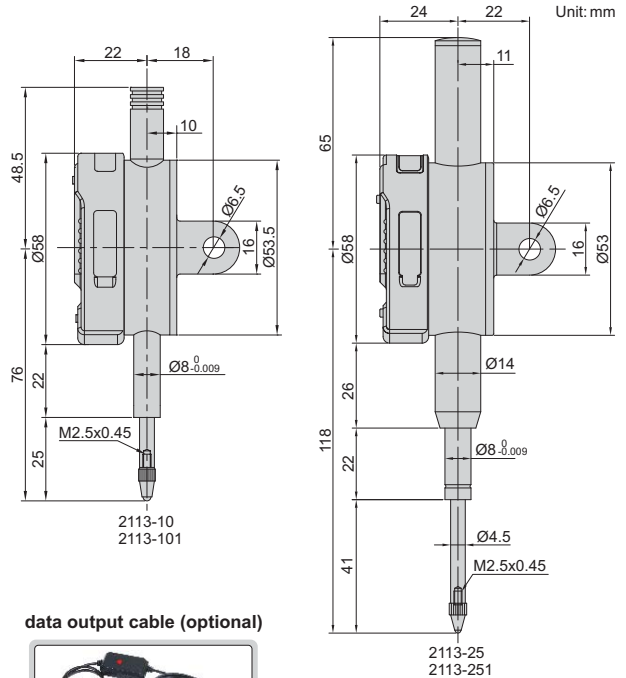
NO AUTO POWER OFF DIGITAL INDICATOR



2113-10



2113-251



data output cable (optional)



- 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: data output cable (code 7305-SPC1A)
- Optional accessory: backs (page 132), contact points (page 128~131)

Resolution 0.001mm/0.00005"

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

* Supplied with manufacturer calibration certificate

Resolution 0.01mm/0.0005"

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

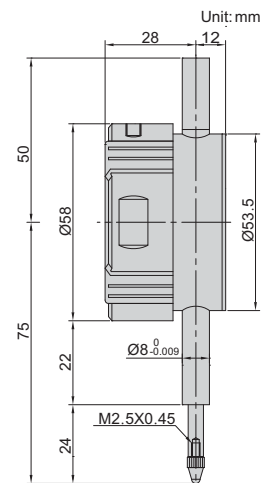
DIGITAL INDICATOR FOR BORE GAGES

DATA
OUTPUT

- Specially designed for bore gages
- The minimum value tracking function can find the diameter automatically
- Read the diameter directly, after inputting the size of setting ring
- Reading in 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 system, backs (page 132), contact points (page 128~131)



2108-10F



| 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 calibration certificate

DIAL COMPARATOR

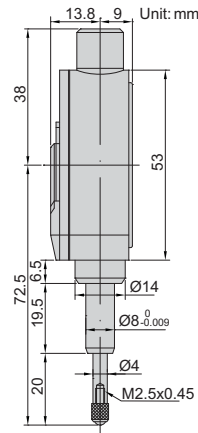
JEWELLED BEARING

SHOCK PROOF

- Shockproof
- Jeweled bearing
- Overtravel: 3mm
- Shadow free dial face cover
- Supplied with limit pointers
- Initial measuring force 1.2N
- Optional accessory: lifting lever (code 6289-150)



2881-01



lifting lever (optional)

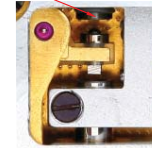


lever construction

within the measuring range, the spindle is in contact with the lever



when the measuring range is exceeded, the spindle leaves the lever



| Code | Range | Graduation | Accuracy | Hysteresis | Dial reading | Remark |
|-----------|-------|------------|----------|------------|--------------|-----------|
| 2881-01 * | 0.1mm | 0.001mm | 1.2µm | 0.5µm | 50-0-50 | flat back |

* Supplied with manufacturer calibration certificate

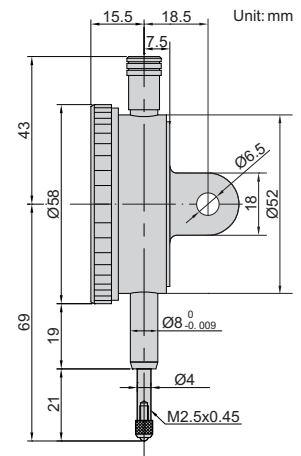
PRECISION DIAL INDICATOR

JEWELLED BEARING

- Jeweled bearing
- With limit pointers
- Optional accessory: backs (page 132), contact points (page 128~131)



2830-1



| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading | Remark |
|-----------|-------|------------|----------|------------|-----------|--------------|-----------|
| 2830-1 * | 1mm | 0.001mm | 4µm | 2µm | 0.2mm | 0-100-0 | lug back |
| 2830-1F * | 1mm | 0.001mm | 4µm | 2µm | 0.2mm | 0-100-0 | flat back |

* Supplied with manufacturer calibration certificate

PRECISION DIAL INDICATOR

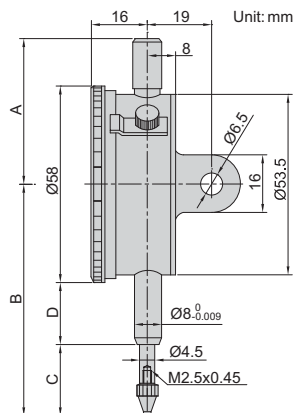
JEWELLED BEARING

- Graduation: 0.001mm
- Jeweled bearing
- Supplied with limit pointers
- Optional accessory: backs (page 132), contact points (page 128~131)



2313-1A

(mm)



| Code | Range | Accuracy | Hysteresis | Range/rev | Dial reading | Remark | A | B | C | D |
|------------|-------|----------|------------|-----------|--------------|-----------|----|------|------|----|
| 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 |
| 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 |

* Supplied with manufacturer calibration certificate

COMPACT DIAL INDICATOR

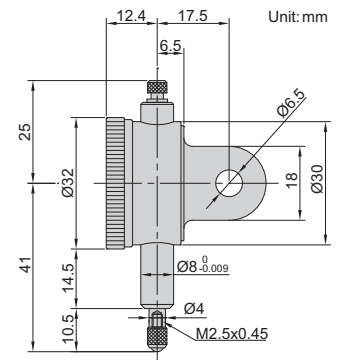


2886-3

- With limit pointers
- Optional accessory: backs (page 132), contact points (page 128~131)

| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading | Remark |
|----------|-------|------------|----------|------------|-----------|--------------|-----------|
| 2886-3* | 3mm | 0.01mm | 12μm | 3μm | 0.5mm | 0-50 | lug back |
| 2886-3F* | 3mm | 0.01mm | 12μm | 3μm | 0.5mm | 0-50 | flat back |

* Supplied with manufacturer calibration certificate



COMPACT DIAL INDICATOR

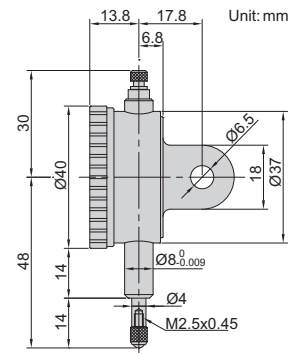


2887-5

- With limit pointers
- Optional accessory: backs (page 132), contact points (page 128~131)

| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading | Remark |
|----------|-------|------------|----------|------------|-----------|--------------|-----------|
| 2887-5* | 5mm | 0.01mm | 14μm | 3μm | 0.5mm | 0-50 | lug back |
| 2887-5F* | 5mm | 0.01mm | 14μm | 3μm | 0.5mm | 0-50 | flat back |

* Supplied with manufacturer calibration certificate



COMPACT DIAL INDICATOR

JEWELLED BEARING

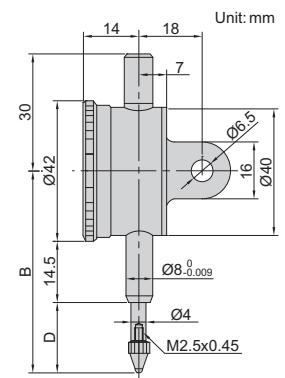


2311-5

- Jeweled bearing
- Supplied with limit pointers
- Optional accessory: backs (page 132), contact points (page 128~131)

| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading | Remark | B | D |
|----------|-------|------------|----------|------------|-----------|--------------|-----------|----|------|
| 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 |
| 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 |

* Supplied with manufacturer calibration certificate





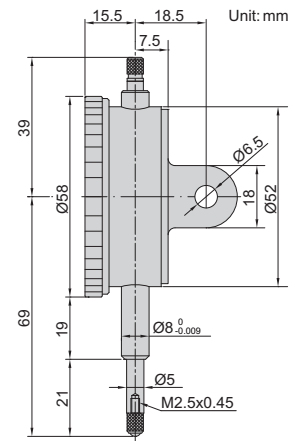
2892-10

- With limit pointers
- Optional accessory: backs (page 132), contact points (page 128~131)

| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading | Remark |
|-----------|-------|------------|----------|------------|-----------|--------------|----------|
| 2892-10* | 10mm | 0.01mm | 17µm | 3µm | 1mm | 0-100 | lug back |
| 2892-10F* | 10mm | 0.01mm | 17µm | 3µm | 1mm | 0-100 | flatback |

* Supplied with manufacturer calibration certificate

DIAL INDICATOR



JEWELLED BEARING



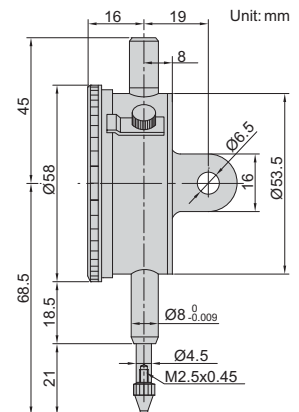
2308-10A

- Jeweled bearing
- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 132), contact points (page 128~131)

| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading | Remark |
|------------|-------|------------|----------|------------|-----------|--------------|-----------|
| 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 |
| 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 |

* Supplied with manufacturer calibration certificate

DIAL INDICATOR



SHOCKPROOF DIAL INDICATOR

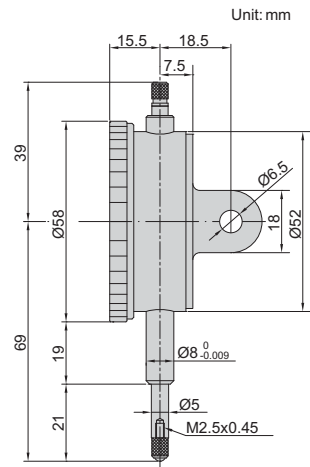


SHOCK PROOF



2883-10

- Shockproof
- With limit pointers
- Optional accessory: backs (page 132), contact points (page 128~131)



| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading | Remark |
|-----------|-------|------------|----------|------------|-----------|--------------|-----------|
| 2883-10* | 10mm | 0.01mm | 17µm | 3µm | 1mm | 0-100 | lug back |
| 2883-10F* | 10mm | 0.01mm | 17µm | 3µm | 1mm | 0-100 | flat back |

* Supplied with manufacturer calibration certificate

SHOCKPROOF DIAL INDICATOR

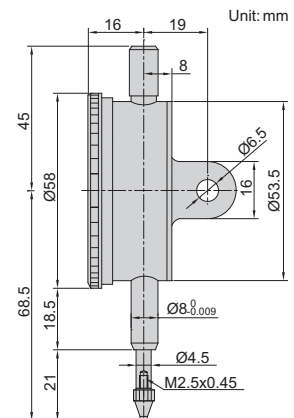
SHOCK PROOF

JEWELLED BEARING



2314-10A

- Shockproof
- Jeweled bearing
- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 132), contact points (page 128~131)



| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading | Remark |
|------------|-------|------------|----------|------------|-----------|--------------|-----------|
| 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 |
| 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 |

* Supplied with manufacturer calibration certificate



IP67
WATERPROOF

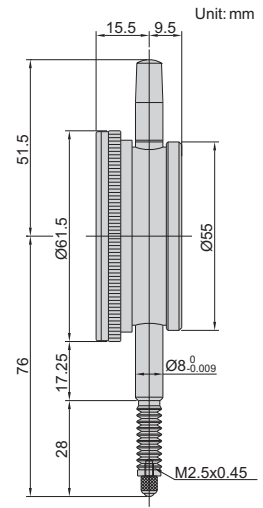
SHOCK
PROOF

WATERPROOF DIAL INDICATOR



2894-10F

- Shockproof
- IP67 dust/waterproof
- Optional accessory:
contact points (page 128~131)



| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading | Remark |
|-----------|-------|------------|----------|------------|-----------|--------------|-----------|
| 2894-10F* | 10mm | 0.01mm | 17µm | 3µm | 1mm | 0-100 | flat back |

* Supplied with manufacturer calibration certificate

IP54
WATERPROOF

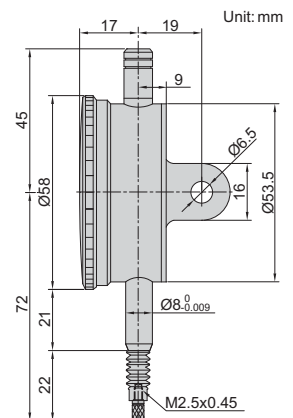
JEWELLED
BEARING

WATERPROOF DIAL INDICATOR



2324-10

- IP54 dust/waterproof
- Jeweled bearing



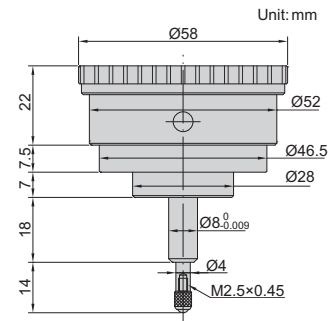
| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading | Remark |
|-----------|-------|------------|----------|------------|-----------|--------------|-----------|
| 2324-10* | 10mm | 0.01mm | 17µm | 3µm | 1mm | 0-100 | lug back |
| 2324-10F* | 10mm | 0.01mm | 17µm | 3µm | 1mm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

* Supplied with manufacturer calibration certificate

BACK PLUNGER TYPE DIAL INDICATOR



2893-3



- Supplied with limit pointers
- Optional accessory: contact points (page 128-131)

| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading |
|---------|-------|------------|----------|------------|-----------|--------------|
| 2893-3* | 3mm | 0.01mm | 15µm | 5µm | 1mm | 0-100 |

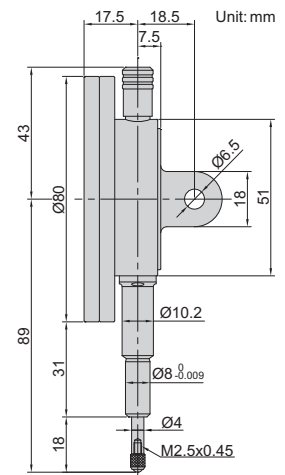
* Supplied with manufacturer calibration certificate

LARGE DIAL FACE DIAL INDICATOR



2888-10

- Large, easy-to-read dial face
- With limit pointers
- Optional accessory: backs (page 132), contact points (page 128-131)



| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading | Remark |
|----------|-------|------------|----------|------------|-----------|--------------|--------------------------------|
| 2888-10* | 10mm | 0.01mm | 17µm | 5µm | 1mm | 0-100 | flat back, with spare lug back |

* Supplied with manufacturer calibration certificate

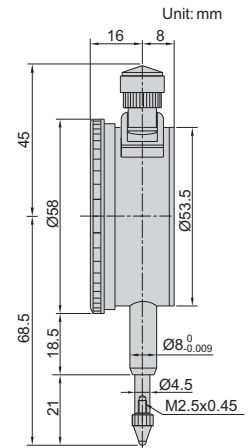
JEWELLED BEARING

DIAL INDICATOR WITH LIFTING LEVER



2329-10

- Jeweled bearing
- Supplied with limit pointers
- Optional accessory: backs (page 132), contact points (page 128~131)



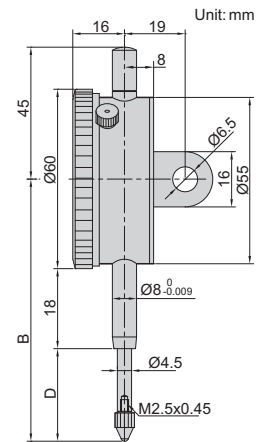
| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading | Remark |
|---------|-------|------------|----------|------------|-----------|--------------|-----------|
| 2329-10 | 10mm | 0.01mm | 20µm | 3µm | 1mm | 0-100 | flat back |



2318-30

- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 132), contact points (page 128~131)

DIAL INDICATOR



(mm)

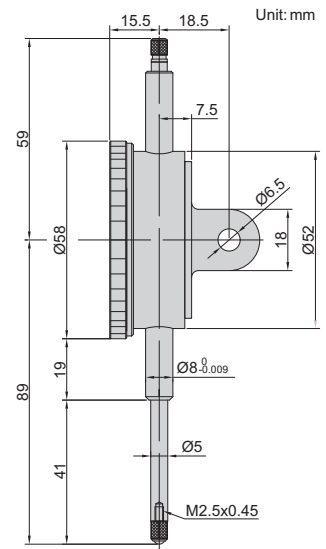
| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading | Remark | B | D |
|----------|-------|------------|----------|------------|-----------|--------------|-----------|----|----|
| 2318-10 | 10mm | 0.1mm | 40µm | 20µm | 10mm | 0-10 | lug back | 70 | 20 |
| 2318-20 | 20mm | 0.1mm | 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 |
| 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 |

DIAL INDICATOR



2889-30

- With limit pointers
- Optional accessory: backs (page 132), contact points (page 128-131)



| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading | Remark |
|-----------|-------|------------|----------|------------|-----------|--------------|-----------|
| 2889-30* | 30mm | 0.01mm | 25µm | 5µm | 1mm | 0-100 | lug back |
| 2889-30F* | 30mm | 0.01mm | 25µm | 5µm | 1mm | 0-100 | flat back |

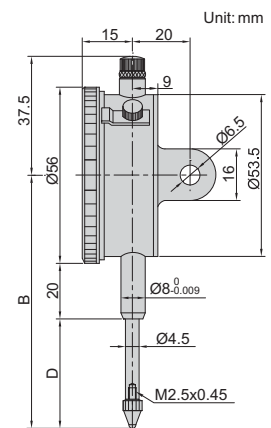
* Supplied with manufacturer calibration certificate

DIAL INDICATOR



2310-30A

- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 132), contact points (page 128-131)



| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading | Remark | B | D |
|------------|-------|------------|----------|------------|-----------|--------------|-----------|------|------|
| 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 |
| 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 |

* Supplied with manufacturer calibration certificate

JEWELLED BEARING

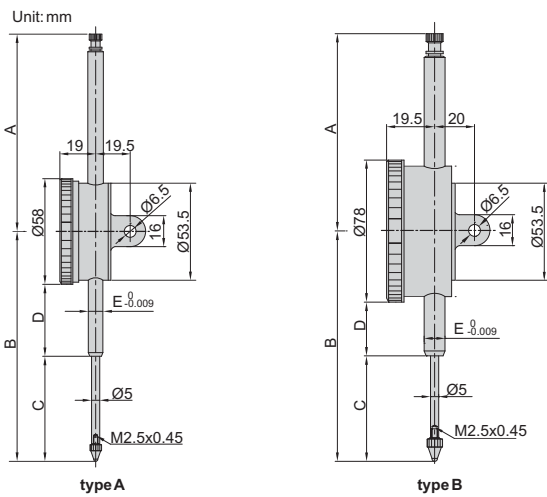
SHOCK PROOF

DIAL INDICATOR



2309-50

- Shockproof
- Jeweled bearing
- Supplied with limit pointers
- Optional accessory: backs (page 132), contact points (page 128~131)



back of type B



stem clamp Ø10mm for 2309-100D



| Code | Type | A | B | C | D | E | (mm) |
|-----------|------|-------|-------|------|------|-----|------|
| 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 |
|-----------|-------|------------|------|----------|------------|-----------|--------------|-------------------------------|
| 2309-30* | 30mm | 0.01mm | A | 35µm | 7µm | 1mm | 0-100 | lug back |
| 2309-30F* | 30mm | 0.01mm | A | 35µm | 7µm | 1mm | 0-100 | flat 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 |

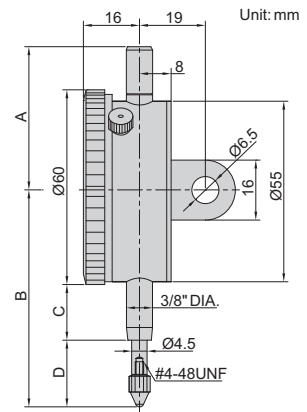
Note: 1) 2309-80, 2309-80D and 2309-100D can only be used vertically

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 132)

* Supplied with manufacturer calibration certificate

INCH DIAL INDICATOR



- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 132)

2307-1

(mm)

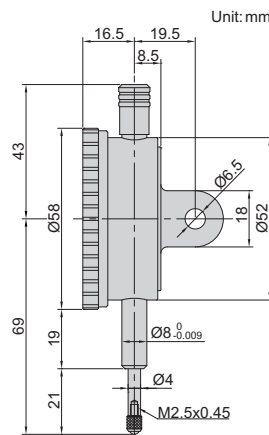
| Code | Range | Graduation | Accuracy | | Range/rev | Dial reading | Remark | A | B | C | D |
|-----------|-------|------------|---------------|---------|-----------|--------------|----------|-----|-----|----|----|
| | | | First 2.5 Rev | Overall | | | | | | | |
| 2307-025* | 0.25" | 0.001" | ±0.001" | ±0.001" | 0.1" | 0-100 | lug back | 46 | 75 | 20 | 25 |
| 2307-05* | 0.5" | 0.001" | ±0.001" | ±0.002" | 0.1" | 0-100 | lug back | 46 | 75 | 20 | 25 |
| 2307-1* | 1" | 0.001" | ±0.001" | ±0.002" | 0.1" | 0-100 | lug back | 46 | 85 | 20 | 35 |
| 2307-2* | 2" | 0.001" | ±0.001" | ±0.004" | 0.1" | 0-100 | lug back | 111 | 139 | 50 | 59 |

* Supplied with manufacturer calibration certificate

ONE REVOLUTION PRECISION DIAL INDICATOR



2885-008

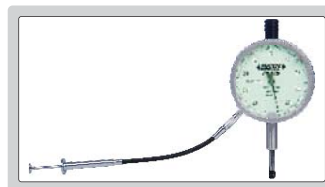


SHOCK PROOF

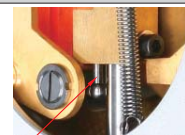
JEWELLED BEARING

- Eliminate the possibility of reading errors due to miscounting
- Shockproof
- Jeweled bearing
- Free stroke: 4.5mm
- With limit pointers
- Optional accessory: backs (page 132), contact points (page 128~131), lifting lever(code 6289-150)

lifting lever (optional)



lever device



Within the measuring range, the spindle is in contact with the lever



When the measuring range is exceeded, the spindle leaves the lever

| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading | Remark |
|------------|--------|------------|----------|------------|-----------|--------------|-----------|
| 2885-008* | 0.08mm | 0.001mm | 3µm | 1.5µm | 1mm | 40-0-40 | lug back |
| 2885-008F* | 0.08mm | 0.001mm | 3µm | 1.5µm | 1mm | 40-0-40 | flat back |

* Supplied with manufacturer calibration certificate

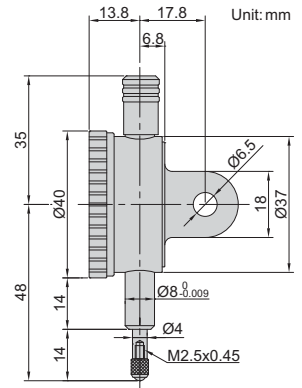


SHOCK PROOF

ONE REVOLUTION COMPACT DIAL INDICATOR



2884-08



- Eliminate the possibility of reading errors due to miscounting
- Shockproof
- Free stroke: 4mm
- With limit pointers
- Optional accessory: backs (page 132), contact points (page 128-131)

| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading | Remark |
|-----------|-------|------------|----------|------------|-----------|--------------|-----------|
| 2884-08* | 0.8mm | 0.01mm | 9µm | 3µm | 1mm | 40-0-40 | lug back |
| 2884-08F* | 0.8mm | 0.01mm | 9µm | 3µm | 1mm | 40-0-40 | flat back |

* Supplied with manufacturer calibration certificate

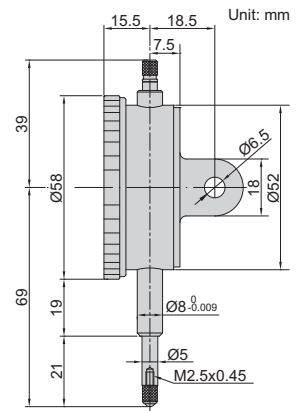


SHOCK PROOF

ONE REVOLUTION DIAL INDICATOR



2882-08



- Eliminate the possibility of reading errors due to miscounting
- Shockproof
- Free stroke: 7mm
- With limit pointers
- Optional accessory: backs (page 132), contact points (page 128-131)

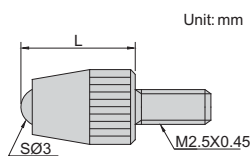
| Code | Range | Graduation | Accuracy | Hysteresis | Range/rev | Dial reading | Remark |
|-----------|-------|------------|----------|------------|-----------|--------------|-----------|
| 2882-08* | 0.8mm | 0.01mm | 9µm | 3µm | 1mm | 40-0-40 | lug back |
| 2882-08F* | 0.8mm | 0.01mm | 9µm | 3µm | 1mm | 40-0-40 | flat back |

* Supplied with manufacturer calibration certificate

BALL POINT



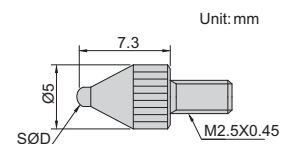
6282-0101



| 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 |



6282-0301

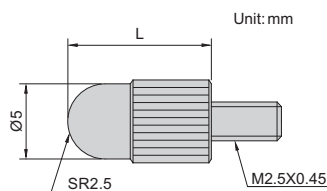


| Code | Material of measuring face | SØD (mm) |
|-----------|----------------------------|----------|
| 6282-0301 | steel | 1 |
| 6282-0302 | carbide | 1.5 |
| 6282-0303 | carbide | 1.8 |
| 6282-0304 | carbide | 2.5 |
| 6282-0305 | carbide | 4 |

SHELL TYPE POINT



6282-0202

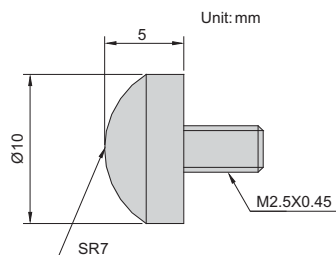


| Code | Material of measuring face | L (mm) |
|-----------|----------------------------|--------|
| 6282-0202 | steel | 5 |
| 6282-0203 | steel | 10 |
| 6282-0205 | steel | 15 |
| 6282-0207 | steel | 20 |
| 6282-0208 | steel | 25 |
| 6282-0210 | steel | 30 |

SPHERICAL POINT



6282-0401



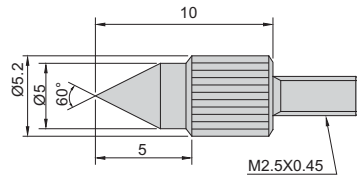
| Code | Material of measuring face |
|-----------|----------------------------|
| 6282-0401 | steel |

CONICAL POINT



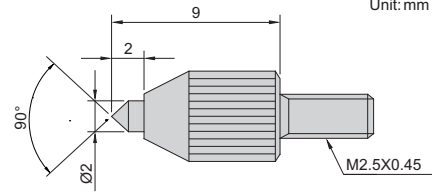
6282-0601

Unit: mm



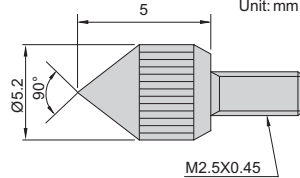
6282-0801

Unit: mm



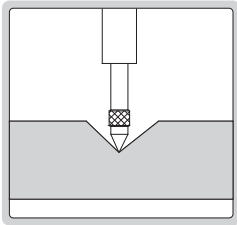
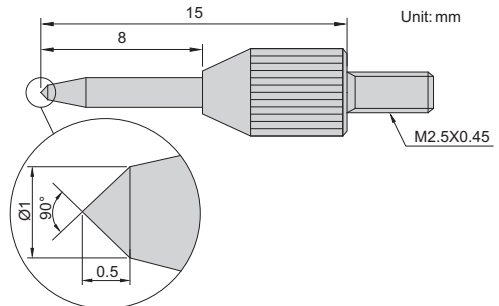
6282-0701

Unit: mm



6282-0901

Unit: mm



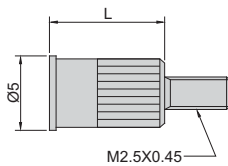
| Code | Material of measuring face |
|-----------|----------------------------|
| 6282-0601 | steel |
| 6282-0701 | steel |
| 6282-0801 | steel |
| 6282-0901 | steel |

FLAT POINT



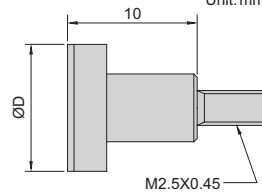
6282-1101

Unit: mm



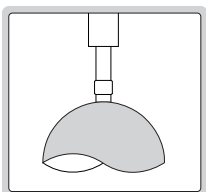
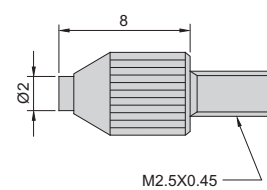
6282-1201

Unit: mm



6282-1301

Unit: mm



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

| 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 |

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

NEEDLE POINT

(mm)

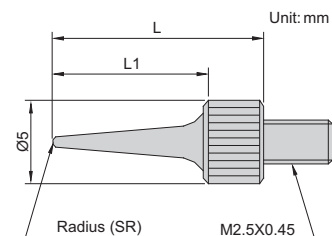
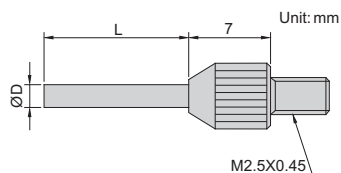
| Code | Material of measuring face | ØD | L |
|-----------|----------------------------|------|----|
| 6282-1701 | steel | 0.45 | 3 |
| 6282-1702 | steel | 0.45 | 5 |
| 6282-1703 | carbide | 1 | 3 |
| 6282-1704 | carbide | 1 | 5 |
| 6282-1705 | carbide | 1 | 8 |
| 6282-1706 | carbide | 1 | 10 |
| 6282-1707 | 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

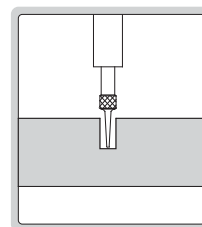


6282-1601



(mm)

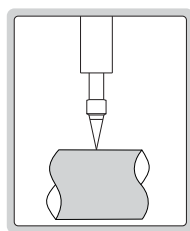
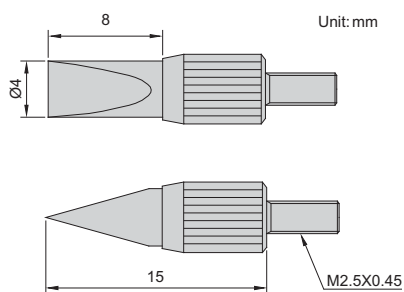
| Code | Material of measuring face | L1 | L | SR |
|-----------|----------------------------|----|----|-----|
| 6282-1601 | steel | 11 | 15 | 0.4 |
| 6282-1602 | steel | 13 | 17 | 0.2 |
| 6282-1603 | steel | 21 | 25 | 0.4 |
| 6282-1604 | steel | 31 | 35 | 0.4 |



KNIFE EDGE POINT



6282-1001

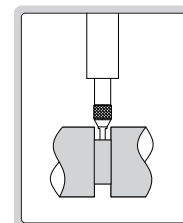
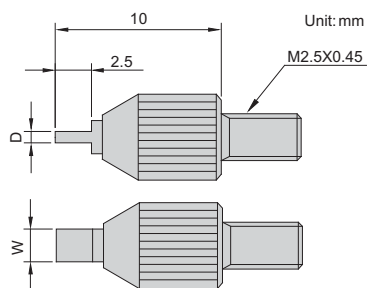


| Code | Material of measuring face |
|-----------|----------------------------|
| 6282-1001 | steel |

BLADE POINT



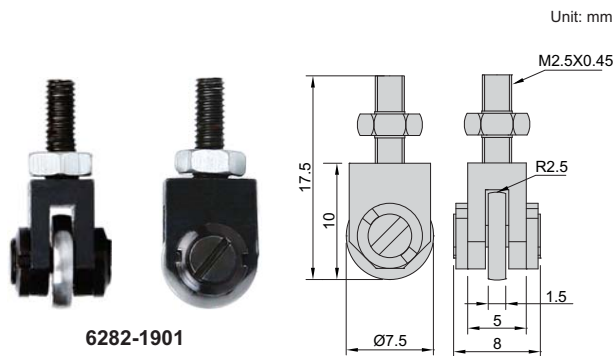
6282-1801



(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 |

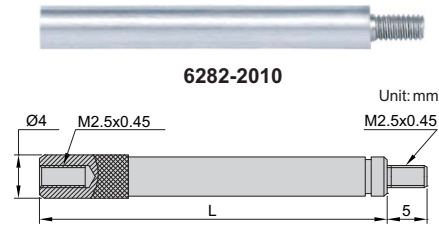
ROLLER POINT



6282-1901

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

EXTENSION ROD



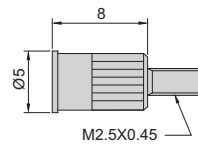
6282-2010

| Code | Material | L | Code | Material | L |
|-----------|----------|----|-----------|----------|-----|
| 6282-2001 | steel | 10 | 6282-2010 | steel | 55 |
| 6282-2002 | steel | 15 | 6282-2011 | steel | 60 |
| 6282-2003 | steel | 20 | 6282-2012 | steel | 65 |
| 6282-2004 | steel | 25 | 6282-2013 | steel | 70 |
| 6282-2005 | steel | 30 | 6282-2014 | steel | 75 |
| 6282-2006 | steel | 35 | 6282-2015 | steel | 80 |
| 6282-2007 | steel | 40 | 6282-2016 | steel | 90 |
| 6282-2008 | steel | 45 | 6282-2017 | steel | 100 |
| 6282-2009 | steel | 50 | | | |

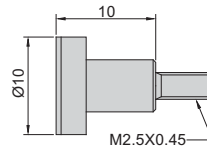


6282-S6

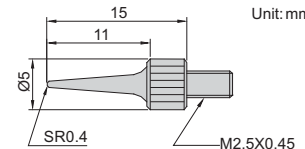
| Code | Material of measuring face |
|---------|----------------------------|
| 6282-S6 | steel |



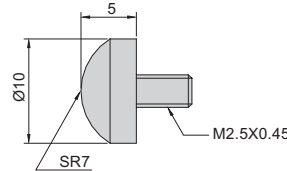
Flat Point



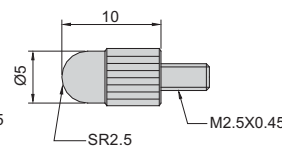
Flat Point



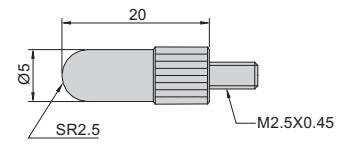
Needle Point



Spherical Point



Shell Type Point



Shell Type Point

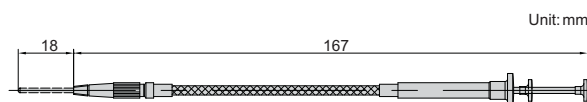
LIFTING LEVER



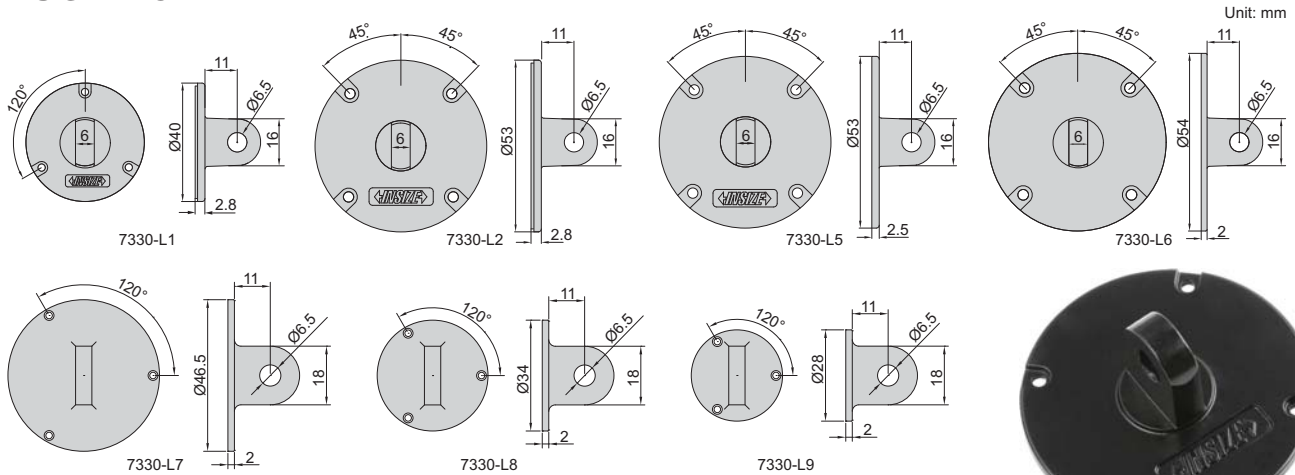
6289-150

- The lifting cable permits quick lifting of the spindle

| Code |
|----------|
| 6289-150 |



LUG BACK



| Code | For digital/dial indicators | Page |
|---------|---------------------------------|------|
| 7330-L1 | 2311 | 118 |
| | 2308 | 119 |
| | 2309 (except 2309-30, 2309-30F) | 125 |
| | 2329-10 | 123 |
| 7330-L2 | 2310 | 124 |
| | 2313 | 117 |
| | 2314 | 120 |
| | 2329-10 | 123 |

| Code | For digital/dial indicators | Page |
|---------|-----------------------------|------|
| 7330-L5 | 2103 | 113 |
| | 2104 | 113 |
| | 2108 | 116 |
| | 2112 | 114 |
| | 2113 | 116 |
| | 2115 | 115 |
| 7330-L6 | 2307 | 126 |
| | 2318 | 123 |

| Code | For digital/dial indicators | Page |
|---------|-----------------------------|------|
| 7330-L7 | 2830 | 117 |
| | 2882 | 127 |
| | 2883 | 120 |
| | 2888 | 122 |
| | 2889 | 124 |
| | 2892 | 119 |
| 7330-L8 | 2884 | 127 |
| | 2887 | 118 |
| 7330-L9 | 2886 | 118 |

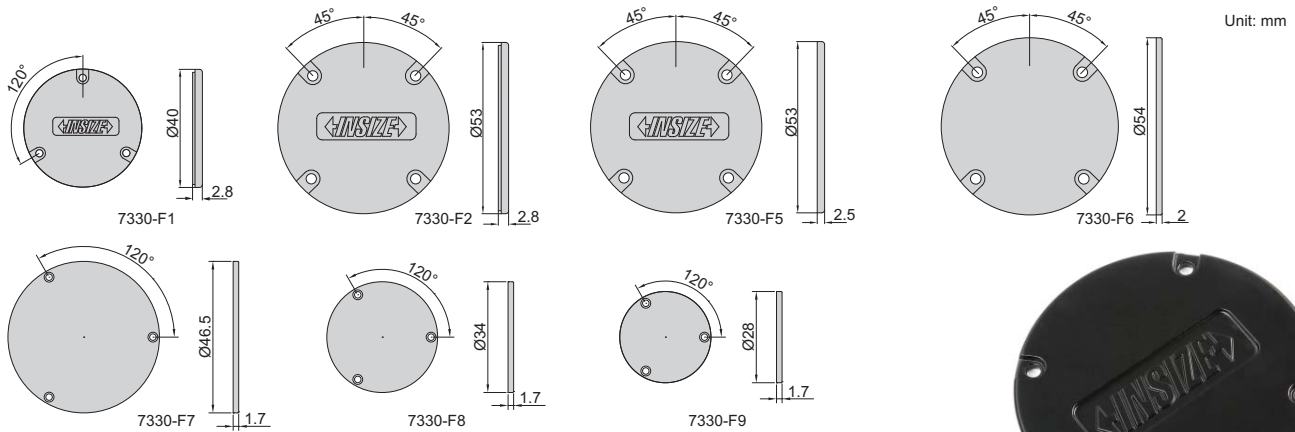


7330-L2



7330-L8

FLAT BACK



| Code | For digital/dial indicators | Page |
|---------|---------------------------------|------|
| 7330-F1 | 2311 | 118 |
| | 2308 | 119 |
| | 2309 (except 2309-30, 2309-30F) | 125 |
| | 2329-10 | 123 |
| 7330-F2 | 2310 | 124 |
| | 2313 | 117 |
| | 2314 | 120 |
| | 2329-10 | 123 |

| Code | For digital/dial indicators | Page |
|---------|-----------------------------|------|
| 7330-F5 | 2103 | 113 |
| | 2104 | 113 |
| | 2108 | 116 |
| | 2112 | 114 |
| | 2113 | 116 |
| | 2115 | 115 |
| 7330-F6 | 2307 | 126 |
| | 2318 | 123 |

| Code | For digital/dial indicators | Page |
|---------|-----------------------------|------|
| 7330-F7 | 2830 | 117 |
| | 2882 | 127 |
| | 2883 | 120 |
| | 2888 | 122 |
| | 2889 | 124 |
| | 2892 | 119 |
| 7330-F8 | 2884 | 127 |
| | 2887 | 118 |
| 7330-F9 | 2886 | 118 |



7330-F2



7330-F8



ANTI MAGNETIC
CARBIDE CONTACT POINT



2897-02

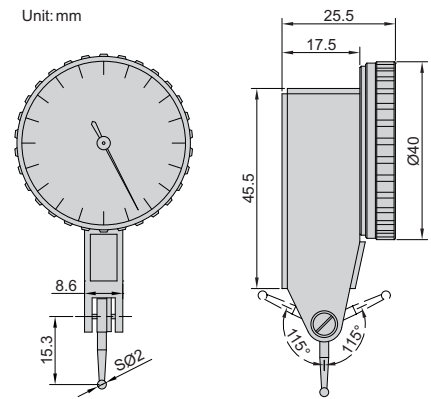
- Ceramic bearing
- Anti magnetic carbide contact point
- Two measuring directions
- Supplied with one clamp: diameter Ø8mm
- Optional accessory: styli (page 138)

| Code | Range | Graduation | Accuracy | Hysteresis | Dial reading |
|-----------|-------|------------|----------|------------|--------------|
| 2897-02 * | 0.2mm | 0.001mm | 4µm | 2µm | 0-100-0 |

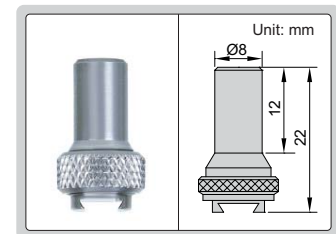
* Supplied with manufacturer calibration certificate

PRECISION DIAL TEST INDICATOR

Unit: mm



clamp



2880-02

ruby contact point of 2880-02R



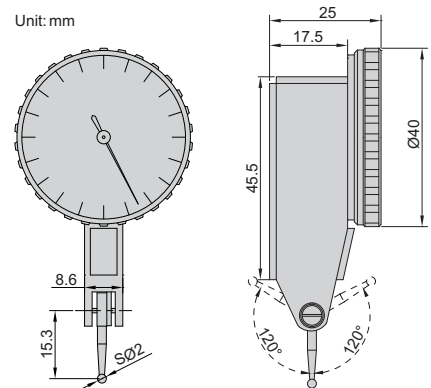
- Ceramic bearing
- Two measuring directions
- Supplied with one clamp: diameter Ø8mm
- Optional accessory: styli (page 138)

| Code | Range | Graduation | Accuracy | Hysteresis | Dial reading | Remark |
|------------|-------|------------|----------|------------|--------------|-------------------------------------|
| 2880-02 * | 0.2mm | 0.002mm | 4µm | 2µm | 0-100-0 | anti magnetic carbide contact point |
| 2880-02R * | 0.2mm | 0.002mm | 4µm | 2µm | 0-100-0 | ruby contact point |

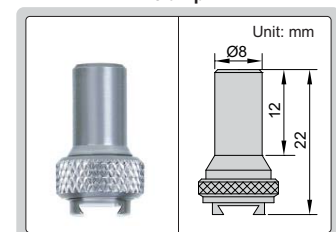
* Supplied with manufacturer calibration certificate

PRECISION DIAL TEST INDICATOR

Unit: mm



clamp



DIAL TEST INDICATOR

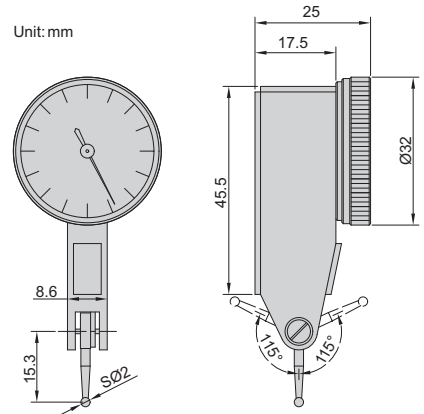


ANTI MAGNETIC
CARBIDE CONTACT POINT



2895-08

Unit: mm

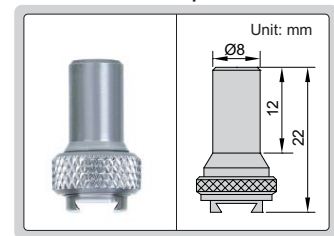


- Ceramic bearing
- Anti magnetic carbide contact point
- Two measuring directions
- Supplied with one clamp: diameter Ø8mm
- Optional accessory: styli (page 138)

| Code | Range | Graduation | Accuracy | Hysteresis | Dial reading |
|----------|-------|------------|----------|------------|--------------|
| 2895-08* | 0.8mm | 0.01mm | 13µm | 3µm | 0-40-0 |

* Supplied with manufacturer calibration certificate

clamp



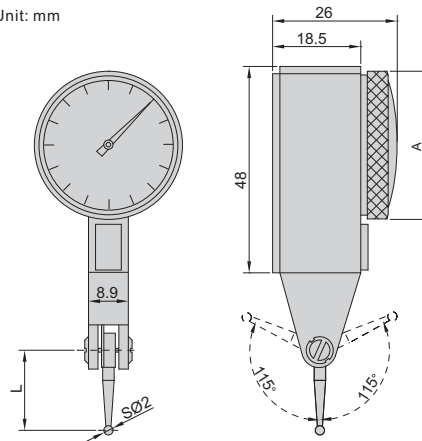
DIAL TEST INDICATOR

JEWELLED
BEARING



2380-08

Unit: mm

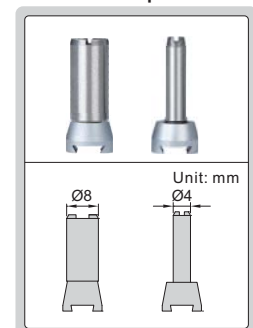


- Jeweled bearing
- Carbide contact point
- Two measuring directions
- Anti magnetic body
- Supplied with two clamps: diameter Ø4mm and Ø8mm
- Optional accessory: styli (page 138)

| Code | Range | Graduation | Accuracy | Hysteresis | Dial reading | A | L |
|----------|-------|------------|----------|------------|--------------|-------|------|
| 2380-08* | 0.8mm | 0.01mm | 13µm | 3µm | 0-40-0 | Ø30 | 16.5 |
| 2381-08* | 0.8mm | 0.01mm | 13µm | 3µm | 0-40-0 | Ø37.5 | 16.5 |
| 2380-02* | 0.2mm | 0.002mm | 6µm | 2µm | 0-100-0 | Ø30 | 16 |
| 2381-02* | 0.2mm | 0.002mm | 6µm | 2µm | 0-100-0 | Ø37.5 | 16 |

* Supplied with manufacturer calibration certificate

clamps





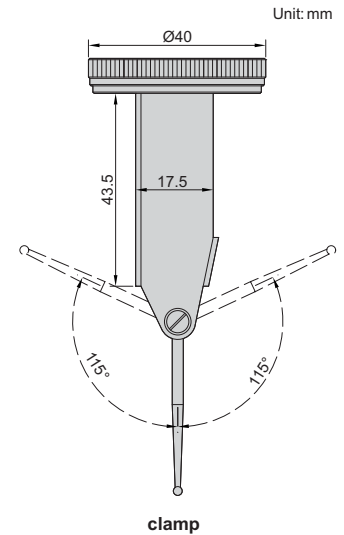
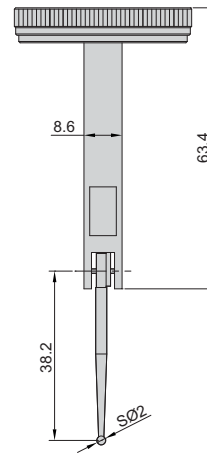
BACK PLUNGER LONG STYLI DIAL TEST INDICATOR

ANTI MAGNETIC
CARBIDE CONTACT POINT



2899-05

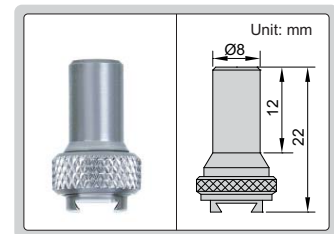
- Ceramic bearing
- Anti magnetic carbide contact point
- Two measuring directions
- Supplied with one clamp: diameter Ø8mm
- Optional accessory: styli (page 138)



Unit: mm

| Code | Range | Graduation | Accuracy | Hysteresis | Dial reading |
|----------|-------|------------|----------|------------|--------------|
| 2899-05* | 0.5mm | 0.01mm | 13µm | 3µm | 0-25-0 |

* Supplied with manufacturer calibration certificate



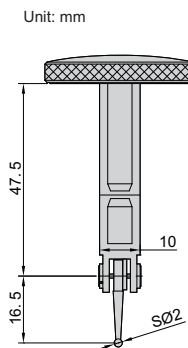
Unit: mm

BACK PLUNGER TYPE DIAL TEST INDICATOR

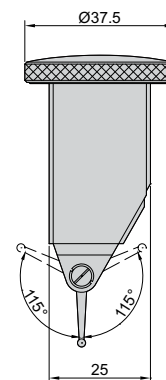


2398-08

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

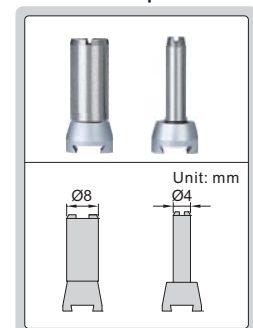


Unit: mm



JEWELLED
BEARING

clamps



Unit: mm

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

* Supplied with manufacturer calibration certificate

LONG STYLI DIAL TEST INDICATOR



ANTI MAGNETIC
CARBIDE CONTACT POINT



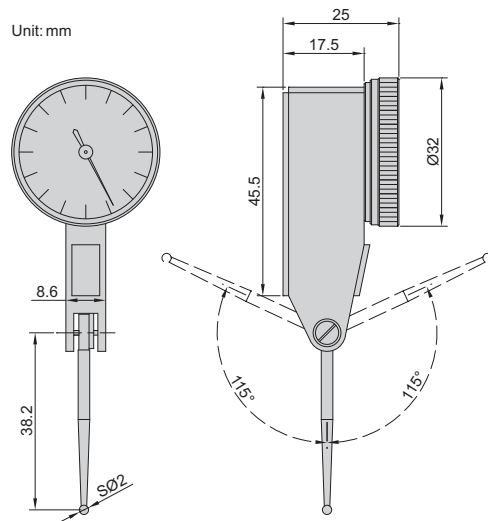
2896-05

- Ceramic bearing
- Anti magnetic carbide contact point
- Two measuring directions
- Supplied with one clamp: diameter Ø8mm
- Optional accessory: styli (page 138)

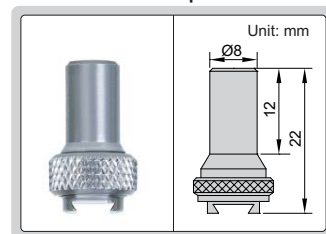
| Code | Range | Graduation | Accuracy | Hysteresis | Dial reading |
|----------|-------|------------|----------|------------|--------------|
| 2896-05* | 0.5mm | 0.01mm | 13µm | 3µm | 0-25-0 |

* Supplied with manufacturer calibration certificate

Unit: mm



clamp



SIDE TYPE DIAL TEST INDICATOR



ANTI MAGNETIC
CARBIDE CONTACT POINT



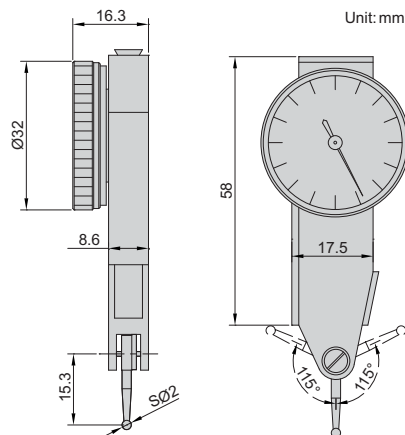
2898-08

- Ceramic bearing
- Anti magnetic carbide contact point
- Two measuring directions
- Supplied with one clamp: diameter Ø8mm
- Optional accessory: styli (page 138)

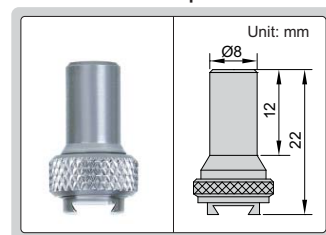
| Code | Range | Graduation | Accuracy | Hysteresis | Dial reading |
|----------|-------|------------|----------|------------|--------------|
| 2898-08* | 0.8mm | 0.01mm | 13µm | 3µm | 0-40-0 |

* Supplied with manufacturer calibration certificate

Unit: mm



clamp

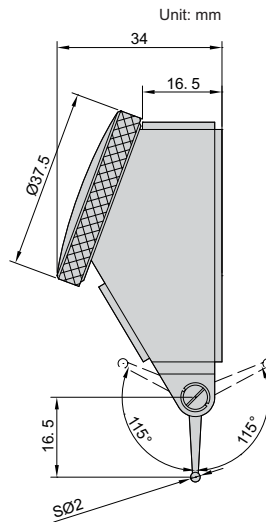


DIAL TEST INDICATOR

JEWELLED BEARING



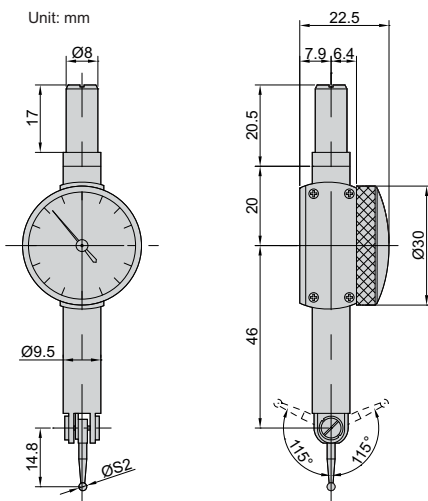
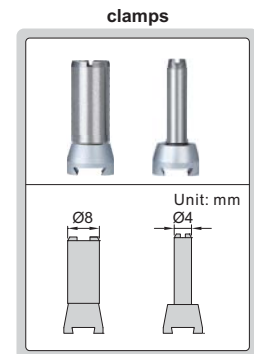
2399-08



- 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 |
|----------|-------|------------|----------|------------|--------------|
| 2399-08* | 0.8mm | 0.01mm | 13µm | 3µm | 0-40-0 |

* Supplied with manufacturer calibration certificate



ROUND BODY DIAL TEST INDICATOR

JEWELLED BEARING

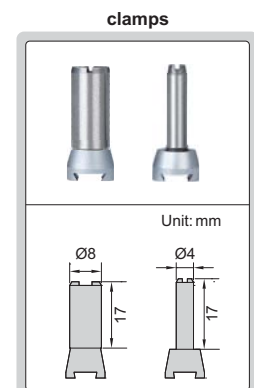


2391-08

- 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)

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

* Supplied with manufacturer calibration certificate

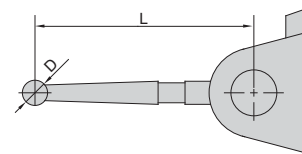


STYLI FOR DIAL TEST INDICATORS

| (mm) | | | | |
|---------|--|---------------------------|------|-------|
| Code | For dial test indicator | Material of contact point | L | D |
| 6284-1 | 2380-08, 2398-08 2381-08, 2399-08 | steel | 16.5 | SØ1 |
| 6284-3 | | carbide | 16.5 | SØ2 |
| 6284-8 | | carbide | 16.5 | SØ3 |
| 6284-21 | 2380-02 2381-02 | steel | 16 | SØ1 |
| 6284-22 | | carbide | 16 | SØ2 |
| 6284-23 | | carbide | 16 | SØ3 |
| 6284-44 | 2880-02 2880-02R 2895-08 2897-02 2898-08 | carbide | 15.3 | SØ0.4 |
| 6284-41 | | carbide | 15.3 | SØ1 |
| 6284-42 | | carbide | 15.3 | SØ2 |
| 6284-45 | | ruby | 15.3 | SØ2 |
| 6284-43 | | carbide | 15.3 | SØ3 |
| 6284-51 | | carbide | 38.2 | SØ1 |
| 6284-52 | 2896-05 2899-05 | carbide | 38.2 | SØ2 |
| 6284-55 | | ruby | 38.2 | SØ2 |
| 6284-53 | carbide | 38.2 | SØ3 | |
| 6284-71 | 2391-08 | carbide | 14.8 | SØ2 |



6284-3



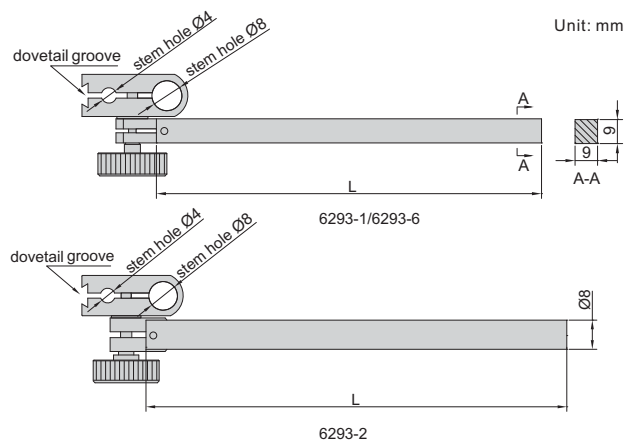
DIAL TEST INDICATOR HOLDER



6293-1



6293-2



Unit: mm

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



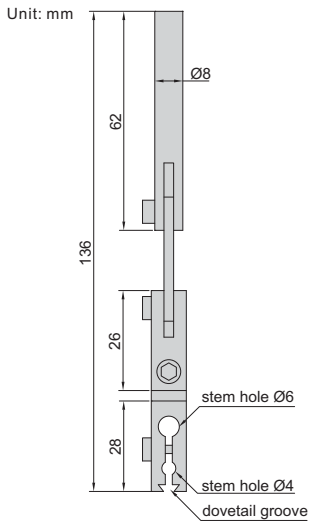
DIAL TEST INDICATOR HOLDER



6296-1

- Supplied with fixing spanner

Code
6296-1



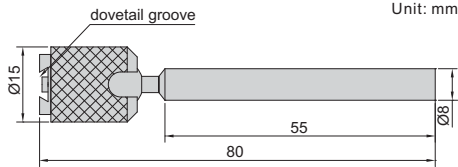
DIAL TEST INDICATOR UNIVERSAL HOLDER



6297-1

- Set the indicators at the desired attitude to the workpiece

Code
6297-1



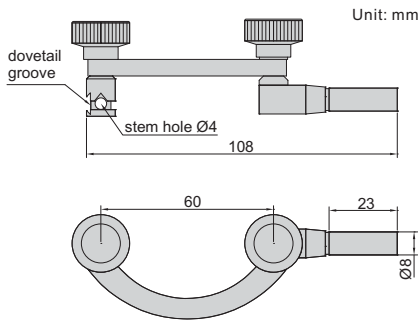
DIAL TEST INDICATOR CENTERING HOLDER



6291-1

- Center cylinders or holes on machine tools

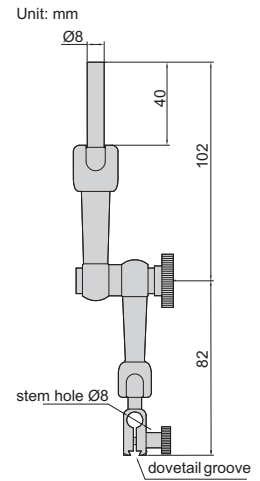
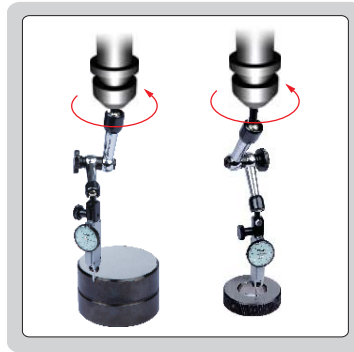
Code
6291-1



DIAL TEST INDICATOR CENTERING HOLDER



6295-1A



Code

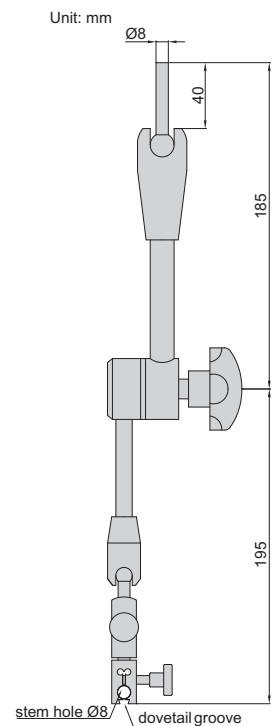
6295-1A

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

INDICATOR CENTERING HOLDER



6294-1A

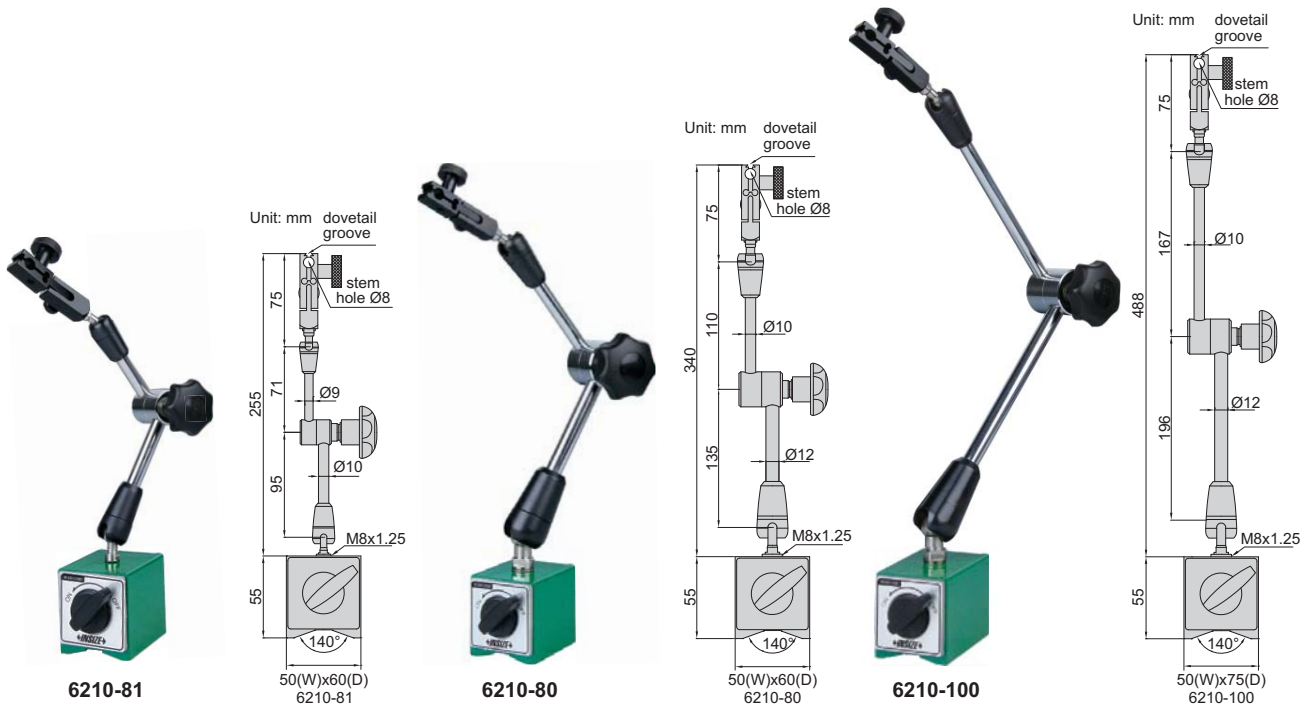


Code

6294-1A

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

UNIVERSAL MAGNETIC STAND



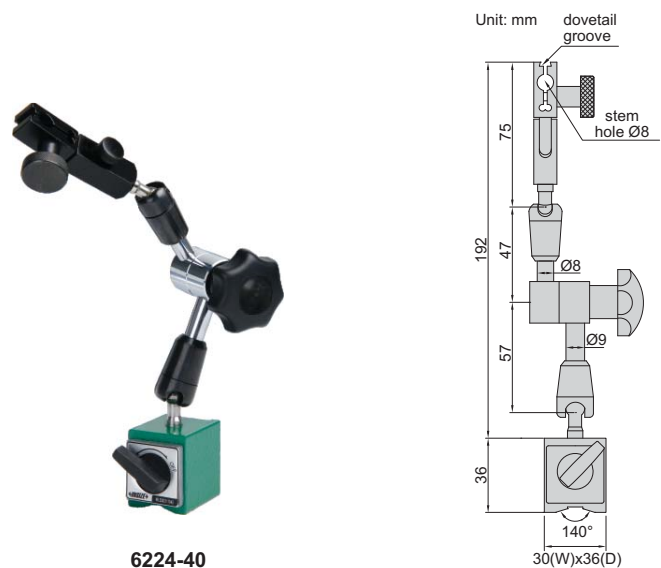
- For digital/dial indicators and dial test indicators

| 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 |

MINI MAGNETIC STAND

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

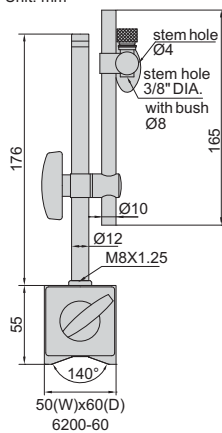
| Code | Magnetic force | Applicable holding stem |
|---------|----------------|-------------------------|
| 6224-40 | 40kgf | Ø8mm |



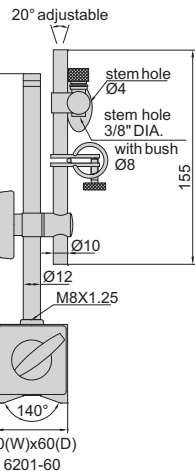
MAGNETIC STAND



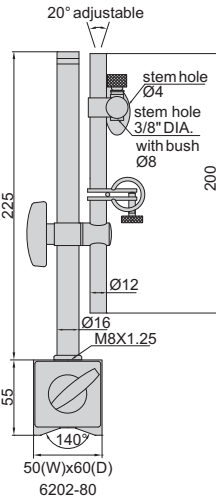
Unit: mm



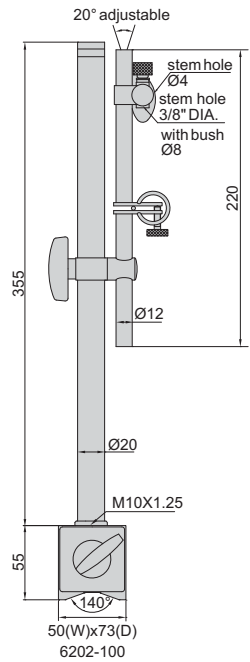
50(W)x60(D)
6200-60



50(W)x60(D)
6201-60



50(W)x60(D)
6202-80



50(W)x73(D)
6202-100

| 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

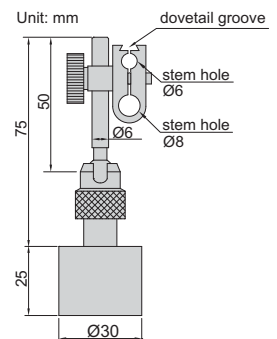
MINI MAGNETIC STAND

- For dial test indicators
- With dovetail groove

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



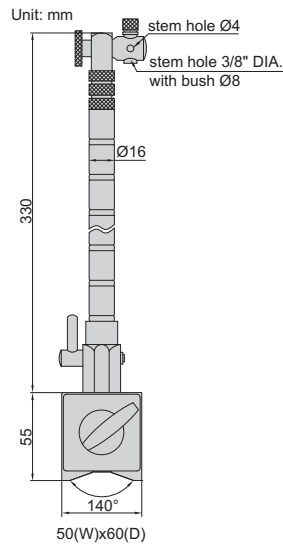
6211-10



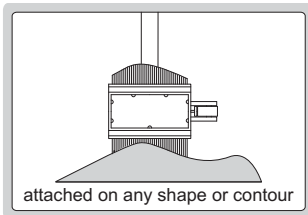
FLEX ARM MAGNETIC STAND

- For dial test indicators

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

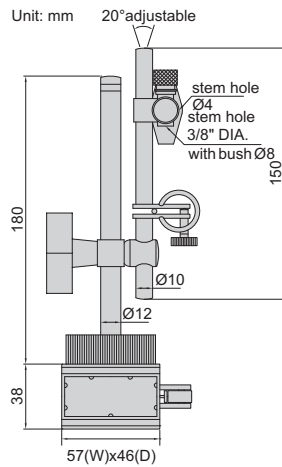


MAGNETIC STAND FOR UNEVEN SURFACE



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

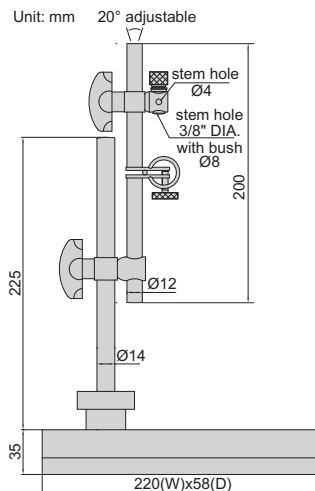
| Code | Magnetic force | Applicable holding stem |
|---------|----------------|-------------------------|
| 6215-60 | 60kgf | Ø8mm, Ø4mm, 3/8" DIA. |



UNIVERSAL STAND

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

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

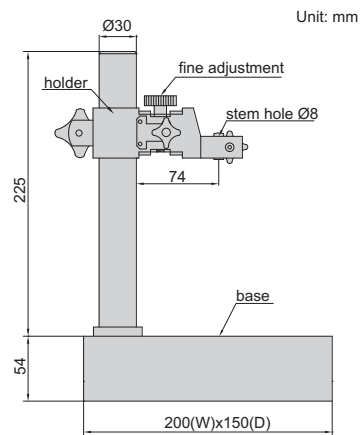


GRANITE COMPARATOR STAND



6866-150

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



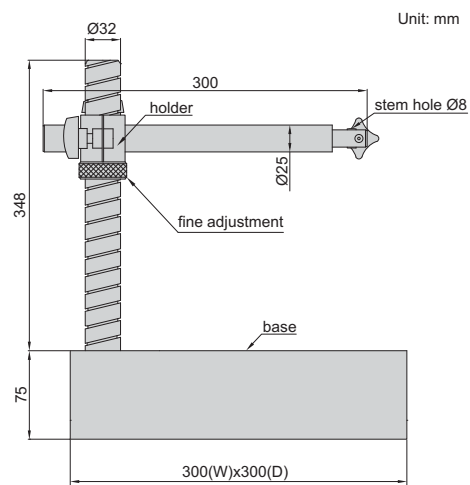
| Code | Applicable holding stem | Base |
|----------|-------------------------|----------------|
| 6866-150 | Ø8mm | flatness 2.5µm |

GRANITE COMPARATOR STAND



6867-250

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



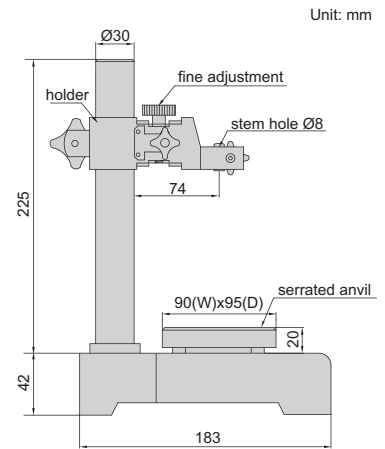
| Code | Applicable holding stem | Base |
|----------|-------------------------|----------------|
| 6867-250 | Ø8mm | flatness 2.8µm |

DIAL GAGE STAND



6863-150

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



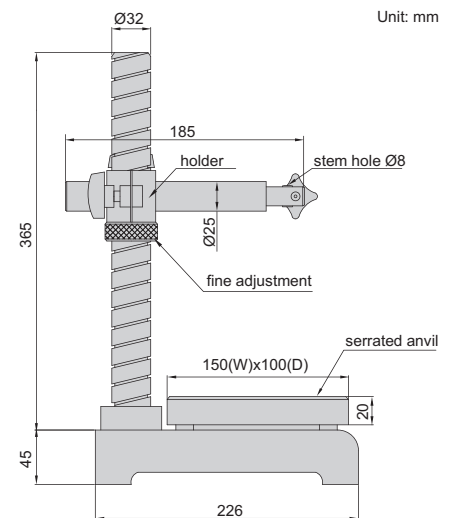
| Code | Applicable holding stem | Anvil |
|----------|-------------------------|--|
| 6863-150 | $\varnothing 8$ mm | serrated, flatness $1.5\mu\text{m}$, hardness HRC60 ± 2 |

COMPARATOR STAND



6864-250

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



| Code | Applicable holding stem | Anvil |
|----------|-------------------------|--|
| 6864-250 | $\varnothing 8$ mm | serrated, flatness $1.5\mu\text{m}$, hardness HRC60 ± 2 |

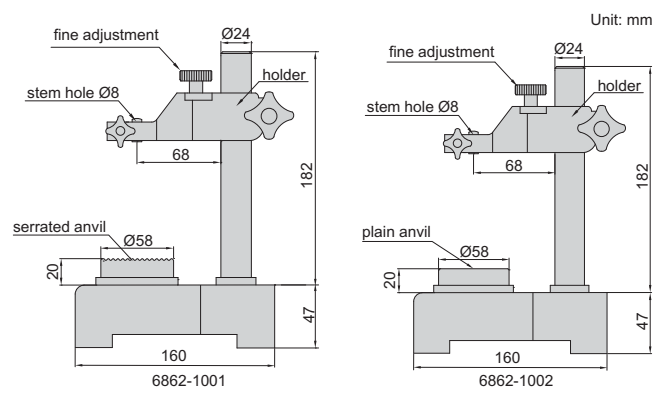
DIAL GAGE STAND



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 |

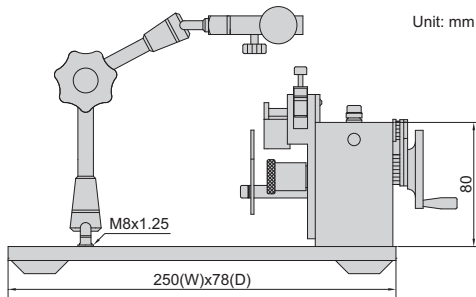
CONCENTRICITY GAGE



4789-1

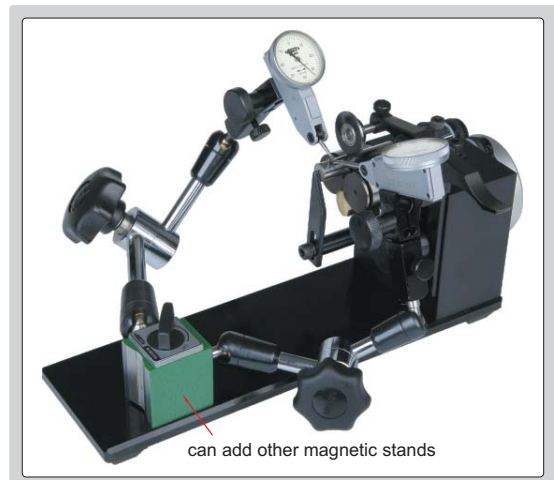


4789-3



- 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 |



RELATIVE PRODUCT:
SINE BAR
(CODE 4156-)

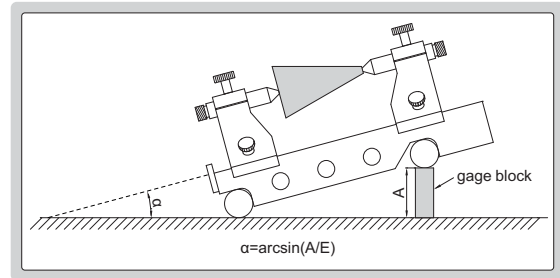
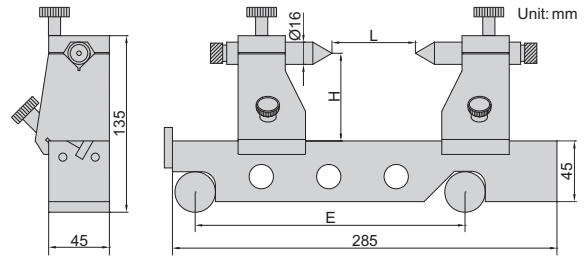


4157-200

- Check taper or runout of taper bars
- Sine bar accuracy ($\alpha=30^\circ$): ± 5 seconds

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

SINE BENCH CENTER

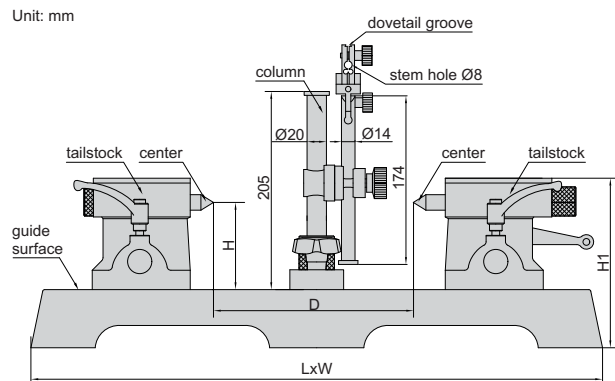


4788-300

- Hardened cast-iron guide surface
- Movable column

BENCH CENTER

HIGH
PRECISION



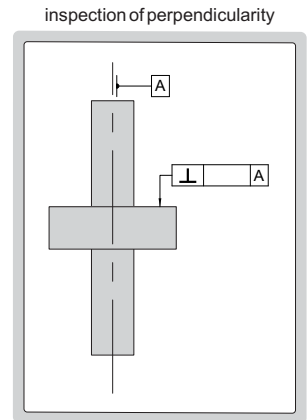
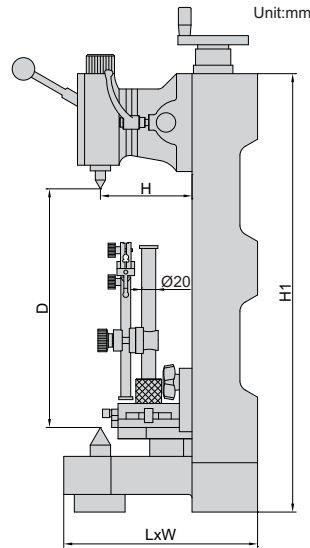
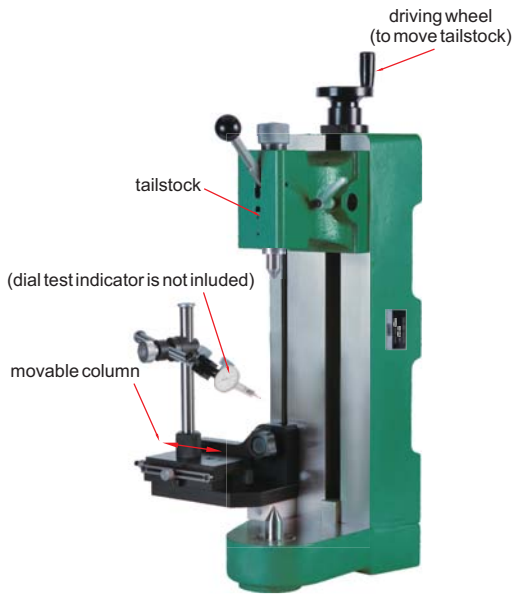
(mm)

| Code | Accuracy* | Center height (H) | Distance between two centers(D) | Length (L) | Width (W) | Height (H1) | Taper of center | Weight |
|-------------|-----------|-------------------|---------------------------------|------------|-----------|-------------|-----------------|--------|
| 4788-300 | 0.01mm | 90 | 300 | 590 | 192 | 175 | MT1 | 34kg |
| 4788-400 | 0.01mm | 130 | 400 | 770 | 206 | 241 | MT2 | 66kg |
| 4788-600 | 0.01mm | 130 | 600 | 930 | 220 | 250 | MT2 | 90kg |
| 4788-600H2 | 0.01mm | 200 | 600 | 930 | 220 | 325 | MT2 | 105kg |
| 4788-1000 | 0.01mm | 130 | 1000 | 1330 | 220 | 262 | MT2 | 112kg |
| 4788-1000H2 | 0.01mm | 200 | 1000 | 1330 | 220 | 337 | MT2 | 125kg |
| 4788-1000H3 | 0.01mm | 300 | 1000 | 1330 | 220 | 442 | MT2 | 165kg |

* The accuracy is the parallelism of the line between two centers to the guide surface

VERTICAL AND HORIZONTAL CENTER BENCH

HIGH PRECISION



4783-380

- For vertical and horizontal use
- Move tailstock via driving wheel
- To check perpendicularity after cablibrated

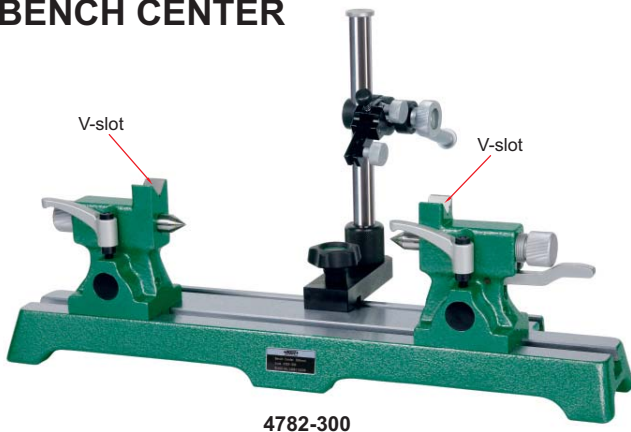
(mm)

| Code | Accuracy* | Center height (H) | Distance between two centers(D) | Length (L) | Width (W) | Height (H1) | Taper of upper center | Taper of lower center | Weight |
|----------|-----------|-------------------|---------------------------------|------------|-----------|-------------|-----------------------|-----------------------|--------|
| 4783-380 | 0.01mm | 130 | 380 | 275 | 198 | 622 | MT2 | MT3 | 80kg |

* The accuracy is the parallelism of the line between two centers to the guide surface

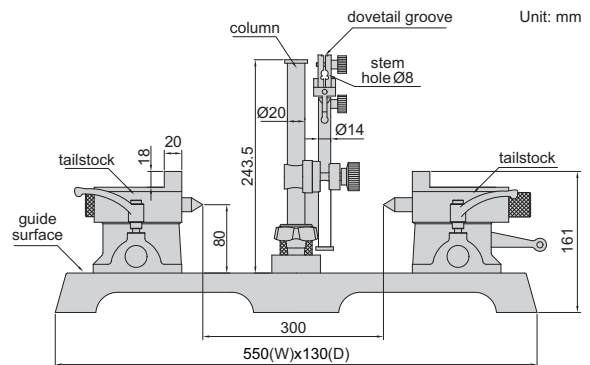
BENCH CENTER

V-SLOT FOR CYLINDER Ø5-Ø33MM



4782-300

- Hardened cast-iron guide surface
- Movable column



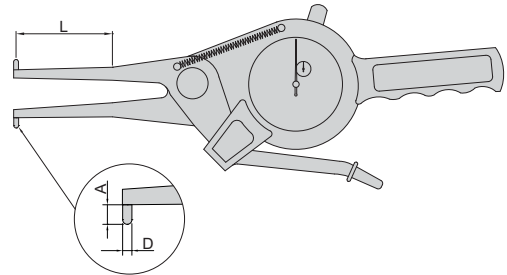
(mm)

| Code | Accuracy | Center height | Distance between two centers | Taper of center |
|----------|----------|---------------|------------------------------|-----------------|
| 4782-300 | 0.025mm | 80 | 300 | MT1 |

INTERNAL DIAL CALIPER GAGE

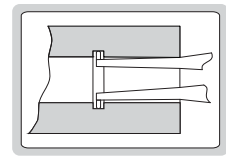


2321-35



(mm)

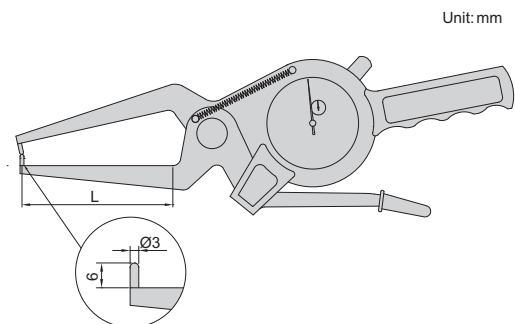
| Code | Range | Graduation | Accuracy | L | A | D |
|-----------|-----------|------------|----------|-----|----|------|
| 2321-35 | 15-35mm | 0.01mm | ±0.04mm | 50 | 3 | Ø3 |
| 2321-AL35 | 15-35mm | 0.01mm | ±0.04mm | 200 | 3 | Ø3 |
| 2321-55 | 35-55mm | 0.01mm | ±0.04mm | 80 | 6 | Ø3 |
| 2321-AL55 | 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 |



EXTERNAL DIAL CALIPER GAGE

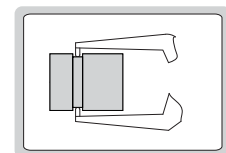


2332-20



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 |

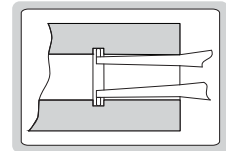
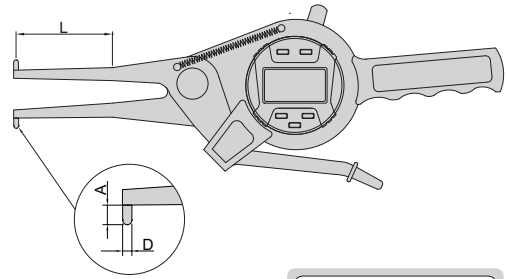


DIGITAL INTERNAL CALIPER GAGE

DATA
OUTPUT



2151-35



| Code | Range | Resolution | Accuracy | L | A | D |
|-----------|--------------------|----------------|----------|-----|----|------|
| 2151-35 | 15-35mm/0.6-1.4" | 0.01mm/0.0005" | ±0.04mm | 50 | 3 | ∅3 |
| 2151-AL35 | 15-35mm/0.6-1.4" | 0.01mm/0.0005" | ±0.04mm | 200 | 3 | ∅3 |
| 2151-55 | 35-55mm/1.4-2.2" | 0.01mm/0.0005" | ±0.04mm | 80 | 6 | ∅3 |
| 2151-AL55 | 35-55mm/1.4-2.2" | 0.01mm/0.0005" | ±0.04mm | 250 | 8 | ∅3 |
| 2151-75 | 55-75mm/2.2-3" | 0.01mm/0.0005" | ±0.04mm | 90 | 8 | ∅3 |
| 2151-AL75 | 55-75mm/2.2-3" | 0.01mm/0.0005" | ±0.04mm | 250 | 8 | ∅3 |
| 2151-95 | 75-95mm/3-3.8" | 0.01mm/0.0005" | ±0.04mm | 100 | 8 | ∅3 |
| 2151-115 | 95-115mm/3.8-4.6" | 0.01mm/0.0005" | ±0.04mm | 120 | 10 | ∅3.2 |
| 2151-135 | 115-135mm/4.6-5.4" | 0.01mm/0.0005" | ±0.04mm | 120 | 10 | ∅3.2 |

(mm)

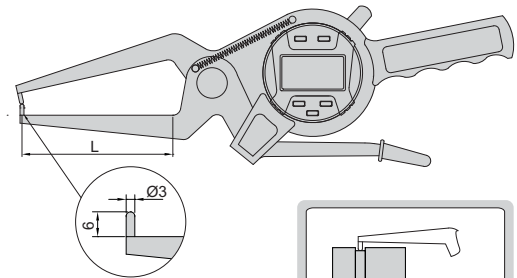
- Reading in digit and analog
- Display can be rotated by 320°
- Button function: tolerance Go and No-Go display, data preset, measuring direction change, max./min./range measurement, inch/metric conversion, absolute/incremental measurement
- CR2032 battery, automatic power off
- Data output
- Optional accessory: data output system

DIGITAL EXTERNAL CALIPER GAGE

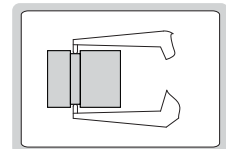
DATA
OUTPUT



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 |

- 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./range measurement, inch/metric conversion, absolute/incremental measurement
- CR2032 battery, automatic power off
- Data output
- Optional accessory: data output system

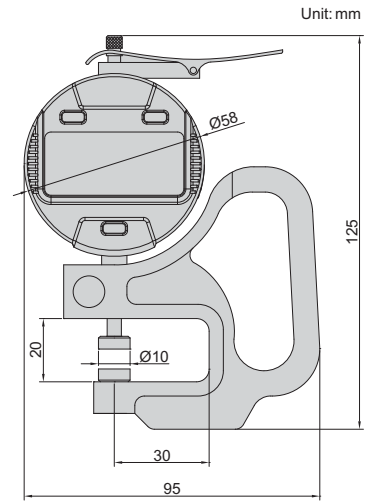
DATA
OUTPUT

DIGITAL THICKNESS GAGE



2871-101

- Ceramic spindle tip and anvil
- Buttons: on/off, zero, mm/inch
- Battery CR2032, automatic power off
- Data output
- Optional accessory: data output system



| 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 |

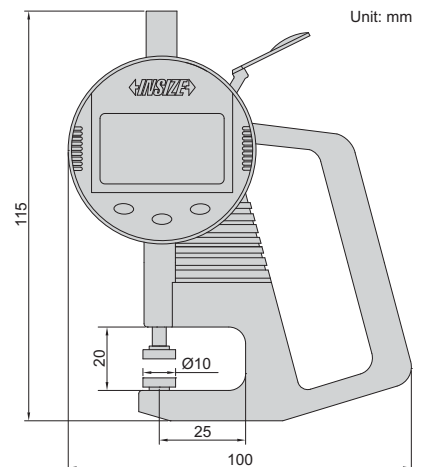
DIGITAL THICKNESS GAGE



2867-10

- Ceramic spindle tip and anvil
- CR2032 battery

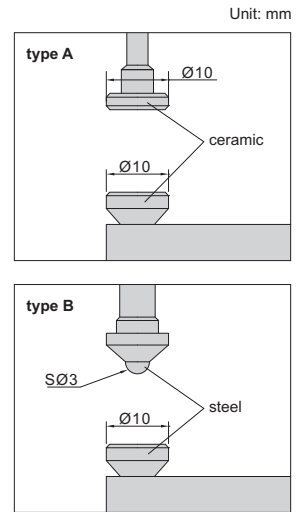
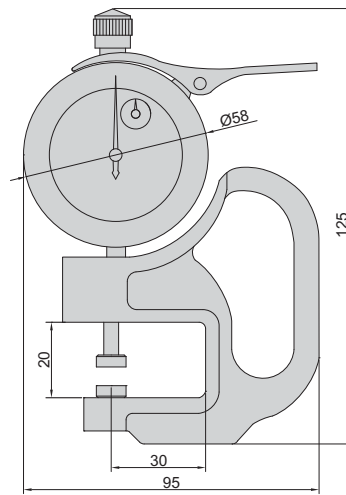
| Code | Range | Resolution | Accuracy |
|---------|-------------|----------------|----------|
| 2867-10 | 0-10mm/0.4" | 0.01mm/0.0005" | ±0.02mm |



THICKNESS GAGE



2364-10

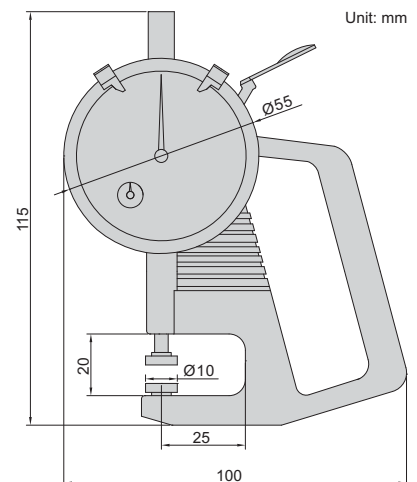


| Code | Range | Graduation | Accuracy | Type |
|----------|--------|------------|----------|------|
| 2364-10 | 0-10mm | 0.01mm | ±0.02mm | A |
| 2364-10B | 0-10mm | 0.01mm | ±0.02mm | B |

THICKNESS GAGE



2861-10



- Ceramic spindle tip and anvil

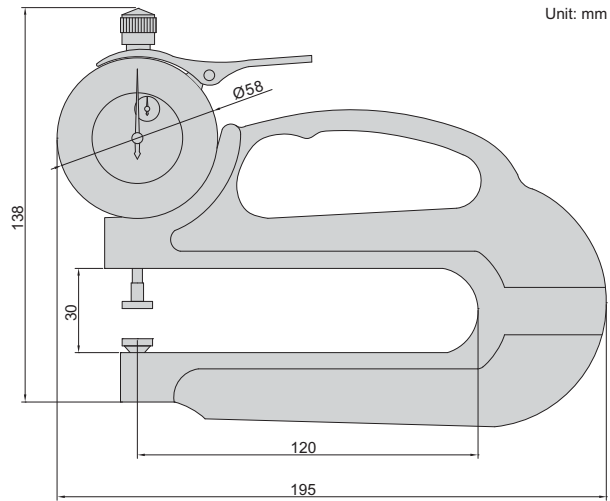
| Code | Range | Graduation | Accuracy |
|---------|--------|------------|----------|
| 2861-10 | 0-10mm | 0.01mm | ±0.02mm |

THICKNESS GAGE

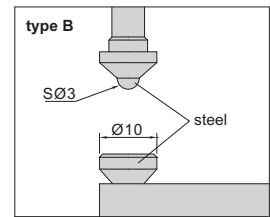
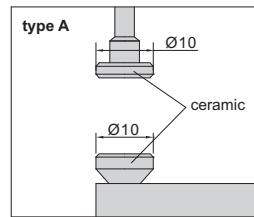
Unit: mm



2365-10



| 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 |

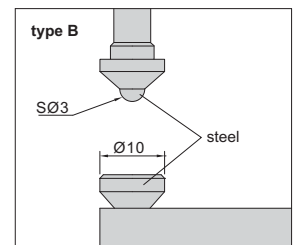
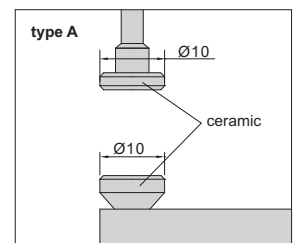
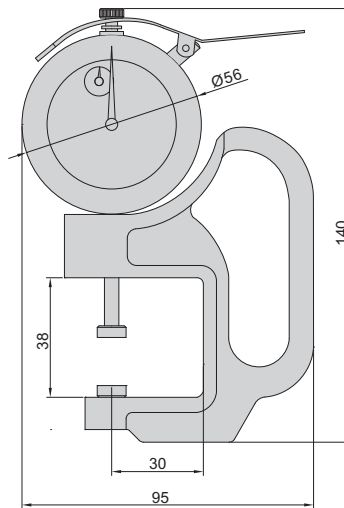


THICKNESS GAGE

Unit: mm

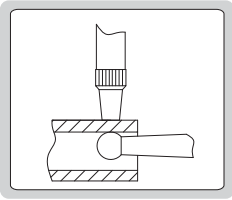


2366-30



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

TUBE THICKNESS GAGE

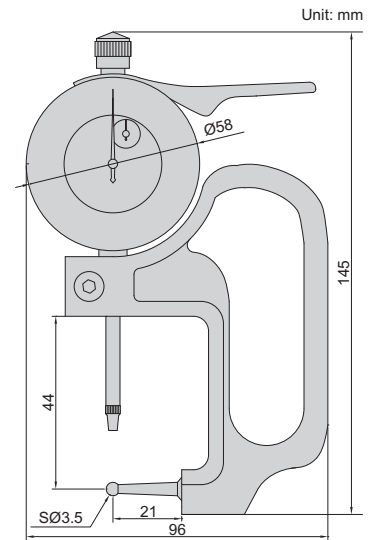


- Measure tube wall thickness

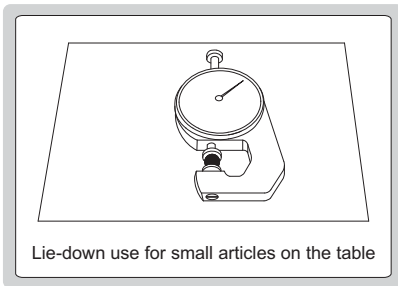
| Code | Range | Graduation | Accuracy |
|----------|--------|------------|----------|
| 2367-10A | 0-10mm | 0.01mm | ±0.02mm |



2367-10A



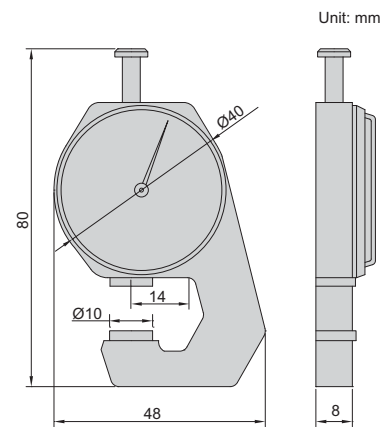
THICKNESS GAGE



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



2361-10



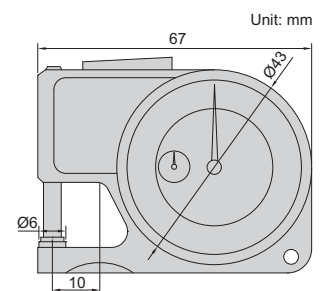
THICKNESS GAGE

- Stainless steel spindle tip and anvil

| Code | Range | Graduation | Accuracy |
|---------|--------|------------|----------|
| 2363-10 | 0-10mm | 0.01mm | ±0.02mm |



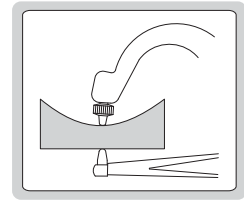
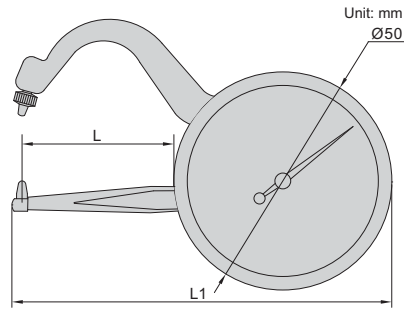
2363-10



THICKNESS GAGE



2862-101

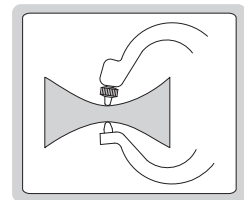
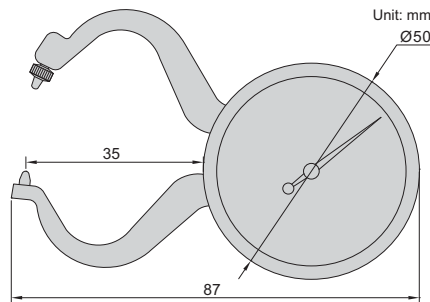


| Code | Range | Graduation | Accuracy | L | L1 |
|----------|--------|------------|----------|----|-----|
| 2862-101 | 0-10mm | 0.05mm | ±0.1mm | 35 | 85 |
| 2862-102 | 0-10mm | 0.05mm | ±0.1mm | 60 | 110 |

THICKNESS GAGE



2863-10

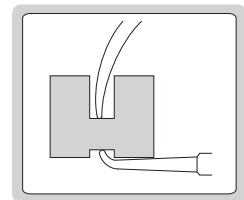
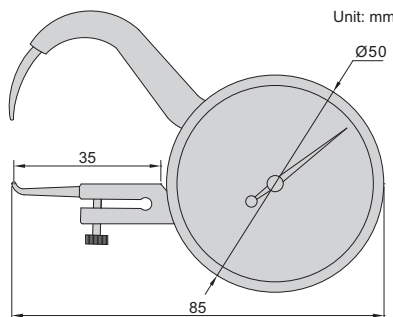


| Code | Range | Graduation | Accuracy |
|---------|--------|------------|----------|
| 2863-10 | 0-10mm | 0.05mm | ±0.1mm |

THICKNESS GAGE WITH POINTED TIPS



2866-10

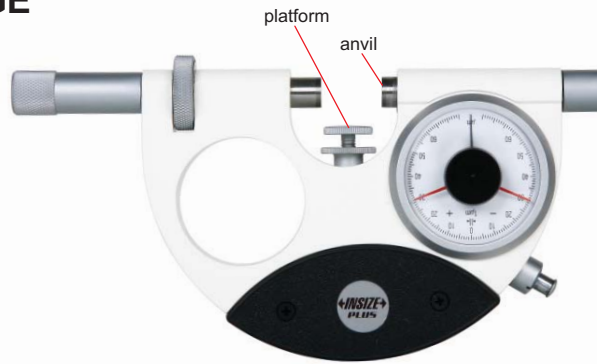


| Code | Range | Graduation | Accuracy |
|---------|--------|------------|----------|
| 2866-10 | 0-10mm | 0.05mm | ±0.1mm |

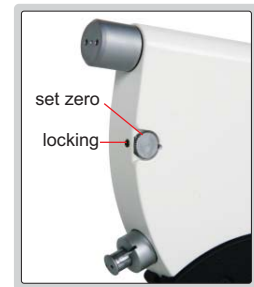
- Pointed tips fit into small grooves and recesses

DIAL SNAP GAGE

IP54
WATERPROOF

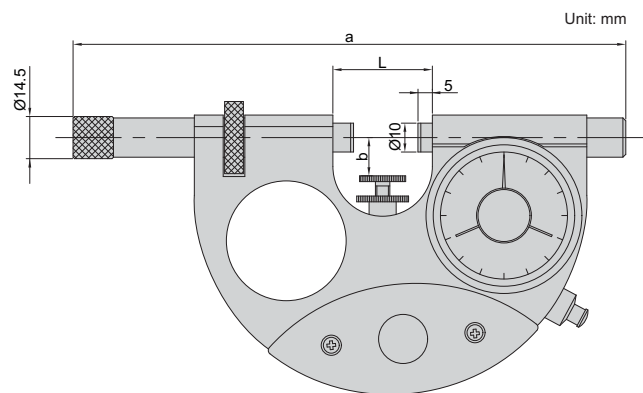


3335-25

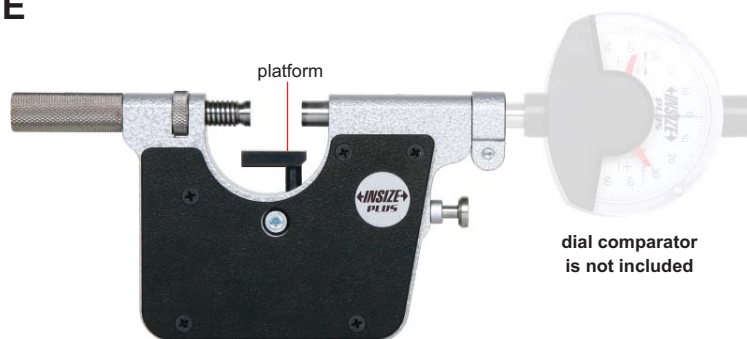


- Quick Go/No-Go measurement for mass production
- Anvil retracting stroke: 2.5mm
- Dial indicator: measuring range $\pm 0.07\text{mm}$, graduation $1\mu\text{m}$, accuracy $1\mu\text{m}$
- Constant measuring force over the whole range: 8.5N
- Carbide measuring faces
- IP54 dust/waterproof
- Zero position of dial indicator is adjustable and can be locked (supplied with locking wrench)
- Adjustable platform height

| (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 |



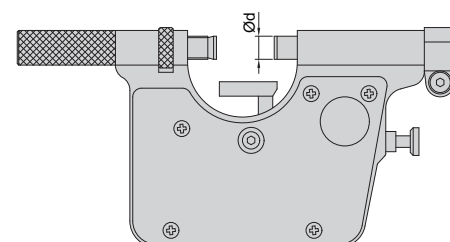
DIAL SNAP GAGE



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($\varnothing d$) |
| 3336-25 | 0-25mm | 8 |
| 3336-50 | 25-50mm | 8 |
| 3336-100 | 50-100mm | 15 |



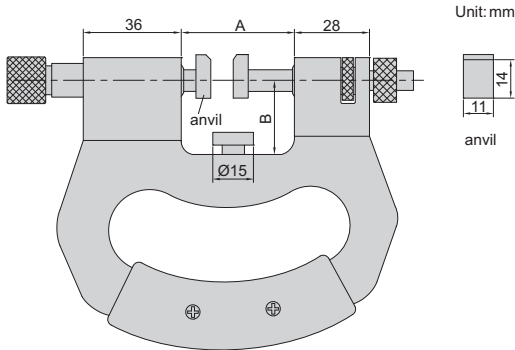
DIAL SNAP GAGE

NOT SUITABLE FOR
0.001MM INDICATORS



dial indicator is
not included

2185-25W



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

(mm)

| Code | Range | A | B |
|-----------|-----------|-----|------|
| 2185-25W | 0-25mm | 42 | 20 |
| 2185-50W | 25-50mm | 69 | 32.5 |
| 2185-75W | 50-75mm | 94 | 45 |
| 2185-100W | 75-100mm | 119 | 57.5 |
| 2185-125W | 100-125mm | 144 | 70 |
| 2185-150W | 125-150mm | 169 | 82.5 |
| 2185-175W | 150-175mm | 194 | 95 |
| 2185-200W | 175-200mm | 219 | 107 |
| 2185-225W | 200-225mm | 244 | 120 |
| 2185-250W | 225-250mm | 269 | 132 |
| 2185-275W | 250-275mm | 294 | 145 |
| 2185-300W | 275-300mm | 319 | 157 |

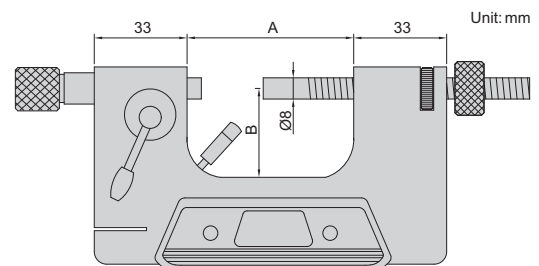
DIAL SNAP GAGE

NOT SUITABLE FOR
0.001MM INDICATORS



dial indicator
is not included

2184-50W



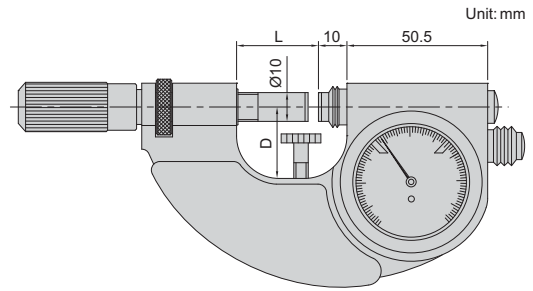
(mm)

| 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")

DIAL SNAP GAGE

IP54
WATERPROOF



3334-25

(mm)

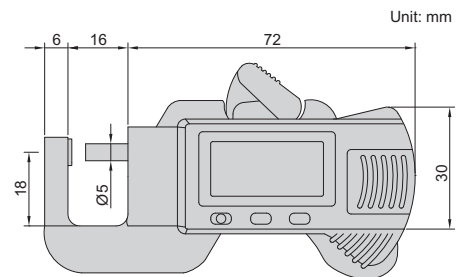
| Code | Range | L | D |
|----------|----------|-------|------|
| 3334-25 | 0-25mm | 28.5 | 25 |
| 3334-50 | 25-50mm | 53.5 | 35 |
| 3334-75 | 50-75mm | 78.5 | 47.5 |
| 3334-100 | 75-100mm | 103.5 | 60 |

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

DIGITAL SNAP GAGE



2166-12

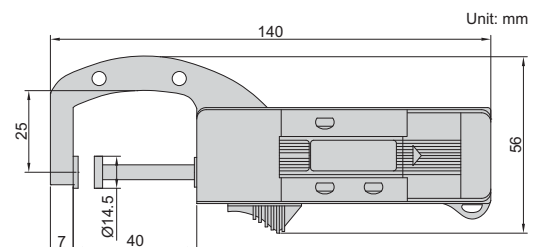


| Code | Range | Resolution | Accuracy |
|---------|---------------|----------------|---------------------|
| 2166-12 | 0-12mm/0-0.5" | 0.01mm/0.0005" | $\pm 0.03\text{mm}$ |

DIGITAL SNAP GAGE



2167-25



| Code | Range | Resolution | Accuracy |
|---------|-------------|----------------|---------------------|
| 2167-25 | 0-25mm/0-1" | 0.01mm/0.0005" | $\pm 0.03\text{mm}$ |

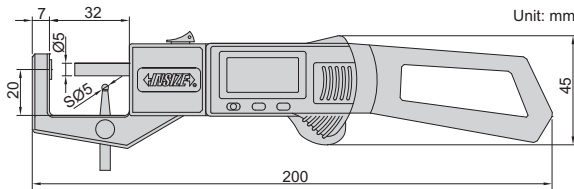
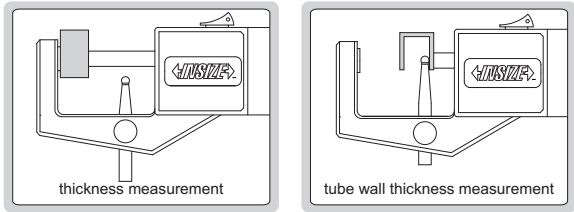
DIGITAL SNAP GAGE



2163-25

- Resolution: 0.01mm/0.0005"
- Accuracy: ± 0.04 mm
- For thickness and tube wall thickness measurement

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

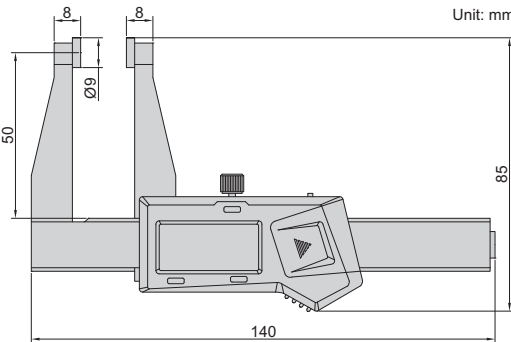


DIGITAL SNAP GAGE



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 system



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

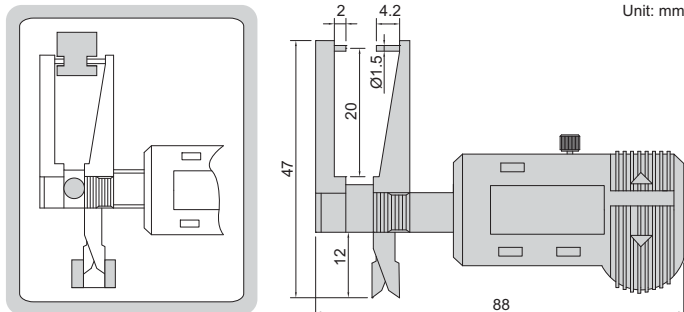
DIGITAL 3-PURPOSE SNAP GAGE



2164-25

- Buttons: zero, mm/inch, on/off
- Battery SR44 or LR44
- Made of stainless steel

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



STEP AND GAP GAGE

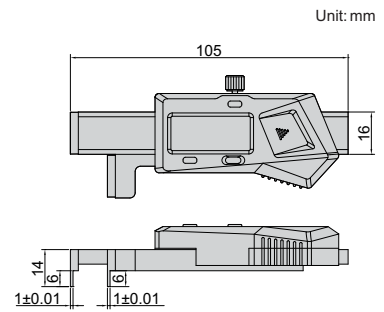


front



back

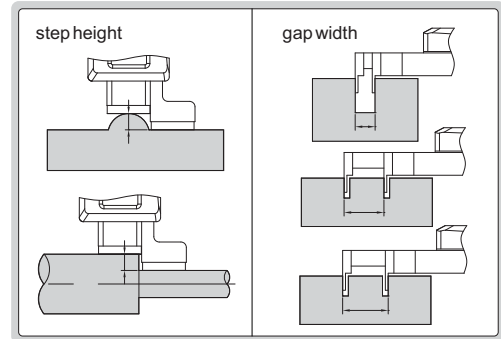
DATA OUTPUT



- 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 system

2168-12

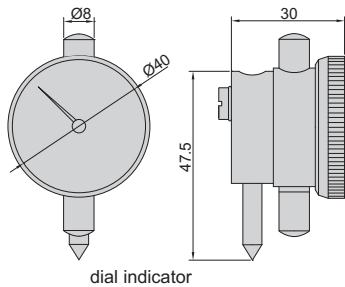
zero setting block



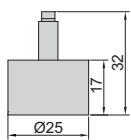
| Code | Range | Accuracy |
|---------|-----------------|----------|
| 2168-12 | 0-12.7mm/0-0.5" | ±0.03mm |

CRANKSHAFT TESTER

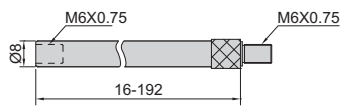
Unit: mm



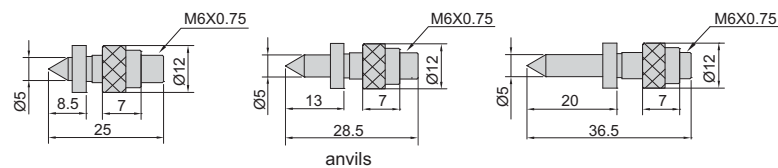
dial indicator



balance block



extension rods

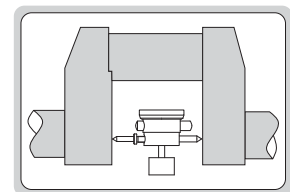


anvils



2841-500

- To test crankshaft deflection
- The balance block is mounted on the back of dial indicator to keep the dial indicator facing up



| Code | Range | Dial indicator range | Graduation | Extension rods | Accuracy |
|----------|----------|----------------------|------------|--------------------------------------|----------|
| 2841-300 | 60-300mm | 3mm | 0.01mm | 16mm, 32mm, 64mm, 128mm | ±0.016mm |
| 2841-500 | 60-500mm | 3mm | 0.01mm | 16mm, 32mm, 64mm, 96mm, 128mm, 192mm | ±0.016mm |

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

CERTIFICATE OF INSPECTION


CODE: 4100-32
GRADE: 0

GUAGE 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 | 108950 | +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



4105-87

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

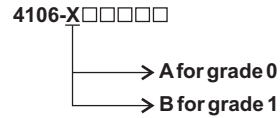
| Blocks per set | Blocks included in set | | | Code | |
|----------------|------------------------|-----------|----------|----------|-----------|
| | Size (mm) | Step (mm) | Quantity | Grade 0 | Grade 1 |
| 47 | 1.005 | | 1 | 4105-47A | 4105-147A |
| | 1.01-1.09 | 0.01 | 9 | | |
| | 1.1-1.9 | 0.1 | 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 | | |
| 32 | 10 | | 1 | 4105-32 | 4105-132 |
| | 1.005 | | 1 | | |
| | 1.01-1.09 | 0.01 | 9 | | |
| | 1.1-1.9 | 0.1 | 9 | | |
| | 1-9 | 1 | 9 | | |
| | 10-30 | 10 | 3 | | |
| 8 | 50 | | 1 | 4105-8 | 4105-18 |
| | 125-175 | 25 | 3 | | |
| | 200-250 | 50 | 2 | | |
| | 300-500 | 100 | 3 | | |

INDIVIDUAL CERAMIC GAGE BLOCK



4106-A80

Code explanation:



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 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 |

STEEL GAGE BLOCK SET



4100-87

- Made of alloy steel
- Meet ISO3650
- Supplied with 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 | | | |

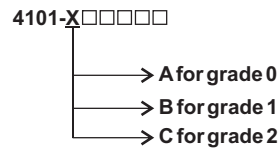
INDIVIDUAL STEEL GAGE BLOCK



4101-A70

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

Code explanation:



Code examples:

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

| Size | Code |
|--------|--------------------|
| 0.5mm | 4101- <u>X</u> D5 |
| 0.51mm | 4101- <u>X</u> D51 |
| 0.52mm | 4101- <u>X</u> D52 |
| 0.53mm | 4101- <u>X</u> D53 |
| 0.54mm | 4101- <u>X</u> D54 |
| 0.55mm | 4101- <u>X</u> D55 |
| 0.56mm | 4101- <u>X</u> D56 |
| 0.57mm | 4101- <u>X</u> D57 |
| 0.58mm | 4101- <u>X</u> D58 |
| 0.59mm | 4101- <u>X</u> D59 |
| 0.6mm | 4101- <u>X</u> D6 |
| 0.61mm | 4101- <u>X</u> D61 |
| 0.62mm | 4101- <u>X</u> D62 |
| 0.63mm | 4101- <u>X</u> D63 |
| 0.64mm | 4101- <u>X</u> D64 |
| 0.65mm | 4101- <u>X</u> D65 |
| 0.66mm | 4101- <u>X</u> D66 |
| 0.67mm | 4101- <u>X</u> D67 |
| 0.68mm | 4101- <u>X</u> D68 |
| 0.69mm | 4101- <u>X</u> D69 |
| 0.7mm | 4101- <u>X</u> D7 |
| 0.71mm | 4101- <u>X</u> D71 |
| 0.72mm | 4101- <u>X</u> D72 |
| 0.73mm | 4101- <u>X</u> D73 |

| Size | Code |
|--------|--------------------|
| 0.74mm | 4101- <u>X</u> D74 |
| 0.75mm | 4101- <u>X</u> D75 |
| 0.76mm | 4101- <u>X</u> D76 |
| 0.77mm | 4101- <u>X</u> D77 |
| 0.78mm | 4101- <u>X</u> D78 |
| 0.79mm | 4101- <u>X</u> D79 |
| 0.8mm | 4101- <u>X</u> D8 |
| 0.81mm | 4101- <u>X</u> D81 |
| 0.82mm | 4101- <u>X</u> D82 |
| 0.83mm | 4101- <u>X</u> D83 |
| 0.84mm | 4101- <u>X</u> D84 |
| 0.85mm | 4101- <u>X</u> D85 |
| 0.86mm | 4101- <u>X</u> D86 |
| 0.87mm | 4101- <u>X</u> D87 |
| 0.88mm | 4101- <u>X</u> D88 |
| 0.89mm | 4101- <u>X</u> D89 |
| 0.9mm | 4101- <u>X</u> D9 |
| 0.91mm | 4101- <u>X</u> D91 |
| 0.92mm | 4101- <u>X</u> D92 |
| 0.93mm | 4101- <u>X</u> D93 |
| 0.94mm | 4101- <u>X</u> D94 |
| 0.95mm | 4101- <u>X</u> D95 |
| 0.96mm | 4101- <u>X</u> D96 |
| 0.97mm | 4101- <u>X</u> D97 |

| Size | Code |
|----------|-----------------------|
| 0.98mm | 4101- <u>X</u> D98 |
| 0.99mm | 4101- <u>X</u> D99 |
| 0.991mm | 4101- <u>X</u> D991 |
| 0.992mm | 4101- <u>X</u> D992 |
| 0.993mm | 4101- <u>X</u> D993 |
| 0.994mm | 4101- <u>X</u> D994 |
| 0.995mm | 4101- <u>X</u> D995 |
| 0.996mm | 4101- <u>X</u> D996 |
| 0.997mm | 4101- <u>X</u> D997 |
| 0.998mm | 4101- <u>X</u> D998 |
| 0.999mm | 4101- <u>X</u> D999 |
| 1mm | 4101- <u>X</u> 1 |
| 1.0005mm | 4101- <u>X</u> 1D0005 |
| 1.001mm | 4101- <u>X</u> 1D001 |
| 1.002mm | 4101- <u>X</u> 1D002 |
| 1.003mm | 4101- <u>X</u> 1D003 |
| 1.004mm | 4101- <u>X</u> 1D004 |
| 1.005mm | 4101- <u>X</u> 1D005 |
| 1.006mm | 4101- <u>X</u> 1D006 |
| 1.007mm | 4101- <u>X</u> 1D007 |
| 1.008mm | 4101- <u>X</u> 1D008 |
| 1.009mm | 4101- <u>X</u> 1D009 |
| 1.01mm | 4101- <u>X</u> 1D01 |
| 1.02mm | 4101- <u>X</u> 1D02 |

| Size | Code |
|--------|---------------------|
| 1.03mm | 4101- <u>X</u> 1D03 |
| 1.04mm | 4101- <u>X</u> 1D04 |
| 1.05mm | 4101- <u>X</u> 1D05 |
| 1.06mm | 4101- <u>X</u> 1D06 |
| 1.07mm | 4101- <u>X</u> 1D07 |
| 1.08mm | 4101- <u>X</u> 1D08 |
| 1.09mm | 4101- <u>X</u> 1D09 |
| 1.1mm | 4101- <u>X</u> 1D1 |
| 1.11mm | 4101- <u>X</u> 1D11 |
| 1.12mm | 4101- <u>X</u> 1D12 |
| 1.13mm | 4101- <u>X</u> 1D13 |
| 1.14mm | 4101- <u>X</u> 1D14 |
| 1.15mm | 4101- <u>X</u> 1D15 |
| 1.16mm | 4101- <u>X</u> 1D16 |
| 1.17mm | 4101- <u>X</u> 1D17 |
| 1.18mm | 4101- <u>X</u> 1D18 |
| 1.19mm | 4101- <u>X</u> 1D19 |
| 1.2mm | 4101- <u>X</u> 1D2 |
| 1.21mm | 4101- <u>X</u> 1D21 |
| 1.22mm | 4101- <u>X</u> 1D22 |
| 1.23mm | 4101- <u>X</u> 1D23 |
| 1.24mm | 4101- <u>X</u> 1D24 |
| 1.25mm | 4101- <u>X</u> 1D25 |
| 1.26mm | 4101- <u>X</u> 1D26 |

To be continued

Continued from previous page

| Size | Code |
|----------|--------------|
| 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 |
| 2.0005mm | 4101-X2D0005 |
| 2.001mm | 4101-X2D001 |
| 2.002mm | 4101-X2D002 |
| 2.003mm | 4101-X2D003 |
| 2.004mm | 4101-X2D004 |
| 2.005mm | 4101-X2D005 |
| 2.006mm | 4101-X2D006 |
| 2.007mm | 4101-X2D007 |
| 2.008mm | 4101-X2D008 |
| 2.009mm | 4101-X2D009 |
| 2.01mm | 4101-X2D01 |
| 2.02mm | 4101-X2D02 |
| 2.03mm | 4101-X2D03 |
| 2.04mm | 4101-X2D04 |
| 2.05mm | 4101-X2D05 |

| Size | Code |
|--------|------------|
| 2.06mm | 4101-X2D06 |
| 2.07mm | 4101-X2D07 |
| 2.08mm | 4101-X2D08 |
| 2.09mm | 4101-X2D09 |
| 2.1mm | 4101-X2D1 |
| 2.11mm | 4101-X2D11 |
| 2.12mm | 4101-X2D12 |
| 2.13mm | 4101-X2D13 |
| 2.14mm | 4101-X2D14 |
| 2.15mm | 4101-X2D15 |
| 2.16mm | 4101-X2D16 |
| 2.17mm | 4101-X2D17 |
| 2.18mm | 4101-X2D18 |
| 2.19mm | 4101-X2D19 |
| 2.2mm | 4101-X2D2 |
| 2.21mm | 4101-X2D21 |
| 2.22mm | 4101-X2D22 |
| 2.23mm | 4101-X2D23 |
| 2.24mm | 4101-X2D24 |
| 2.25mm | 4101-X2D25 |
| 2.26mm | 4101-X2D26 |
| 2.27mm | 4101-X2D27 |
| 2.28mm | 4101-X2D28 |
| 2.29mm | 4101-X2D29 |
| 2.3mm | 4101-X2D3 |
| 2.31mm | 4101-X2D31 |
| 2.32mm | 4101-X2D32 |
| 2.33mm | 4101-X2D33 |
| 2.34mm | 4101-X2D34 |
| 2.35mm | 4101-X2D35 |
| 2.36mm | 4101-X2D36 |
| 2.37mm | 4101-X2D37 |
| 2.38mm | 4101-X2D38 |
| 2.39mm | 4101-X2D39 |
| 2.4mm | 4101-X2D4 |
| 2.41mm | 4101-X2D41 |
| 2.42mm | 4101-X2D42 |
| 2.43mm | 4101-X2D43 |
| 2.44mm | 4101-X2D44 |
| 2.45mm | 4101-X2D45 |
| 2.46mm | 4101-X2D46 |
| 2.47mm | 4101-X2D47 |
| 2.48mm | 4101-X2D48 |
| 2.49mm | 4101-X2D49 |

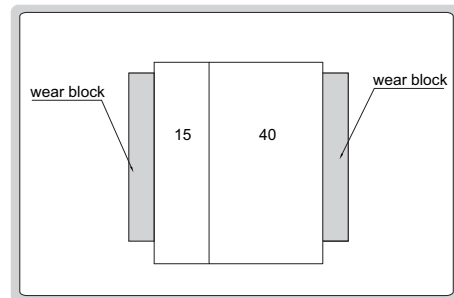
| Size | Code |
|--------|------------|
| 2.5mm | 4101-X2D5 |
| 2.6mm | 4101-X2D6 |
| 2.7mm | 4101-X2D7 |
| 2.8mm | 4101-X2D8 |
| 2.9mm | 4101-X2D9 |
| 3mm | 4101-X3 |
| 3.5mm | 4101-X3D5 |
| 4mm | 4101-X4 |
| 4.5mm | 4101-X4D5 |
| 5mm | 4101-X5 |
| 5.1mm | 4101-X5D1 |
| 5.5mm | 4101-X5D5 |
| 6mm | 4101-X6 |
| 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 |

| Size | Code |
|---------|-------------|
| 20mm | 4101-X20 |
| 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 |
| 25.25mm | 4101-X25D25 |
| 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 inspection certificate

MICROMETER INSPECTION GAGE BLOCK SET



4107-10

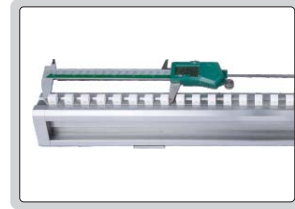
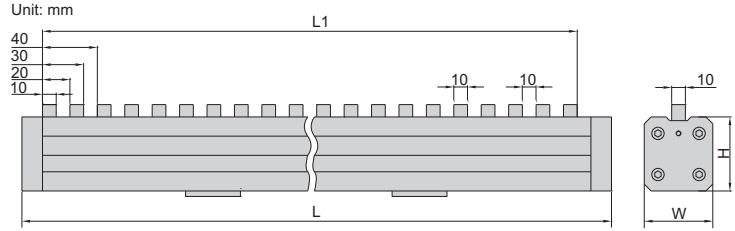
- One piece of optical parallel in each set
- Meet ISO3650/grade 0

| Code | Material | Blocks and parallel included in set | Applicable micrometer |
|----------|-------------|---|-----------------------|
| 4107-10 | ceramic | 2.5mm, 5.1mm, 7.7mm, 10.3mm, 12.9mm, 15mm, 17.6mm, 20.2mm, 22.8mm, 25mm, optical parallel | 0-25mm |
| 4107-101 | alloy steel | 2.5mm, 5.1mm, 7.7mm, 10.3mm, 12.9mm, 15mm, 17.6mm, 20.2mm, 22.8mm, 25mm, optical parallel | 0-25mm |

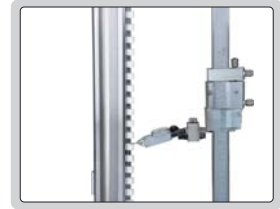
CHECK MASTER



6882-600A



horizontal orientation



vertical orientation

- 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 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 |

| 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 |

ANGLE GAGE BLOCK SET



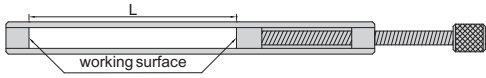
4109-7A

- Standard for angle measurement
- Accuracy ±10"

GAGE BLOCK ACCESSORY



6881-A3

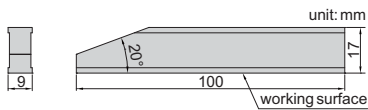


| Code | Name | Clamping range* (L) |
|---------|--------|---------------------|
| 6881-A1 | holder | 0-25mm |
| 6881-A2 | holder | 25-50mm |
| 6881-A3 | holder | 50-100mm |
| 6881-A4 | holder | 100-200mm |
| 6881-A5 | holder | 200-300mm |
| 6881-A6 | holder | 300-500mm |

* The actual clamping range should deduct the width of jaws



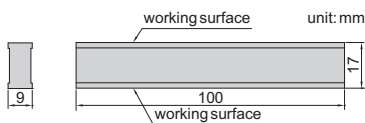
6881-C



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



6881-D

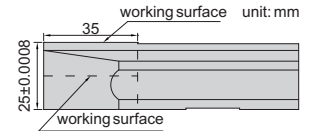


| Code | Name | Remark |
|--------|--------------|-----------------|
| 6881-D | parallel jaw | made of carbide |

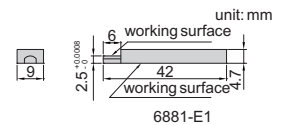


6881-B

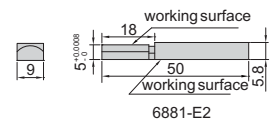
| Code | Name |
|--------|------|
| 6881-B | base |



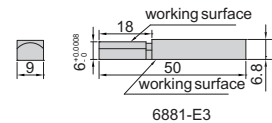
6881-E2



6881-E1



6881-E2

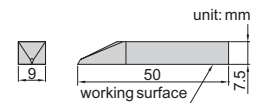


6881-E3

| 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 |



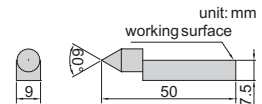
6881-F



| 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, 0-50mm (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 |

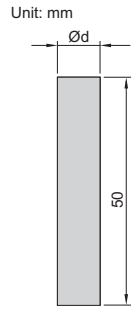


6881-S17

application

| | |
|--|--|
| <p>(plain jaw+holder) set zero</p> | <p>(base+holder+scriber) measure height or scribe</p> |
| <p>(half round jaw+holder) measure size A</p> | <p>(plain jaw+parallel jaw+holder) Go and No Go inspection</p> |
| <p>(half round jaw+holder) measure inside diameter</p> | <p>(scriber+centre point+holder) scribe circle</p> |

PIN GAGE SET



- Made of alloy steel
- Hardness HRC62-65

4166-6D



| Code | Diameter Ød(mm) | Step | Pin gages per set | Diameter accuracy |
|---------|---------------------------|--------|-------------------|-------------------|
| 4166-0D | 0.20, 0.21, 0.22, … 0.50 | 0.01mm | 31 | ±1µm |
| 4166-1 | 0.50, 0.51, 0.52, … 1.00 | 0.01mm | 51 | ±1µm |
| 4166-1D | 1.00, 1.01, 1.02, … 1.50 | 0.01mm | 51 | ±1µm |
| 4166-2 | 1.50, 1.51, 1.52, … 2.00 | 0.01mm | 51 | ±1µm |
| 4166-2D | 2.00, 2.01, 2.02, … 2.50 | 0.01mm | 51 | ±1µm |
| 4166-3 | 2.50, 2.51, 2.52, … 3.00 | 0.01mm | 51 | ±1µm |
| 4166-3D | 3.00, 3.01, 3.02, … 3.50 | 0.01mm | 51 | ±1µm |
| 4166-4 | 3.50, 3.51, 3.52, … 4.00 | 0.01mm | 51 | ±1µm |
| 4166-4D | 4.00, 4.01, 4.02, … 4.50 | 0.01mm | 51 | ±1µm |
| 4166-5 | 4.50, 4.51, 4.52, … 5.00 | 0.01mm | 51 | ±1µm |
| 4166-5D | 5.00, 5.01, 5.02, … 5.50 | 0.01mm | 51 | ±1µm |
| 4166-6 | 5.50, 5.51, 5.52, … 6.00 | 0.01mm | 51 | ±1µm |
| 4166-6D | 6.00, 6.01, 6.02, … 6.50 | 0.01mm | 51 | ±1µm |
| 4166-7 | 6.50, 6.51, 6.52, … 7.00 | 0.01mm | 51 | ±1µm |
| 4166-7D | 7.00, 7.01, 7.02, … 7.50 | 0.01mm | 51 | ±1µm |
| 4166-8 | 7.50, 7.51, 7.52, … 8.00 | 0.01mm | 51 | ±1µm |
| 4166-8D | 8.00, 8.01, 8.02, … 8.50 | 0.01mm | 51 | ±1µm |
| 4166-9 | 8.50, 8.51, 8.52, … 9.00 | 0.01mm | 51 | ±1µm |
| 4166-9D | 9.00, 9.01, 9.02, … 9.50 | 0.01mm | 51 | ±1µm |
| 4166-10 | 9.50, 9.51, 9.52, … 10.00 | 0.01mm | 51 | ±1µm |

| Code | Diameter Ød(mm) | Step | Pin gages per set | Diameter accuracy |
|----------|---------------------------|--------|-------------------|-------------------|
| 4166-2S | 1.00, 1.01, 1.02, … 2.00 | 0.01mm | 101 | ±1µm |
| 4166-3S | 2.00, 2.01, 2.02, … 3.00 | 0.01mm | 101 | ±1µm |
| 4166-4S | 3.00, 3.01, 3.02, … 4.00 | 0.01mm | 101 | ±1µm |
| 4166-5S | 4.00, 4.01, 4.02, … 5.00 | 0.01mm | 101 | ±1µm |
| 4166-6S | 5.00, 5.01, 5.02, … 6.00 | 0.01mm | 101 | ±1µm |
| 4166-7S | 6.00, 6.01, 6.02, … 7.00 | 0.01mm | 101 | ±1µm |
| 4166-8S | 7.00, 7.01, 7.02, … 8.00 | 0.01mm | 101 | ±1µm |
| 4166-9S | 8.00, 8.01, 8.02, … 9.00 | 0.01mm | 101 | ±1µm |
| 4166-10S | 9.00, 9.01, 9.02, … 10.00 | 0.01mm | 101 | ±1µm |

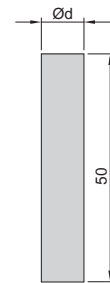
| Code | Diameter Ød(mm) | Step | Pin gages per set | Diameter accuracy |
|----------|-----------------------|-------|-------------------|-------------------|
| 4166-411 | 1.0, 1.1, 1.2, … 5.0 | 0.1mm | 41 | ±1µm |
| 4166-511 | 5.0, 5.1, 5.2, … 10.0 | 0.1mm | 51 | ±1µm |

INDIVIDUAL PIN GAGE



4110-9D98

Unit: mm



- Diameter range: $\varnothing 0.20 - \varnothing 10.00\text{mm}$
- Diameter accuracy: $\pm 1\mu\text{m}$
- Made of alloy steel
- Hardness HRC62-65
- Optional accessory: wooden box

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

Ordering examples:

| Diameter | Code |
|----------|-----------|
| 0.21mm | 4110-0D21 |
| 5.56mm | 4110-5D56 |
| 8.00mm | 4110-8D00 |

Note: "D" stands for "."

| Diameter $\varnothing d$ (mm) |
|------------------------------------|
| 0.20, 0.21, 0.22, 0.23, ..., 1.00 |
| 1.01, 1.02, 1.03, 1.04, ..., 2.00 |
| 2.01, 2.02, 2.03, 2.04, ..., 3.00 |
| 3.01, 3.02, 3.03, 3.04, ..., 4.00 |
| 4.01, 4.02, 4.03, 4.04, ..., 5.00 |
| 5.01, 5.02, 5.03, 5.04, ..., 6.00 |
| 6.01, 6.02, 6.03, 6.04, ..., 7.00 |
| 7.01, 7.02, 7.03, 7.04, ..., 8.00 |
| 8.01, 8.02, 8.03, 8.04, ..., 9.00 |
| 9.01, 9.02, 9.03, 9.04, ..., 10.00 |

BOX FOR PIN GAGES



7340

- For individual pin gages (4110 series)

| Code | Quantity of pin gages |
|----------|-----------------------|
| 7340 | 51pcs |
| 7340-101 | 101pcs |

PLAIN PLUG GAGE

CUSTOM SIZES

OTHER CLASSES ARE AVAILABLE, SUCH AS H6, H8
OTHER DIAMETERS ARE AVAILABLE, SUCH AS 19.003mm
OTHER LENGTHS ARE AVAILABLE, SUCH AS 70mm



4124-10

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

| Code | Diameter Ød (mm) |
|---------|------------------|
| 4124-6 | 6 |
| 4124-7 | 7 |
| 4124-8 | 8 |
| 4124-9 | 9 |
| 4124-10 | 10 |
| 4124-11 | 11 |
| 4124-12 | 12 |
| 4124-13 | 13 |
| 4124-14 | 14 |
| 4124-15 | 15 |
| 4124-16 | 16 |
| 4124-17 | 17 |
| 4124-18 | 18 |
| 4124-19 | 19 |

| Code | Diameter Ød (mm) |
|---------|------------------|
| 4124-20 | 20 |
| 4124-21 | 21 |
| 4124-22 | 22 |
| 4124-23 | 23 |
| 4124-24 | 24 |
| 4124-25 | 25 |
| 4124-26 | 26 |
| 4124-27 | 27 |
| 4124-28 | 28 |
| 4124-29 | 29 |
| 4124-30 | 30 |
| 4124-31 | 31 |
| 4124-32 | 32 |
| 4124-33 | 33 |

| Code | Diameter Ød (mm) |
|---------|------------------|
| 4124-34 | 34 |
| 4124-35 | 35 |
| 4124-36 | 36 |
| 4124-37 | 37 |
| 4124-38 | 38 |
| 4124-39 | 39 |
| 4124-40 | 40 |
| 4124-41 | 41 |
| 4124-42 | 42 |
| 4124-43 | 43 |
| 4124-44 | 44 |
| 4124-45 | 45 |
| 4124-46 | 46 |
| 4124-47 | 47 |

| Code | Diameter Ød (mm) |
|----------|------------------|
| 4124-48 | 48 |
| 4124-49 | 49 |
| 4124-50 | 50 |
| 4124-52 | 52 |
| 4124-55 | 55 |
| 4124-60 | 60 |
| 4124-65 | 65 |
| 4124-70 | 70 |
| 4124-75 | 75 |
| 4124-80 | 80 |
| 4124-85 | 85 |
| 4124-90 | 90 |
| 4124-95 | 95 |
| 4124-100 | 100 |

THREAD PLUG GAGE

BASIC MODEL

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



4130-10

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 |
| 4130-6 | M6x1 |

| Code | Size (mm) |
|---------|-----------|
| 4130-7 | M7x1 |
| 4130-8 | M8x1.25 |
| 4130-9 | M9x1.25 |
| 4130-10 | M10x1.5 |
| 4130-11 | M11x1.5 |
| 4130-12 | M12x1.75 |
| 4130-14 | M14x2 |
| 4130-16 | M16x2 |

| Code | Size (mm) |
|---------|-----------|
| 4130-18 | M18x2.5 |
| 4130-20 | M20x2.5 |
| 4130-22 | M22x2.5 |
| 4130-24 | M24x3 |
| 4130-27 | M27x3 |
| 4130-30 | M30x3.5 |
| 4130-33 | M33x3.5 |
| 4130-36 | M36x4 |

| Code | Size (mm) |
|---------|-----------|
| 4130-39 | M39x4 |
| 4130-42 | M42x4.5 |
| 4130-45 | M45x4.5 |
| 4130-48 | M48x5 |
| 4130-52 | M52x5 |
| 4130-56 | M56x5.5 |
| 4130-60 | M60x5.5 |

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) |



4139-20G

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

| Code | Size (mm) | Code | Size (mm) | Code | Size (mm) | Code | Size (mm) | Code | Size (mm) |
|-----------|-----------|----------|-----------|----------|-----------|----------|-----------|----------|-----------|
| 4139-2B | M2x0.25 | 4139-11L | M11x0.75 | 4139-20L | M20x0.75 | 4139-33L | M33x0.75 | 4139-45X | M45x4 |
| 4139-2D2B | M2.2x0.25 | 4139-11P | M11x1 | 4139-20P | M20x1 | 4139-33P | M33x1 | 4139-48P | M48x1 |
| 4139-2D5D | M2.5x0.35 | 4139-12G | M12x0.5 | 4139-20R | M20x1.5 | 4139-33R | M33x1.5 | 4139-48R | M48x1.5 |
| 4139-3D | M3x0.35 | 4139-12L | M12x0.75 | 4139-20T | M20x2 | 4139-33T | M33x2 | 4139-48T | M48x2 |
| 4139-3D5D | M3.5x0.35 | 4139-12P | M12x1 | 4139-22G | M22x0.5 | 4139-33V | M33x3 | 4139-48V | M48x3 |
| 4139-4G | M4x0.5 | 4139-12Q | M12x1.25 | 4139-22L | M22x0.75 | 4139-36P | M36x1 | 4139-48X | M48x4 |
| 4139-5G | M5x0.5 | 4139-12R | M12x1.5 | 4139-22P | M22x1 | 4139-36R | M36x1.5 | 4139-52P | M52x1 |
| 4139-6G | M6x0.5 | 4139-14G | M14x0.5 | 4139-22R | M22x1.5 | 4139-36T | M36x2 | 4139-52R | M52x1.5 |
| 4139-6L | M6x0.75 | 4139-14L | M14x0.75 | 4139-22T | M22x2 | 4139-36V | M36x3 | 4139-52T | M52x2 |
| 4139-7G | M7x0.5 | 4139-14P | M14x1 | 4139-24L | M24x0.75 | 4139-39P | M39x1 | 4139-52V | M52x3 |
| 4139-7L | M7x0.75 | 4139-14Q | M14x1.25 | 4139-24P | M24x1 | 4139-39R | M39x1.5 | 4139-52X | M52x4 |
| 4139-8G | M8x0.5 | 4139-14R | M14x1.5 | 4139-24R | M24x1.5 | 4139-39T | M39x2 | 4139-56P | M56x1 |
| 4139-8L | M8x0.75 | 4139-16G | M16x0.5 | 4139-24T | M24x2 | 4139-39V | M39x3 | 4139-56R | M56x1.5 |
| 4139-8P | M8x1 | 4139-16L | M16x0.75 | 4139-27L | M27x0.75 | 4139-42P | M42x1 | 4139-56T | M56x2 |
| 4139-9G | M9x0.5 | 4139-16P | M16x1 | 4139-27P | M27x1 | 4139-42R | M42x1.5 | 4139-56V | M56x3 |
| 4139-9L | M9x0.75 | 4139-16R | M16x1.5 | 4139-27R | M27x1.5 | 4139-42T | M42x2 | 4139-56X | M56x4 |
| 4139-9P | M9x1 | 4139-18G | M18x0.5 | 4139-27T | M27x2 | 4139-42V | M42x3 | 4139-60P | M60x1 |
| 4139-10G | M10x0.5 | 4139-18L | M18x0.75 | 4139-30L | M30x0.75 | 4139-42X | M42x4 | 4139-60R | M60x1.5 |
| 4139-10L | M10x0.75 | 4139-18P | M18x1 | 4139-30P | M30x1 | 4139-45P | M45x1 | 4139-60T | M60x2 |
| 4139-10P | M10x1 | 4139-18R | M18x1.5 | 4139-30R | M30x1.5 | 4139-45R | M45x1.5 | 4139-60V | M60x3 |
| 4139-10Q | M10x1.25 | 4139-18T | M18x2 | 4139-30T | M30x2 | 4139-45T | M45x2 | 4139-60X | M60x4 |
| 4139-11G | M11x0.5 | 4139-20G | M20x0.5 | 4139-30V | M30x3 | 4139-45V | M45x3 | | |

THREAD RING GAGE

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) |

**BASIC
MODEL**

FINE THREAD RING GAGE

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



4129-10P



4129-10PN

| 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 |

| Code Go | Code No Go | Size (mm) |
|----------|------------|-----------|
| 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 |

| Code Go | Code No Go | Size (mm) |
|----------|------------|-----------|
| 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 |

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

| 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 |
| 4641-5* | M5x0.8 |
| 4641-6* | M6x1 |

| Code | Size (mm) |
|----------|-----------|
| 4641-8* | M8x1.25 |
| 4641-10* | M10x1.5 |
| 4641-12* | M12x1.75 |
| 4641-14* | M14x2 |
| 4641-16* | M16x2 |
| 4641-18* | M18x2.5 |
| 4641-20* | M20x2.5 |
| 4641-22* | M22x2.5 |

| Code | Size (mm) |
|----------|-----------|
| 4641-24* | M24x3 |
| 4641-27* | M27x3 |
| 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



4631-12



4631-12N

METRIC THREAD RING GAGE

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

| Code (GO) | Code (NOGO) | Size (mm) |
|-----------|-------------|-----------|
| 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 |
| 4631-6* | 4631-6N* | M6x1 |

| Code (GO) | Code (NOGO) | Size (mm) |
|-----------|-------------|-----------|
| 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



4632-10Q



4632-10QN

METRIC FINE THREAD RING GAGE

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

| 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 calibration 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 calibration 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 calibration certificate

NPT THREAD RING GAGE



4634-1A14

- 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 |

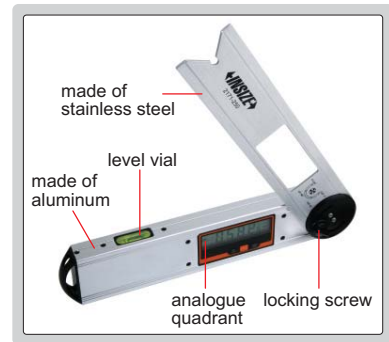
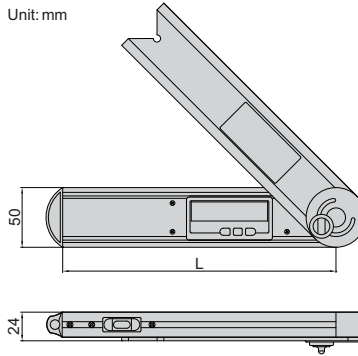
| Code | Size |
|------------|------------|
| 4634-1J8 * | 2-1/2x8NPT |
| 4634-38 * | 3x8NPT |
| 4634-1N8 * | 3-1/2x8NPT |
| 4634-48 * | 4x8NPT |
| | |

* Supplied with manufacturer calibration certificate

DIGITAL PROTRACTOR



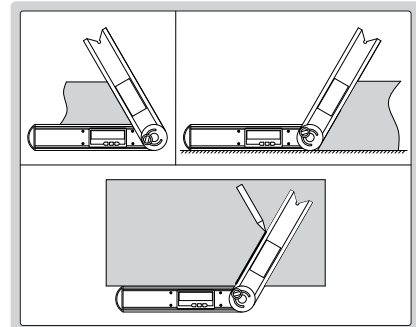
Unit: mm



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

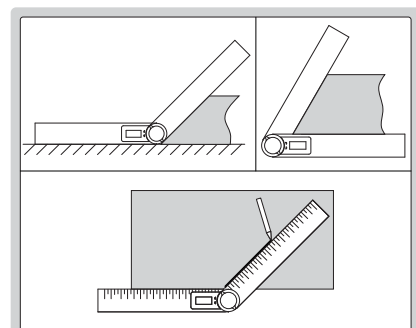
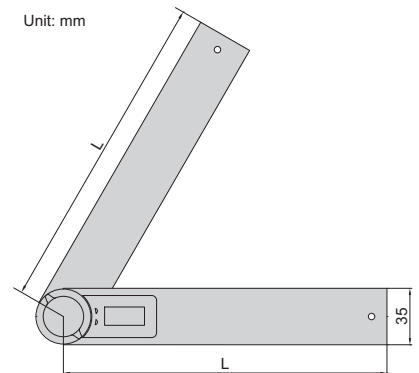


2176-300

- 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° |

Unit: mm

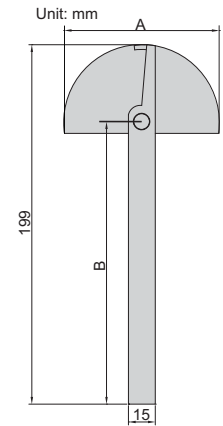


PROTRACTOR



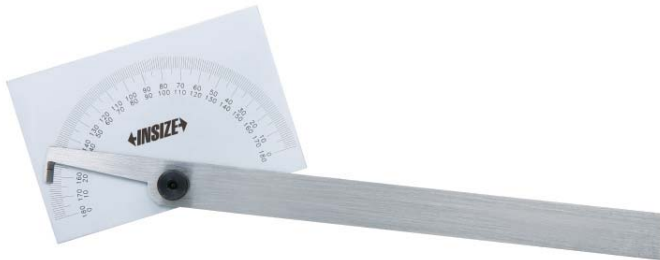
- Made of stainless steel
- Satin chrome plated scale
- With clamping screw

4780-85



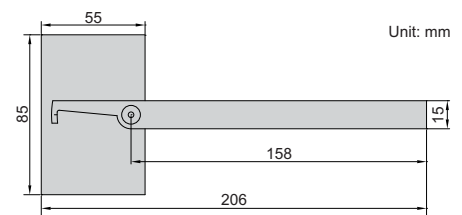
| Code | Size (AxB) | Range | Graduation | Accuracy |
|---------|------------|----------|------------|----------|
| 4780-85 | 85x150mm | 0 - 180° | 1° | ±0.3° |

PROTRACTOR



- Made of stainless steel
- Satin chrome plated scale
- With clamping screw

4781-85



4 working edges



| Code | Size | Range | Graduation | Accuracy |
|---------|----------|----------|------------|----------|
| 4781-85 | 85x158mm | 0 - 180° | 1° | ±0.3° |

PROTRACTOR

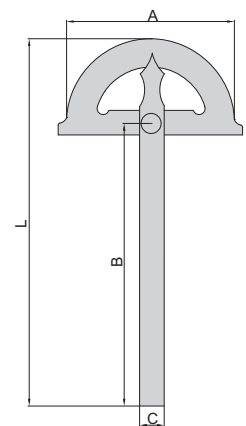
- Made of stainless steel
- Satin chrome plated scale
- With clamping screw



4799-180

(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

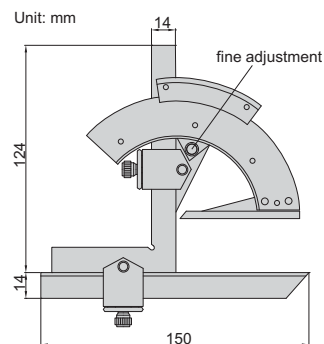
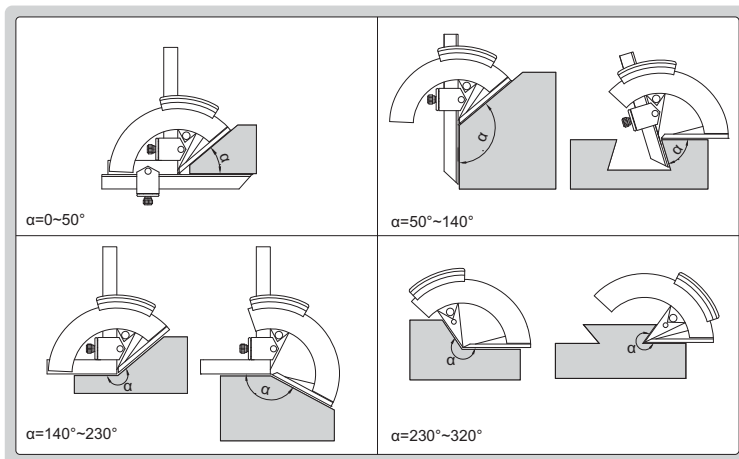
BASIC MODEL



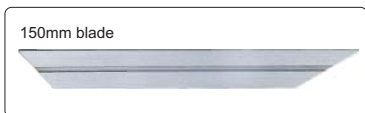
2374-320

- Made of carbon steel
- Satin chrome plated

| Code | Range | Graduation | Accuracy |
|----------|--------|------------|----------|
| 2374-320 | 0-320° | 2' | ±2' |



DIAL PROTRACTOR



150mm blade

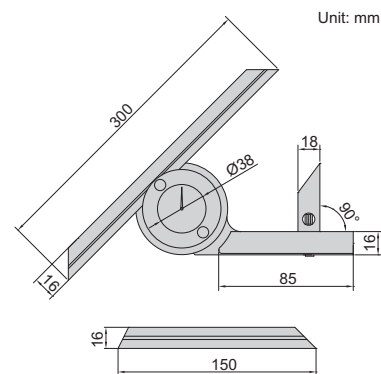


2373-360

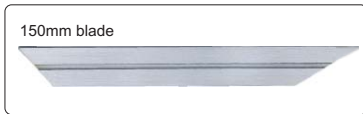
- Supplied with 150mm and 300mm blades
- Made of carbon steel
- Optional accessory: clamp (code **2372-CLAMP**) suitable for height gages **1151** and **1351**

| Code | Range | Graduation | Accuracy |
|----------|--------|------------|----------|
| 2373-360 | 0-360° | 5' | ±5' |

clamp for height gages



UNIVERSAL PROTRACTOR



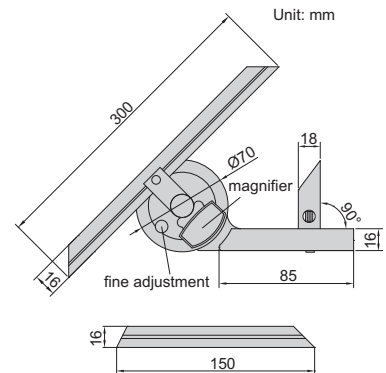
2372-360

clamp for height gages



- Parallax-free reading
- Supplied with 150mm and 300mm blades
- Made of carbon steel
- Optional accessory: clamp (code **2372-CLAMP**) suitable for height gages **1151** and **1351**

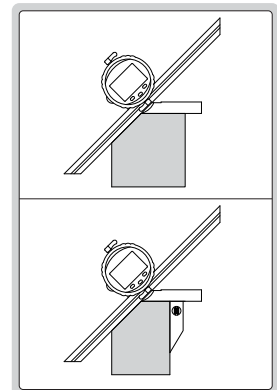
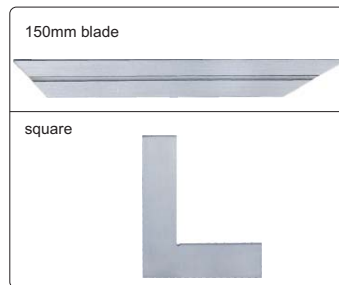
| Code | Range | Graduation | Accuracy |
|----------|--------|------------|----------|
| 2372-360 | 0-360° | 5' | ±5' |



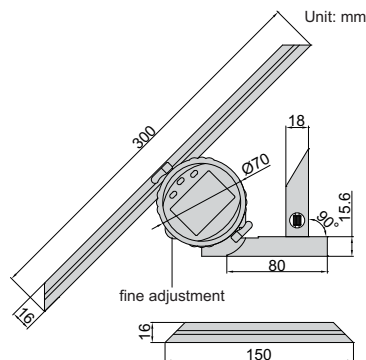
DATA OUTPUT



DIGITAL PROTRACTOR



- 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 150mm blade and square (to set 90°)
- Made of stainless steel
- Optional accessory: RS232 data output cable (code **7305-SPC1A**)



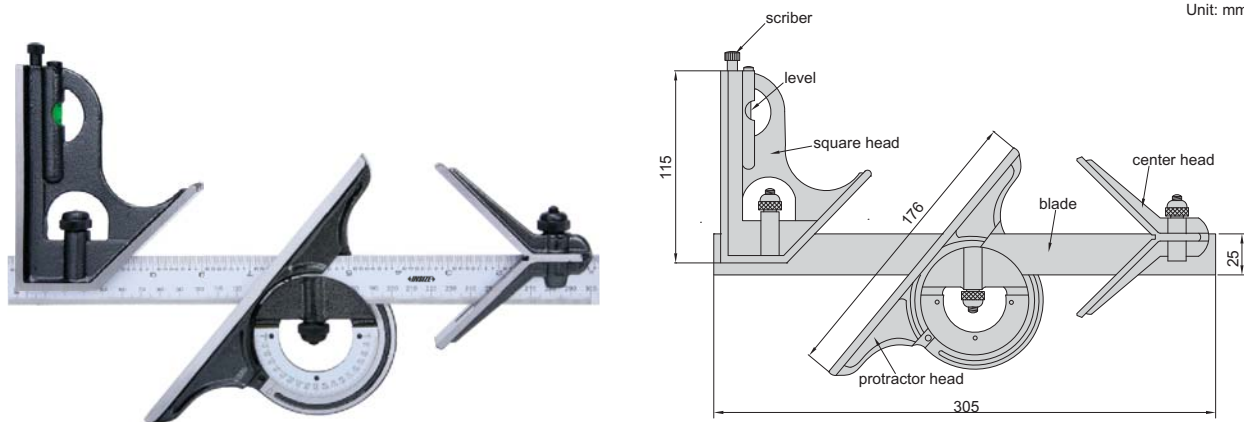
data output cable (optional)



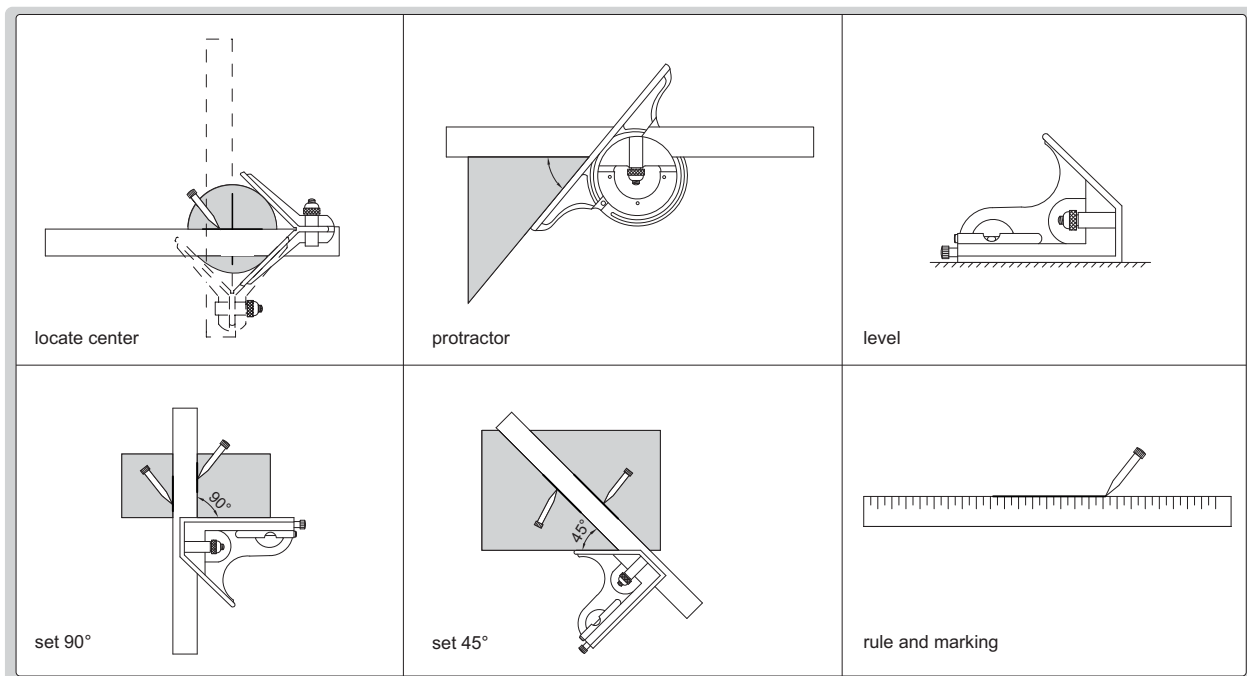
| Code | Range | Resolution | Accuracy |
|-----------|--------|------------|----------|
| 2172-360A | 0-360° | 10"/0.005° | ±5' |

COMBINATION SQUARE SET

Unit: mm



2278-180



Code

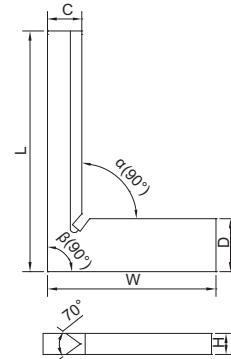
2278-180

- Center head:
To locate center of round workpieces
Accuracy: $\pm 0.15\text{mm}$
- 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: $\pm 7\text{min.}$
- Square head:
To set the blade at 90° or 45° to an edge of a workpiece
Accuracy: $\pm 8\text{min}$ for 90° square, $\pm 10\text{min}$ for 45° square
- Blade:
Range: 300mm/12",
Graduation: 0.5mm and 1/32" on front face, 1mm and 1/64" on back face
- Optional accessory: rigid rule (code 7113)

90° TOOL MAKER SQUARE



4794-040



(mm)

| Code | Size (LxW) | Squareness | | C | D | H |
|----------|------------|---------------------|---------------------|-----|-----|-----|
| | | Inside (α) | Outside (β) | | | |
| 4794-025 | 25x20mm | 2.2 μ m | 2.3 μ m | 4 | 6.5 | 3.5 |
| 4794-040 | 40x28mm | 2.3 μ m | 2.4 μ m | 5.5 | 8.5 | 3.5 |

- 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

DIN875 grade 00 (mm)

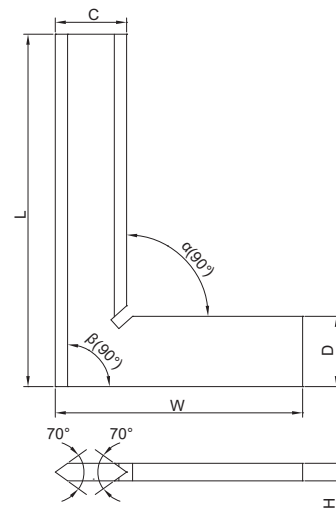
| Code | Size (LxW) | Squareness | | C | D | H |
|-----------|------------|---------------------|---------------------|----|----|---|
| | | Inside (α) | Outside (β) | | | |
| 4790-050 | 50x40mm | 2.4 μ m | 2.5 μ m | 13 | 13 | 4 |
| 4790-075 | 75x50mm | 2.6 μ m | 2.8 μ m | 15 | 15 | 4 |
| 4790-0100 | 100x70mm | 2.8 μ m | 3.0 μ m | 20 | 20 | 5 |
| 4790-0150 | 150x100mm | 3.2 μ m | 3.5 μ m | 30 | 30 | 6 |
| 4790-0200 | 200x130mm | 3.7 μ m | 4.0 μ m | 34 | 34 | 7 |
| 4790-0250 | 250x165mm | 4.2 μ m | 4.5 μ m | 35 | 35 | 7 |
| 4790-0300 | 300x200mm | 4.6 μ m | 5.0 μ m | 40 | 40 | 8 |

DIN875 grade 0 (mm)

| Code | Size (LxW) | Squareness | | C | D | H |
|-----------|------------|---------------------|---------------------|----|----|---|
| | | Inside (α) | Outside (β) | | | |
| 4790-500 | 50x40mm | 6 μ m | 6 μ m | 13 | 13 | 4 |
| 4790-750 | 75x50mm | 6 μ m | 7 μ m | 15 | 15 | 4 |
| 4790-1000 | 100x70mm | 7 μ m | 7 μ m | 20 | 20 | 5 |
| 4790-1500 | 150x100mm | 7 μ m | 8 μ m | 30 | 30 | 6 |
| 4790-2000 | 200x130mm | 8 μ m | 9 μ m | 34 | 34 | 7 |
| 4790-2500 | 250x165mm | 9 μ m | 10 μ m | 35 | 35 | 7 |
| 4790-3000 | 300x200mm | 10 μ m | 11 μ m | 40 | 40 | 8 |



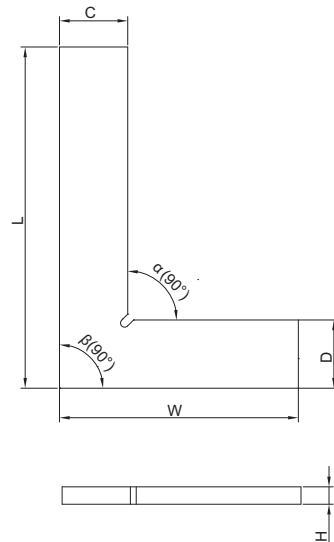
4790-0100



90° FLAT EDGE SQUARE



4791-100



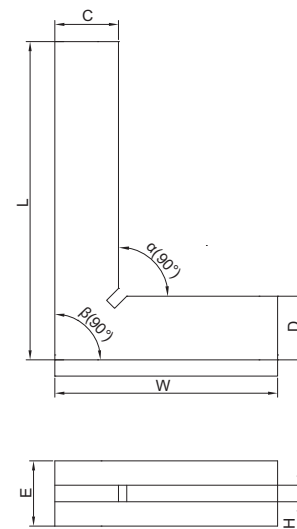
| Code | Size (LxW) | Squareness | | C | D | H |
|----------|------------|---------------------|---------------------|----|----|---|
| | | Inside (α) | Outside (β) | | | |
| 4791-50 | 50x40mm | 6 μ m | 6 μ m | 13 | 13 | 4 |
| 4791-75 | 75x50mm | 6 μ m | 7 μ m | 15 | 15 | 4 |
| 4791-100 | 100x70mm | 7 μ m | 7 μ m | 20 | 20 | 5 |
| 4791-150 | 150x100mm | 7 μ m | 8 μ m | 30 | 30 | 6 |
| 4791-200 | 200x130mm | 8 μ m | 9 μ m | 30 | 30 | 7 |
| 4791-250 | 250x165mm | 9 μ m | 10 μ m | 35 | 35 | 7 |
| 4791-300 | 300x200mm | 10 μ m | 11 μ m | 40 | 40 | 8 |

- DIN875 grade 0
- Made of hardened stainless steel

90° FLAT EDGE SQUARE WITH WIDE BASE



4793-100



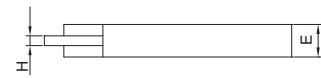
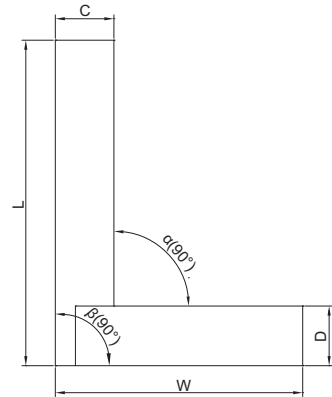
| Code | Size (LxW) | Squareness | | C | D | H | E |
|----------|------------|---------------------|---------------------|----|----|---|----|
| | | Inside (α) | Outside (β) | | | | |
| 4793-50 | 50x40mm | 6 μ m | 6 μ m | 13 | 13 | 4 | 13 |
| 4793-75 | 75x50mm | 6 μ m | 7 μ m | 15 | 15 | 4 | 15 |
| 4793-100 | 100x70mm | 7 μ m | 7 μ m | 20 | 20 | 5 | 20 |
| 4793-150 | 150x100mm | 7 μ m | 8 μ m | 30 | 30 | 6 | 30 |
| 4793-200 | 200x130mm | 8 μ m | 9 μ m | 30 | 30 | 7 | 30 |
| 4793-250 | 250x165mm | 9 μ m | 10 μ m | 35 | 35 | 7 | 35 |
| 4793-300 | 300x200mm | 10 μ m | 11 μ m | 40 | 40 | 8 | 40 |

- DIN875 grade 0
- Made of hardened stainless steel

90° FLAT EDGE SQUARE WITH WIDE BASE



4792-100

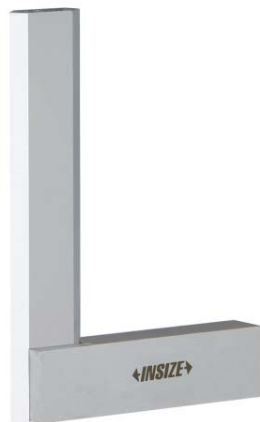


(mm)

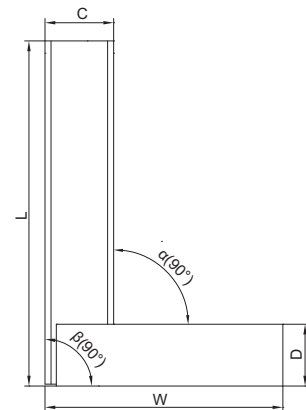
| Code | Size (LxW) | Squareness | | C | D | H | E |
|----------|------------|---------------------|---------------------|----|----|---|----|
| | | Inside (α) | Outside (β) | | | | |
| 4792-50 | 50x40mm | 6 μ m | 6 μ m | 12 | 12 | 3 | 10 |
| 4792-75 | 75x50mm | 6 μ m | 7 μ m | 14 | 14 | 3 | 10 |
| 4792-100 | 100x70mm | 7 μ m | 7 μ m | 18 | 18 | 3 | 10 |
| 4792-150 | 150x100mm | 8 μ m | 8 μ m | 22 | 22 | 4 | 12 |
| 4792-200 | 200x130mm | 9 μ m | 9 μ m | 25 | 25 | 4 | 12 |

- 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 | 6 μ m | 6 μ m | 12 | 12 | 3 | 10 |
| 4795-75 | 75x50mm | 6 μ m | 7 μ m | 14 | 14 | 3 | 10 |
| 4795-100 | 100x70mm | 7 μ m | 7 μ m | 18 | 18 | 3 | 10 |
| 4795-150 | 150x100mm | 8 μ m | 8 μ m | 22 | 22 | 4 | 12 |
| 4795-200 | 200x130mm | 9 μ m | 9 μ m | 25 | 25 | 4 | 12 |

- DIN875 grade 0
- Beveled edges for inside and outside measurement
- Made of hardened stainless steel

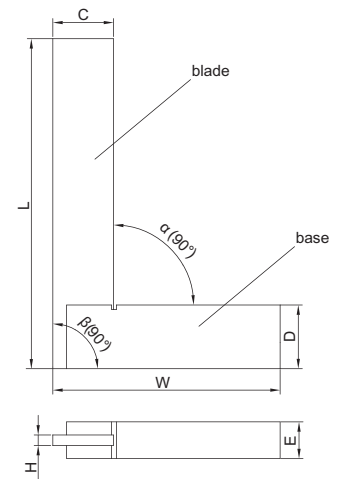
MACHINIST SQUARE WITH WIDE BASE

LOW ACCURACY

- 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 | 24 μ m | 25 μ m | 16 | 12 | 3 | 9 |
| 4707-75 | 75x50mm | 26 μ m | 28 μ m | 16 | 16 | 3 | 9 |
| 4707-100 | 100x70mm | 28 μ m | 30 μ m | 19 | 19 | 3 | 12 |
| 4707-150 | 150x100mm | 33 μ m | 35 μ m | 25 | 25 | 3 | 16 |
| 4707-200 | 200x130mm | 37 μ m | 40 μ m | 30 | 32 | 4 | 16 |
| 4707-250 | 250x165mm | 42 μ m | 45 μ m | 30 | 32 | 4 | 19 |
| 4707-300 | 300x200mm | 47 μ m | 50 μ m | 32 | 32 | 4 | 19 |
| 4707-400 | 400x250mm | 56 μ m | 60 μ m | 38 | 38 | 5 | 22 |
| 4707-500 | 500x300mm | 65 μ m | 70 μ m | 45 | 50 | 6 | 25 |
| 4707-600 | 600x350mm | 75 μ m | 80 μ m | 50 | 50 | 6 | 30 |
| 4707-750 | 750x400mm | 90 μ m | 95 μ m | 55 | 55 | 6 | 50 |
| 4707-900 | 900x500mm | 103 μ m | 110 μ m | 65 | 75 | 9 | 50 |
| 4707-1000 | 1000x550mm | 113 μ m | 120 μ m | 65 | 75 | 9 | 50 |



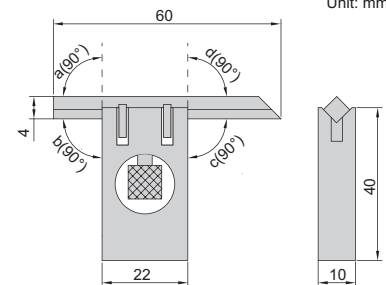
ADJUSTABLE SQUARE

Unit: mm

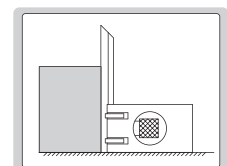
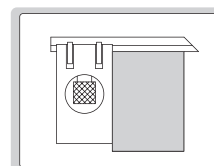


4701-1

- The straight edge can move and can be locked by the clamping screw
- Made of hardened stainless steel



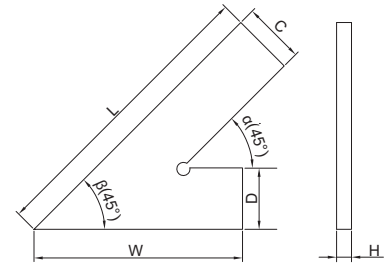
| Code | Squareness (a, b, c, d) |
|--------|-------------------------|
| 4701-1 | 7 μ m |



45° SQUARE



4745-1100



(mm)

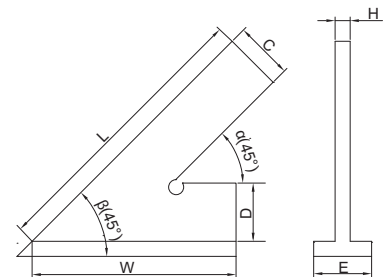
| Code | Size (LxW) | Accuracy | | C | D | H |
|-----------|------------|---------------------|---------------------|----|----|---|
| | | Inside (α) | Outside (β) | | | |
| 4745-1100 | 100x70mm | 27 μ m | 30 μ m | 20 | 20 | 5 |
| 4745-1120 | 120x80mm | 29 μ m | 32 μ m | 20 | 20 | 5 |
| 4745-1150 | 150x100mm | 32 μ m | 35 μ m | 20 | 20 | 5 |
| 4745-1200 | 200x130mm | 36 μ m | 40 μ m | 25 | 25 | 5 |

- Made of hardened stainless steel

45° SQUARE WITH WIDE BASE



4747-100



(mm)

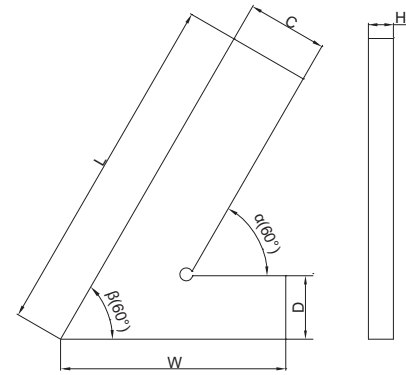
| Code | Size (LxW) | Accuracy | | C | D | H | E |
|----------|------------|---------------------|---------------------|----|----|---|----|
| | | Inside (α) | Outside (β) | | | | |
| 4747-100 | 100x70mm | 27 μ m | 31 μ m | 20 | 20 | 5 | 20 |
| 4747-120 | 120x80mm | 29 μ m | 33 μ m | 20 | 20 | 5 | 20 |
| 4747-150 | 150x100mm | 32 μ m | 36 μ m | 20 | 20 | 5 | 20 |
| 4747-200 | 200x130mm | 36 μ m | 41 μ m | 25 | 25 | 5 | 25 |

- Made of hardened stainless steel

60° SQUARE



4760-1100



(mm)

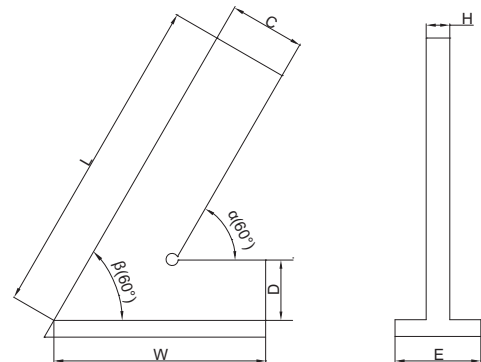
| Code | Size (LxW) | Accuracy | | C | D | H |
|-----------|------------|---------------------|---------------------|----|----|---|
| | | Inside (α) | Outside (β) | | | |
| 4760-1100 | 100x70mm | 28 μ m | 30 μ m | 20 | 20 | 5 |
| 4760-1120 | 120x80mm | 30 μ m | 32 μ m | 20 | 20 | 5 |
| 4760-1150 | 150x100mm | 32 μ m | 35 μ m | 20 | 20 | 5 |
| 4760-1200 | 200x130mm | 37 μ m | 40 μ m | 25 | 25 | 5 |

- Made of hardened stainless steel

60° SQUARE WITH WIDE BASE



4762-100



(mm)

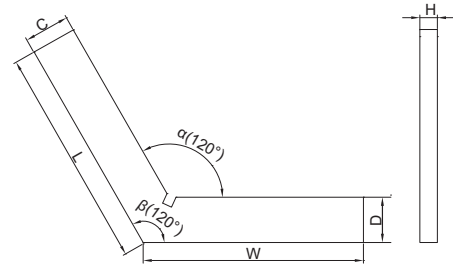
| Code | Size (LxW) | Accuracy | | C | D | H | E |
|----------|------------|---------------------|---------------------|----|----|---|----|
| | | Inside (α) | Outside (β) | | | | |
| 4762-100 | 100x70mm | 28 μ m | 31 μ m | 20 | 20 | 5 | 20 |
| 4762-120 | 120x80mm | 30 μ m | 33 μ m | 20 | 20 | 5 | 20 |
| 4762-150 | 150x100mm | 33 μ m | 36 μ m | 20 | 20 | 5 | 20 |
| 4762-200 | 200x130mm | 37 μ m | 41 μ m | 25 | 25 | 5 | 25 |

- Made of hardened stainless steel

120° SQUARE



4706-1100



(mm)

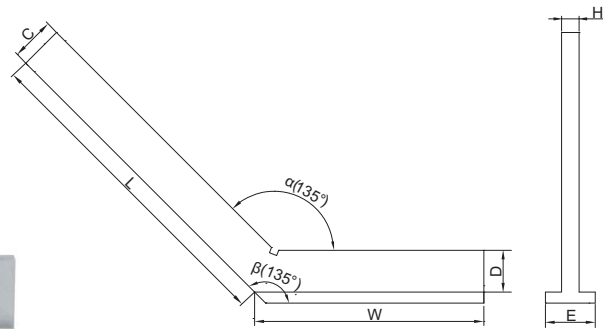
- Made of hardened stainless steel

| Code | Size (LxW) | Accuracy | | C | D | H |
|-----------|------------|---------------------|---------------------|----|----|---|
| | | Inside (α) | Outside (β) | | | |
| 4706-150 | 50x50mm | 24 μ m | 25 μ m | 15 | 15 | 5 |
| 4706-175 | 75x75mm | 26 μ m | 28 μ m | 20 | 20 | 5 |
| 4706-1100 | 100x100mm | 29 μ m | 30 μ m | 20 | 20 | 5 |
| 4706-1150 | 150x150mm | 34 μ m | 35 μ m | 25 | 25 | 5 |
| 4706-1200 | 200x200mm | 38 μ m | 40 μ m | 30 | 30 | 7 |

135° SQUARE WITH WIDE BASE



4754-3120



(mm)

- Made of hardened stainless steel

| Code | Size (LxW) | Accuracy | | C | D | H | E |
|-----------|------------|---------------------|---------------------|----|----|---|----|
| | | Inside (α) | Outside (β) | | | | |
| 4754-3100 | 100x70mm | 29 μ m | 31 μ m | 20 | 20 | 5 | 20 |
| 4754-3120 | 120x80mm | 31 μ m | 33 μ m | 20 | 20 | 5 | 20 |
| 4754-3150 | 150x100mm | 34 μ m | 36 μ m | 20 | 20 | 5 | 20 |
| 4754-3200 | 200x130mm | 39 μ m | 41 μ m | 30 | 30 | 7 | 30 |
| 4754-3250 | 250x165mm | 44 μ m | 46 μ m | 30 | 30 | 7 | 30 |
| 4754-3300 | 300x175mm | 49 μ m | 51 μ m | 35 | 35 | 7 | 35 |

STRAIGHT EDGE

RELATIVE PRODUCT:
STRAIGHT EDGE (CODE 7111-)
PRECISION STRAIGHT EDGE (CODE 7117-)

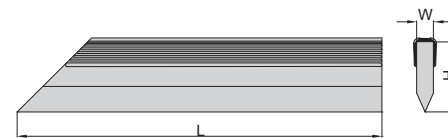
- DIN874
- Satin chrome plating
- Beveled edge
- Made of hardened stainless steel

(mm)

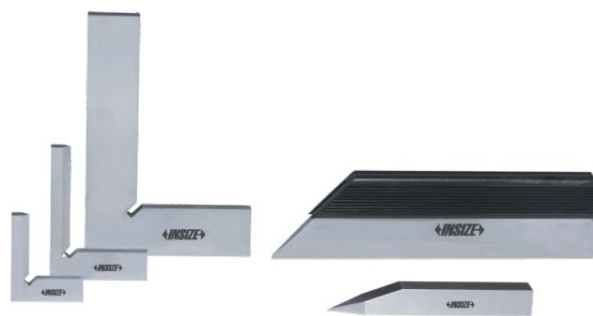
| Code | Size (L) | Straightness | W | H |
|----------|----------|--------------|----|----|
| 4700-50 | 50mm | 2.2µm | 5 | 20 |
| 4700-75 | 75mm | 2.3µm | 5 | 25 |
| 4700-100 | 100mm | 2.4µm | 5 | 25 |
| 4700-125 | 125mm | 2.5µm | 5 | 25 |
| 4700-150 | 150mm | 2.6µm | 6 | 30 |
| 4700-200 | 200mm | 2.8µm | 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

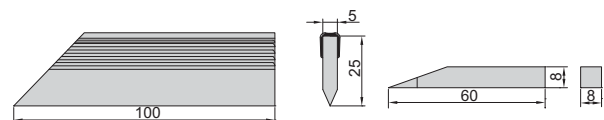
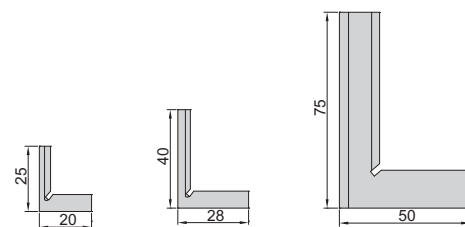


SQUARE SET



4702-1

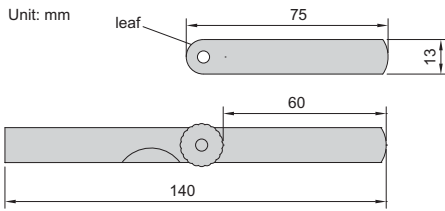
Unit: mm



- 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

FEELER GAGE

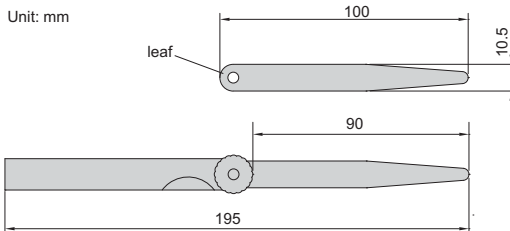


4601-25

- Made of hardened alloy steel
- Meet DIN2275
- Accuracy: $\pm(3+T/80)$ μm , 'T' is the thickness of leaves in μm

| Code | Range | Thickness of leaves included (mm) | Quantity of leaves |
|---------|---------------|--|--------------------|
| 4601-25 | 0.04 - 1.00mm | 0.04, 0.05, 0.06, 0.07, 0.08, 0.09, 0.10, 0.15, 0.20, 0.25, 0.30, 0.35, 0.40, 0.45, 0.50, 0.55, 0.60, 0.65, 0.70, 0.75, 0.80, 0.85, 0.90, 0.95, 1.00 | 25 |

FEELER GAGE



4602-20

- Made of hardened alloy steel
- Meet DIN2275
- Accuracy: $\pm(3+T/80)$ μm , 'T' is the thickness of leaves in μm

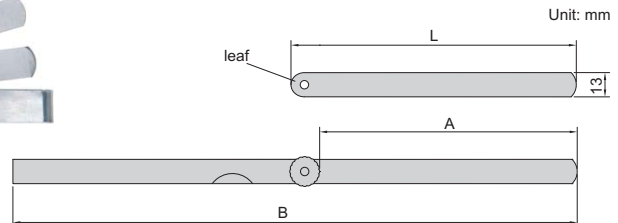
| Code | Range | Thickness of leaves included (mm) | Quantity of leaves |
|----------|---------------|--|--------------------|
| 4602-13A | 0.03 - 0.50mm | 0.03, 0.04, 0.05, 0.06, 0.07, 0.08, 0.09, 0.10, 0.15, 0.20, 0.30, 0.40, 0.50 | 13 |
| 4602-13 | 0.05 - 1.00mm | 0.05, 0.10, 0.15, 0.20, 0.25, 0.30, 0.40, 0.50, 0.60, 0.70, 0.80, 0.90, 1.00 | 13 |
| 4602-17 | 0.02 - 1.00mm | 0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.08, 0.09, 0.10, 0.15, 0.20, 0.25, 0.30, 0.40, 0.50, 0.75, 1.00 | 17 |
| 4602-20 | 0.05 - 1.00mm | 0.05, 0.10, 0.15, 0.20, 0.25, 0.30, 0.35, 0.40, 0.45, 0.50, 0.55, 0.60, 0.65, 0.70, 0.75, 0.80, 0.85, 0.90, 0.95, 1.00 | 20 |
| 4602-28 | 0.05 - 1.00mm | 0.05, 0.06, 0.07, 0.08, 0.09, 0.10, 0.11, 0.12, 0.13, 0.14, 0.15, 0.20, 0.25, 0.30, 0.35, 0.40, 0.45, 0.50, 0.55, 0.60, 0.65, 0.70, 0.75, 0.80, 0.85, 0.90, 0.95, 1.00 | 28 |
| 4602-32 | 0.03 - 1.00mm | 0.03, 0.04, 0.05, 0.06, 0.07, 0.08, 0.09, 0.10, 0.13, 0.15, 0.18, 0.20, 0.23, 0.25, 0.28, 0.30, 0.33, 0.35, 0.38, 0.40, 0.45, 0.50, 0.55, 0.60, 0.63, 0.65, 0.70, 0.75, 0.80, 0.85, 0.90, 1.00 | 32 |

LONG FEELER GAGE



4605-20

- Made of hardened alloy steel
- Meet DIN2275
- Accuracy: $\pm(3+T/80)$ μm , 'T' is the thickness of leaves in μm



Unit: mm

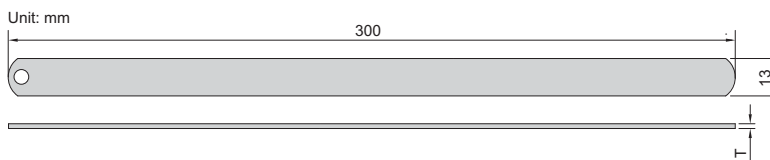
(mm)

| 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



Unit: mm



10pcs/set

- 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 | $\pm 3\mu\text{m}$ |
| 4622-03 | 0.03mm | $\pm 3\mu\text{m}$ |
| 4622-04 | 0.04mm | $\pm 3\mu\text{m}$ |
| 4622-05 | 0.05mm | $\pm 3\mu\text{m}$ |
| 4622-06 | 0.06mm | $\pm 3\mu\text{m}$ |
| 4622-07 | 0.07mm | $\pm 4\mu\text{m}$ |
| 4622-08 | 0.08mm | $\pm 4\mu\text{m}$ |
| 4622-09 | 0.09mm | $\pm 4\mu\text{m}$ |
| 4622-10 | 0.10mm | $\pm 4\mu\text{m}$ |
| 4622-12 | 0.12mm | $\pm 5\mu\text{m}$ |

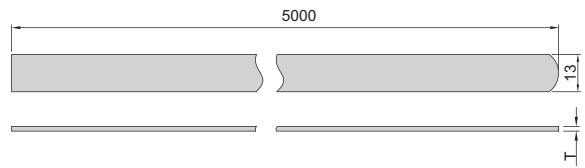
| Code | Thickness (T) | Accuracy |
|---------|---------------|--------------------|
| 4622-15 | 0.15mm | $\pm 5\mu\text{m}$ |
| 4622-18 | 0.18mm | $\pm 6\mu\text{m}$ |
| 4622-20 | 0.20mm | $\pm 6\mu\text{m}$ |
| 4622-25 | 0.25mm | $\pm 6\mu\text{m}$ |
| 4622-30 | 0.30mm | $\pm 7\mu\text{m}$ |
| 4622-35 | 0.35mm | $\pm 7\mu\text{m}$ |
| 4622-40 | 0.40mm | $\pm 8\mu\text{m}$ |
| 4622-45 | 0.45mm | $\pm 8\mu\text{m}$ |
| 4622-50 | 0.50mm | $\pm 9\mu\text{m}$ |
| 4622-55 | 0.55mm | $\pm 9\mu\text{m}$ |

| Code | Thickness (T) | Accuracy |
|----------|---------------|---------------------|
| 4622-60 | 0.60mm | $\pm 9\mu\text{m}$ |
| 4622-65 | 0.65mm | $\pm 9\mu\text{m}$ |
| 4622-70 | 0.70mm | $\pm 12\mu\text{m}$ |
| 4622-75 | 0.75mm | $\pm 12\mu\text{m}$ |
| 4622-80 | 0.80mm | $\pm 13\mu\text{m}$ |
| 4622-85 | 0.85mm | $\pm 13\mu\text{m}$ |
| 4622-90 | 0.90mm | $\pm 14\mu\text{m}$ |
| 4622-95 | 0.95mm | $\pm 14\mu\text{m}$ |
| 4622-100 | 1.00mm | $\pm 16\mu\text{m}$ |

FEELER GAGE TAPE



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 |

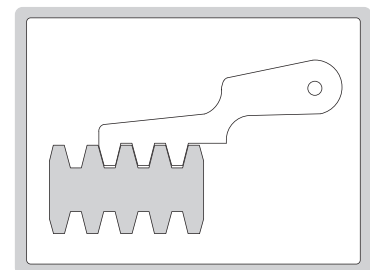
| Code | Thickness (T) | Accuracy |
|----------|---------------|----------|
| 4621-35 | 0.35mm | ±11μm |
| 4621-40 | 0.40mm | ±12μm |
| 4621-45 | 0.45mm | ±12μm |
| 4621-50 | 0.50mm | ±14μm |
| 4621-55 | 0.55mm | ±14μm |
| 4621-60 | 0.60mm | ±14μm |
| 4621-65 | 0.65mm | ±14μm |
| 4621-70 | 0.70mm | ±17μm |
| 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

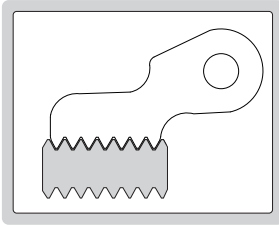
- Check the pitch of screw thread
- Accuracy: ±0.07mm

4824-12



| Code | Range | Thread type | Pitch of leaves included | Quantity of leaves |
|---------|-----------|-------------|---|--------------------|
| 4824-12 | 2 - 20mm | Tr30° | 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 16, 20mm | 12 |
| 4824-16 | 1 - 12TPI | ACME29° | 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



- Check the pitch of screw thread
- Accuracy: $\pm 0.07\text{mm}$

4820-122

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 |

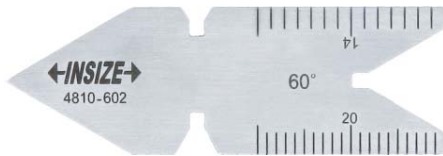
Metric 60° and Whitworth 55° screw

| 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 | |

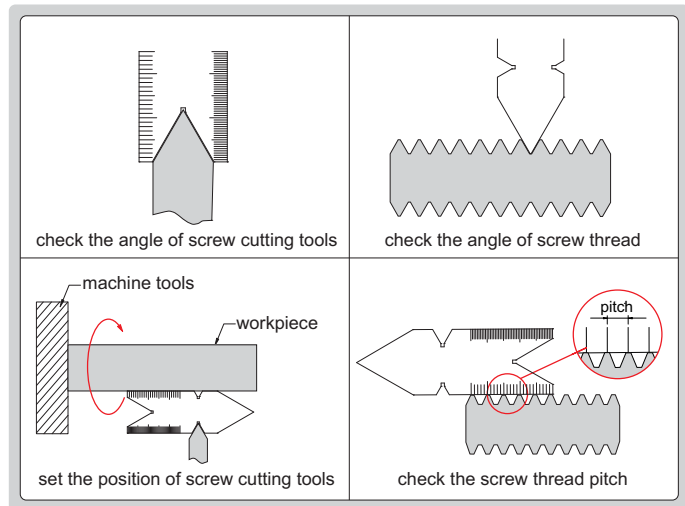
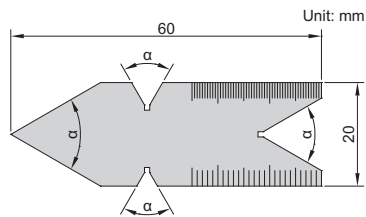
Metric 60° and Unified 60° screw

| 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



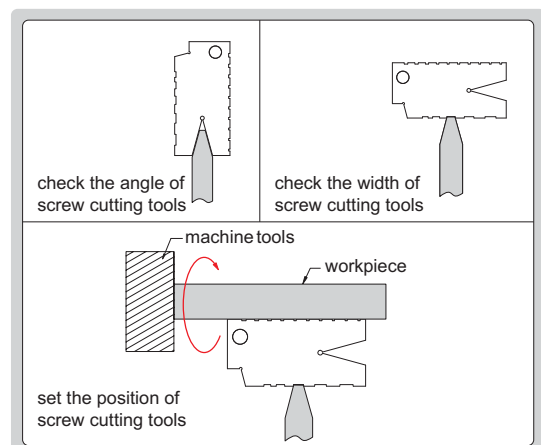
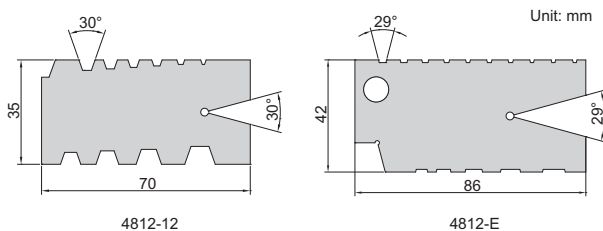
- To check and set screw cutting tools, and check the angle and pitch of screw thread
- Angle accuracy: $\pm 30\text{min}$.

| 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



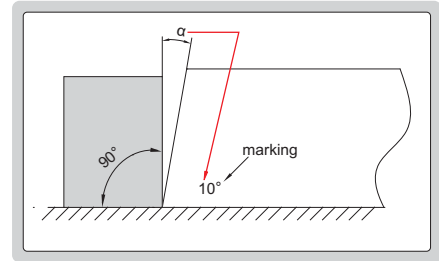
- To check and set screw cutting tools
- Angle accuracy: $\pm 10\text{min}$.

| Code | Range | Thread type | Pitch |
|---------|---------|-------------|--|
| 4812-12 | 2-12mm | Tr30° | 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

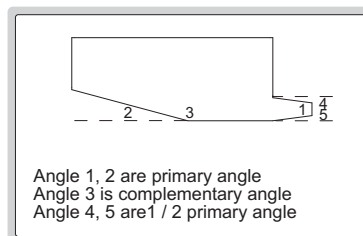
- Each blade checks primary, 1/2 primary and complementary angles

| Code | Quantity of leaves | Accuracy |
|------|--------------------|----------|
| 4807 | 18 | ±10' |

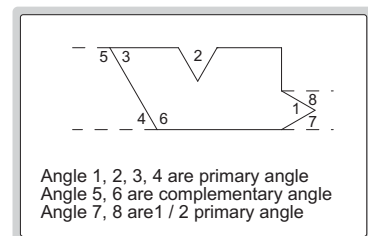
| Primary angle | 1/2 primary angle | Complementary angle | Type |
|---------------|-------------------|---------------------|------|
| 5° | 2°30' | 175° | A |
| 10° | 5° | 170° | A |
| 15° | 7°30' | 165° | A |
| 20° | 10° | 160° | B |
| 25° | 12°30' | 155° | B |
| 30° | 15° | 150° | B |
| 35° | 17°30' | 145° | B |
| 40° | 20° | 140° | B |
| 45° | 22°30' | 135° | B |
| 50° | 25° | 130° | B |
| 55° | 27°30' | 125° | B |
| 60° | 30° | 120° | B |
| 65° | 32°30' | 115° | B |
| 70° | 35° | 110° | B |
| 75° | 37°30' | 105° | B |
| 80° | 40° | 100° | B |
| 85° | 42°30' | 95° | B |
| 90° | 45° | 90° | B |



4807

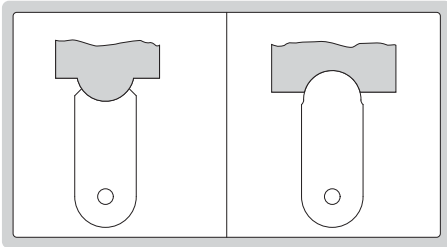


type A



type B

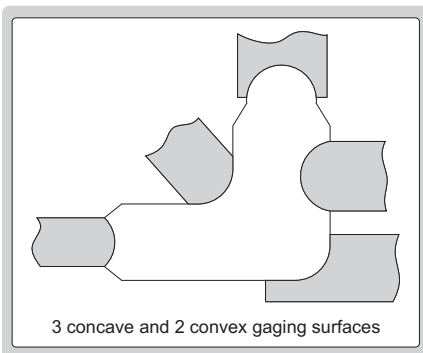
RADIUS GAGE



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



use of handle

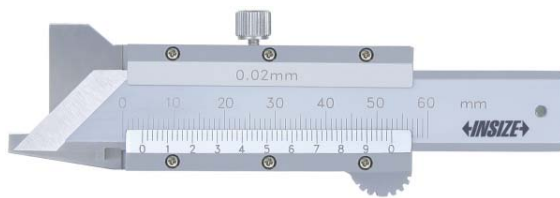
- Each piece has 3 concave and 2 convex gauging surfaces
- Supplied with handle



4804-26

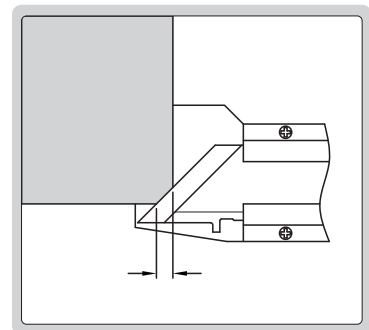
| Code | Range | Radius of leaves included (mm) | Quantity of leaves | Accuracy |
|---------|----------|---|--------------------|----------|
| 4804-26 | 0.5-13mm | 0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10, 10.5, 11, 11.5, 12, 12.5, 13 | 26 | ±0.05mm |

CHAMFER GAGE



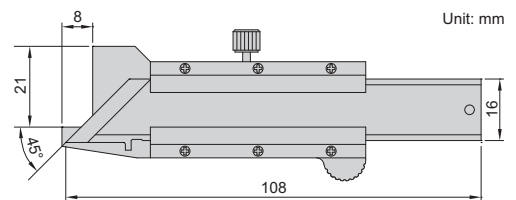
1267-6

measure 45° chamfer dimension

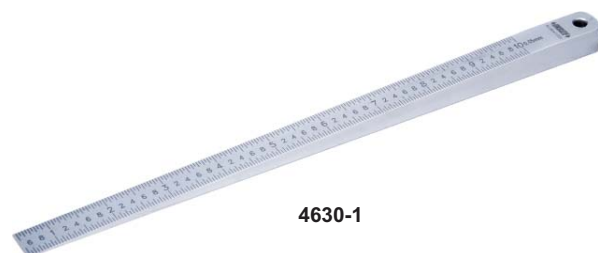
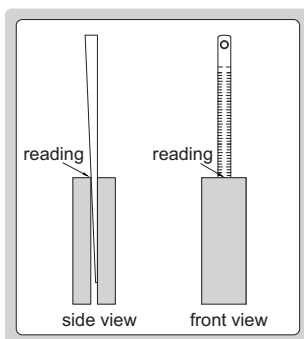


- Measure 45° chamfer dimension
- Graduation 0.02mm
- Made of stainless steel
- Satin chrome plated reading surface

| Code | Range | Accuracy |
|--------|-------|----------|
| 1267-6 | 0-6mm | ±0.06mm |



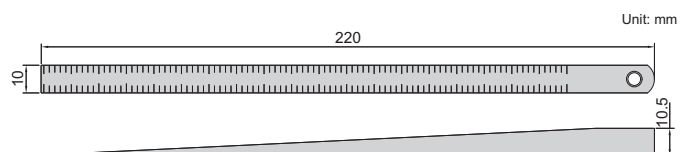
TAPER GAGE



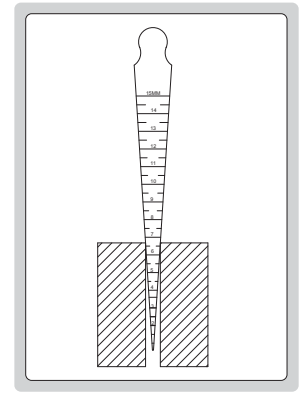
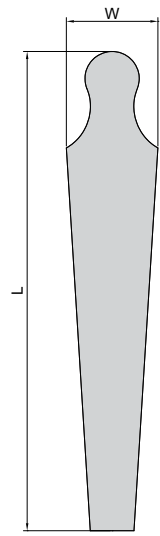
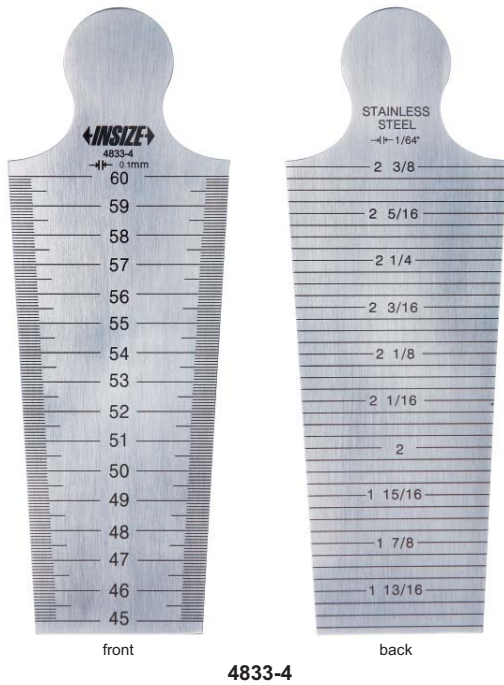
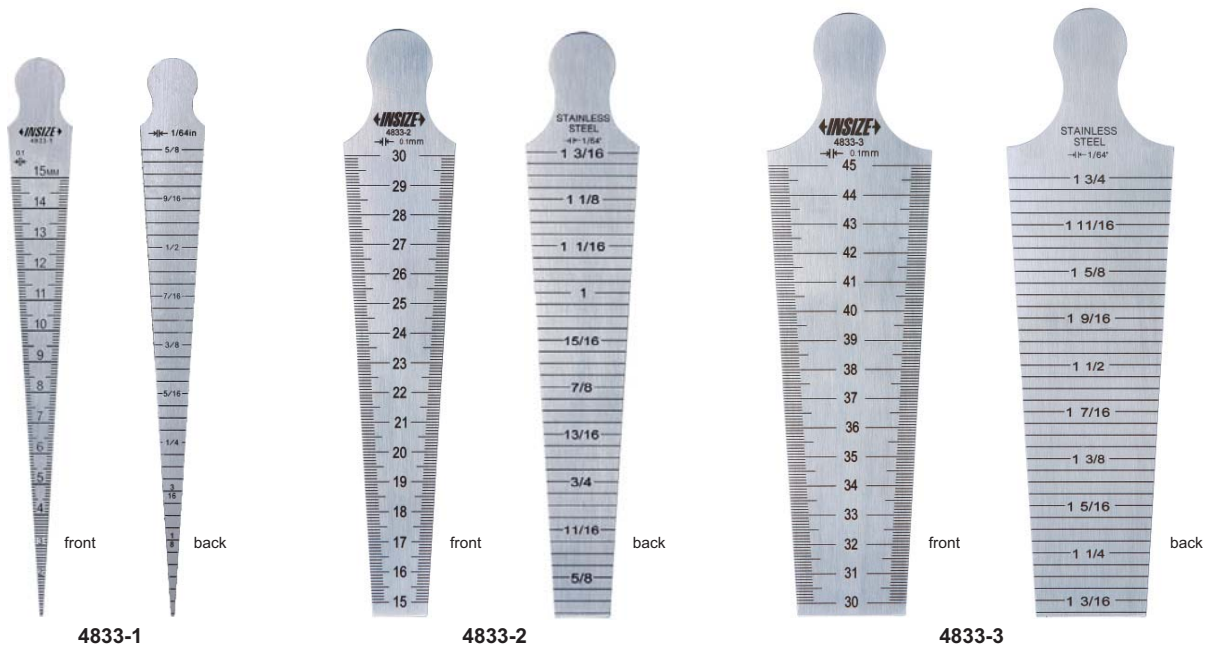
4630-1

- For quick measurement of gap width
- Stain chrome plated reading surface
- Made of stainless steel

| Code | Range | Graduation | Accuracy |
|--------|------------|------------|----------|
| 4630-1 | 0.5 - 10mm | 0.05mm | ±0.07mm |



TAPER GAGE

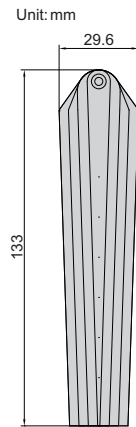


- Measure opening, slot width, hole size, etc.
- Made of stainless steel

| Code | Range | Graduation | Accuracy | L | W |
|--------|-------------------------------|---------------|----------------|-----|------|
| 4833-1 | 0.8 - 15mm (1/32" - 5/8") | 0.1mm (1/64") | ±0.1mm (.004") | 146 | 17 |
| 4833-2 | 15 - 30mm (5/8" - 1-3/16") | 0.1mm (1/64") | ±0.1mm (.004") | 159 | 30.4 |
| 4833-3 | 30 - 45mm (1-3/16" - 1-3/4") | 0.1mm (1/64") | ±0.1mm (.004") | 166 | 45.4 |
| 4833-4 | 45 - 60mm (1-13/16" - 2-3/8") | 0.1mm (1/64") | ±0.1mm (.004") | 170 | 60.5 |

TAPER GAGE SET

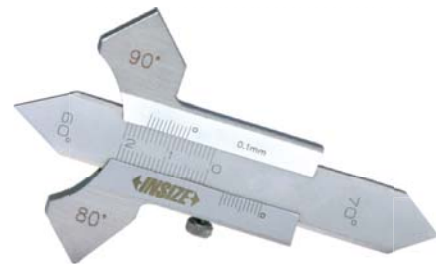
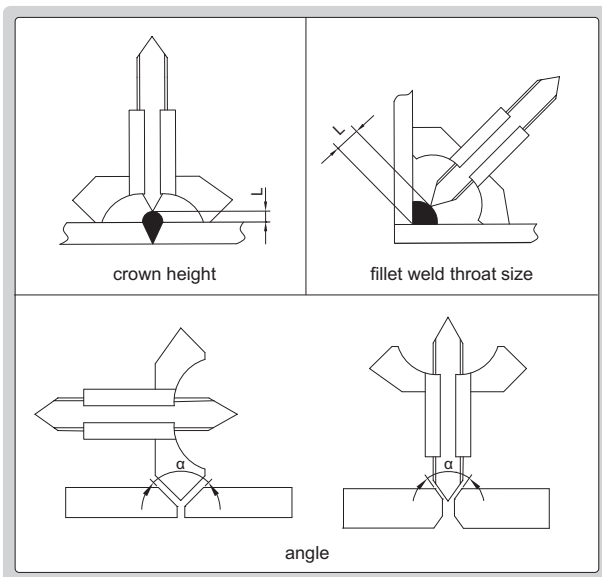
- Include 4pcs (1-8mm, 8-15mm, 15-22mm, 22-29mm)
- Measure opening, slot width, hole size, etc.
- Made of stainless steel



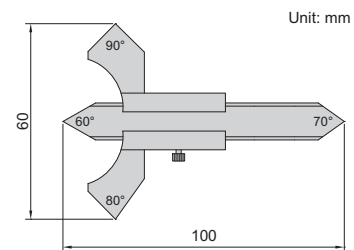
4837-1

| Code | Range | Graduation | Accuracy |
|--------|----------|------------|----------|
| 4837-1 | 1 - 29mm | 0.05mm | ±0.05mm |

WELDING GAGE



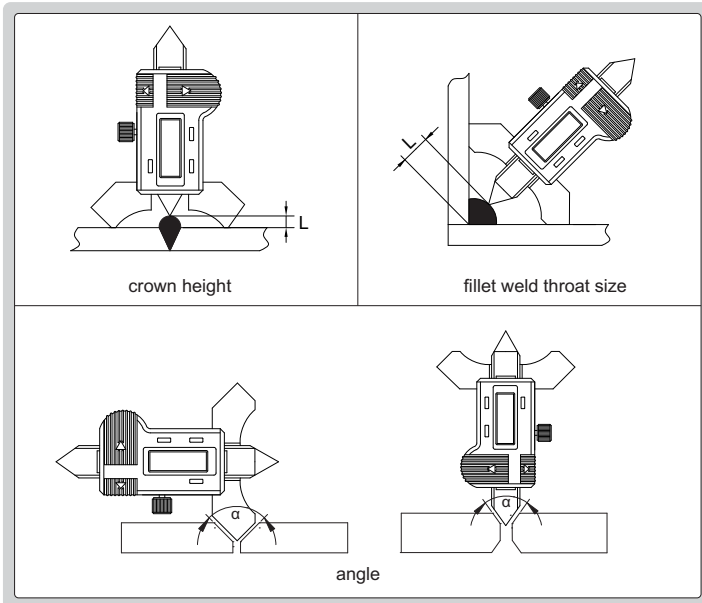
4830



| 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° |

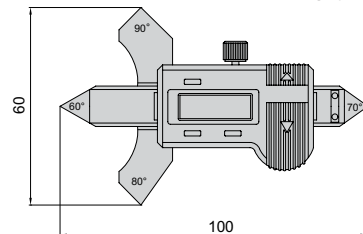
- Made of stainless steel
- Stain chrome plated reading surface

DIGITAL WELDING GAGE



4831-20

Unit: mm



| Code | Measurement | Range | Resolution | Accuracy |
|---------|-------------------------|--------------------|----------------|----------|
| 4831-20 | 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° |

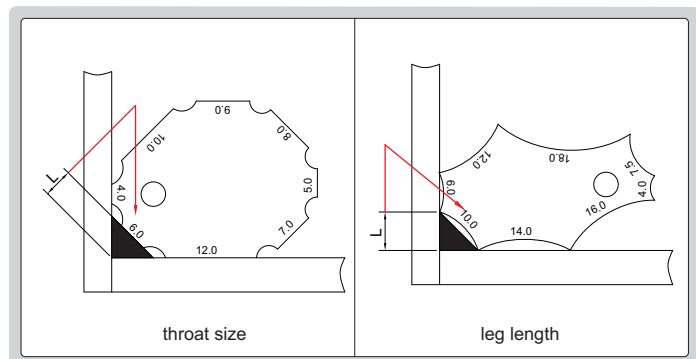
- Buttons: zero, mm/inch, on/off
- Battery SR44 or LR44
- Made of stainless steel

FILLET WELD GAGE

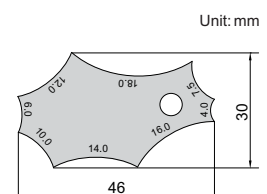
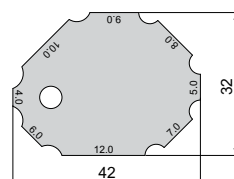


4832-1

- 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

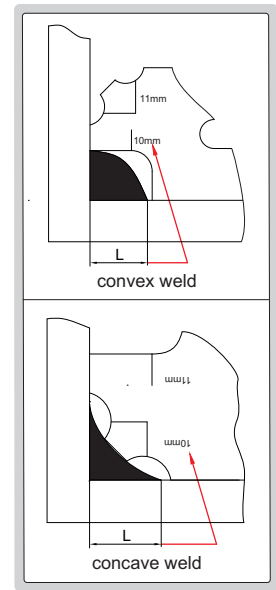
FILLET WELD GAGE



4836-1

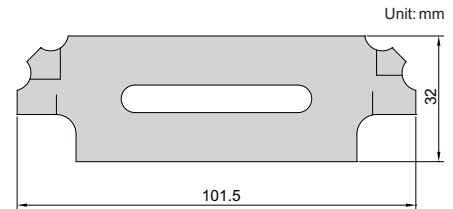


4836-2



- Measure concave and convex weld sizes
- 7 blades are included
- Made of stainless steel

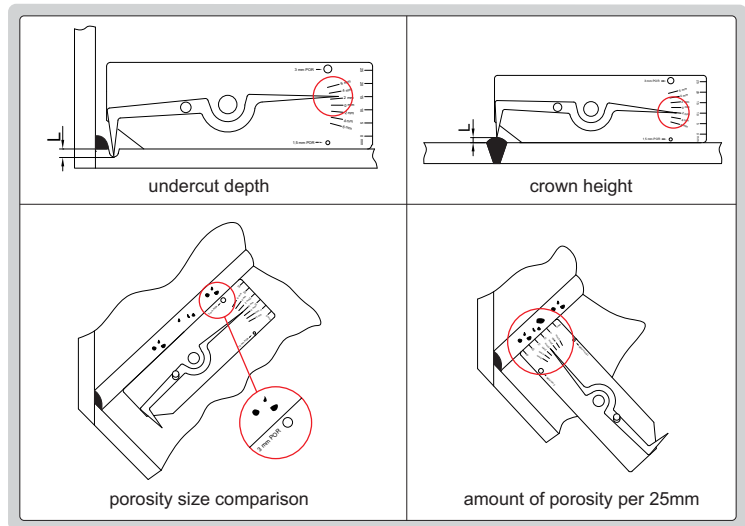
| Code | Size | Accuracy |
|--------|---|----------------|
| 4836-1 | 3mm, 4mm, 5mm, 6mm, 8mm, 9mm, 10mm, 11mm, 12mm, 14mm, 16mm, 19mm, 22mm, 25mm | ±0.5mm |
| 4836-2 | 1/8" (3.2mm), 3/16" (4.8mm), 1/4" (6.4mm), 5/16" (7.9mm), 3/8" (9.5mm), 7/16" (11.1mm), 1/2" (12.7mm), 5/8" (15.9mm), 3/4" (19.1mm), 7/8" (22.2mm), 1" (25.4mm) | ±0.02" (0.5mm) |



WELDING GAGE

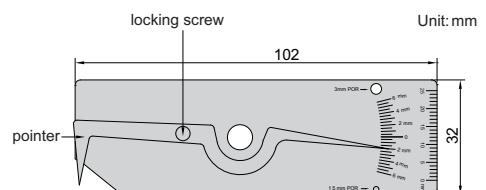


4834-1



- Pointer can be locked for later reference
- Made of stainless steel

| Code | Measurement | Range | Graduation | Accuracy |
|--------|-----------------------------|------------|------------|----------|
| 4834-1 | undercut depth | 0-6mm | 0.5mm | ±0.5mm |
| | crown height | 0-6mm | 0.5mm | ±0.5mm |
| | porosity size comparison | 1.5mm, 3mm | — | ±0.2mm |
| | amount of porosity per 25mm | 25mm | 1mm | — |



WELDING GAGE

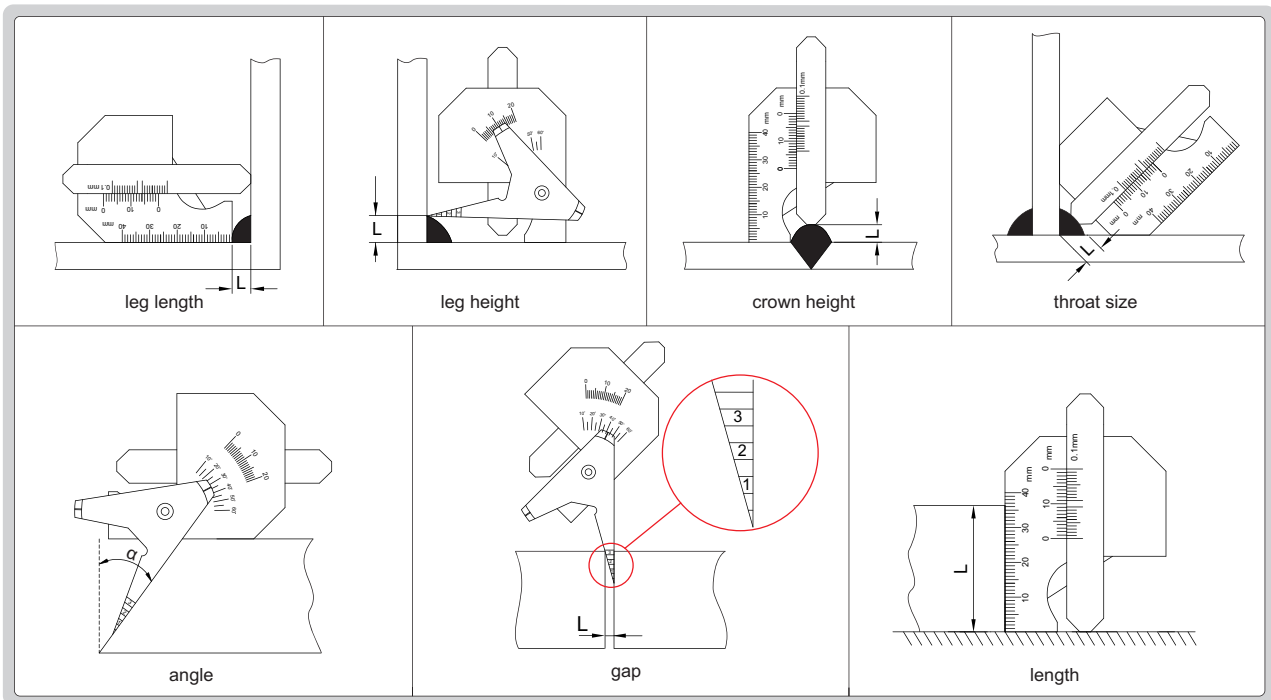


front



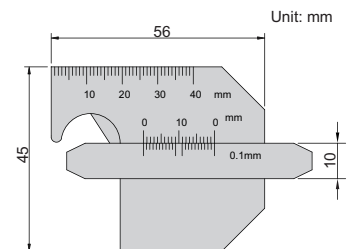
back

6832-1



- Made of stainless steel
- Stain chrome plated surface

| Code | Measurement | Range | Graduation | Accuracy |
|--------|--------------|-----------|------------|----------|
| 6832-1 | leg length | 0 - 10mm | 0.1mm | ±0.1mm |
| | leg height | 0 - 20mm | 1mm | ±0.5mm |
| | crown height | 0 - 10mm | 0.1mm | ±0.1mm |
| | throat size | 0 - 10mm | 0.1mm | ±0.1mm |
| | angle | 0° - 60° | 5° | ±1° |
| | gap | 1 - 3.5mm | 0.5mm | ±0.5mm |
| | length | 0 - 40mm | 1mm | ±0.5mm |



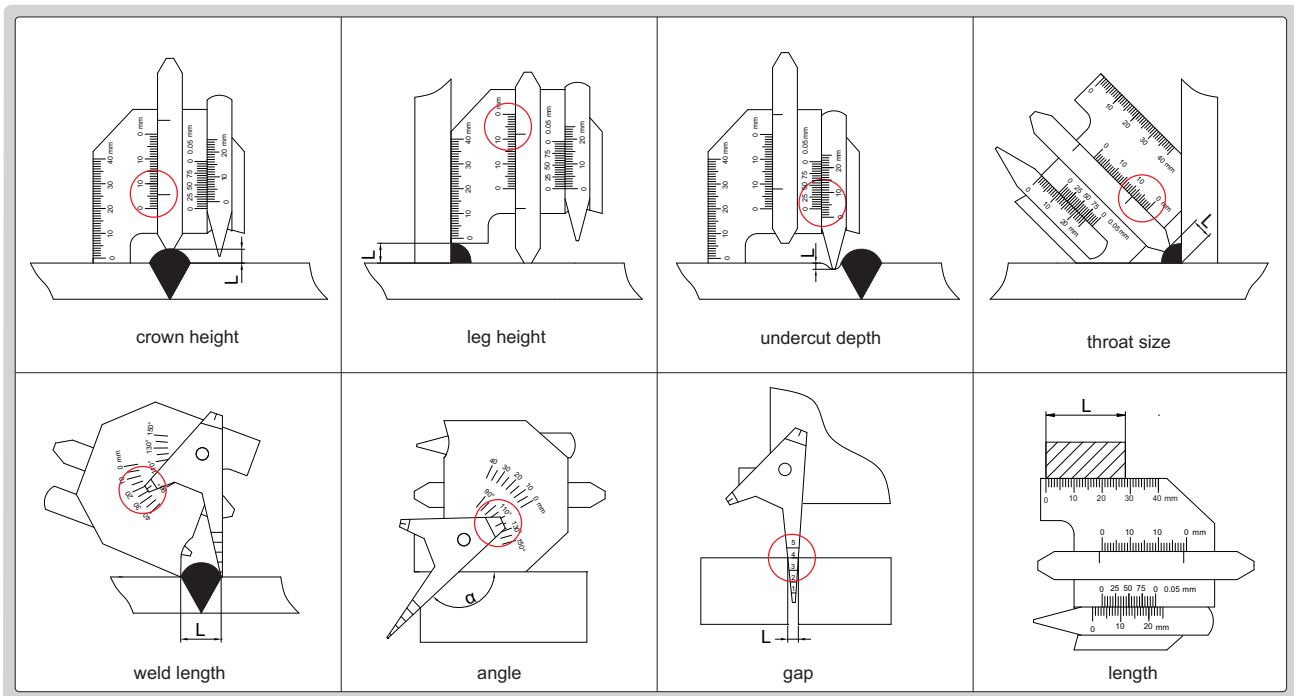
WELDING GAGE



front

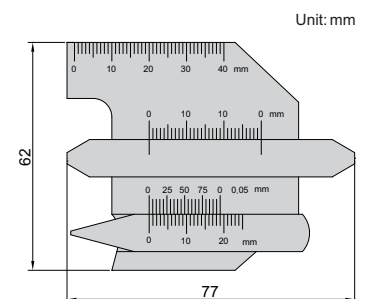
4838-1

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 |



WELDING GAGE

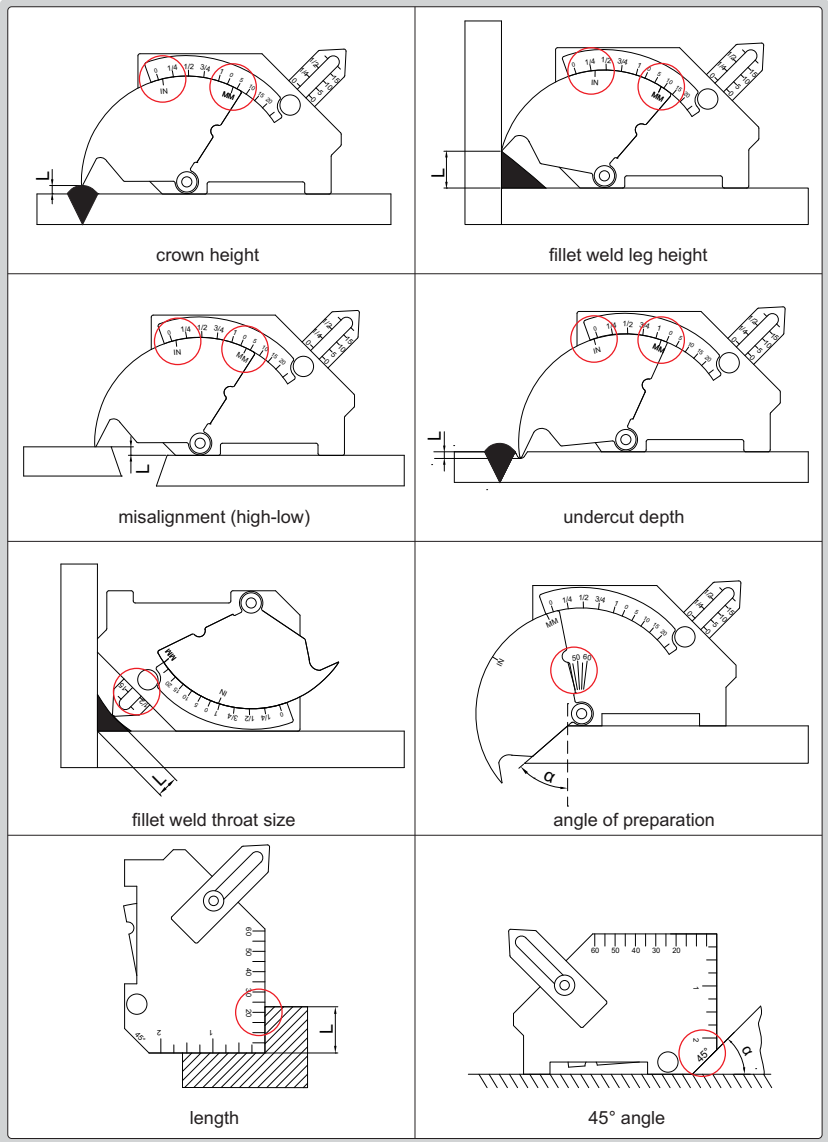


front



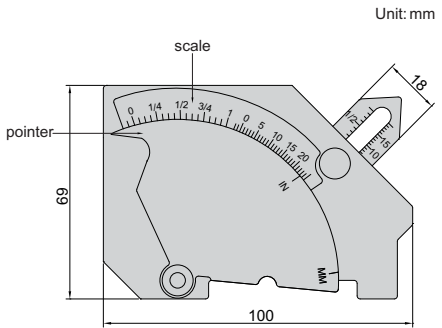
back

4835-1



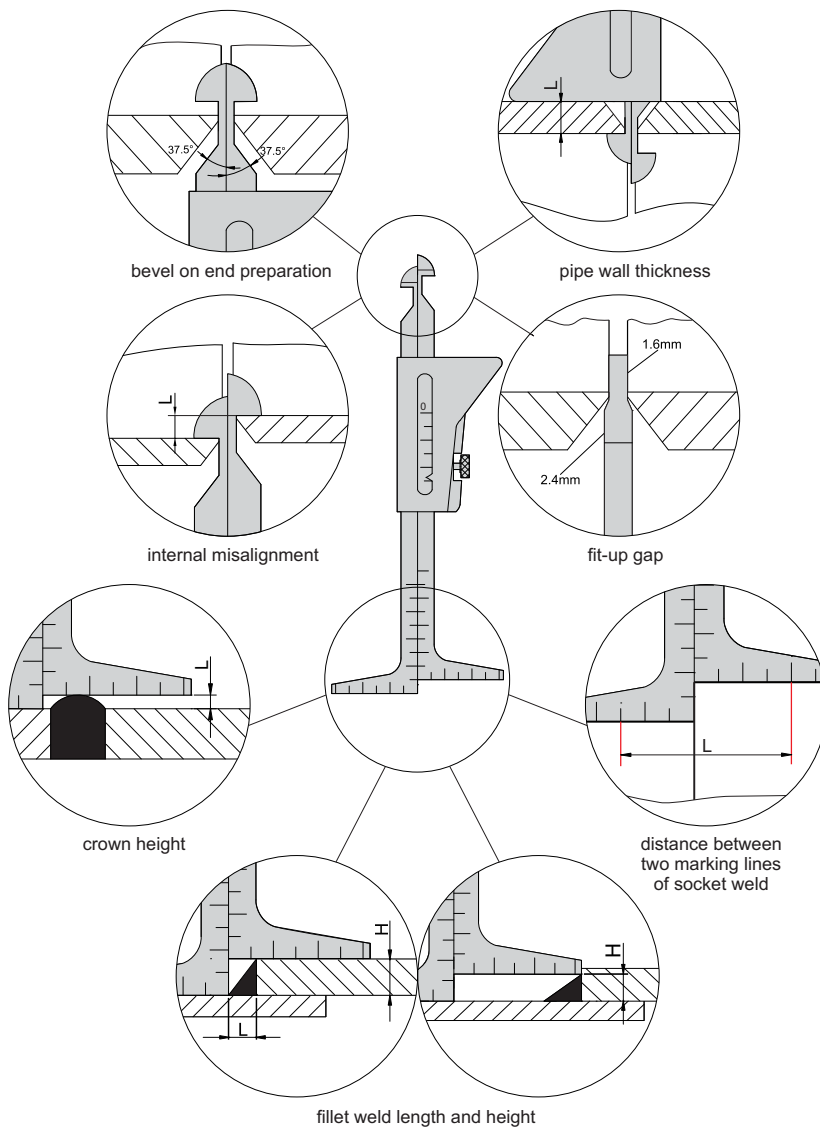
- Adjustable scale to compensate pointer wear
- Made of stainless steel

| 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° |



Unit: mm

PIPE WELDING GAGE

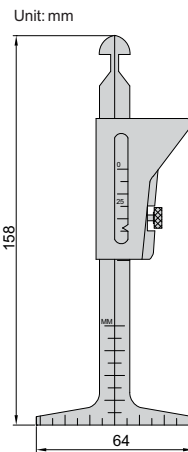


front



back

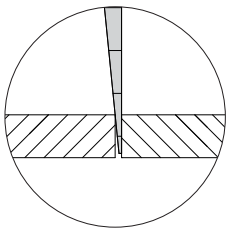
4839-1



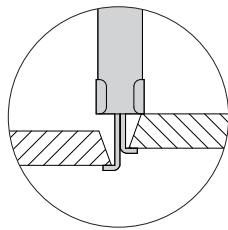
■ Made of stainless steel

| 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 |

PIPE WELDING GAGE



fit-up gap

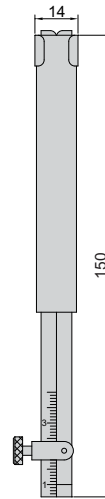


internal misalignment

- 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 |

Unit: mm

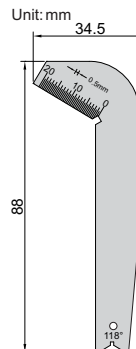
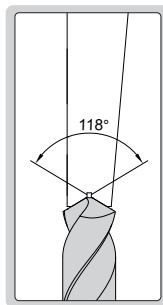
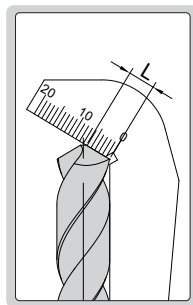


4841-1

DRILL POINT GAGE

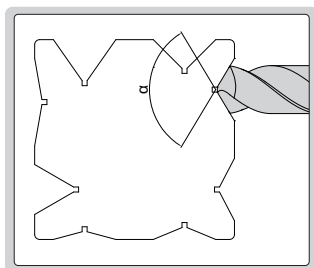
- For twist drills with 118° angle, to check if the center of tip is concentric with the drill body
- Made of stainless steel

| Code | Accuracy | |
|--------|----------|---------|
| | Angle | Length |
| 4843-1 | ±0.5° | ±0.05mm |

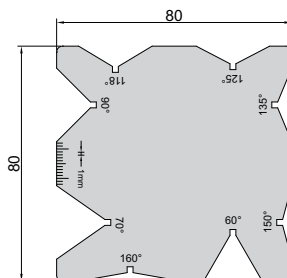


4843-1

DRILL ANGLE GAGE



Unit: mm



4842-1

| Code | Accuracy |
|--------|----------|
| 4842-1 | ±0.5° |

- Check drills with angle 60°, 70°, 90°, 118°, 125°, 135°, 150° or 160°
- Made of stainless steel

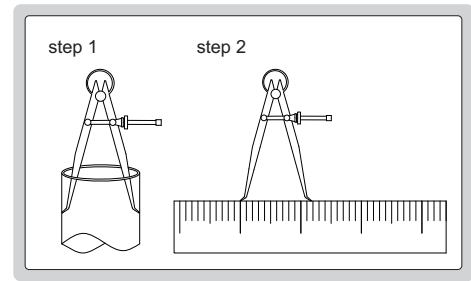
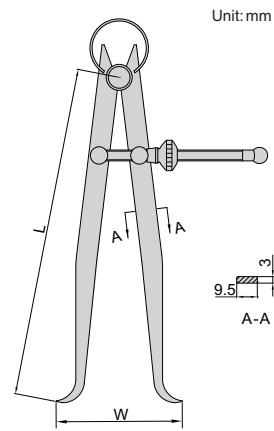
INSIDE SPRING CALIPER



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 |



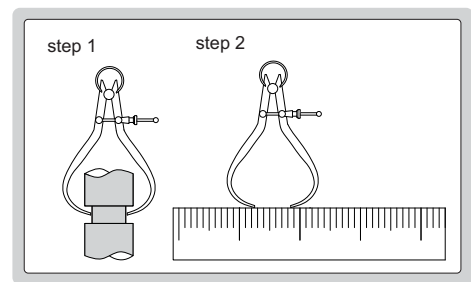
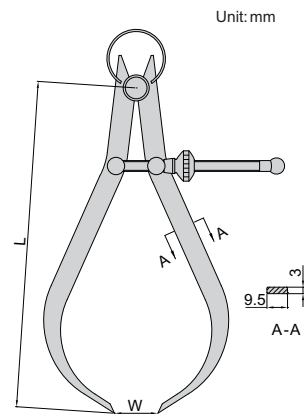
OUTSIDE SPRING CALIPER



7262-150

- Made of carbon steel

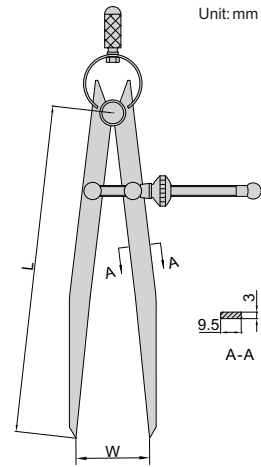
| Code | Size (L) | Range (W) |
|----------|----------|-----------|
| 7262-150 | 155mm | 0 - 140mm |
| 7262-200 | 210mm | 0 - 210mm |
| 7262-250 | 265mm | 0 - 270mm |
| 7262-300 | 310mm | 0 - 320mm |



SPRING DIVIDER

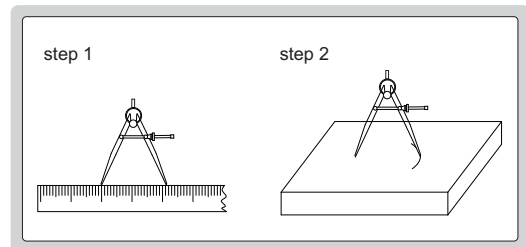


7260-150



- Made of carbon steel
- Hardened points

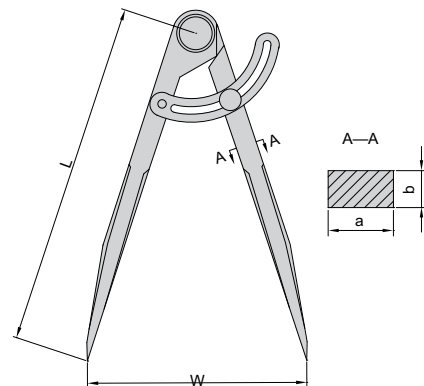
| Code | Size (L) | Range (W) |
|----------|----------|-----------|
| 7260-150 | 150mm | 0 - 150mm |
| 7260-200 | 200mm | 0 - 210mm |
| 7260-250 | 245mm | 0 - 260mm |
| 7260-300 | 300mm | 0 - 320mm |



DIVIDER

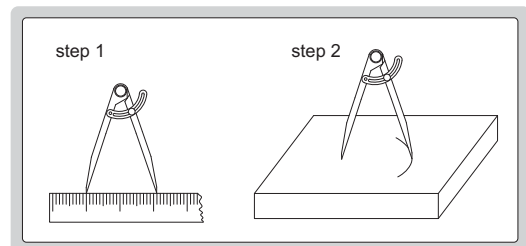


7247-150



- Made of carbon steel
- Hardened points

| Code | Size (L) | Range (W) | (mm) | |
|----------|----------|-----------|------|---|
| | | | a | b |
| 7247-150 | 150mm | 0 - 140mm | 8.5 | 7 |
| 7247-200 | 200mm | 0 - 190mm | 10 | 7 |
| 7247-300 | 300mm | 0 - 290mm | 12 | 7 |



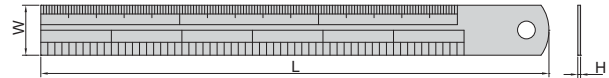
STEEL RULE

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)

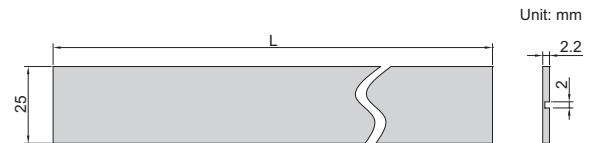
| Code | Range | Accuracy | L | W | H | Remark |
|-----------|------------|----------|------|----|-----|------------------------------|
| 7110-150 | 150mm/6" | ±0.08mm | 170 | 18 | 1.0 | graduation on front and back |
| 7110-200 | 200mm/8" | ±0.08mm | 220 | 18 | 1.0 | graduation on front and back |
| 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

- Rigid rules
- With groove on the back, suitable for combination square set (code 2278-180)
- Satin chrome plated



Unit: mm

| Code | Range | Graduation | | Accuracy | L |
|-----------|-----------|-----------------|---------------|----------|-------|
| | | front | back | | |
| 7113-300A | 300mm/12" | 0.5mm and 1/32" | 1mm and 1/64" | ±0.15mm | 300mm |
| 7113-600A | 600mm/24" | 0.5mm and 1/32" | 1mm and 1/64" | ±0.25mm | 600mm |



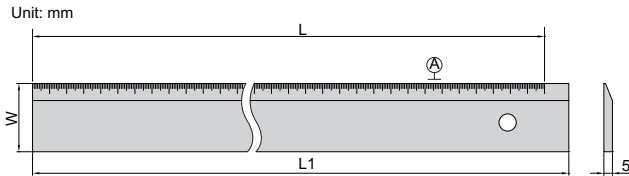
groove on the back

RELATIVE PRODUCT:
STRAIGHT EDGE
(CODE 4700-, 7117-)

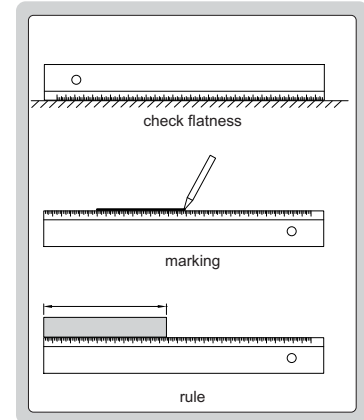
STRAIGHT EDGE



7111-300A



- Check flatness and straightness, as well as for marking
- Graduation on the beveled edge
- Made of hardened tool steel
- Chrome plated



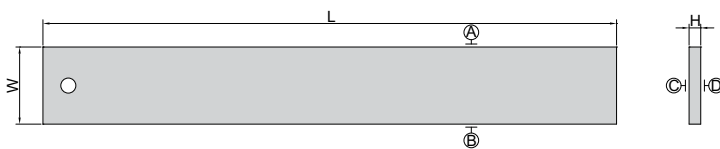
| Code | Range (L) | Straightness of A | L1 | W |
|------------|-----------|-------------------|--------|------|
| 7111-300A | 300mm | 0.02mm | 320mm | 40mm |
| 7111-500A | 500mm | 0.03mm | 520mm | 40mm |
| 7111-1000A | 1000mm | 0.04mm | 1020mm | 50mm |

RELATIVE PRODUCT:
STRAIGHT EDGE
(CODE 4700-, 7111-)

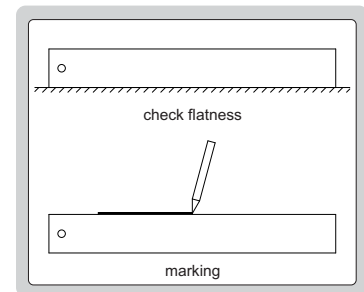
PRECISION STRAIGHT EDGE



7117-300

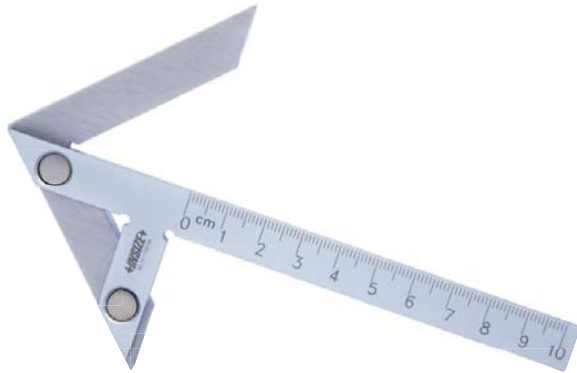


- Check flatness, straightness and parallelism, as well as for marking
- Made of tool steel
- Hardness HRC58



| 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 |

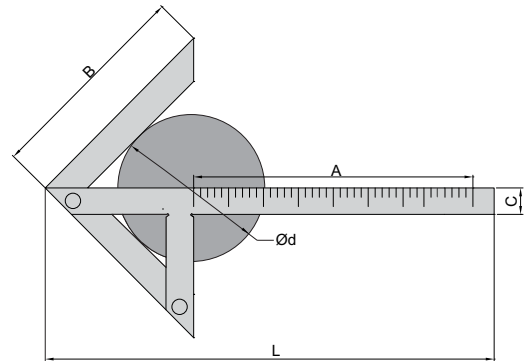
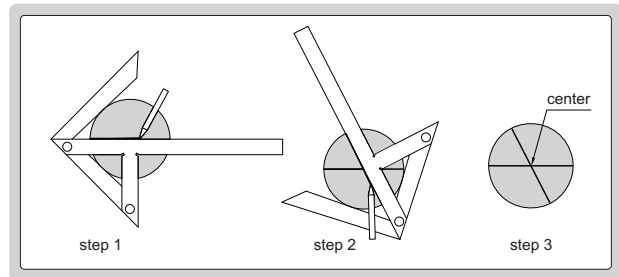
CENTER MARKING GAGE



7205-100

- Marking the center of round plates and shafts
- Made of stainless steel
- Satin chrome plated

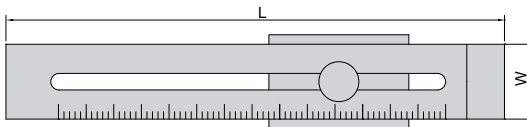
| Code | Size (AxB) | Diameter of shafts ($\varnothing d$) | Accuracy | C | L |
|----------|------------|--|---------------|----|-----|
| 7205-100 | 100X70mm | 4 - 90mm | ± 0.15 mm | 12 | 153 |
| 7205-150 | 150x130mm | 4 - 190mm | ± 0.15 mm | 15 | 245 |
| 7205-200 | 200x150mm | 6 - 220mm | ± 0.15 mm | 15 | 310 |



MARKING GAGE

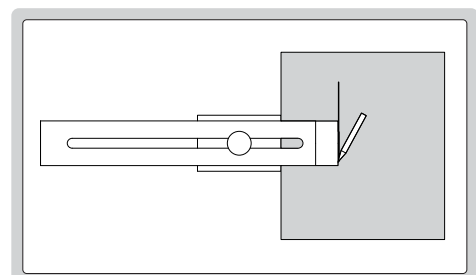


7120-200A

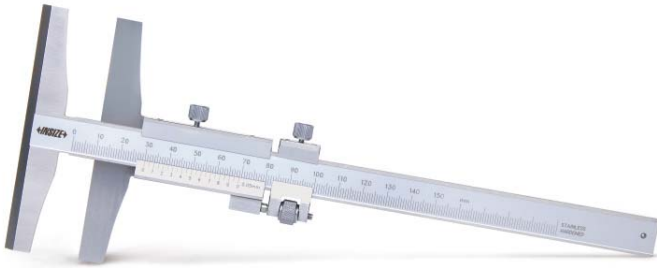


- Made of stainless steel
- Satin chrome finish

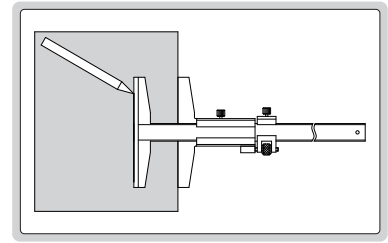
| Code | Range | Graduation | Accuracy | L | W |
|-----------|-----------|------------|--------------|-----|----|
| 7120-200A | 0 - 200mm | 0.1mm | ± 0.1 mm | 250 | 40 |
| 7120-250A | 0 - 250mm | 0.1mm | ± 0.1 mm | 300 | 40 |
| 7120-300A | 0 - 300mm | 0.1mm | ± 0.1 mm | 350 | 40 |



T-SHAPE MARKING GAGE

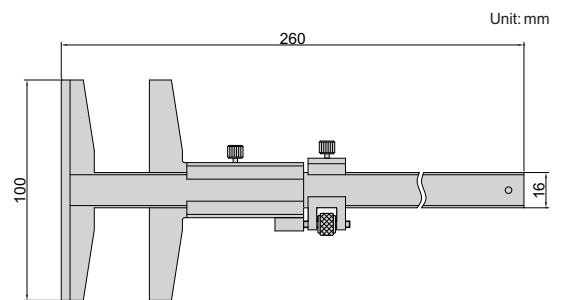


1275-150A



- Made of stainless steel
- Satin chrome plated reading surface

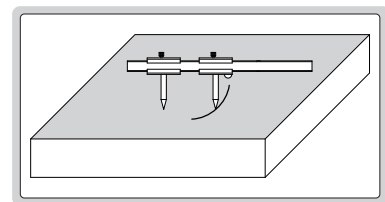
| Code | Range | Graduation | Accuracy |
|-----------|---------|------------|----------|
| 1275-150A | 0-150mm | 0.05mm | ±0.05mm |



SCRIBER CALIPER

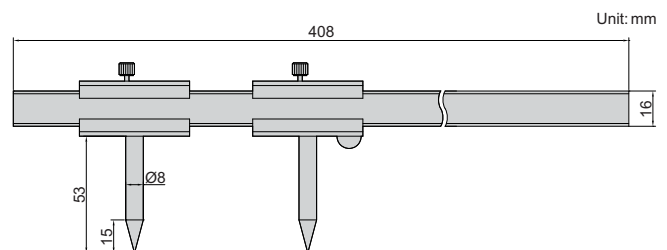


7203-300A



- Made of stainless steel
- Satin chrome plated reading surface
- Hardened scriber tips

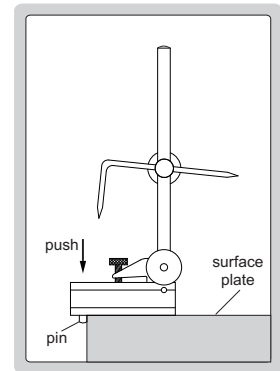
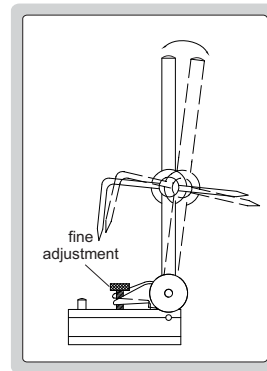
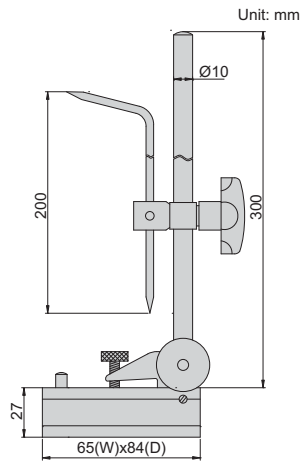
| Code | Range | Graduation | Accuracy |
|-----------|----------|------------|----------|
| 7203-300A | 51-300mm | 0.1mm | ±0.1mm |



HEIGHT SCRIBER



6990-300A



| Code |
|-----------|
| 6990-300A |

- Grooved bottom for cylinder
- Two pins to be set against the edge of surface plate

SCRIBER



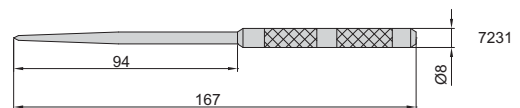
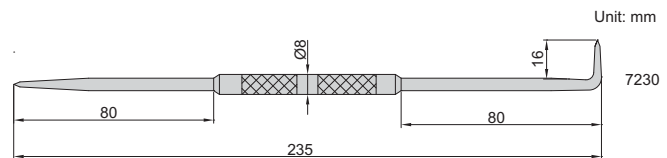
7230



7231



7232



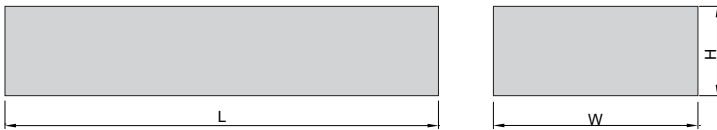
- Nickel plated

| Code | Tip |
|------|---------------|
| 7230 | hardened tips |
| 7231 | hardened tip |
| 7232 | carbide tip |

GRANITE SURFACE PLATE



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
- Supplied with calibration certificate
- Optional accessory: stand for granite surface plate (code **6902**), jack for granite surface plate (code **6903**)

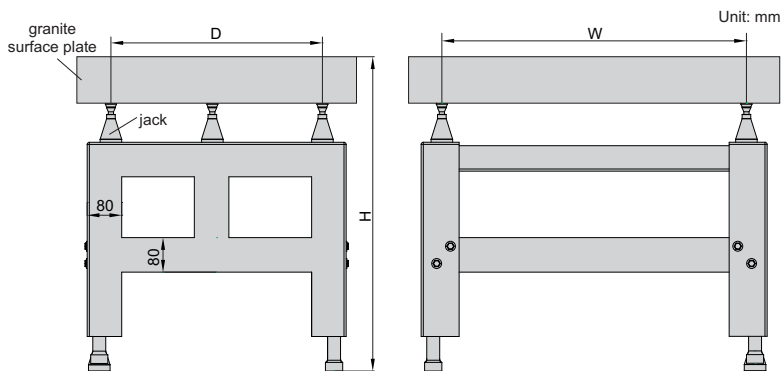
Grade 00

| Code | Size (LxWxH) | Flatness | Weight (Kg) |
|-----------|-----------------|----------|-------------|
| 6900-132 | 300x200x60mm | 2.7µm | 11 |
| 6900-142 | 400x250x60mm | 2.9µm | 18 |
| 6900-144 | 400x400x60mm | 3.1µm | 29 |
| 6900-153 | 500x315x70mm | 3.2µm | 33 |
| 6900-164 | 630x400x80mm | 3.5µm | 60 |
| 6900-166 | 630x630x100mm | 3.8µm | 119 |
| 6900-185 | 800x500x100mm | 3.9µm | 120 |
| 6900-1106 | 1000x630x140mm | 4.4µm | 265 |
| 6900-1101 | 1000x1000x150mm | 4.8µm | 450 |
| 6900-1128 | 1200x800x160mm | 4.9µm | 461 |
| 6900-1161 | 1600x1000x180mm | 5.8µm | 864 |
| 6900-1201 | 2000x1000x220mm | 6.5µm | 1320 |
| 6900-1202 | 2000x1500x250mm | 7.0µm | 2250 |

Grade 0

| Code | Size (LxWxH) | Flatness | Weight (Kg) |
|-----------|-----------------|----------|-------------|
| 6900-032 | 300x200x60mm | 5.4µm | 11 |
| 6900-042 | 400x250x60mm | 5.9µm | 18 |
| 6900-044 | 400x400x60mm | 6.3µm | 29 |
| 6900-053 | 500x315x70mm | 6.4µm | 33 |
| 6900-064 | 630x400x80mm | 7.0µm | 60 |
| 6900-066 | 630x630x100mm | 7.6µm | 119 |
| 6900-085 | 800x500x100mm | 7.8µm | 120 |
| 6900-0106 | 1000x630x140mm | 8.7µm | 265 |
| 6900-0101 | 1000x1000x150mm | 9.7µm | 450 |
| 6900-0128 | 1200x800x160mm | 9.8µm | 461 |
| 6900-0161 | 1600x1000x180mm | 11.5µm | 864 |
| 6900-0201 | 2000x1000x220mm | 12.9µm | 1320 |
| 6900-0202 | 2000x1500x250mm | 14.0µm | 2250 |

STAND FOR GRANITE SURFACE PLATE



6902-64A

- For medium size granite surface plates
- Adjusting range of jacks: 25mm
- One foot on the bottom is adjustable

| Code | For granite surface plate | W | D | H (with granite surface plates) |
|-----------|--|-----|-----|---------------------------------|
| 6902-64A | 630x400x80mm (code 6900-064 and 6900-164) | 352 | 224 | 755-780 |
| 6902-66A | 630x630x100mm (code 6900-066 and 6900-166) | 352 | 352 | 755-780 |
| 6902-85A | 800x500x100mm (code 6900-085 and 6900-185) | 448 | 280 | 755-780 |
| 6902-106A | 1000x630x140mm (code 6900-0106 and 6900-1106) | 560 | 352 | 735-760 |
| 6902-101A | 1000x1000x150mm (code 6900-0101 and 6900-1101) | 560 | 560 | 735-760 |
| 6902-128A | 1200x800x160mm (code 6900-0128 and 6900-1128) | 672 | 448 | 735-760 |
| 6902-161A | 1600x1000x180mm (code 6900-0161 and 6900-1161) | 896 | 560 | 735-760 |

JACK SET FOR GRANITE SURFACE PLATE

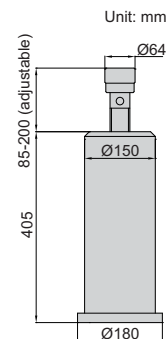


Code

6903-A

6903-A

- 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)

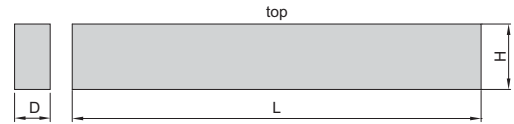


GRANITE STRAIGHT EDGE



4147-500

| Code | Length (L) | Flatness of top | D | H |
|-----------|------------|-----------------|----|-----|
| 4147-500 | 500mm | 2.8 μ m | 50 | 80 |
| 4147-1000 | 1000mm | 3.3 μ m | 60 | 120 |

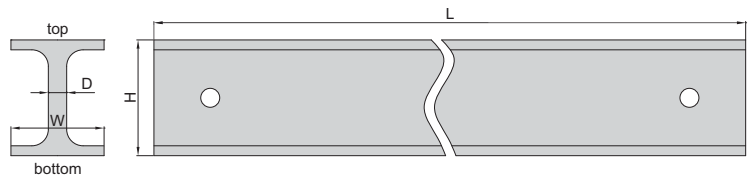


MAGNALIUM STRAIGHT EDGE



4180-500

- Made of magnalium, light weight, non-deform, no rusty

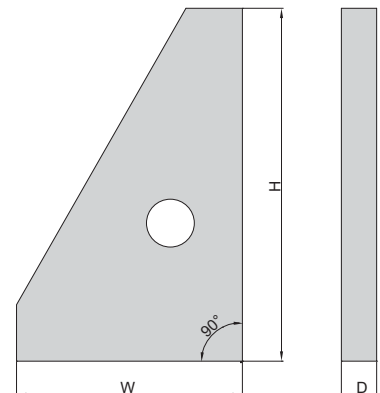


| Code | Length (L) | Flatness of top and bottom | Parallelism between top and bottom | H | W | D |
|-----------|------------|----------------------------|------------------------------------|-----|----|---|
| 4180-500 | 500mm | 3 μ m | 4 μ m | 60 | 30 | 5 |
| 4180-1000 | 1000mm | 5 μ m | 8 μ m | 60 | 30 | 5 |
| 4180-1500 | 1500mm | 15 μ m | 22 μ m | 100 | 40 | 5 |
| 4180-2000 | 2000mm | 18 μ m | 27 μ m | 100 | 40 | 8 |

GRANITE SQUARE

4141-250

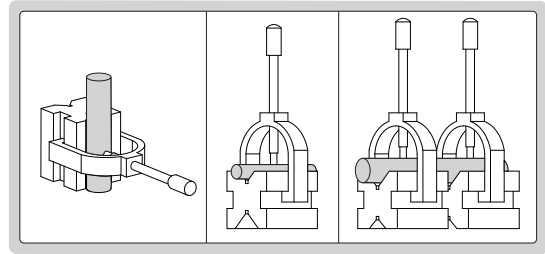
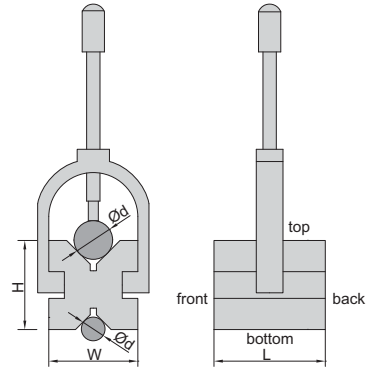
| Code | Size (HxW) | Squareness | D |
|----------|------------|-------------|------|
| 4141-250 | 250x160mm | 2.5 μ m | 25mm |
| 4141-400 | 400x250mm | 3.5 μ m | 40mm |
| 4141-630 | 630x400mm | 4.5 μ m | 63mm |



V-BLOCK SET



6896-11



- Hold cylindrical workpieces for inspection and machining
- Two V-blocks per set
- Hardened to HRC60±2
- V groove on the top for large shafts
- V groove on the bottom for small shafts

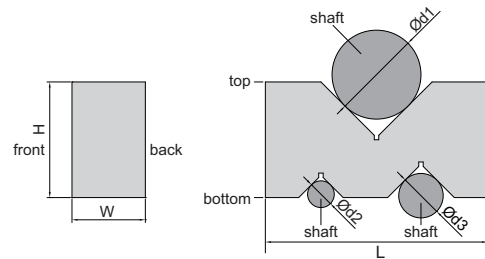
| Code | Size (LxWxH) | Range of shafts ($\varnothing d$) | Parallelism of both V grooves to top and bottom sides | Squareness of both V grooves to front and back sides | Height difference of a matched pair |
|---------|--------------|-------------------------------------|---|--|-------------------------------------|
| 6896-11 | 50x40x40mm | 5 - 30mm | 5 μ m | 5 μ m | 5 μ m |
| 6896-12 | 80x63x63mm | 7 - 63mm | 5 μ m | 5 μ m | 5 μ m |
| 6896-13 | 100x80x80mm | 7 - 80mm | 5 μ m | 5 μ m | 5 μ m |

V-BLOCK SET



6887-3

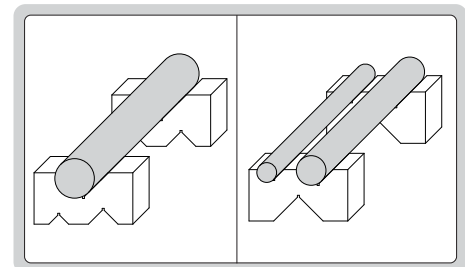
(mm)



| Code | Size (LxWxH) | Range of shafts($\varnothing d1$) | Range of shafts($\varnothing d2$) | Range of shafts($\varnothing d3$) |
|--------|--------------|-------------------------------------|-------------------------------------|-------------------------------------|
| 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 |

- Two V blocks per set
- Made of hardened tool steel

| 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 | 5 μ m | 5 μ m | 5 μ m |
| 6887-2 | 5 μ m | 5 μ m | 5 μ m |
| 6887-3 | 5 μ m | 5 μ m | 5 μ m |
| 6887-4 | 5 μ m | 5 μ m | 5 μ m |

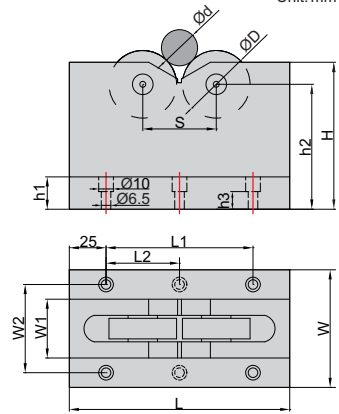
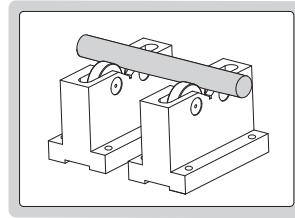


ROLLER BEARING V-BLOCK SET

Unit: mm



6888-1



(mm)

- Two V-blocks per set
- Workpieces don't get damaged due to bearings
- Suitable for heavy workpieces

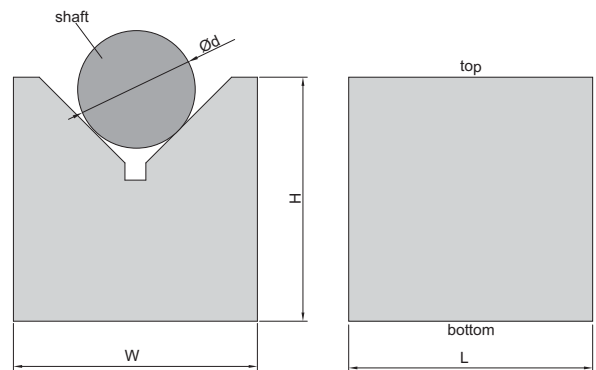
| Code | W1 | W2 | h1 | h2 | h3 | L1 | L2 | S |
|--------|----|----|----|-----|----|-----|----|-----|
| 6888-1 | 22 | 44 | 20 | 85 | 12 | 100 | - | 60 |
| 6888-2 | 40 | 60 | 22 | 85 | 12 | 100 | - | 50 |
| 6888-3 | 60 | 80 | 30 | 124 | 20 | 180 | 90 | 120 |

| Code | Size (LxWxH) | Diameter of bearings (ØD) | Range of shafts (Ød) | Parallelism of bearings to bottom (when two V-blocks are closed) | Load capacity |
|--------|---------------|---------------------------|----------------------|--|---------------|
| 6888-1 | 150x60x100mm | 42mm | 25 - 70mm | 5µm | 500kg |
| 6888-2 | 150x80x100mm | 47mm | 3 - 55mm | 5µm | 1000kg |
| 6888-3 | 230x100x150mm | 72mm | 70 - 200mm | 5µm | 1000kg |

GRANITE V-BLOCK SET

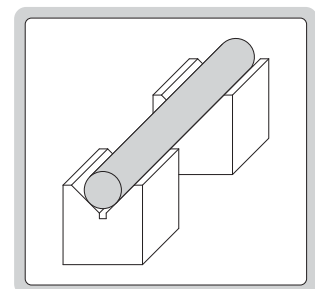


6897-1



- Two V-blocks per set

| Code | Size (LxWxH) | Range of shafts (Ød) | Parallelism of V groove to bottom | Height difference of a matched pair |
|--------|--------------|----------------------|-----------------------------------|-------------------------------------|
| 6897-1 | 70x70x50mm | 6 - 75mm | 5µm | 5µm |
| 6897-2 | 100x70x50mm | 6 - 99mm | 5µm | 5µm |



MAGNETIC V BLOCKS

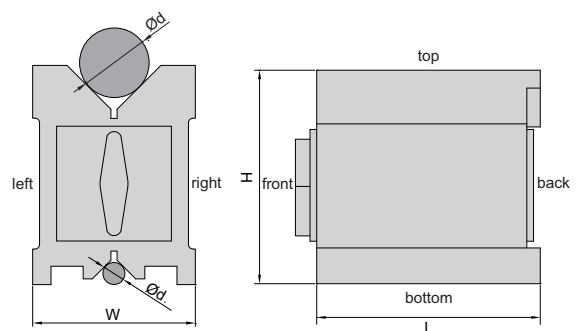
HARDENED SURFACES

HIGH PRECISION

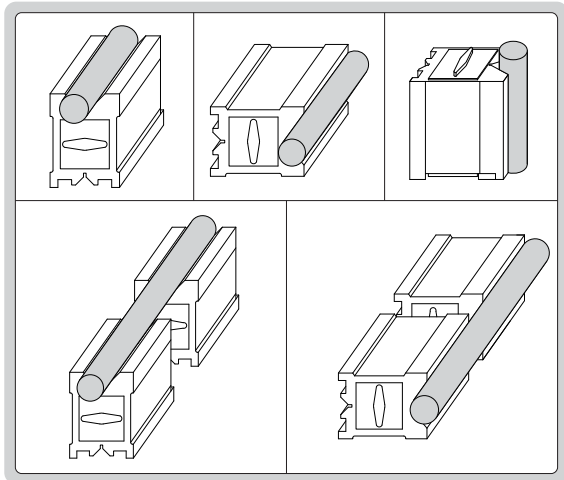
STRONG MAGNETIC FORCE



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 |

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 |

NOT SUITABLE FOR STEEL
OR IRON SURFACE

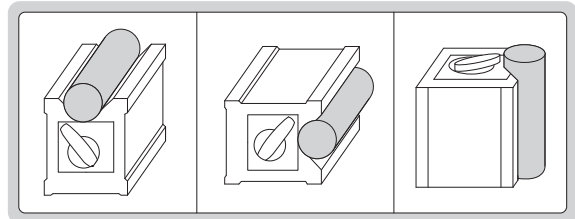
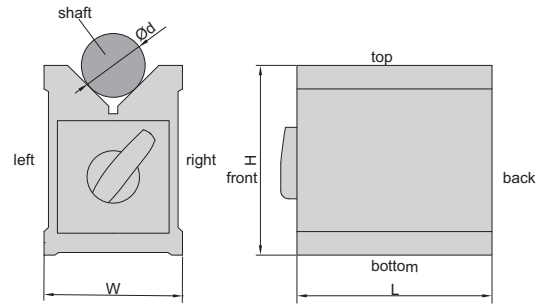
NOT HARDENED



6890-702

- Hold cylindrical workpieces for inspection and machining
- Supplied in single piece
- Not hardened
- Not suitable for steel or iron surface

MAGNETIC V-BLOCK



| Code | Size (LxWxH) | Range of shafts ($\varnothing d$) | 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 | 10 μ m | 10 μ m |

NOT SUITABLE FOR STEEL
OR IRON SURFACE

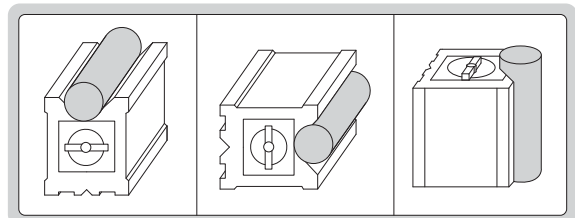
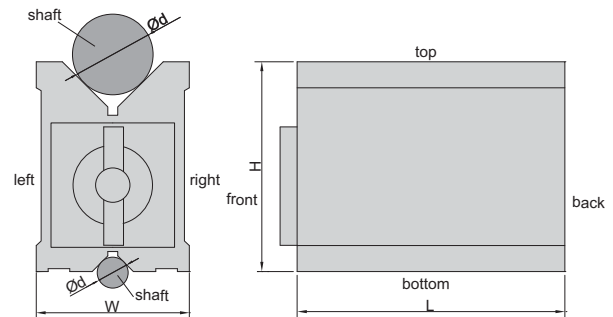
NOT HARDENED



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

MAGNETIC V-BLOCK



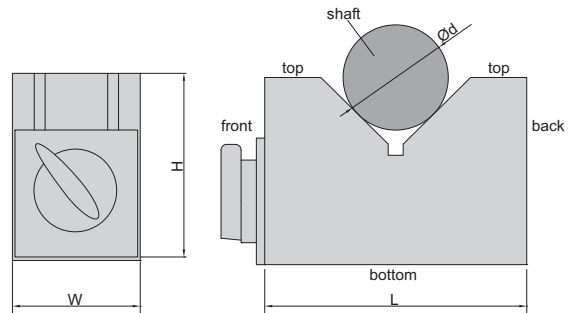
| Code | Size (LxWxH) | Range of shafts ($\varnothing d$) | Magnetic force | Parallelism of both V grooves to top, bottom, left, right side | Squareness of both V grooves to back side |
|-----------|--------------|-------------------------------------|----------------|--|---|
| 6801-1201 | 80x70x95mm | 6-67mm | 64kgf | 10 μ m | 10 μ m |
| 6801-1202 | 100x70x95mm | 6-67mm | 80kgf | 10 μ m | 10 μ m |
| 6801-1203 | 120x70x95mm | 6-67mm | 96kgf | 10 μ m | 10 μ m |

MAGNETIC V-BLOCK SET

WEAK MAGNETIC FORCE

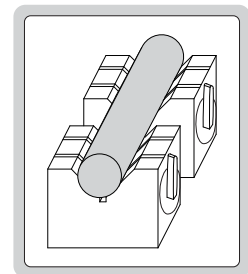


6891-1



- Hold cylindrical workpieces for inspection, not suitable for machining due to weak magnetic force
- Two V-blocks per set

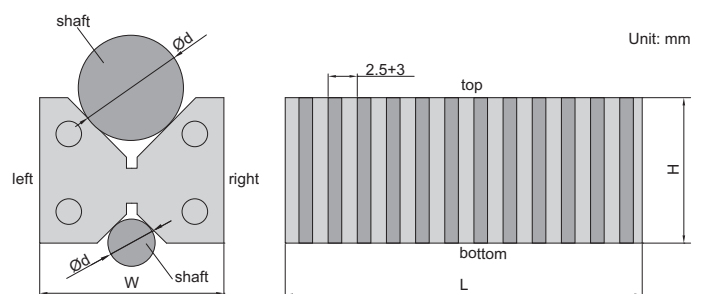
| Code | Size (LxWxH) | Range of shafts (Ød) | Magnetic force | Parallelism of V groove to bottom and back sides | Height difference of a matched pair |
|--------|--------------|----------------------|----------------|--|-------------------------------------|
| 6891-1 | 70x40x50mm | 6-46mm | 8kgf | 10µm | 10µm |
| 6891-3 | 150x50x100mm | 6-125mm | 14kgf | 10µm | 10µm |



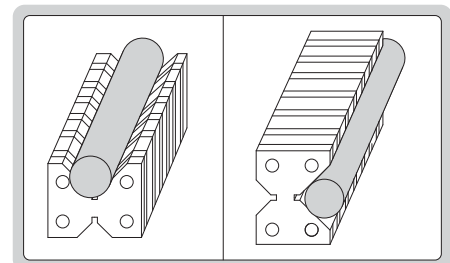
MAGNETIC INDUCTION V-BLOCK



6892-1

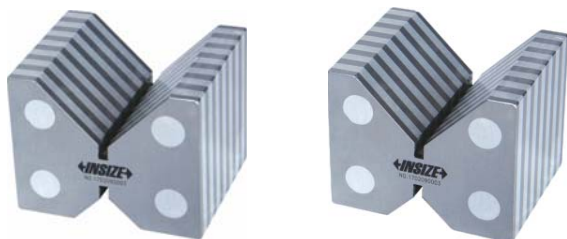


- Hold cylindrical workpieces for inspection and machining
- To be used on magnetic chucks
- Supplied in single piece
- V groove on the top for large shafts
- V groove on the bottom for small shafts

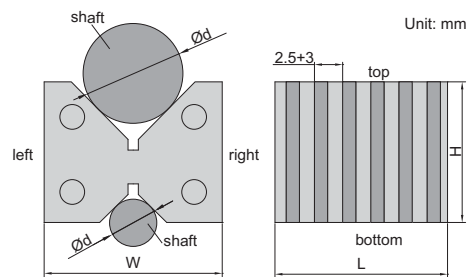


| Code | Size (LxWxH) | Range of shafts (Ød) | Pole pitch | Parallelism of both V grooves to top, bottom, left, right sides |
|--------|--------------|----------------------|------------|---|
| 6892-1 | 110x60x48mm | 6-50mm | 2.5+3mm | 10µm |

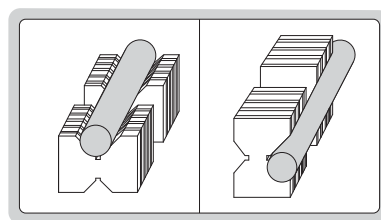
MAGNETIC INDUCTION V-BLOCK SET



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



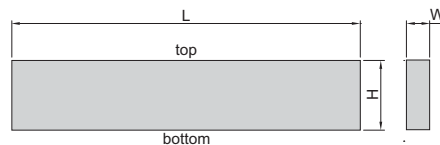
| Code | Size (LxWxH) | Range of shafts ($\varnothing d$) | Pole pitch | Parallelism of both V grooves to top, bottom, left and right sides | Height difference of a matched pair |
|--------|--------------|-------------------------------------|------------|--|-------------------------------------|
| 6899-1 | 50x60x48mm | 6-50mm | 2.5+3mm | 10 μ m | 10 μ m |

PARALLEL SET



6533-144

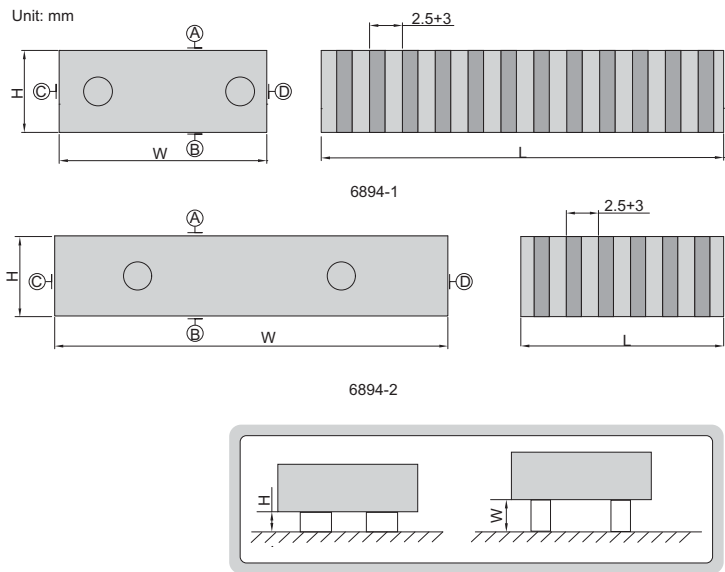
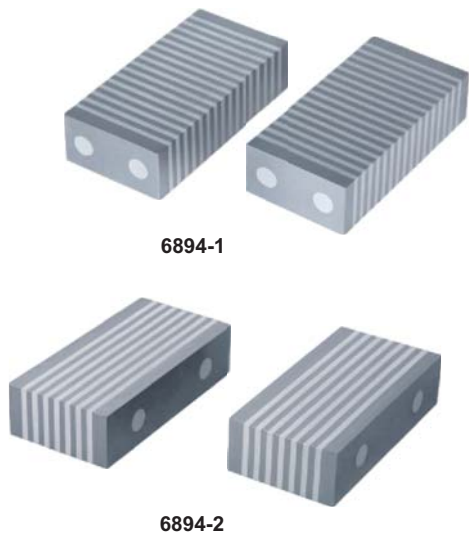
- Parallelism between top and bottom: 5 μ m
- Height difference of a matched pair: 5 μ m
- Hardened to HRC55-60



| Code | Parallels per set | Length (L) | Thickness (W) | Height (H) |
|----------|-------------------|------------|---------------|--|
| 6533-144 | 14 pairs | 150 | 10 | 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 35, 40, 45, 50 |

(mm)

MAGNETIC INDUCTION PARALLEL SET



- To be used on magnetic chucks
- Two parallels per set

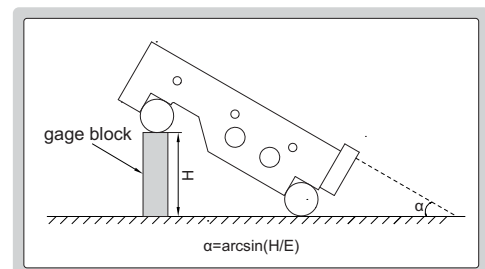
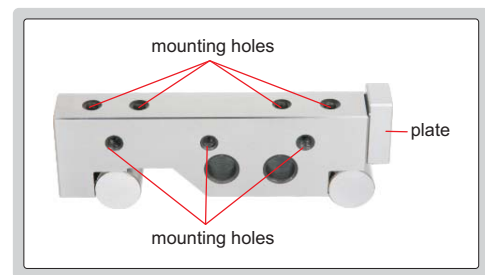
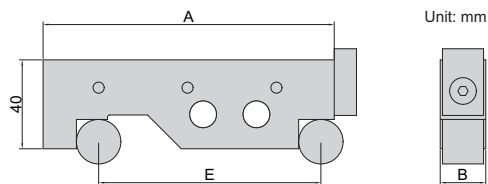
| Code | Size (LxWxH) | Pole pitch | Parallelism between A and B | Parallelism between C and D | Height difference of a matched pair |
|--------|--------------|------------|-----------------------------|-----------------------------|-------------------------------------|
| 6894-1 | 100x50x25mm | 2.5+3mm | 10µm | 10µm | 10µm |
| 6894-2 | 50x100x25mm | 2.5+3mm | 10µm | 10µm | 10µm |

SINE BAR

RELATIVE PRODUCT:
SINE BENCH CENTER
(CODE 4157-200)

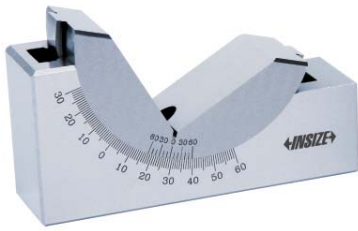


4156-130

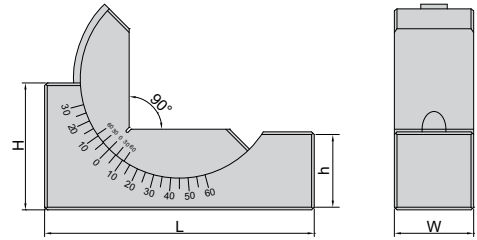


| Code | Roller distance (E) | Table size (AxB) | Accuracy ($\alpha=30^\circ$) |
|----------|---------------------|------------------|--------------------------------|
| 4156-130 | 100mm | 130x20mm | ± 5 seconds |
| 4156-230 | 200mm | 230x30mm | ± 5 seconds |

ADJUSTABLE ANGLE BLOCK



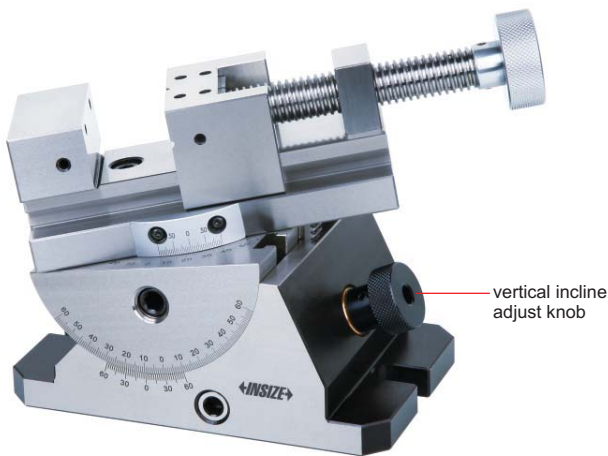
6535-30



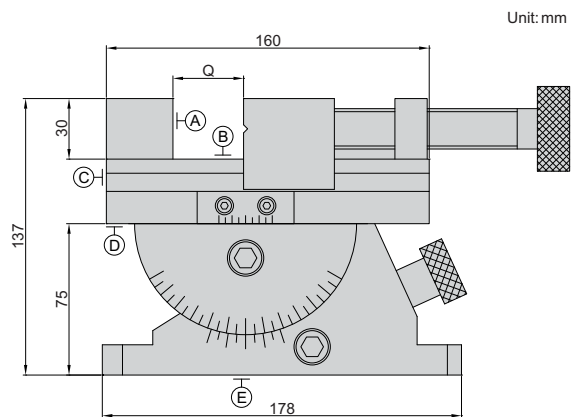
- Made of hardened tool steel
- With locking screw

| 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' |

PRECISION UNIVERSAL VISE

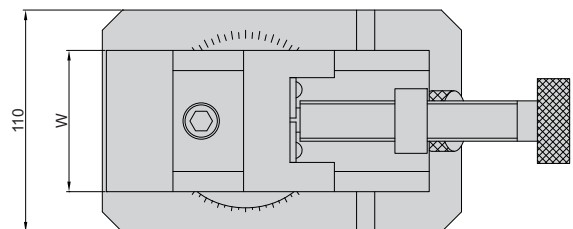


6521-80



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 |

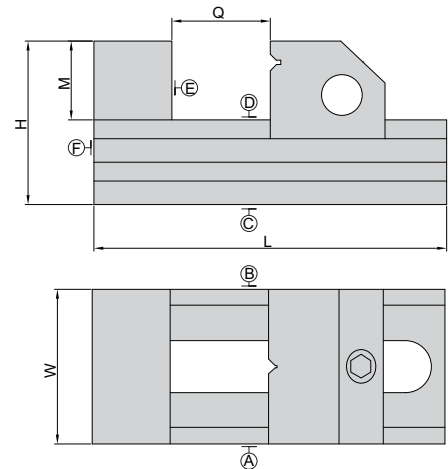
PRECISION VISE



4153-70

- Made of hardened alloy steel
- Parallelism and squareness between A, B, C, D, E and F: 5µm /100mm

| Code | Jaw opening (Q) | Jaw width (W) | Overall length (L) | H | M |
|---------|-----------------|---------------|--------------------|----|----|
| 4153-70 | 80mm | 70mm | 160mm | 62 | 32 |
| 4153-90 | 115mm | 90mm | 210mm | 80 | 40 |

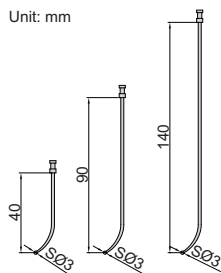


CENTERING INDICATOR

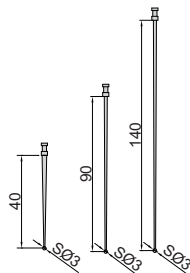


2385-3

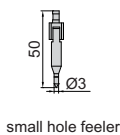
Unit: mm



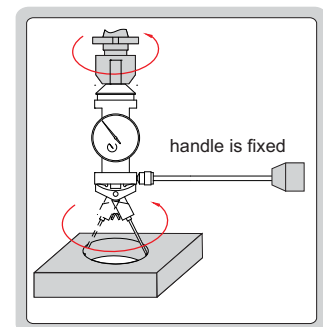
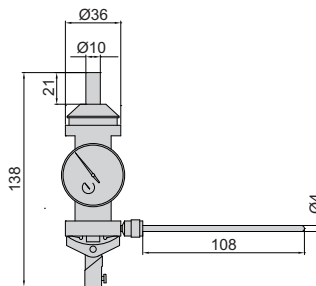
external feeler



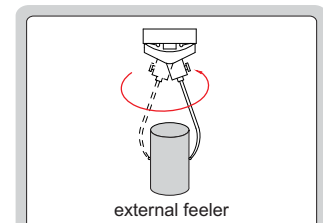
internal feeler



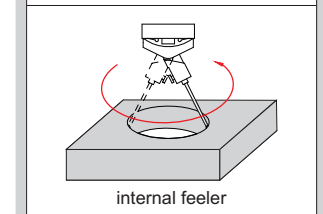
small hole feeler



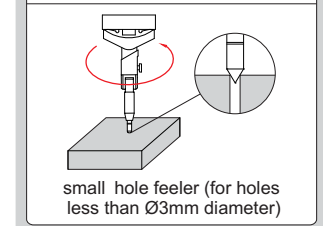
handle is fixed



external feeler



internal feeler



small hole feeler (for holes less than Ø3mm diameter)

Code

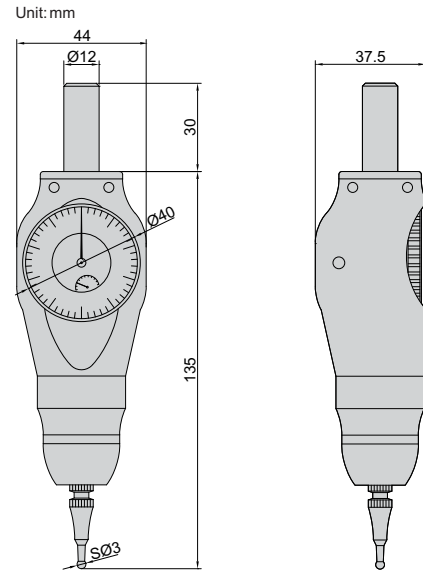
2385-3

- Provides quick and accurate centering in boring and milling set-up



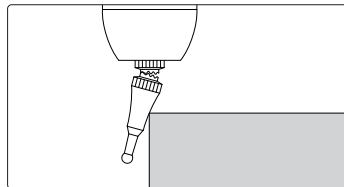
COMPACT
DESIGN

3D TESTER



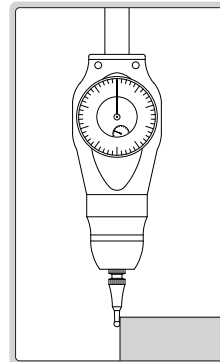
2842-3D

If probe tip is pressed too much, the probe breaks at the breaking point, in order to prevent damage of main body

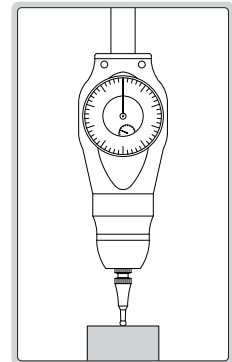


| Code | Range | Graduation |
|---------|-------|------------|
| 2842-3D | 1.5mm | 0.01mm |

radial setting



axial setting



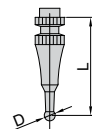
measurement

| | | |
|---|---|--|
| <p>step 1: move probe tip to reference position</p> | <p>step 2: rotate bezel to set zero</p> | <p>step 3: move probe tip to measure (=0.10mm)</p> |
|---|---|--|

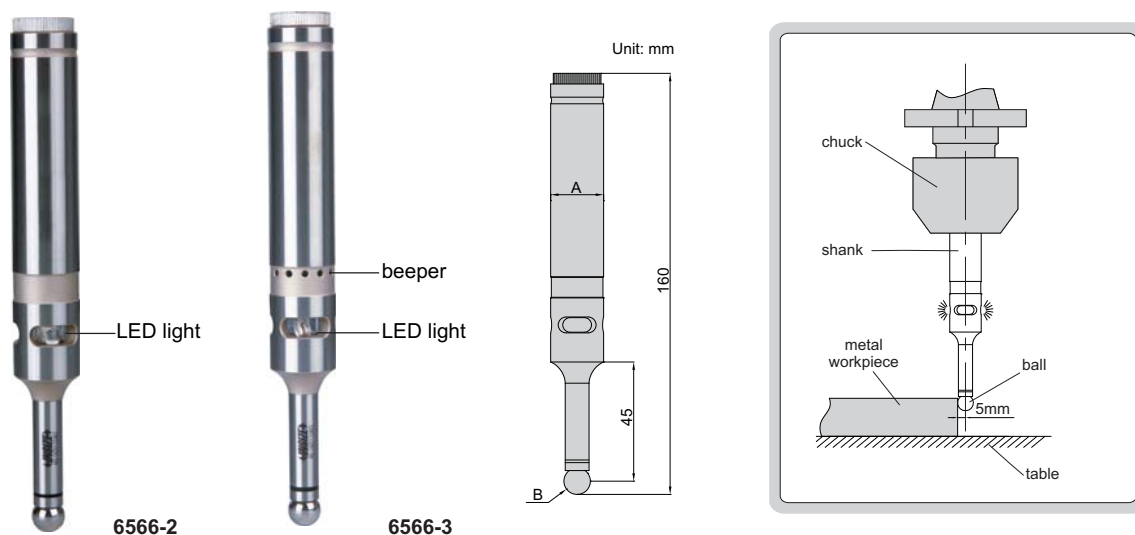
Optional accessory

(mm)

| Code | Name | L | D |
|---------|----------------|----|-----|
| 2842-N1 | standard probe | 27 | SØ3 |
| 2842-N2 | long probe | 62 | SØ6 |



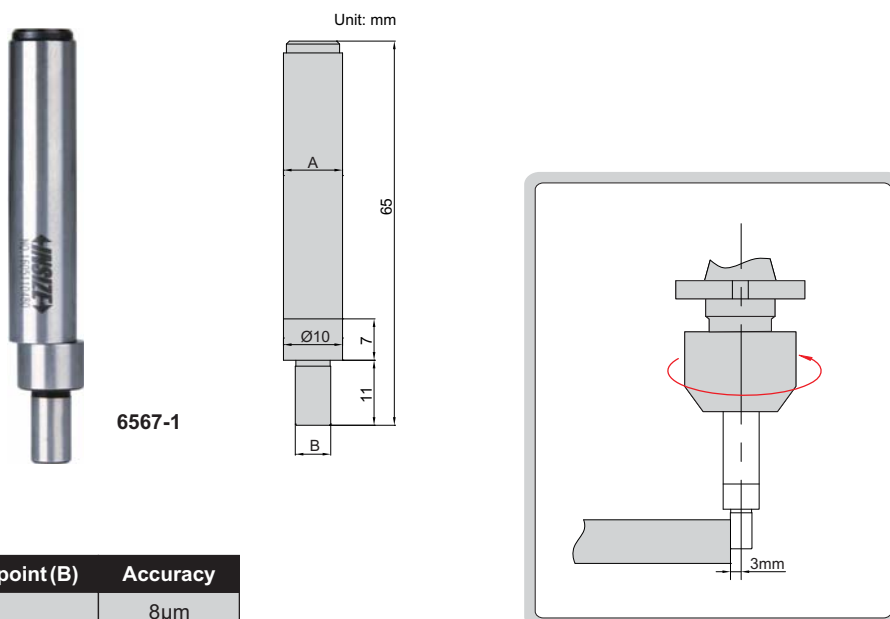
ELECTRONIC EDGE FINDER



- 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 |

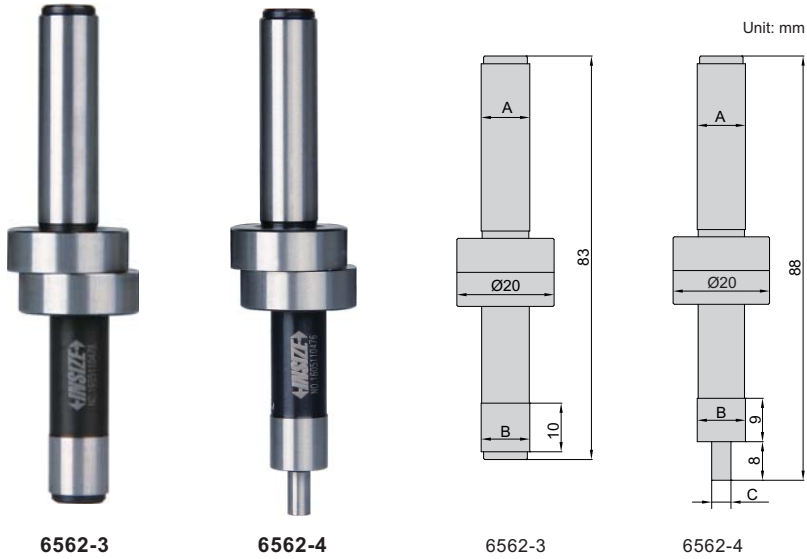
EDGE FINDER



- Hardened shank and contact point

| Code | Shank (A) | Contact point (B) | Accuracy |
|--------|-----------|-------------------|----------|
| 6567-1 | Ø10mm | Ø6mm | 8µm |

EDGE FINDER



6562-3

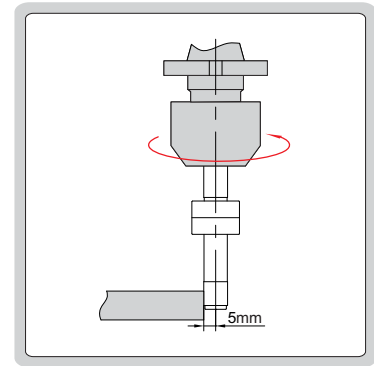
6562-4

6562-3

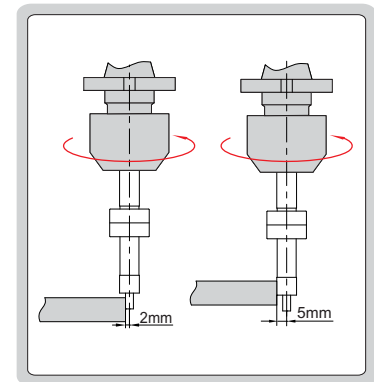
6562-4

- 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 |

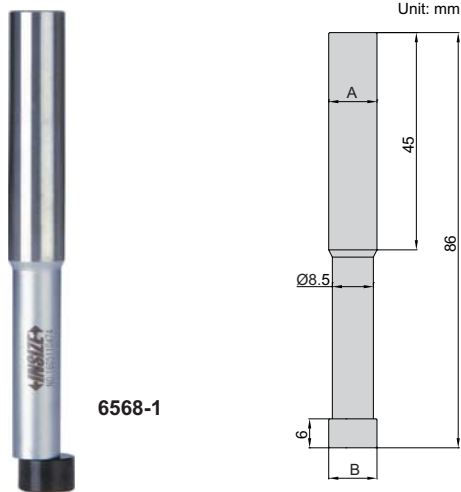


6562-3



6562-4

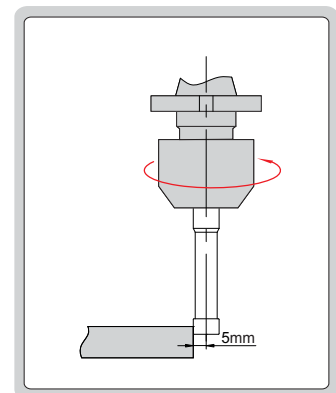
CERAMIC EDGE FINDER



6568-1

- Ceramic contact point, non magnetic

| Code | Shank (A) | Contact point (B) | Accuracy |
|--------|-----------|-------------------|----------|
| 6568-1 | Ø10mm | Ø10mm | 8µm |



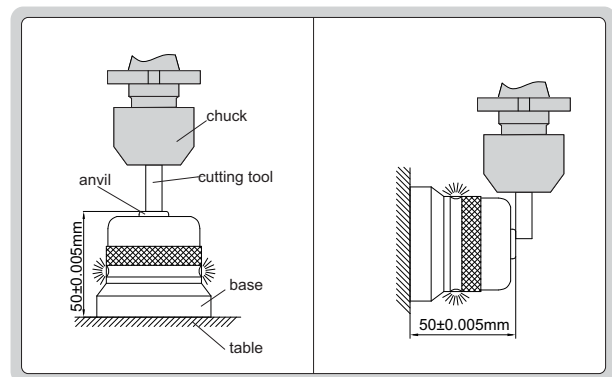
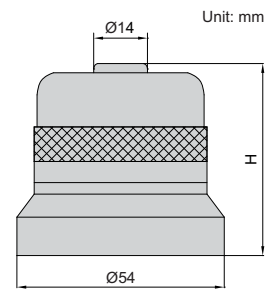
ELECTRONIC ZERO SETTER



6550-50A

- 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 or SR44

| Code | Height (H) | Accuracy |
|----------|------------|--------------------|
| 6550-50A | 50mm | $\pm 5\mu\text{m}$ |



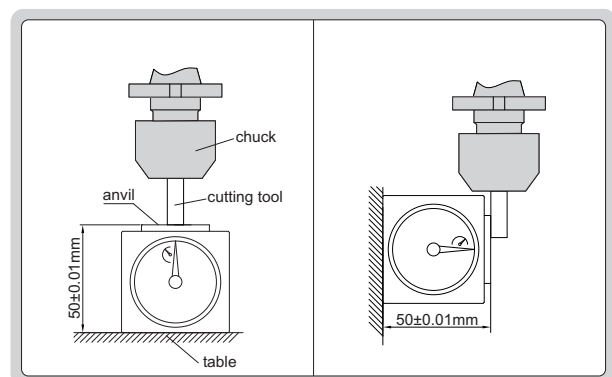
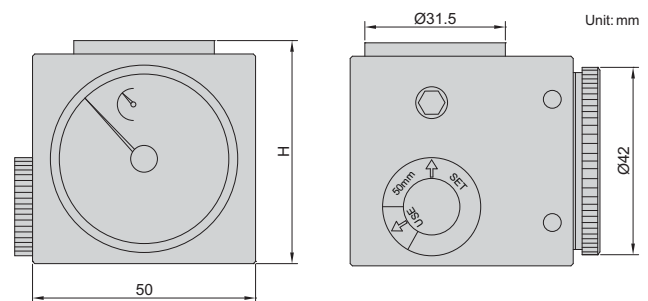
ZERO SETTER



2397-502A

- Magnetic base

| Code | Height (H) | Accuracy |
|-----------|------------|---------------------|
| 2397-502A | 50mm | $\pm 10\mu\text{m}$ |



2-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**)



5021

Code

5021

2-PIECE MEASURING TOOL SET

■ Includes:

- 1) Digital caliper, range 0-150mm/0-6",
resolution 0.01mm/0.0005" (code **1108-150**)
- 2) Digital outside micrometer, range 0-25mm/0-1",
resolution 0.001mm/0.00005" (code **3109-25A**)



5022

Code

5022

2-PIECE MEASURING TOOL SET

■ Includes:

- 1) Dial test indicator, range 0.8mm, graduation 0.01mm (code **2380-08**)
- 2) Magnetic stand

Code

5023



5023

2-PIECE MEASURING TOOL SET

■ Includes:

- 1) Dial indicator, range 10mm, graduation 0.01mm (code **2308-10A**)
- 2) Magnetic stand (code **6201-60**)

Code

5024



5024

3-PIECE MEASURING TOOL SET



- Includes:
 - 1) Digital indicator, range 12.7mm/0.5", resolution 0.01mm/0.0005" (code **2112-10**)
 - 2) Flex arm
 - 3) Locking pliers, adjustable jaw opening from 0 to 25mm

Code

5031



5031

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 **1108-150**)
- 2) Outside micrometer, range 0-25mm, graduation 0.01mm, (code **3202-25A**)
- 3) 90° beveled edge square, 100x70mm, grade 0 (code **4790-1000**)
- 4) Steel rule, 150mm/6" (code **7110-150**)

Code

5042



5042

5-PIECE MEASURING TOOL SET

■ Includes:

- 1) Digital caliper, range 0-150mm/0-6", resolution 0.01mm/0.0005", (code **1108-150**)
- 2) Outside micrometer, range 0-25mm, graduation 0.01mm (code **3203-25A**)
- 3) Dial indicator, range 10mm, graduation 0.01mm (code **2308-10A**)
- 4) Magnetic stand (code **6201-60**)
- 5) Micrometer stand (code **6300**)

Code

5051



5051

5-PIECE MEASURING TOOL SET

■ Includes:

- 1) Digital caliper, range 0-150mm/0-6", resolution 0.01mm/0.0005" (code **1108-150**)
- 2) Digital outside micrometer, range 0-25mm/0-1", resolution 0.001mm/0.00005" (code **3109-25A**)
- 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



5052

6-PIECE MEASURING TOOL SET

■ Includes:

- 1) Digital caliper, range 0-150mm/0-6", resolution 0.01mm/0.0005" (code **1108-150**)
- 2) Outside micrometer, range 0-25mm, graduation 0.01mm (code **3202-25A**)
- 3) Dial indicator, range 10mm, graduation 0.01mm (code **2308-10FA**)
- 4) 90° beveled edge square, 100x70mm, grade 0 (code **4790-1000**)
- 5) Scriber (code **7230**)
- 6) Steel rule, 150mm/6" (code **7110-150**)

Code

5061



5061

6-PIECE MEASURING TOOL SET

■ Includes:

- 1) Digital caliper, range 0-150mm/0-6"
resolution 0,01mm/0,0005" (code **1108-150**)
- 2) Outside micrometer, range 0-25mm
graduation 0,01mm (code **3202-25A**)
- 3) 90° beveled edge square, 100x70mm
grade 00 (code **4790-0100**)
- 4) Straight edge, 100mm
(code **4700-100**)
- 5) Spring divider, 150mm (code **7260-150**)
- 6) Steel rule, 200mm/8" (code **7110-200**)

Code

5062



5062

6-PIECE MEASURING TOOL 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 **1108-150**)
- 2) Outside micrometer, range 0-25mm, graduation 0.01mm (code **3202-25A**)
- 3) Protractor, range 0-180°, graduation 1° (code **4799-180**)
- 4) Pitch gauge, range 0.25-7mm, 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



5091

13-PIECE MEASURING TOOL SET

■ Includes:

- 1) Digital caliper, range 0-150mm/0-6", resolution 0.01mm/0.0005",
(code **1108-150**)
- 2) Outside micrometer, range 0-25mm, graduation 0.01mm (code **3202-25A**)
- 3) Dial indicator, range 10mm, graduation 0.01mm (code **2308-10A**)
- 4) Magnetic stand (code **6201-60**)
- 5) Protractor, range 0-180°, graduation 1° (code **4799-180**)
- 6) Pitch gauge, range 0.25-7mm, 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



5013

DIGITAL HORIZONTAL SCALE

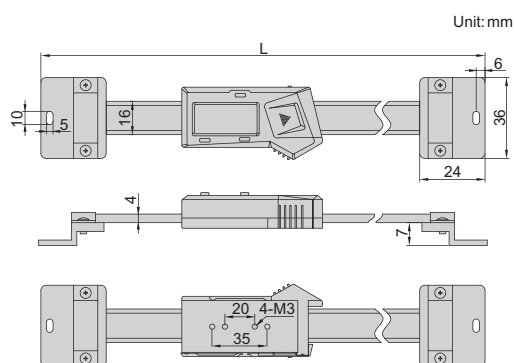
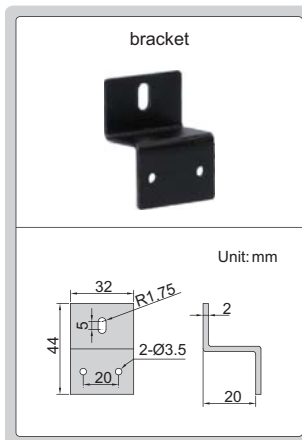
DATA
OUTPUT



7101-300A

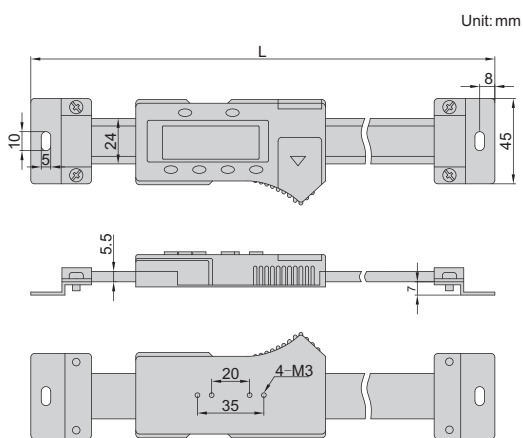


7101-400A



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 system



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 system

(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 |

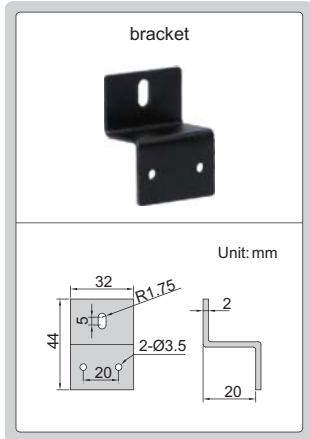
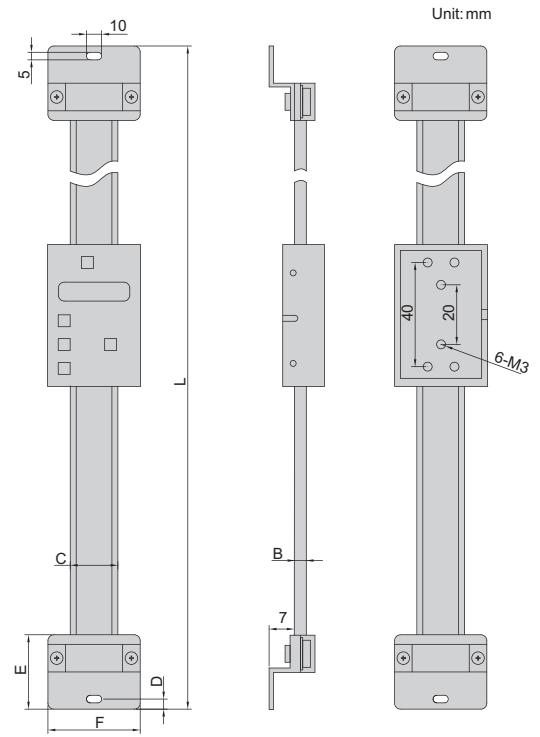
(mm)

| 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 SR44 or LR44
- Made of stainless steel
- Supplied with bracket to be mounted on the back

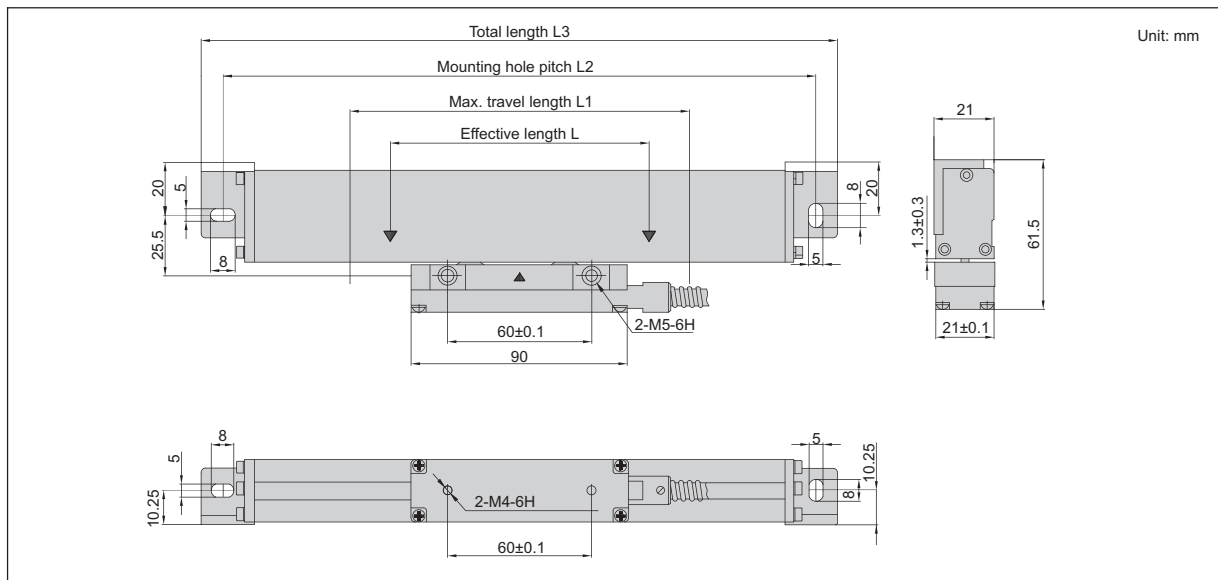
| Code | Range | Accuracy | B | C | D | E | F | L (mm) |
|-----------|--------|----------|-----|----|---|----|----|--------|
| 7102-100 | 100mm | ±0.02mm | 4 | 20 | 6 | 24 | 40 | 245 |
| 7102-150 | 150mm | ±0.03mm | 4 | 20 | 6 | 24 | 40 | 296 |
| 7102-200 | 200mm | ±0.03mm | 4 | 20 | 6 | 24 | 40 | 345 |
| 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

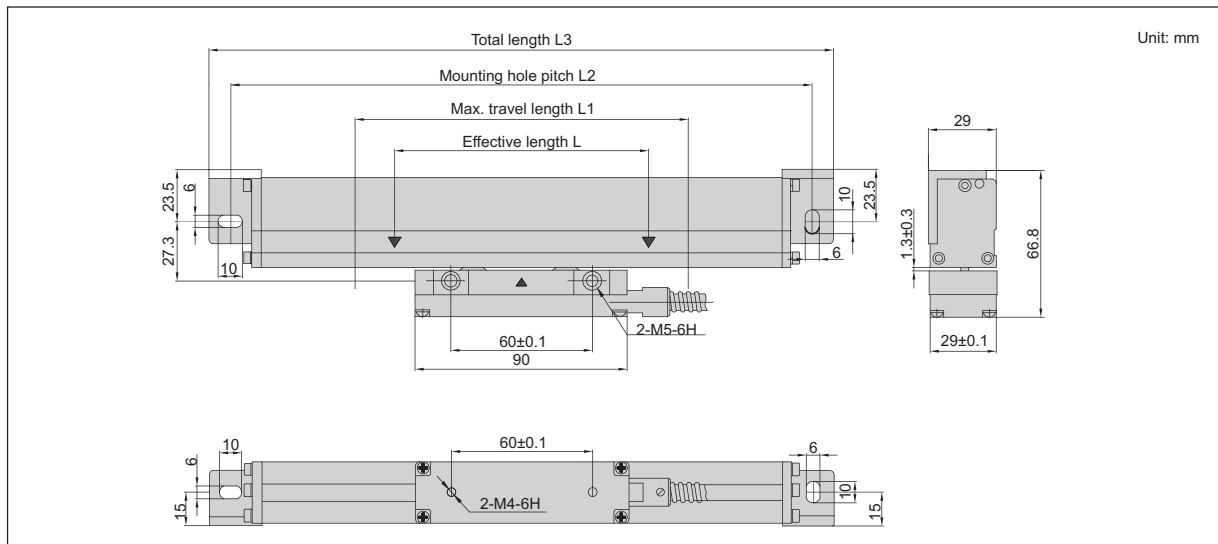


ISL-A1-300

Series ISL-A1 and ISL-A5



Series ISL-B5



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-B5-1100 |
| 1200mm | | | ISL-B5-1200 |
| 1300mm | | | ISL-B5-1300 |
| 1400mm | | | ISL-B5-1400 |
| 1500mm | | | ISL-B5-1500 |
| 1600mm | | | ISL-B5-1600 |
| 1700mm | | | ISL-B5-1700 |
| 1800mm | | | ISL-B5-1800 |
| 1900mm | | | ISL-B5-1900 |
| 2000mm | | | ISL-B5-2000 |

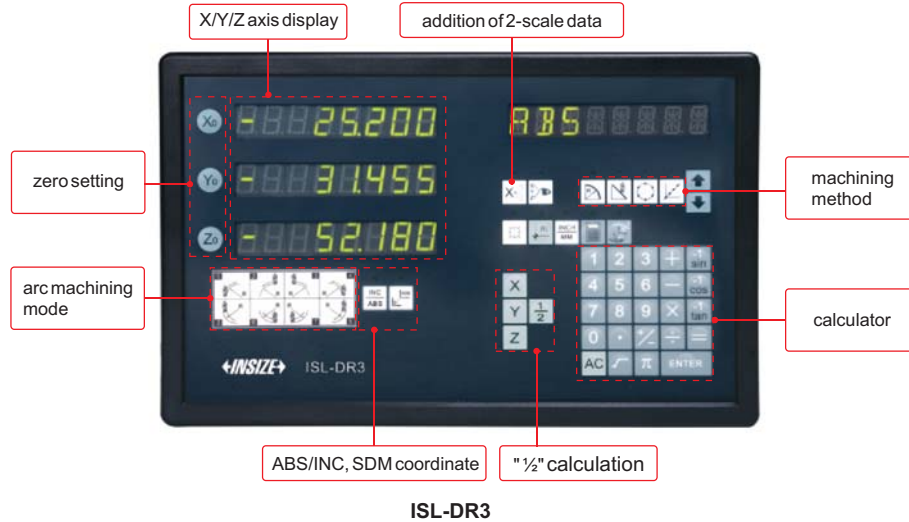
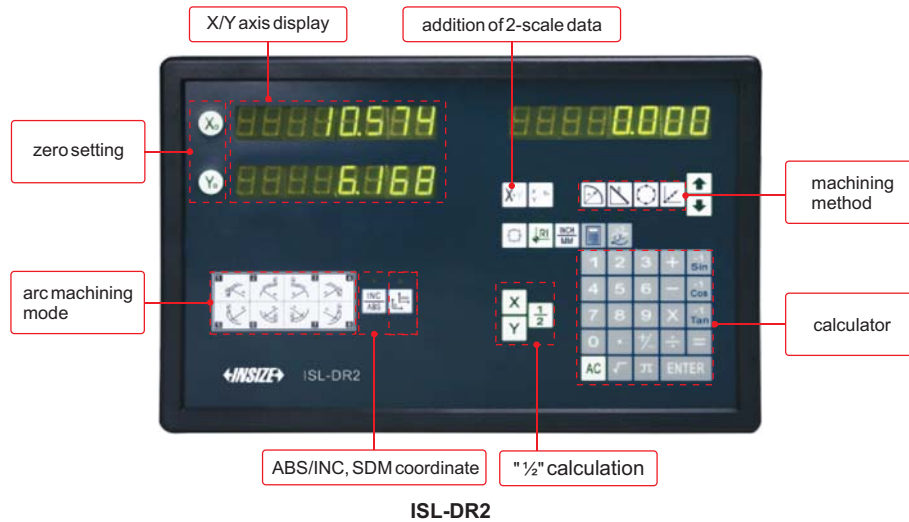
SPECIFICATION

| | 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) |
| 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 | 50μm | | | | | |
| Accuracy | ±(5+5L/1000)μm L is the effective length in mm | | | | | |
| Cable length | 3.5m (L: 50-950mm) 5m (L: 1000-1500mm) 10m (L: 1600-2000mm) | | | | | |

STANDARD DELIVERY

| | |
|--------------------------|--------------------|
| Main unit | 1pc |
| 'L' shape support | 1pc |
| Anti-dust cover | 1pc |
| Plain base | 1pc (for L≥1500mm) |

COUNTER



SPECIFICATION

| Code | ISL-DR2 | ISL-DR3 |
|-------------------|---|------------|
| Application | two-axis | three-axis |
| Scale input ports | 2 | 3 |
| Resolution | 0.05μm, 0.1μm, 0.2μm, 0.5μm, 1μm, 2μm, 5μm, 10μm, 20μm, 50μm | |
| Functions | addition of 2-scale data, linearity error compensation, smoothing, RS232C interface unit, BCD code out, zero setting, preset, resolution setting, counting direction setting, inch/mm conversion, ABS/INC conversion, expansion/contraction coefficient setting, "1/2" calculation, detecting RI, bolt-hole circle machining, ramp circle machining | |
| Dimension | 295×185×45mm | |
| Weight | 1.45kg | |

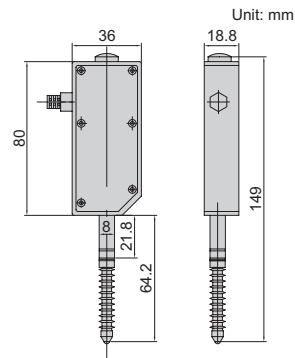
STANDARD DELIVERY

| | |
|------------------|-----|
| Main unit | 1pc |
| Mounting bracket | 1pc |
| Ground cable | 1pc |

| | |
|------------------------|-----|
| RS232C cable | 1pc |
| Software CD for RS232C | 1pc |

LINEAR GAGE
IP65
WATERPROOF

LINEAR GAGE AND DISPLAY UNIT



alarm (out of tolerance)

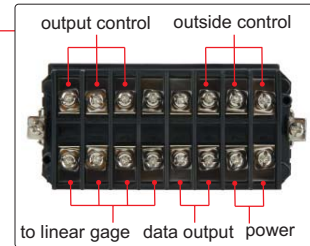


set zero set tolerance

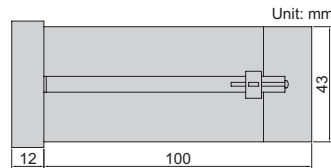
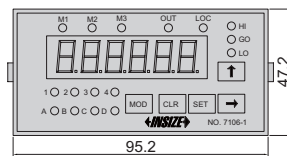
display unit
7106-1*

red light (out of upper limit)
green light (within tolerance)
red light (out of lower limit)

BACK



to linear gage data output power



- 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 | |

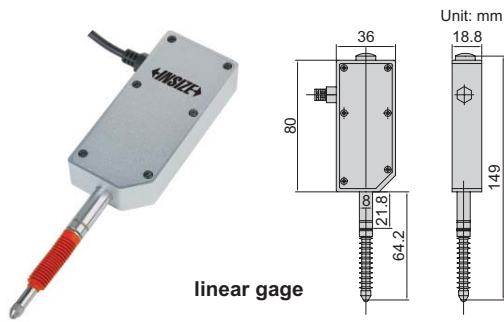
DISPLAY UNIT SPECIFICATION

| 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 |

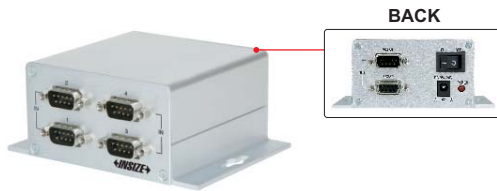
* Add suffix on code No. to devote AC voltage and plug (refer to the last page)

MULTI LINEAR GAGE SYSTEM

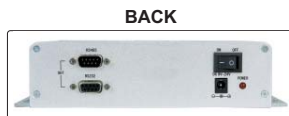
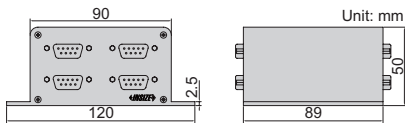
LINEAR GAGE
IP65
WATERPROOF



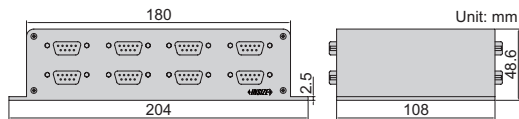
linear gage



4-channel interface box
7107-1*



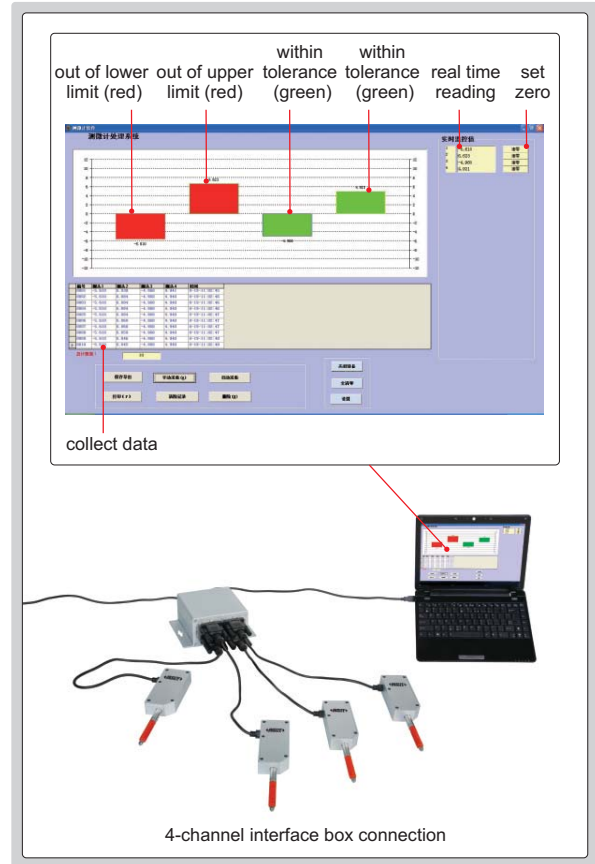
8-channel interface box
7107-2*



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 | |

* Add suffix on code No. to devote AC voltage and plug (refer to the last page)



- 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

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 | |



HIGH PRECISION LINEAR GAGE AND DISPLAY UNIT

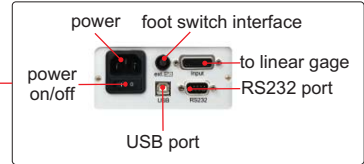


7108-10

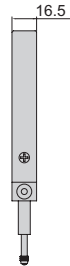
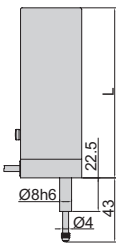


7108-1

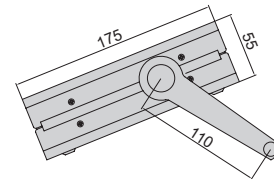
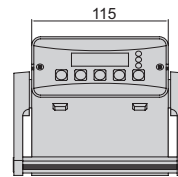
BACK OF DISPLAY UNIT



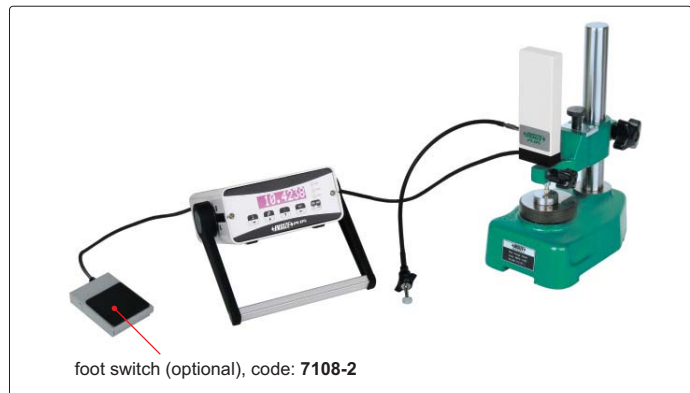
Unit: mm



Unit: mm



APPLICATION



foot switch (optional), code: 7108-2

- 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

LINEAR GAGE SPECIFICATION

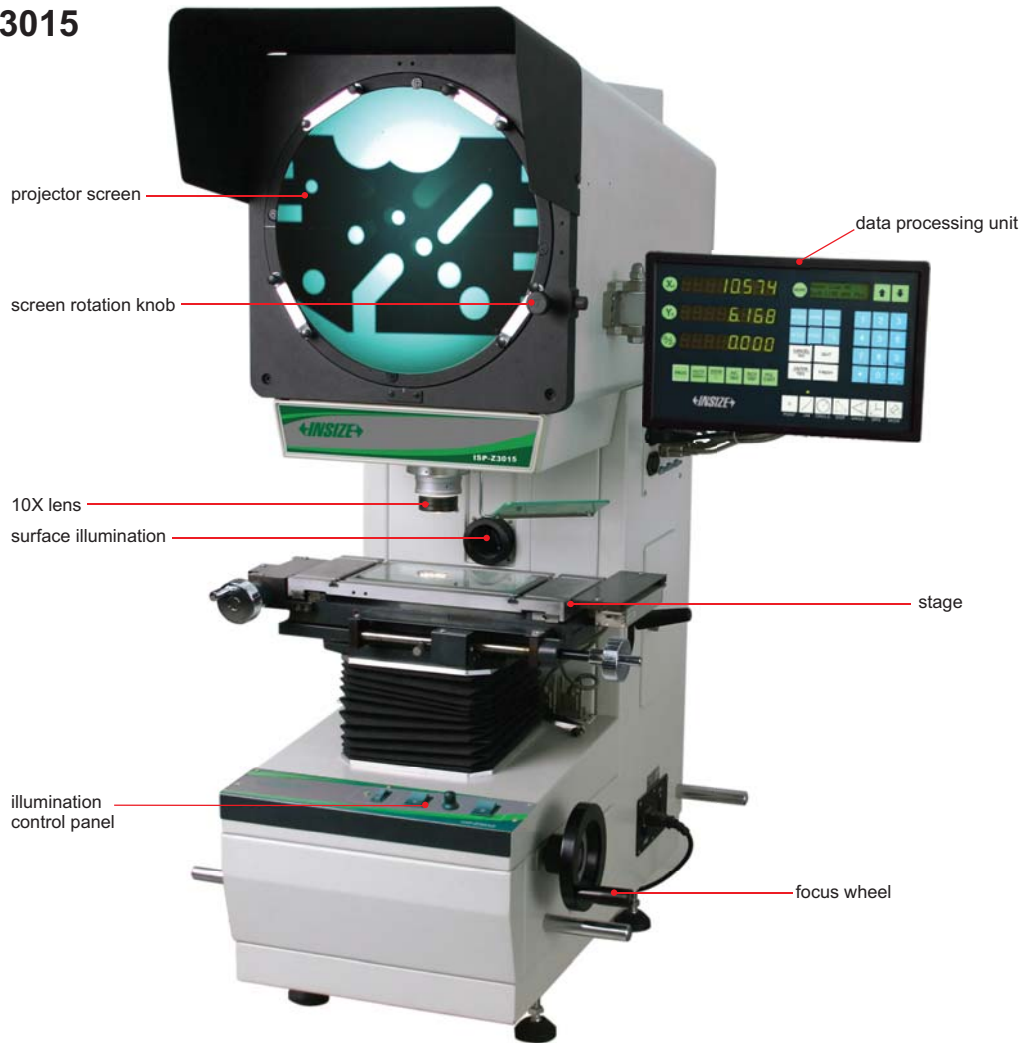
| Code | 7108-10 | 7108-30 |
|------------------------|---|---------|
| Measuring range | 10mm | 30mm |
| Resolution | 0.01µm | |
| Accuracy | (0.5+L/60)µm, L is measuring length in mm | |
| Dust/waterproof | IP50 | |
| Output signal | 1Vss | |
| Grating pitch | 8µm | |
| Measuring force | 0.7~1.6N | |
| 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 |
| Optional resolution | 1µm, 0.1µm, 0.01µm |
| Data output | USB, RS232 |
| Power supply | AC 85~264V, 150mA |

* Double channel display is optional

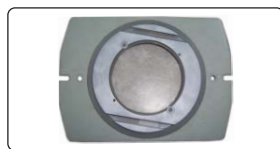
PROFILE PROJECTOR CODE ISP-Z3015



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



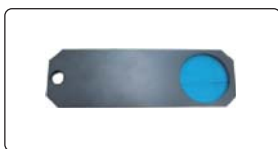
V-block with clamp



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



edge detector (for 10X lens only)










printer

To be continued

Continued from previous page

SPECIFICATION

| | | | | | |
|---|-------------------------------|---|---|----------------|-----------------|
| Lens | magnification | 10X (included) | 20X (optional) | 50X (optional) | 100X (optional) |
| | view field | Ø30mm | Ø15mm | Ø6mm | Ø3mm |
| | working distance | 77.7mm | 44.3mm | 38.4mm | 25.3mm |
| Max. workpiece height | | 90mm | 90mm | 90mm | 90mm |
| Magnification accuracy | | ±0.08% | | | |
| Image | | erect image | | | |
| Projector screen | | diameter: Ø300mm | | | |
| | | rotation range: 0°~360°, resolution: 1" or 0.01° | | | |
| | | reference lines: cross-hairs | | | |
| Stage | metal stage size | 340×152mm | | | |
| | glass stage size | 196×96mm | | | |
| | X-Y stage travel | range: 150×50mm | | | |
| | | resolution: 0.5µm | | | |
| | Z (focus) travel range | 90mm | | | |
| max. load capacity | 4kg | | | | |
| Illumination | | contour illumination: 24V/150W halogen lamp, brightness is adjustable | | | |
| | | surface illumination: 24V/150W halogen lamp | | | |
| Data processing unit | display | X-Y stage travel, screen rotation | | | |
| | output | RS232C | | | |
| | function |  | measure coordinate of point | | |
| | |  | measure coordinate of line | | |
| | |  | measure center coordinate, radius of circle with three points | | |
| | |  | measure distance between two objects | | |
| | |  | measure angle with four points or two lines | | |
| | |  | set origin of coordinate | | |
| | |  | coordinate transform | | |
|  | set midpoint of coordinate | | | | |
| 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 |

OPTIONAL ACCESSORY

| | |
|--|--------------------|
| 20X lens with half-reflection mirror and oblique illuminator mirror | ISP-Z3015-LENS20X |
| 50X lens with half-reflection mirror | ISP-Z3015-LENS50X |
| 100X lens with half-reflection mirror | ISP-Z3015-LENS100X |
| Rotary table | ISP-Z3015-TABLE |
| Overlay chart | ISP-Z3015-CHART |
| Holder with clamp | ISP-Z3015-HOLDER |
| Swivel center support | ISP-Z3015-SUPPORT |
| V-block with clamp | ISP-Z3015-VBLOCK |
| Edge detector (for 10X lens only) | ISP-Z3015-EDGE |
| 50mm reading scale | ISP-Z3015-SCALE50 |
| 250mm calibration scale | ISD-Z3015-RULE |
| Blue filter | ISP-Z3015-FILTER |
| Printer | ISP-Z3015-PRINTER |
| Demo sample | ISP-Z3015-DEMO |

PROFILE PROJECTOR CODE ISP-AZ3020

X-Y travel: 200x100mm



- Adjust the focus by ascending and descending the projector head, the stage doesn't move up and down
- Maximum workpiece weight 50kg

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



edge detector (for 10X lens only)











printer

To be continued

Continued from previous page

SPECIFICATION

| | | | | | | |
|-------------------------------|------------------------------|---|---|----------------|-----------------|--|
| 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 | | | | |
| | Z(focus) travel range | accuracy: (3+L/75)µm L is the measuring length in mm | | | | |
| max. load capacity | 100mm | | | | | |
| Illumination | | contour illumination: 24V/150W halogen lamp, brightness is adjustable | | | | |
| | | surface illumination: 24V/150W halogen lamp, brightness is adjustable | | | | |
| Data processing unit | display | X-Y stage travel, screen rotation | | | | |
| | output | RS232C | | | | |
| | function |  | measure coordinate of point | | | |
| | |  | measure coordinate of line | | | |
| | |  | measure center coordinate, radius of circle with three points | | | |
| | |  | measure distance between two objects | | | |
| | |  | measure angle with four points or two lines | | | |
| | |  | set origin of coordinate | | | |
| | |  | coordinate transform | | | |
| | |  | set midpoint of coordinate | | | |
| 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 |

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 |
| Edge detector (for 10X lens only) | ISP-AZ3020-EDGE |
| 50mm reading scale | ISP-A5000-SCALE50 |
| 300mm calibration scale | ISD-A5000-RULE |
| Printer | ISP-AZ3020-PRINTER |
| Demo sample | ISP-A5000-DEMO |

HORIZONTAL PROFILE PROJECTOR CODE ISP-W3020

X-Y travel: 200x100mm



OPTIONAL ACCESSORY



lens



50mm reading scale
(check magnification accuracy)



300mm calibration scale (check
magnification accuracy together
with 50mm reading scale or calibrate
measuring accuracy)



overlay chart (protractor with 1°
graduation, radius with 1mm increment)



demo sample (need rotary table)



V-block with clamp



rotary table



vise



edge detector (for 10X lens only)











printer

To be continued

Continued from previous page

SPECIFICATION

| | | | | | |
|---|-------------------------------|---|---|----------------|-----------------|
| Lens | magnification | 10X (included) | 20X (optional) | 50X (optional) | 100X (optional) |
| | view field | Ø30mm | Ø15mm | Ø6mm | Ø3mm |
| | working distance | 77.7mm | 44.3mm | 38.4mm | 25.3mm |
| Magnification accuracy | | ±0.08% | | | |
| Projector screen | | diameter: Ø300mm | | | |
| | | rotation range: 0°~360°, resolution: 1' or 0.01° | | | |
| | | reference lines: cross-hairs | | | |
| Stage | metal stage size | 400×150mm | | | |
| | turning range | ±15° | | | |
| | X-Z stage travel | range: 200×100mm | | | |
| | | resolution: 0.5µm | | | |
| | Y (focus) travel range | accuracy: (4+L/25)µm L is the measuring length in mm | | | |
| max. load capacity | 75mm | | | | |
| Illumination | | contour illumination: 24V/150W halogen lamp, brightness is adjustable | | | |
| | | surface illumination: 12V/150W halogen lamp(with 2 fibers), position is adjustable | | | |
| Data processing unit | display | X-Z stage travel, screen rotation | | | |
| | output | RS232C | | | |
| | function |  | measure coordinate of point | | |
| | |  | measure coordinate of line | | |
| | |  | measure center coordinate, radius of circle with three points | | |
| | |  | measure distance between two objects | | |
| | |  | measure angle with four points or two lines | | |
| | |  | set origin of coordinate | | |
| | |  | coordinate transform | | |
|  | set midpoint of coordinate | | | | |
| Dimension (L×W×H) | | 1090×830×1010mm | | | |
| Weight | | 160kg | | | |

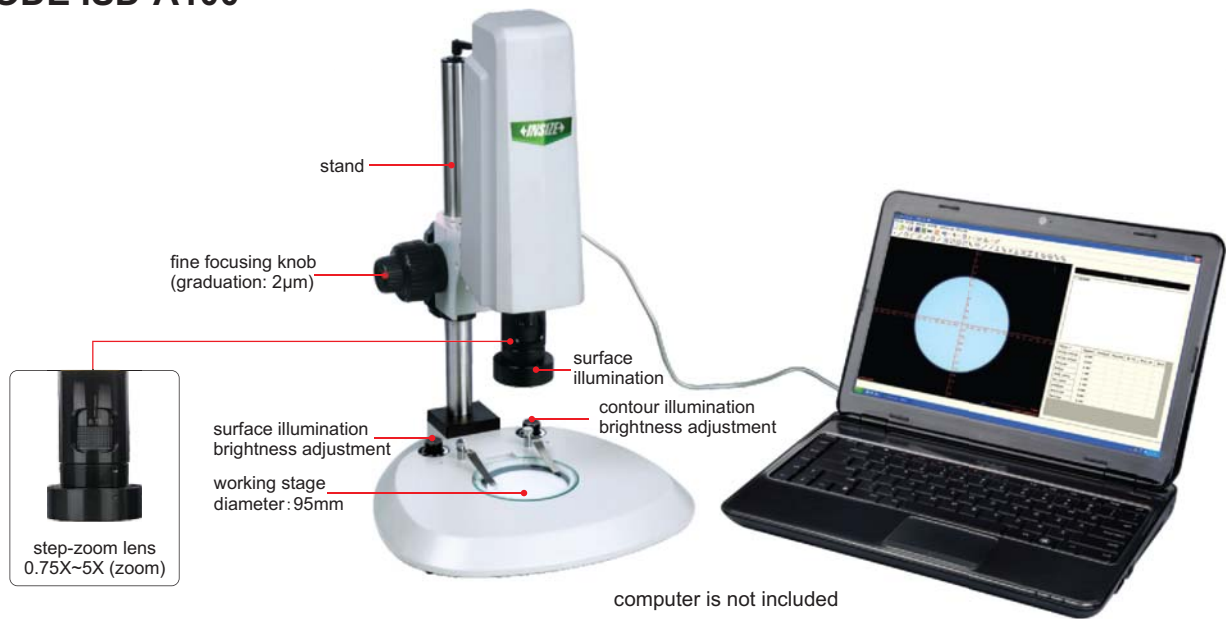
STANDARD DELIVERY

| | |
|---------------------------|------|
| Main unit | 1pc |
| 10X lens | 1pc |
| Overlay chart clip | 4pcs |
| Foot-switch | 1pc |
| Anti-dust cover | 1pc |

OPTIONAL ACCESSORY

| | |
|--|--------------------|
| 20X lens | ISP-A3000-LENS20X |
| 50X lens | ISP-A3000-LENS50X |
| 100X lens | ISP-A3000-LENS100X |
| Overlay chart | ISP-A3000-CHART |
| Edge detector (for 10X lens only) | ISP-W3020-EDGE |
| 50mm reading scale | ISP-A3000-SCALE50 |
| 300mm calibration scale | ISD-A3000-RULE |
| Printer | ISP-W3020-PRINTER |
| Demo sample | ISP-A3000-DEMO |
| V-block with clamp | ISP-A1000-VBLOCK |
| Rotary table | ISP-A3000-RTABLE |
| Vice | ISP-A3000-VISE |

VISION MEASURING SYSTEM CODE ISD-A100*



- 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 | |
| Demension (L×W×H) | 300×350×450mm | |
| Weight | 2.8kg | |

STANDARD DELIVERY

| | |
|------------------------------------|-----|
| Main unit | 1pc |
| Software disc | 1pc |
| X-Y stage (travel: 74×60mm) | 1pc |
| Calibration block | 1pc |
| 0.5X auxiliary objective | 1pc |

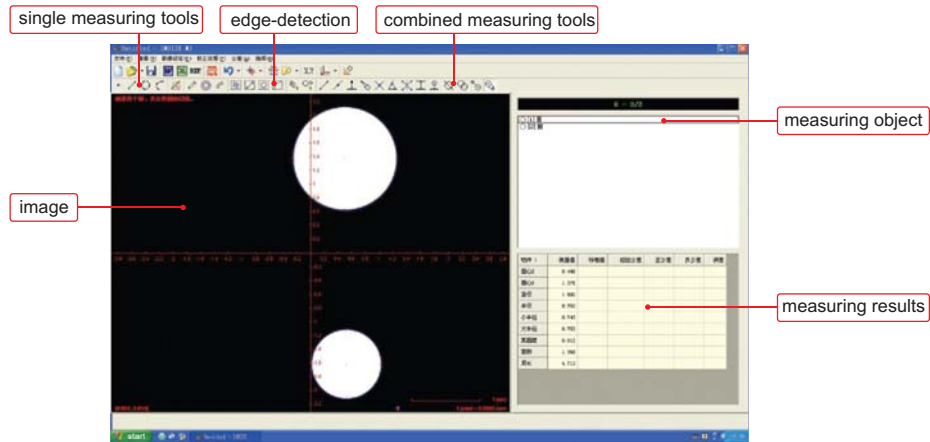
| | |
|--------------------------------|-----|
| 1X auxiliary objective | 1pc |
| Ø95mm glass plate | 1pc |
| Ø95mm white/black plate | 1pc |
| Anti-dust cover | 1pc |

* Add suffix on code No. to devote AC voltage and plug (refer to the last page)

To be continued

Continued from previous page


SOFTWARE FOR VISION MEASURING SYSTEM ISD-A100




- **Operation system:** Windows 7/XP
- **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:**

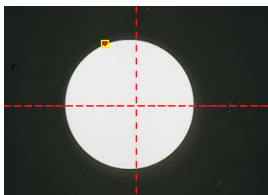
-  measure coordinate of point
-  measure length of line
-  measure center coordinate, radius, diameter and area of circle
-  measure length and diameter of arc

▪ **Combined measuring tools:**

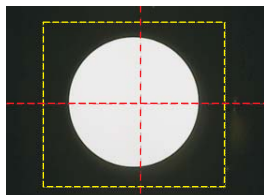
-  measure distance between two points
-  measure distance between two lines
-  find midpoint of a line
-  measure distance from circle to line
-  measure distance from point to line
-  find intersection points between circle and line
-  find tangent lines between point and circle
-  find intersection points between two circles
-  measure intersection point between two lines
-  measure distance between two circles
-  measure angle between two lines
-  find tangent lines between two circles
-  find angular bisector between two lines

▪ **Edge-detection:**

Point tool



Box tool



Circle tool



VISION MEASURING SYSTEM CODE ISD-260*



SPECIFICATION

| | |
|----------------------------------|--|
| Measuring range | X×Y×Z: 250×150×200mm |
| Operation system | Windows 7 |
| Stage size | 420×310mm |
| Stage glass size | 290×190mm |
| Max. stage loading | 30kg |
| Resolution of X/Y/Z axis | 1μm |
| Accuracy of X/Y axis | ≤(3+L/200)μm (L is the measuring length in mm) |
| Repeatability of X/Y axis | 2μm |
| Objective | 0.7X~4.5X (zoom) |
| Magnification | 39X~225X (on 17" monitor) |
| Camera | 0.43M pixel color CCD |
| Drive method | manual |
| Illumination | surface: adjustable LED contour: adjustable LED |
| Dimension (L×W×H) | 660×620×935mm |
| Weight | 227kg |

STANDARD DELIVERY

| | |
|--------------------------------|-----|
| Main unit | 1pc |
| Controller | 1pc |
| Software disc | 1pc |
| Counter card | 1pc |
| Video card | 1pc |
| Calibration glass chart | 1pc |
| Laser positoner | 1pc |
| Clay | 1pc |
| Anti-dust cover | 1pc |

OPTIONAL ACCESSORY

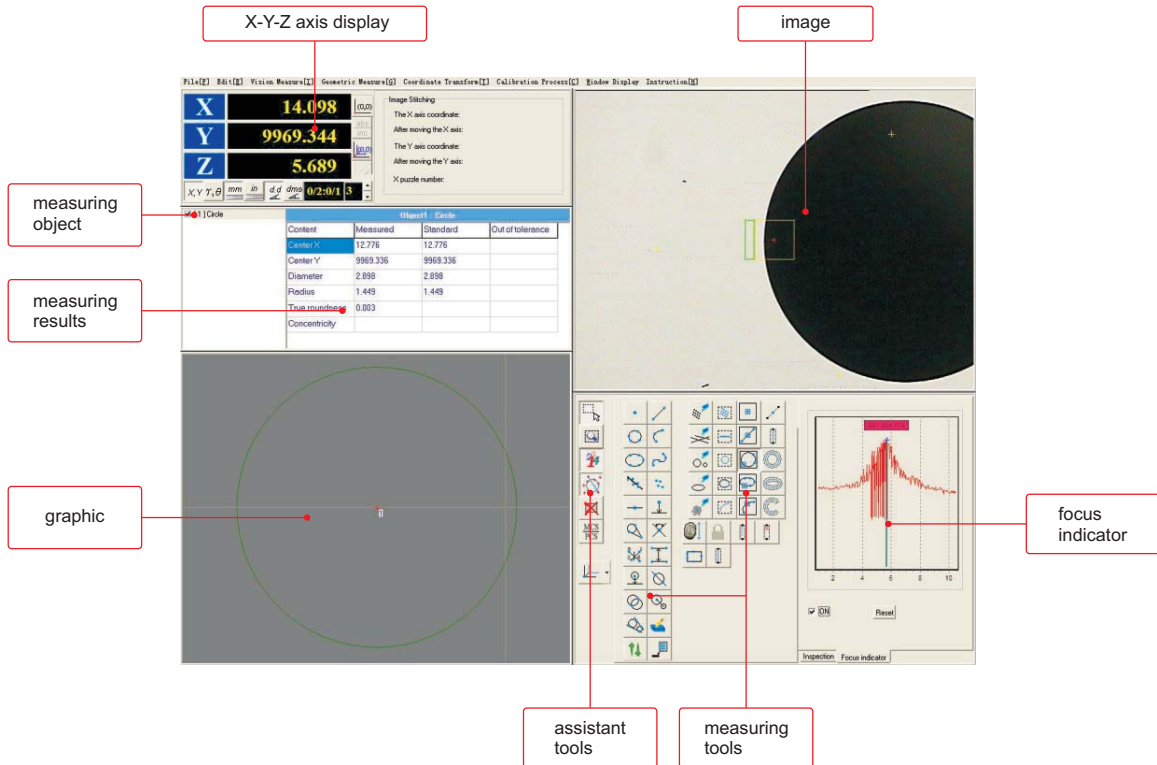
| | |
|---------------------------------|------------------|
| 0.5X auxiliary objective | ISD-260-OB05X |
| 2X auxiliary objective | ISD-260-OB2X |
| Computer | ISD-260-COMPUTER |
| Desk | ISD-260-DESK |

* Add suffix on code No. to devote AC voltage and plug (refer to the last page)






To be continued

Continued from previous page


SOFTWARE FOR VISION MEASURING SYSTEM ISD-260



- **Operation system:** Windows 7
- **Language:** English, Korean, Chinese
- **Single measuring tools:**

-  measure coordinate of point
-  measure center coordinate, diameter and area of circle
-  measure distance between two points
-  measure length and diameter of arc
-  measure center coordinate, axis length and area of ellipse

- **Combined measuring tools:**

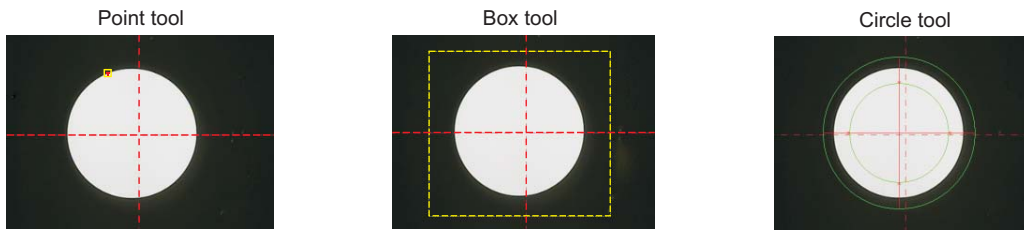
-  find midpoint of a line
-  measure distance from point to line
-  find tangent lines between point and circle
-  measure angle between two lines
-  find angular bisector between two lines
-  measure distance between two lines
-  measure distance from circle to line
-  find intersection points between circle and line
-  find intersection points between two circles
-  measure distance between two circles
-  find tangent lines between two circles

To be continued

Continued from previous page

SOFTWARE FOR VISION MEASURING SYSTEM ISD-260

■ Edge-detection:



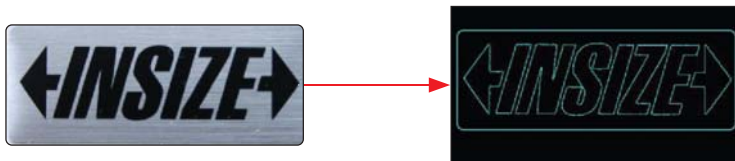
■ Profile detection:



catch the profile manually



catch the profile automatically



■ Smooth tools:

Smooth the edge, make the measurement more accuracy

■ Regression tools:



generate a line

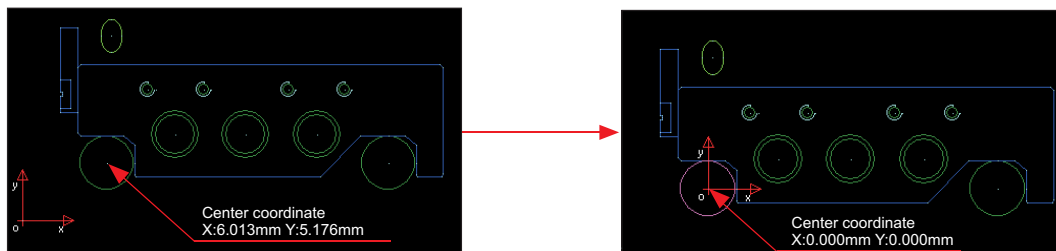


generate a curved line

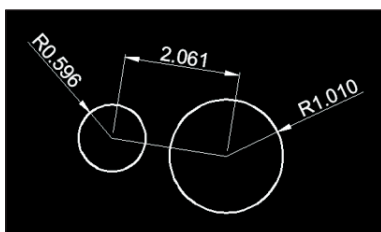
■ Coordinate transform:



coordinate transform



■ Data export to CAD, EXCEL and WORD



CAD

| Object | Content | Measured | Standard |
|------------------|----------|----------|----------|
| 1. Circle | Center X | -31.606 | -31.606 |
| | Center Y | 46.947 | 46.948 |
| | Radius | 0.596 | 0.596 |
| | Area | 1.115 | 1.115 |
| 2. Circle | Center X | -31.57 | -31.57 |
| | Center Y | 45.724 | 45.724 |
| | Radius | 1.01 | 1.01 |
| | Area | 3.203 | 3.203 |
| 3. Straight line | Length | 2.061 | 2.061 |
| | DX | 2.035 | 2.035 |
| | DY | 0.323 | 0.323 |

EXCEL

| Object | Content | Measured | Standard |
|------------------|----------|----------|----------|
| 1. Circle | Center X | -31.606 | -31.606 |
| | Center Y | 46.947 | 46.947 |
| | Radius | 0.596 | 0.596 |
| | Area | 1.115 | 1.115 |
| 2. Circle | Center X | -31.570 | -31.570 |
| | Center Y | 45.724 | 45.724 |
| | Radius | 1.010 | 1.010 |
| | Area | 3.203 | 3.203 |
| 3. Straight line | Length | 2.061 | 2.061 |
| | DX | 2.035 | 2.035 |
| | DY | 0.323 | 0.323 |

WORD

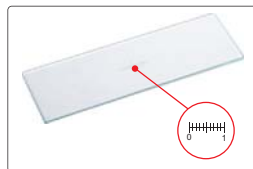
WiFi DIGITAL MEASURING MICROSCOPE CODE ISM-WF200*



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 |



connected to iPad by WiFi



connected to computer by WiFi



connected to computer by USB cable

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

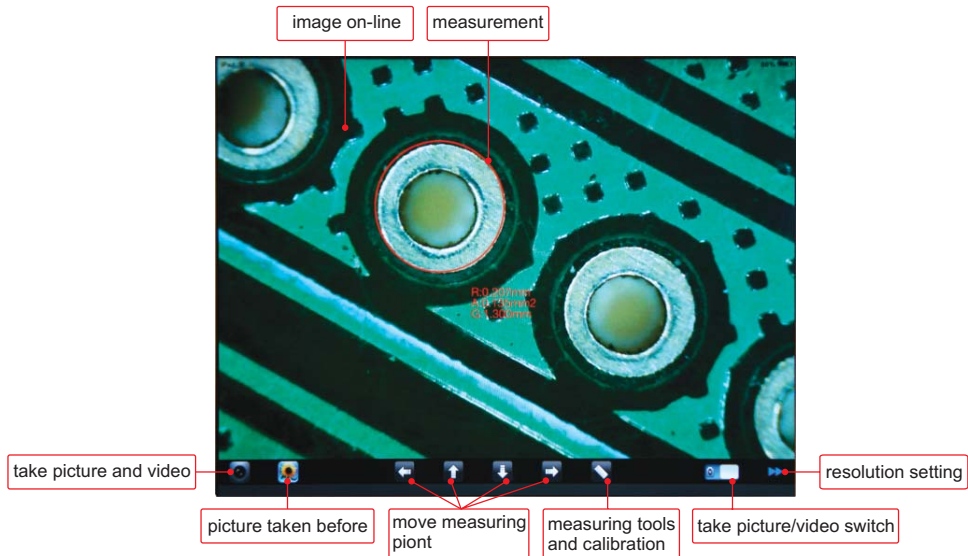
* Add suffix on code No. to devote AC voltage and plug (refer to the last page)

To be continued

Continued from previous page

SOFTWARE FOR WiFi DIGITAL MEASURING MICROSCOPE ISM-WF200

1 Software ISM-PAD (for iPad by WiFi)



Measuring tools:



measure length of line or distance between two points

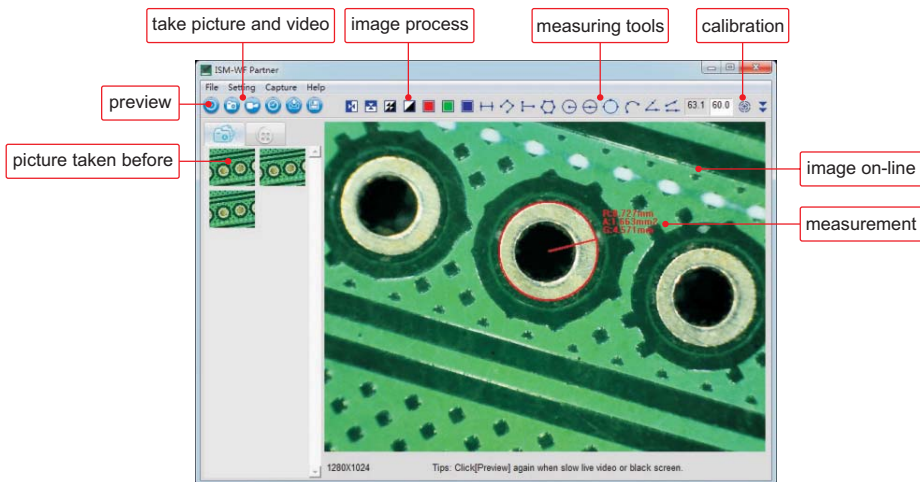


measure radius, girth and area of circle with three points



measure angle

2 Software ISM-WF Partner (for computer by WiFi)



Measuring tools:



measure length of line or distance between two points



measure length of continuous line



measure distance between point and line



measure area of polygon



measure radius, girth and area of circle with three points



measure radius, length and angle of arc



measure angle with three points



measure angle with two lines



measure area of rectangle



measure radius, girth and area of circle with center point



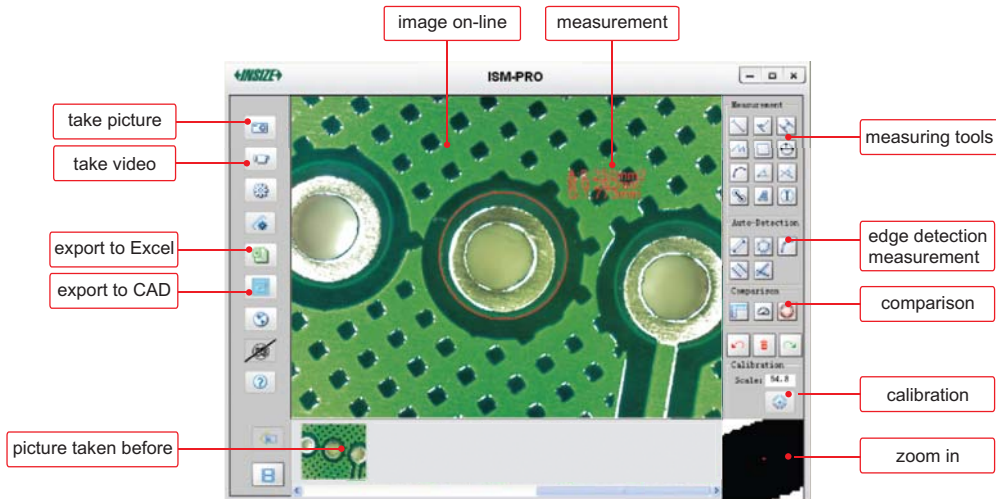
measure radius, girth and area of circle with two points

To be continued

Continued from previous page

SOFTWARE FOR WiFi DIGITAL MEASURING MICROSCOPE ISM-WF200

3 Software ISM-PRO (for computer by USB cable)



Measuring tools:

- measure length of line or distance between two points
- measure length of continuous line
- measure radius, length and angle of arc
- measure distance between two circles

- measure distance between point and line
- measure area of rectangle
- measure angle with three points
- 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:

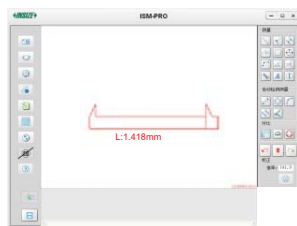
- detect line automatically, and calculate length
- detect arc automatically, and calculate radius, angle and arc length
- detect two lines automatically, and calculate angle

- detect circle automatically, and calculate radius, girth and area
- detect two parallel lines automatically and calculate distance

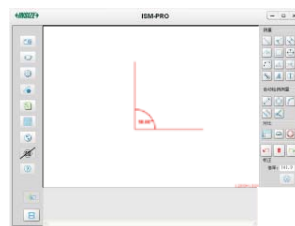
Comparison:

Create line, angle or circle with desired size, to compare with workpieces

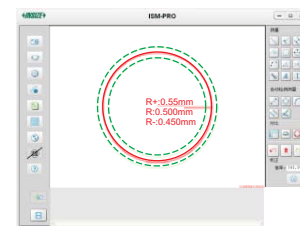
- create line



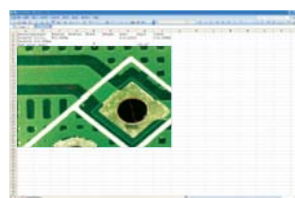
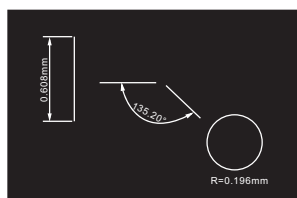
- create angle



- create circle with tolerance



Data export to CAD or Excel:



DIGITAL MEASURING MICROSCOPE



ISM-PM200SB

- Can take pictures and videos
- Supplied with software

SPECIFICATION

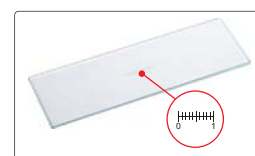
| Code | ISM-PM200SB | ISM-PM600SB | ISM-PM160LA |
|------------------|--|----------------------|------------------------|
| Magnification | 10X~200X | 450X~600X | 35X~160X |
| Type | short focus distance | short focus distance | long focus distance |
| Focus support | included | not included | not included |
| Calibration rule | graduation 0.1 and 1mm | graduation 0.1mm | graduation 0.1 and 1mm |
| Pixel | 2M (resolution: 1600×1200) | | |
| Illumination | built-in adjustable LED | | |
| Power supply | USB 2.0 cable (voltage required: 5±0.1V) | | |



focus support



calibration rule (graduation 1mm)



calibration rule (graduation 0.1mm)

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 |



put the digital microscope directly on the workpiece for inspection and measurement

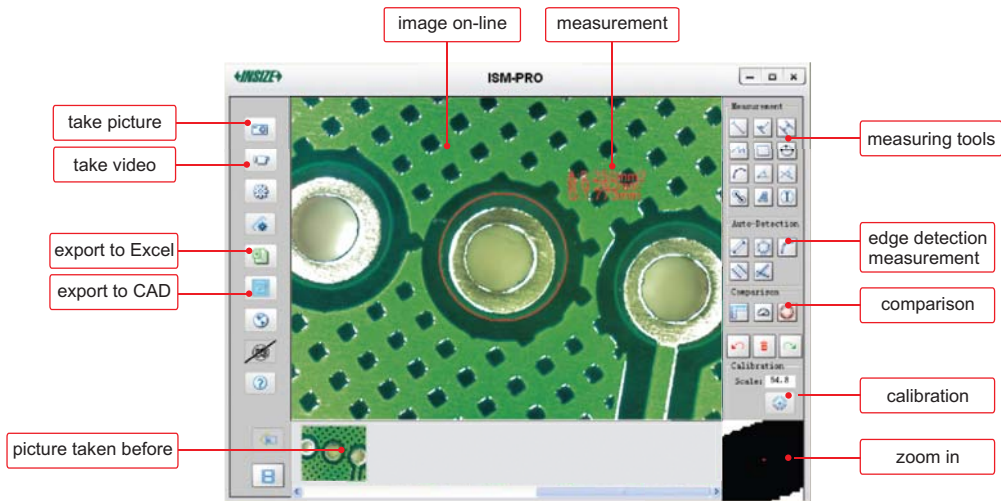
stand



To be continued

Continued from previous page

SOFTWARE FOR DIGITAL MEASURING MICROSCOPE



- **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 length of continuous line
- measure radius, length and angle of arc
- measure distance between two circles

- measure distance between point and line
- measure area of rectangle
- measure angle with three points
- 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:**

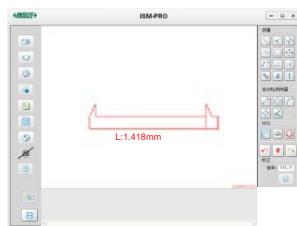
- detect line automatically, and calculate length
- detect arc automatically, and calculate radius, angle and arc length
- detect two lines automatically, and calculate angle

- detect circle automatically, and calculate radius, girth and area
- detect two parallel lines automatically and calculate distance

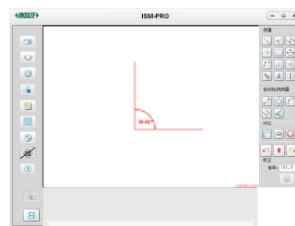
- **Comparison:**

Create line, angle or circle with desired size, to compare with workpieces.

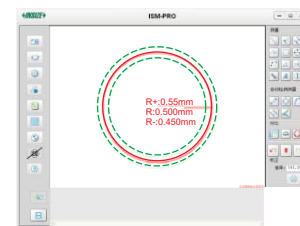
- create line



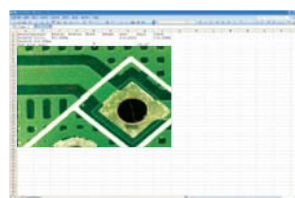
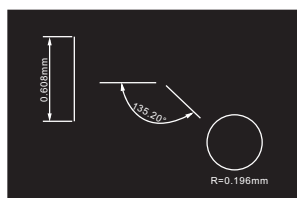
- create angle



- create circle with tolerance



- **Data export to CAD or Excel:**



TV DIGITAL MICROSCOPE



ISM-TV200* (with wire)

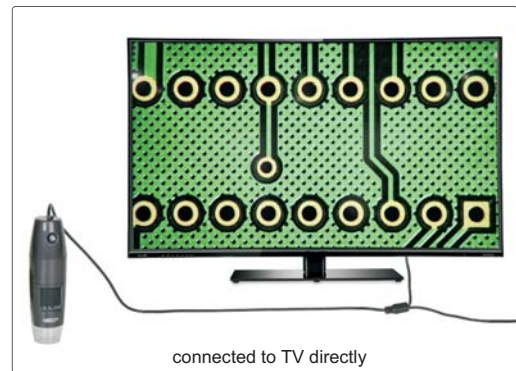


ISM-TV200W* (wireless)

STAND (code: ISM-WSTD, optional)



- Connected to TV directly
- For observation, cannot take pictures and videos



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 |

* Add suffix on code No. to devote AC voltage and plug (refer to the last page)

ZOOM STEREO MICROSCOPE



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 | |
| Dimension (L×W×H) | 290×260×480mm | |
| Weight | 4.9kg | |

STANDARD DELIVERY

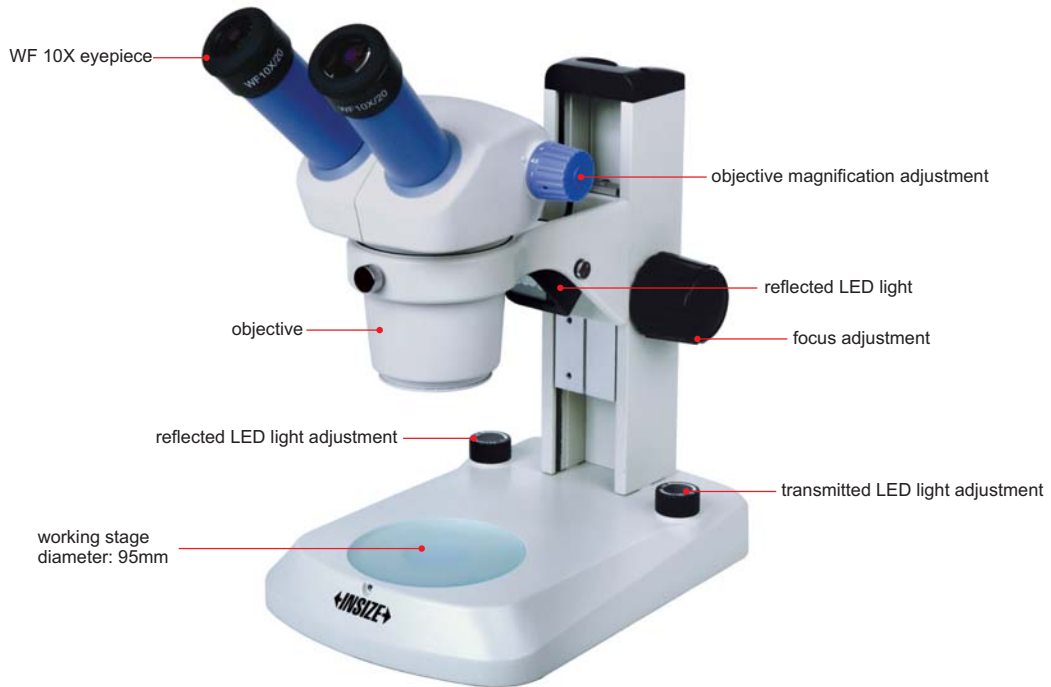
| | |
|--------------------------|------|
| Main unit | 1pc |
| WF 10X eyepiece | 2pcs |
| Ø100mm glass plate | 1pc |
| Ø100mm white/black plate | 1pc |
| Anti-dust cover | 1pc |

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 |

* Add suffix on code No. to devote AC voltage and plug (refer to the last page)

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 |
| Dimension (L×W×H) | 260×190×400mm |
| Weight | 4.3kg |

STANDARD DELIVERY

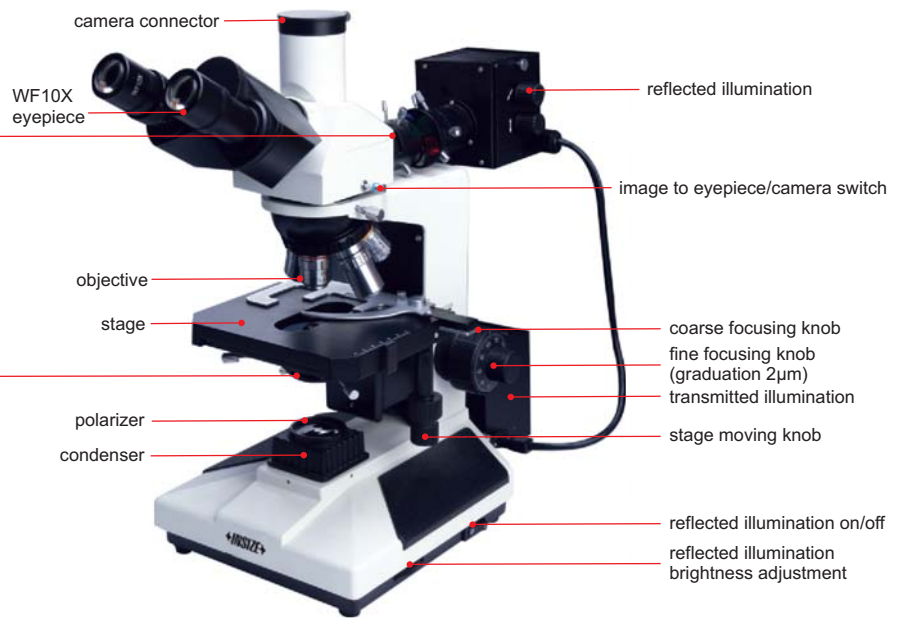
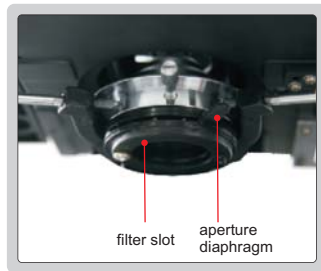
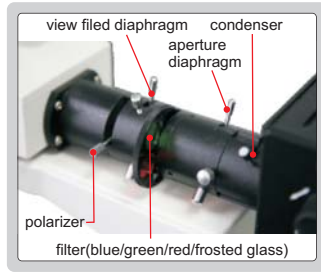
| | |
|-------------------------|------|
| Main unit | 1pc |
| WF 10X eyepiece | 2pcs |
| Ø95mm glass plate | 1pc |
| Ø95mm white/black plate | 1pc |
| Anti-dust cover | 1pc |

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 |

* Add suffix on code No. to devote AC voltage and plug (refer to the last page)

HIGH MAGNIFICATION MICROSCOPE CODE ISM-M600*



- 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 | | | | |
| Dimension (L×W×H) | 450×300×350mm | | | | |
| Weight | 11kg | | | | |

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 |

* Add suffix on code No. to devote AC voltage and plug (refer to the last page)

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 | | | |
| Dimension (L×W×H) | 385×300×440mm | | | |
| Weight | 11kg | | | |

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 |

* Add suffix on code No. to devote AC voltage and plug (refer to the last page)

PORTABLE MEASURING MICROSCOPE CODE ISM-PM100



SPECIFICATION

| | |
|------------------------|--------------------------------|
| Total magnification | 100X |
| Eyepiece | 10X with graduation |
| Objective (achromatic) | 10X (numerical aperture: 0.25) |
| Working distance | 7mm |
| Focus range | 30mm |
| Viewing field | Ø1.8mm |
| Graduation | 0.01mm |
| Illumination | LED light |
| Diameter of base | Ø63mm |
| Height | 210mm |
| Weight | 650g |

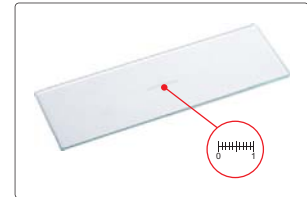
STANDARD DELIVERY

| | |
|---------------|------|
| Main unit | 1pc |
| Pen light | 1pc |
| Battery (AAA) | 2pcs |

DIGITAL CAMERA CODE ISM-D500



connector Ø23.2/Ø30mm



calibration rule (graduation 0.1mm)

- Inserted into eyepiece tube or camera connector 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 |

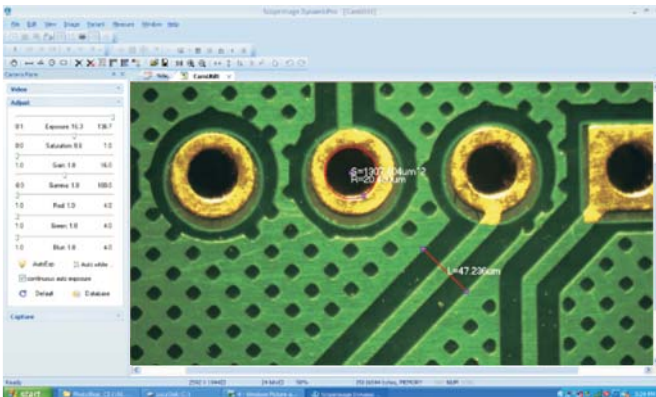
STANDARD DELIVERY

| | |
|-------------------------------------|-----|
| 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)



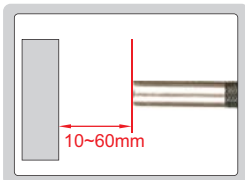
Measuring Tools:

- measure distance between two points
- measure angle with three points
- measure circle
- measure rectangle
- calibration

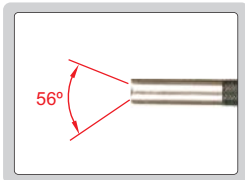
- Can take pictures and videos
- Exposure/gain/gamma/saturation/colour adjustment
- Image process feature: zoom in/out, image flip and so on

IP67
WATERPROOF

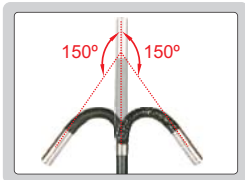
VIDEOSCOPE CODE ISV-VP60



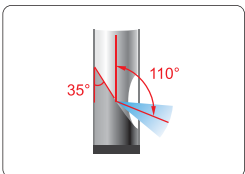
focus distance: 10~60mm



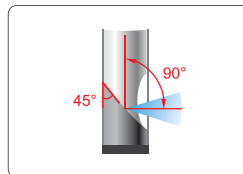
angle of view: 56°



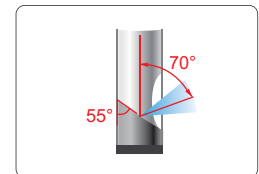
lens can be bent in two directions (±150°)



35° mirror (included)



45° mirror (optional)



55° mirror (optional)



front view



side view (with mirror)

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 | | 500g |

STANDARD DELIVERY

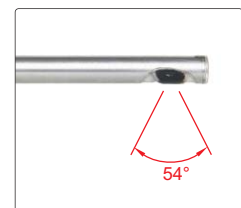
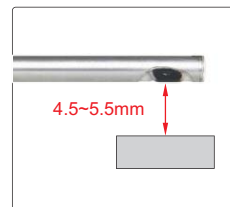
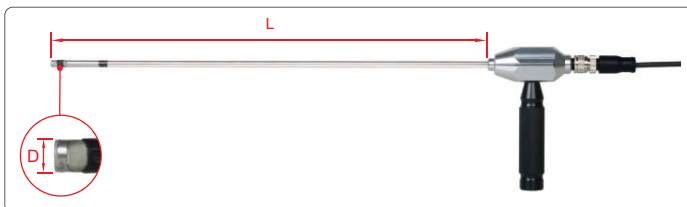
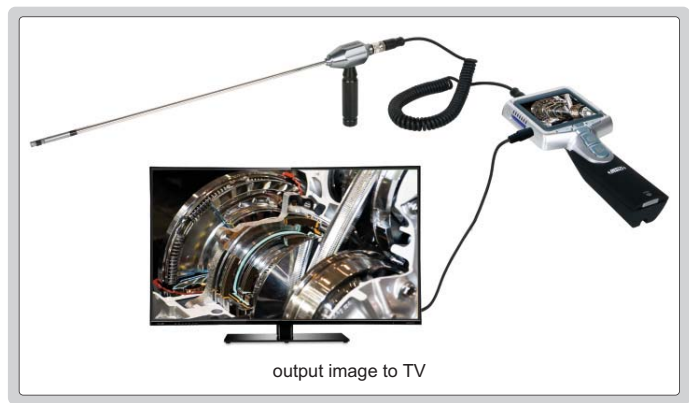
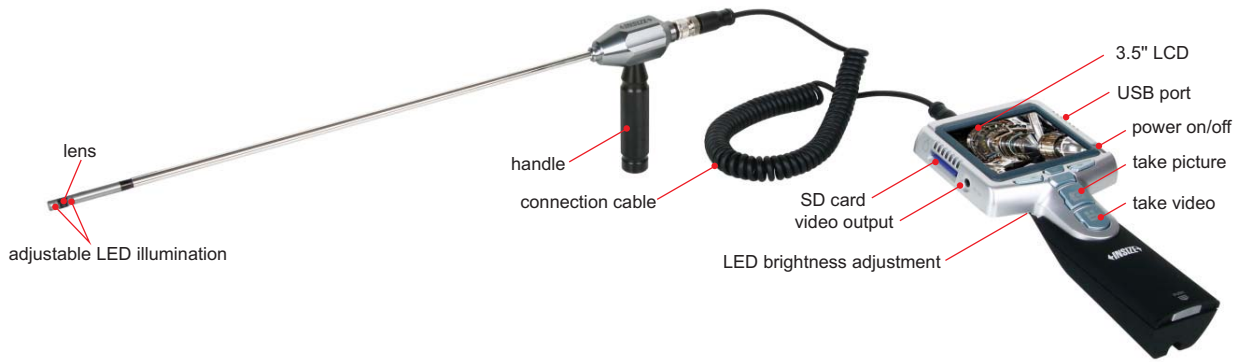
| | |
|---------------------------|------|
| Main unit | 1pc |
| Cable with lens | 1pc |
| 35° mirror | 1pc |
| 4G SD card | 1pc |
| AA battery | 4pcs |
| Video output cable | 1pc |
| USB cable | 1pc |

OPTIONAL ACCESSORY

| | |
|-------------------|--------------|
| 45° mirror | ISV-VP60-R45 |
| 55° mirror | ISV-VP60-R55 |

SIDE VIEW VIDEOSCOPE (RIGID) CODE ISV-RV*

IP57
WATERPROOF



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

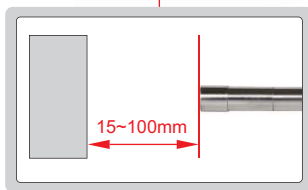
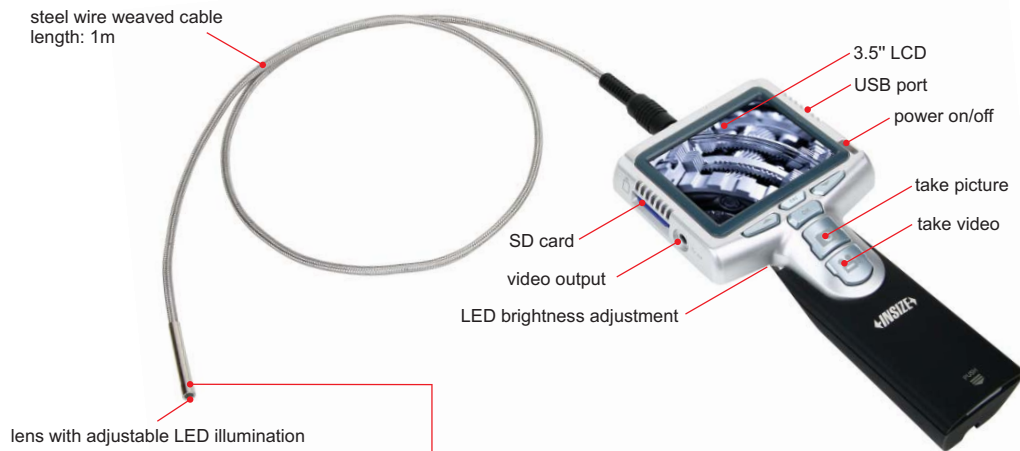
| | |
|---------------------------|-----|
| Main unit | 1pc |
| 2G SD card | 1pc |
| Spare battery | 1pc |
| AC/DC adapter | 1pc |
| Video output cable | 1pc |
| USB cable | 1pc |

* Add suffix on code No. to devote AC voltage and plug (refer to the last page)

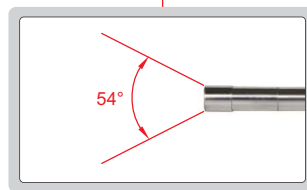
STEEL WIRE WEAVED CABLE
RESISTANCE TO BREAK AND WEAR

THE CABLE CAN BE BENT
BUT CAN'T BE SET AT A FIXED SHAPE

VIDEOSCOPE CODE ISV-E10*



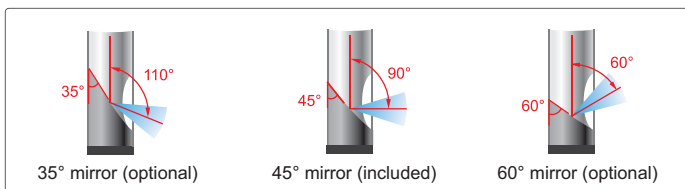
focus distance: 15~100mm



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 |
| Weight | 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 |
| Spare battery | 1pc |
| AC/DC adapter | 1pc |
| Video output cable | 1pc |
| USB cable | 1pc |
| Lens cleaning kit | 1pc |

OPTIONAL ACCESSORY

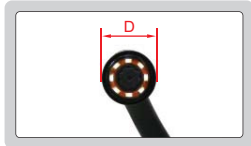
| | |
|------------|-------------|
| 35° mirror | ISV-E55-M35 |
| 60° mirror | ISV-E55-M60 |

* Add suffix on code No. to devote AC voltage and plug (refer to the last page)

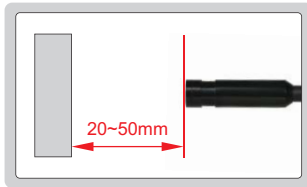
VIDEOSCOPE CODE ISV-E20*

IP57
WATERPROOF

lens with 8pcs LED
adjustable illumination

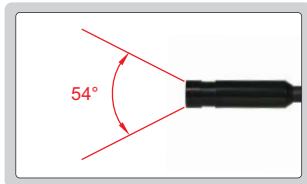


the cable has high illumination and can be set at any shape
it is suitable to observe large internal space like turbocharger



focus distance: 20~50mm

memory cable
length: 1m



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 |
| Weight | power supply | rechargeable battery (for 3 hours working) |
| | Weight | 600g |

STANDARD DELIVERY

| | |
|--------------------|-----|
| Main unit | 1pc |
| Cable with lens | 1pc |
| 2G SD card | 1pc |
| Spare battery | 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 |

* Add suffix on code No. to devote AC voltage and plug (refer to the last page)

VIDEOSCOPE MAIN UNIT CODE ISV-MUE55*

SPECIFICATION

| | |
|----------------------|--|
| Function | take picture and video |
| File format | picture: JPG, video: AVI |
| Image process | brightness, contrast and color saturation |
| Memory | 2G SD card |
| Output | TV, USB |
| Power supply | rechargeable battery (for 3 hours working) |
| Weight | 430g |



STANDARD DELIVERY

| | | | |
|----------------------|-----|---------------------------|-----|
| Main unit | 1pc | Video output cable | 1pc |
| 2G SD card | 1pc | USB cable | 1pc |
| Spare battery | 1pc | Lens cleaning kit | 1pc |
| AC/DC adapter | 1pc | | |

* Add suffix on code No. to devote AC voltage and plug (refer to the last page)

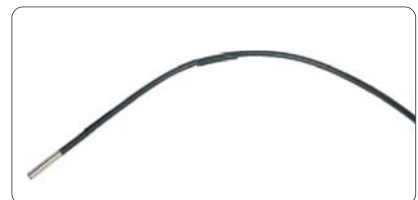
- IP57 dust/waterproof
- With adjustable LED illumination

CABLE FOR VIDEOSCOPE

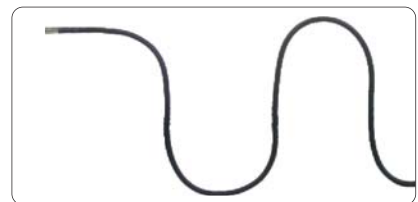
IP57
WATERPROOF

SPECIFICATION

| Code | Type | Cable length | Diameter (Ød) | Focus distance (L) | Pixel | |
|----------------|------------|--------------|---------------|--------------------|--|----|
| ISV-E55-C4301 | semi-rigid | 1m | 4.3mm | 15~30mm | pixel 0.1M resolution 320×240 frame rate 30fps | |
| ISV-E55-C55003 | | 0.3m | 5.5mm | 15~100mm | pixel 0.3M resolution 640×480 frame rate 30fps | |
| ISV-E55-C5501 | | 1m | | | | |
| ISV-E55-C5503 | | 3m | | | | |
| ISV-E55-C5505 | | 5m | | | | |
| ISV-E55-C5510 | | 10m | | | | |
| ISV-E55-R5501 | | soft | | | | 1m |
| ISV-E55-CS5501 | semi-rigid | 1m | | | | |



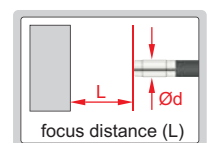
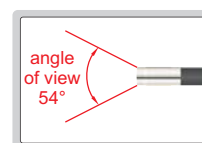
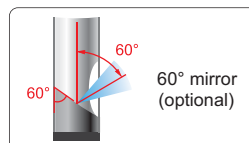
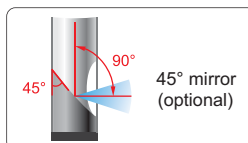
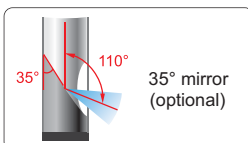
semi-rigid cable
(can be bent slightly, but cannot be set)



soft cable (can be set at any shape)

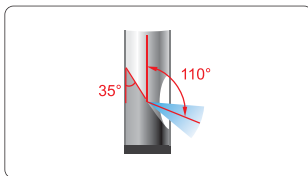
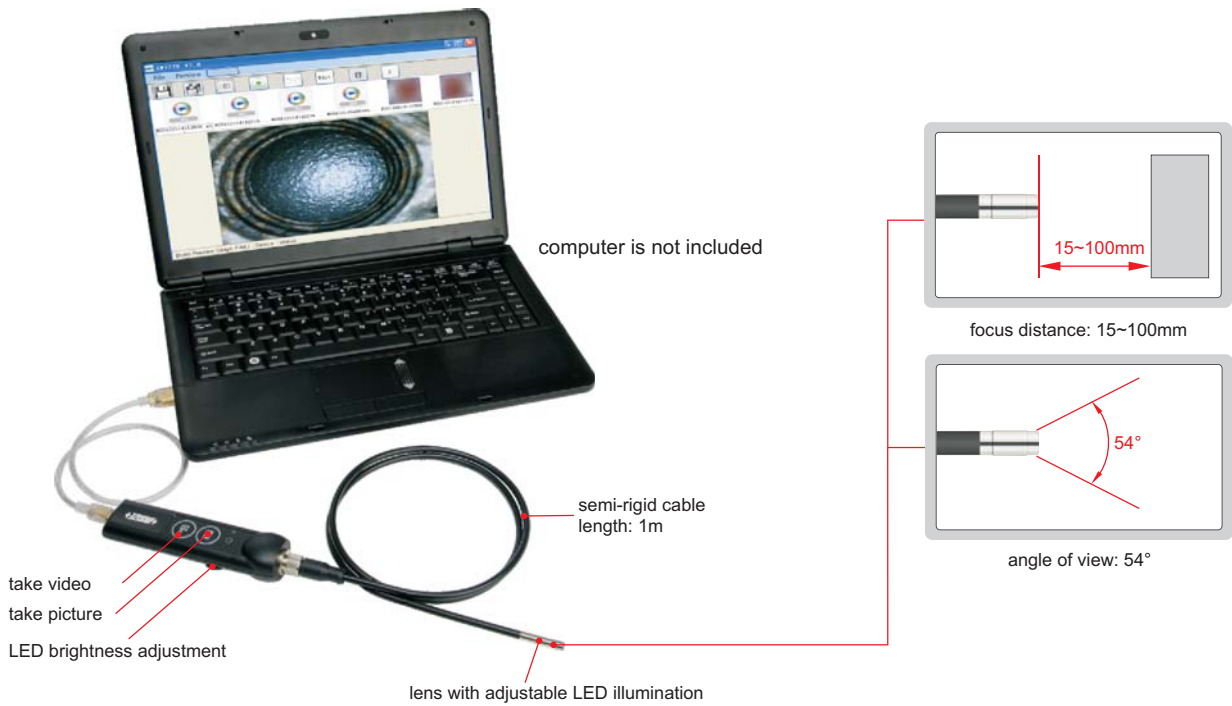
OPTIONAL ACCESSORY

| | |
|--------------------------------------|--------------------|
| 35° mirror (for Ø5.5mm probe) | ISV-E55-M35 |
| 45° mirror (for Ø5.5mm probe) | ISV-E55-M45 |
| 60° mirror (for Ø5.5mm probe) | ISV-E55-M60 |

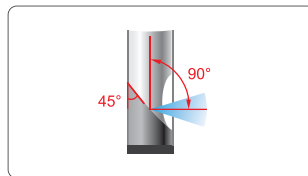


VIDEOSCOPE CODE ISV-E55C

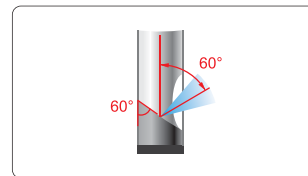
IP57
WATERPROOF



35° mirror (optional)



45° mirror (optional)



60° mirror (optional)

SPECIFICATION

| | | |
|---------------------|------------------------|------------|
| Lens | diameter | 5.5mm |
| | dust/waterproof | IP57 |
| | pixel | 0.3M |
| | resolution | 640×480 |
| | frame rate | 30fps |
| Cable | length | 1m |
| | type | semi-rigid |
| Power supply | | USB |
| Weight | | 150g |

STANDARD DELIVERY

| | |
|-------------------------------|-----|
| Main unit | 1pc |
| Cable with lens | 1pc |
| USB cable and software | 1pc |
| Lens cleaning kit | 1pc |

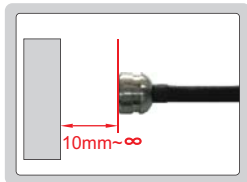
OPTIONAL ACCESSORY

| | |
|-------------------|-------------|
| 35° mirror | ISV-E55-M35 |
| 45° mirror | ISV-E55-M45 |
| 60° mirror | ISV-E55-M60 |

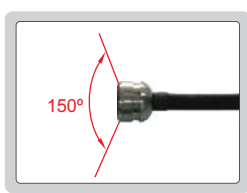
RESISTANCE TO ACID AND ALKALI LIQUID (CONSULT IS NEEDED)

IP68
WATERPROOF

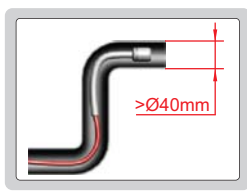
PIPE VIDEOSCOPE CODE ISV-VP280



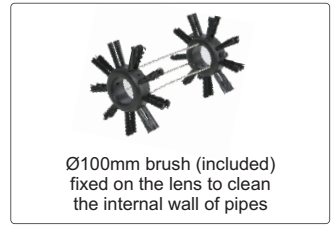
focus distance: 10mm~∞



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

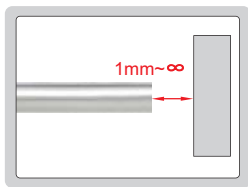
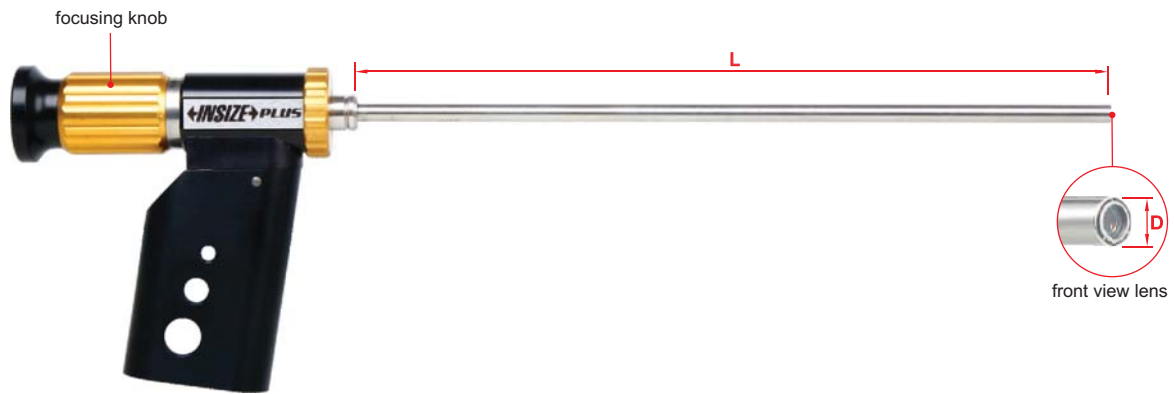
| | |
|--------------------|------|
| Main unit | 1pc |
| Cable with lens | 1pc |
| Stand | 1pc |
| 4G SD card | 1pc |
| Ø100mm brush | 1pc |
| AA battery | 4pcs |
| Vdieo output cable | 1pc |
| USB cable | 1pc |

OPTIONAL ACCESSORY

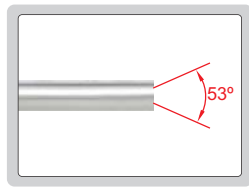
| | |
|----------------------|----------------|
| Ø50mm centering ring | ISV-VP280-R50 |
| Ø150mm brush | ISV-VP280-B150 |

FRONT VIEW BORESCOPE (RIGID) CODE ISV-HF4030

IP67
WATERPROOF



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 |

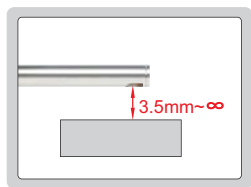
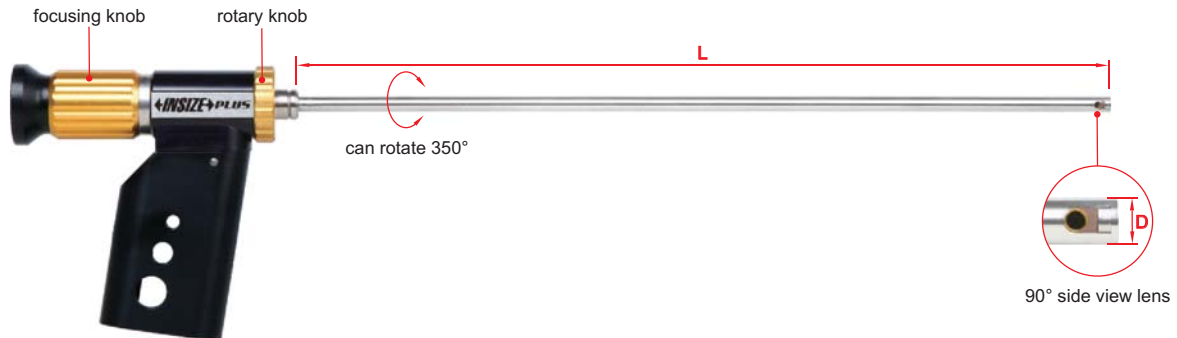
OPTIONAL ACCESSORY

| | |
|---------------------|------------|
| LED light source | ISV-HL3000 |
| Camera and software | ISV-HCAM |

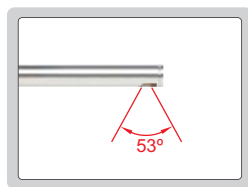


IP67
WATERPROOF

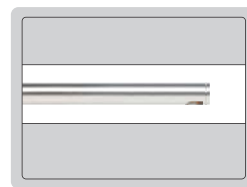
ROTARY SIDE VIEW BORESCOPE (RIGID) CODE ISV-HR6032



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

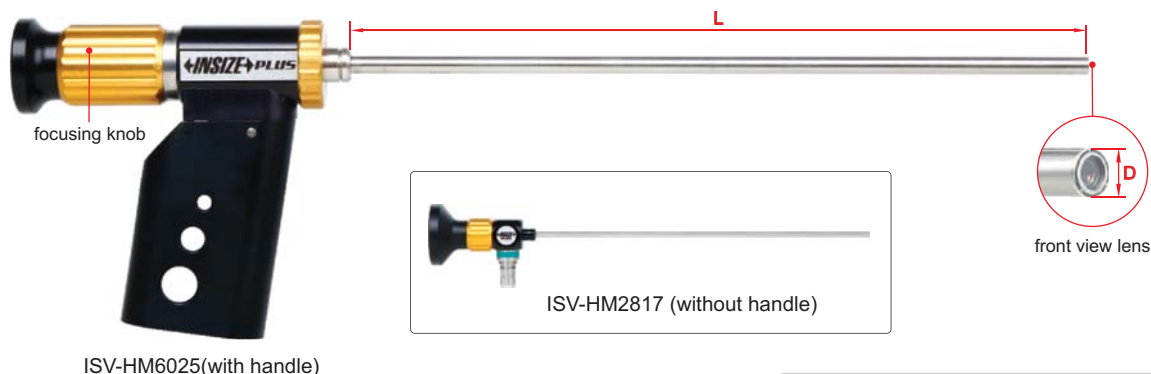
| | |
|-----------|-----|
| Main unit | 1pc |
| Handle | 1pc |

OPTIONAL ACCESSORY

| | |
|---------------------|------------|
| LED light source | ISV-HL3000 |
| Camera and software | ISV-HCAM |

BORESCOPE WITH MIRROR (RIGID)

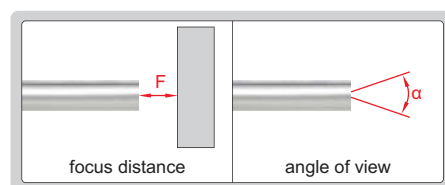
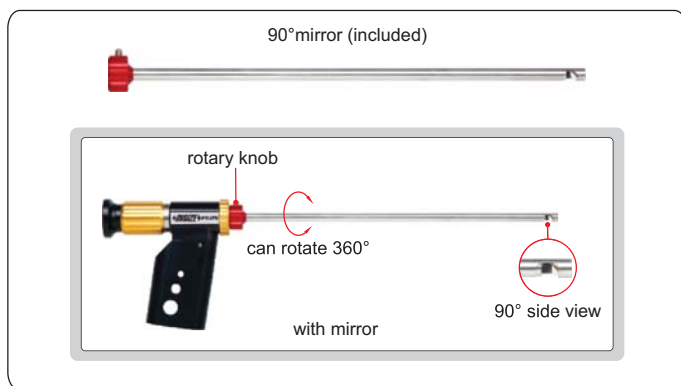
IP67
WATERPROOF



ISV-HM6025(with handle)

ISV-HM2817 (without handle)

front view lens



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 | 513mm |
| 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 |

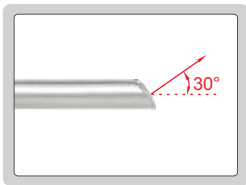
OPTIONAL ACCESSORY

| | |
|---------------------|------------|
| LED light source | ISV-HL3000 |
| Camera and software | ISV-HCAM |

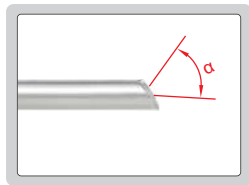


IP67
WATERPROOF

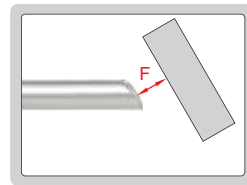
OBLIQUE VIEW BORESCOPE (RIGID)



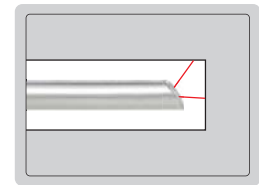
view direction



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 $-10^{\circ}\text{C}\sim 100^{\circ}\text{C}$
- 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



- 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 | 170×196×98mm |
| Weight | 3.8kg |

STANDARD DELIVERY

| | |
|---------------------------------|-----|
| Main unit | 1pc |
| 2.3m optical fiber cable | 1pc |



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 |

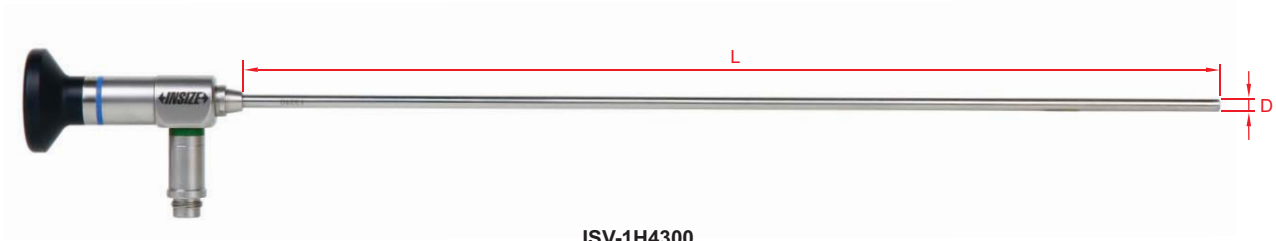
STANDARD DELIVERY

| | |
|-------------------------------|-----|
| Camera | 1pc |
| Connector | 1pc |
| USB cable and software | 1pc |

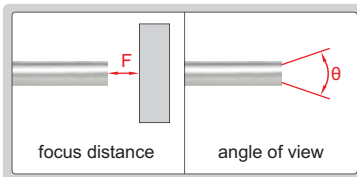


IP67
WATERPROOF

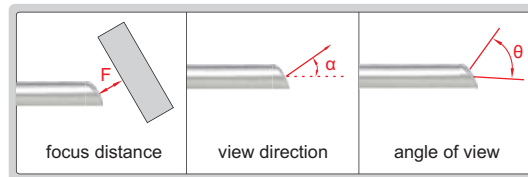
RIGID BORESCOPE



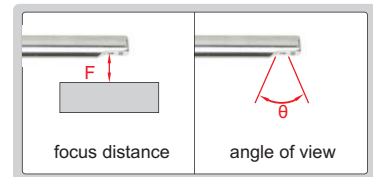
ISV-1H4300



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 |

* Add suffix on code No. to devote AC voltage and plug (refer to the last page)

LED LIGHT HANDLE CODE ISV-1HLED*

- For rigid endoscopes

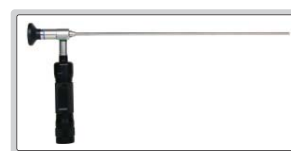
SPECIFICATION

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

* Add suffix on code No. to devote AC voltage and plug (refer to the last page)



battery



charger



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 |

* Add suffix on code No. to devote AC voltage and plug (refer to the last page)



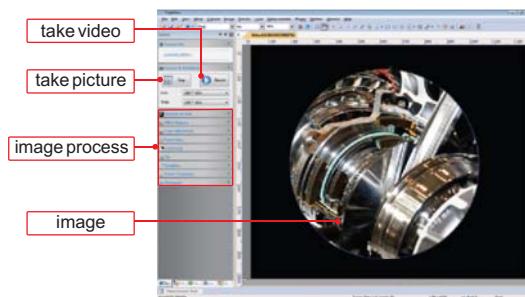
CAMERA CODE ISV-1CAM



- 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 |



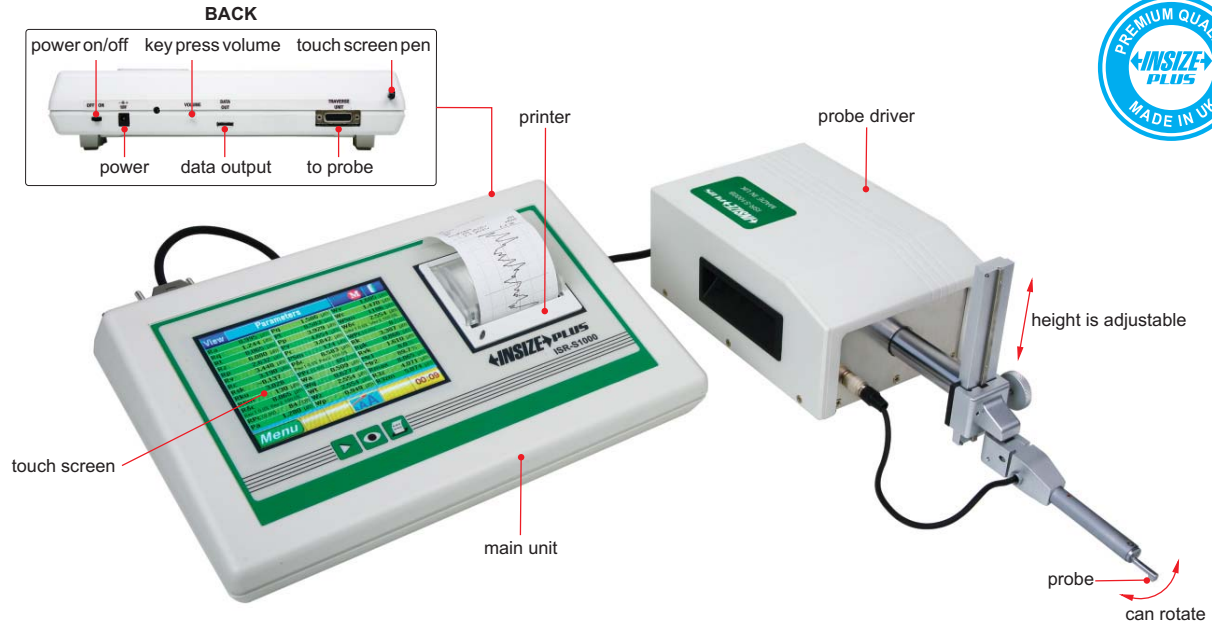
STANDARD DELIVERY

| | |
|-------------------------------|-----|
| Camera | 1pc |
| Connector | 1pc |
| USB cable and software | 1pc |

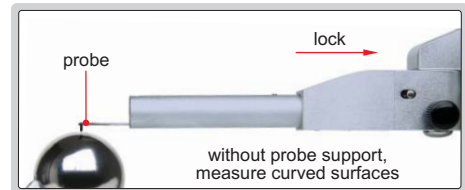
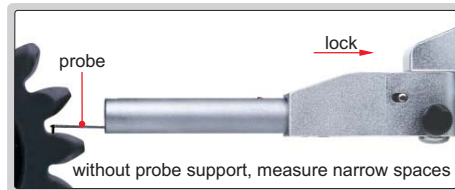
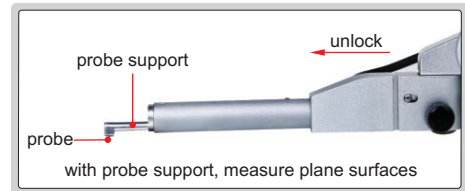
CAN MEASURE WAVINESS AND CURVED SURFACE WITH RADIUS>5MM

DATA OUTPUT

SURFACE ROUGHNESS TESTER CODE ISR-S1000B



- 48 roughness parameters according to ISO-4287, JIS-B0601, ISO-12085, JIS-B0631
- Automatic probe leveling
- Measuring range up to 1000 μ m, 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



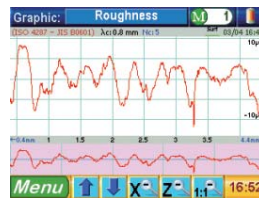
ROUGHNESS VALUE, PROFILE AND DATA ANALYSIS



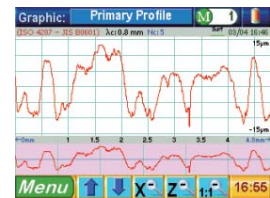
measurement result



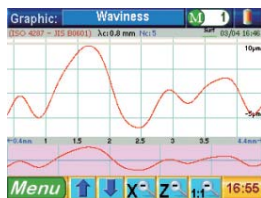
total profile graph



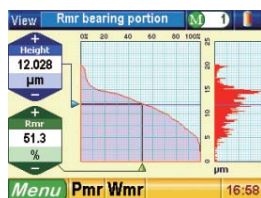
R graph



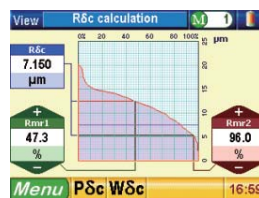
P graph



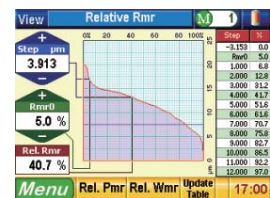
W graph



Rmr, Pmr, Wmr analysis



R&c, P&c, W&c analysis



Rel. Rmr, Rel. Pmr, Rel. Wmr analysis

To be continued

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) 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 | refer to next page |
| 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

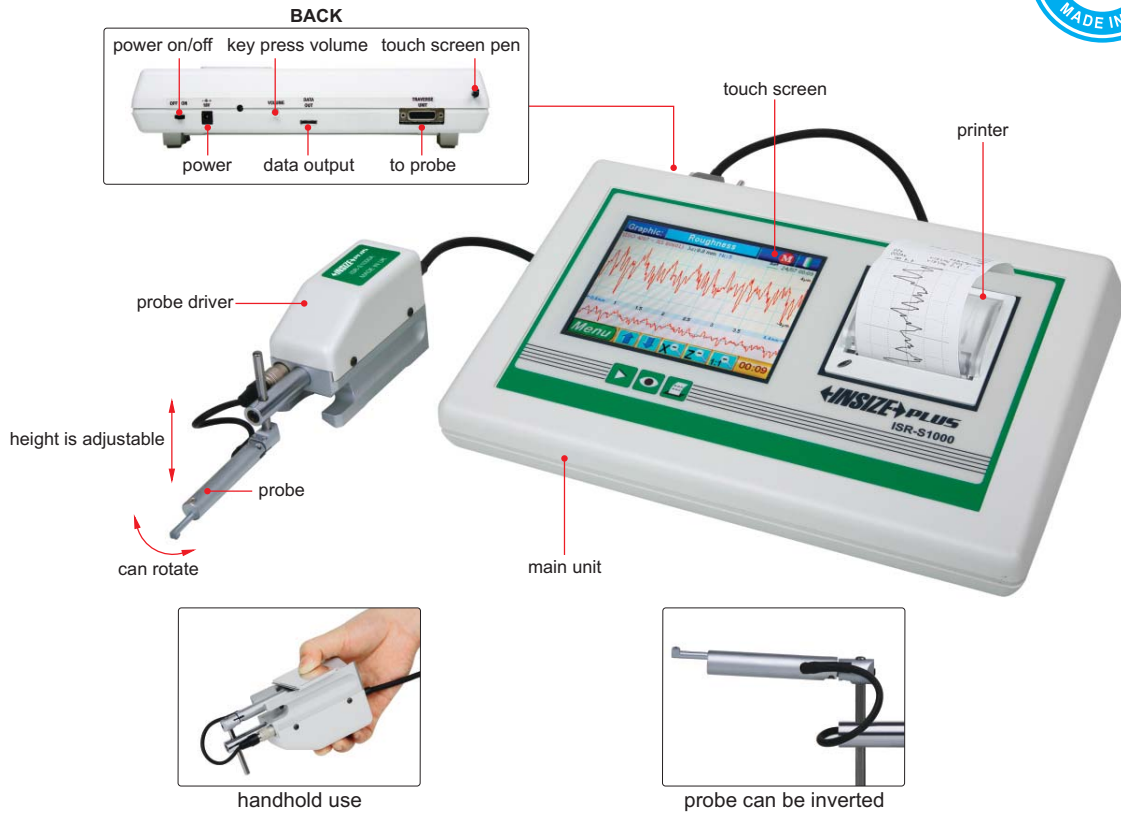
SPECIFICATION

| | | |
|--|--|---|
| <p>standard probe (included, support is removable), code ISR-SB10B</p> <p>with probe support, measure plane surfaces, holes and cylinders with diameter > Ø10mm</p> <p>remove probe support, to measure holes with diameter > Ø4mm, can measure curved surfaces, narrow spaces and waviness</p> | | |
| <p>small hole probe (optional), code ISR-SB60B</p> <p>without probe support, measure holes with diameter > Ø2mm and depth < 30mm, can measure curved surfaces, narrow spaces and waviness</p> | <p>internal angle probe (optional), code ISR-SB70B</p> <p>without probe support, measure internal angles, can measure curved surfaces, narrow spaces and waviness</p> | <p>knife edge probe (optional), code ISR-SB130B</p> <p>without probe support, measure knife edges and small rods</p> |
| <p>deep groove probe (optional), code ISR-SB150B</p> <p>without probe support, measure curved surfaces and grooves with depth < 13mm, can measure curved surfaces, narrow spaces and waviness</p> | | <p>deep groove probe (optional), code ISR-SB120B</p> <p>measure grooves with depth < 20mm</p> |
| <p>hole probe (optional), code ISR-SB30B</p> <p>measure plane surfaces and holes with diameter > Ø4mm and depth < 20mm</p> | <p>small rod probe (optional), code ISR-SB40B</p> <p>measure small rods with diameter 1-5mm</p> | <p>transverse probe (optional), code ISR-SB50B</p> <p>transverse measurement for plane surfaces, cylinders and grooves</p> |
| <p>deep hole probe (optional), code ISR-SB80B</p> <p>measure holes with diameter > Ø4.5mm and depth < 35mm</p> | <p>cylinder/hole probe (optional), code ISR-SB110B</p> <p>measure cylinders and holes with radius > R5mm</p> | <p>groove probe (optional), code ISR-SB20B</p> <p>measure plane surfaces and grooves</p> |

SURFACE ROUGHNESS TESTER CODE ISR-S1000A



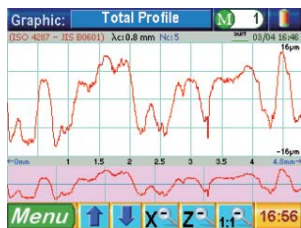
DATA OUTPUT



- 38 roughness parameters according to ISO-4287, JIS-B0601, ISO-12085, JIS-B0631
- Automatic probe leveling
- Measuring range up to 1000 μ m, 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

| View | Parameters | M | 1 |
|------|----------------|-----------|------------------|
| Ra | 2.908 μ m | RSm | 391 μ m |
| Rq | 3.509 μ m | R&C | 20.233 μ m |
| Rt | 20.233 μ m | Rmr1 | 0.0% Rmr2 100.0% |
| Rz | 12.548 μ m | RPC(0.00) | 34/cm |
| Rp | 5.039 μ m | Pa | 6.013 μ m |
| Rv | 7.609 μ m | Pq | 6.810 μ m |
| Rc | 9.310 μ m | Pt | 26.256 μ m |
| Rsk | -0.105 | Pp | 13.265 μ m |
| Rku | 2.729 | Pv | 12.991 μ m |

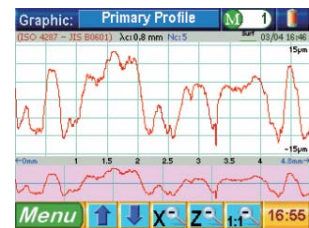
measurement result



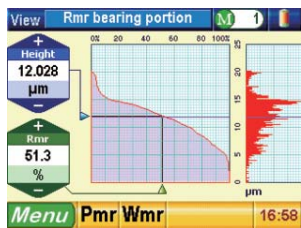
total profile graph



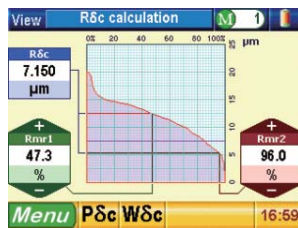
R graph



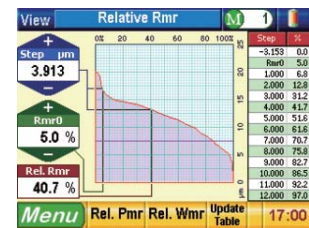
P graph



Rmr, Pmr analysis



R&C, P&C 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 Rδc, RPC, Pa, Pq, Pt, Pp, Pv, Pc, PSm, Pδc PPc, 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 | 0.08/0.25/0.8/2.5mm | |
| Number of cut-offs | 1-19 (cut off 0.08/0.25/0.8mm) | |
| | 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 |

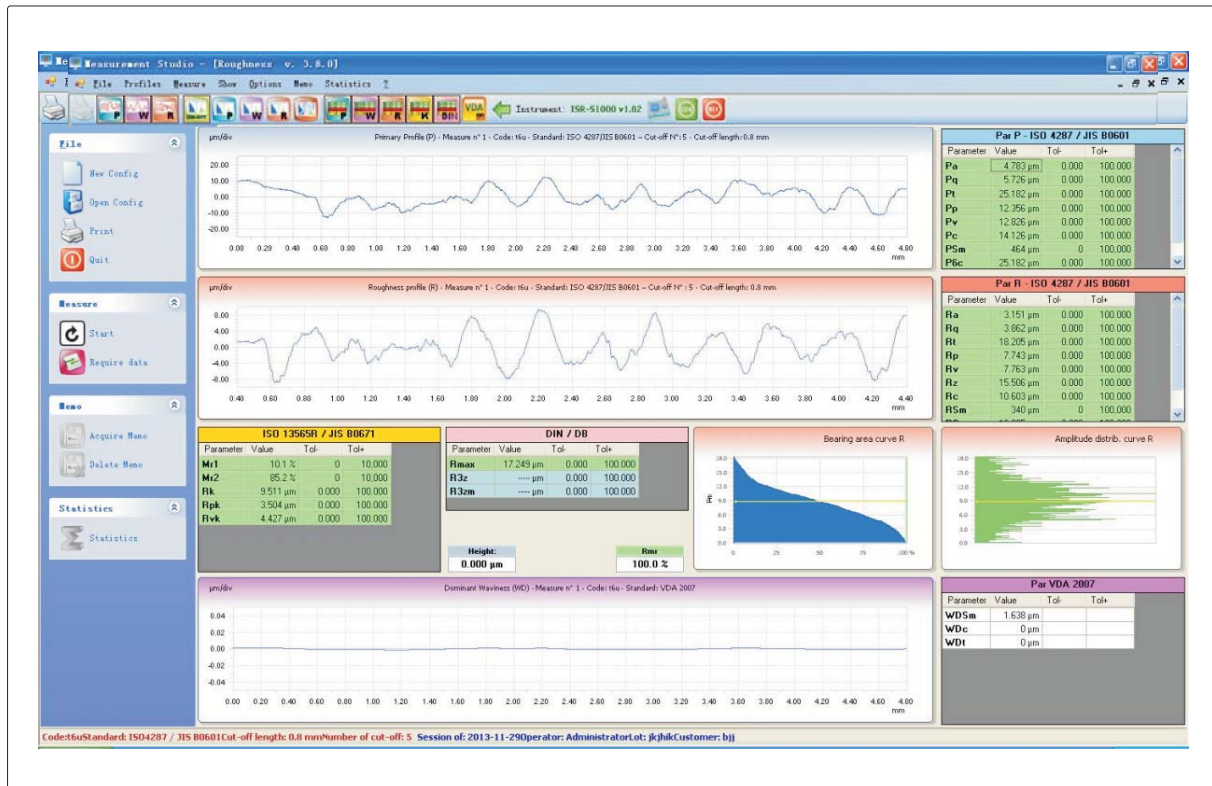
OPTIONAL ACCESSORY

| | |
|-------------------------------|--------------------|
| Probe | refer to next page |
| USB cable and software | ISR-S-SOFTWARE |
| Vertical stand | ISR-S1000A-STAND |



vertical stand (optional)

measuring software (optional)



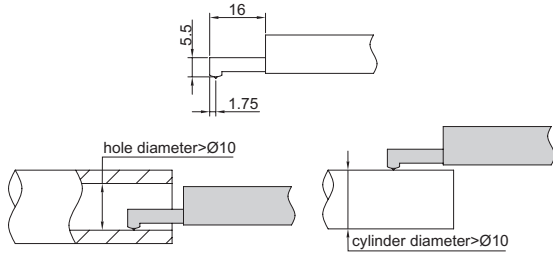
measuring software (optional), can control the roughness tester, display roughness values, profile and curve, data statistics

To be continued

SPECIFICATION

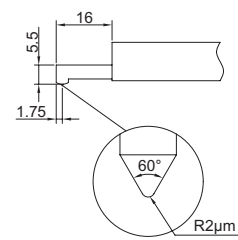
Unit: mm

standard probe (included), code ISR-SB10A



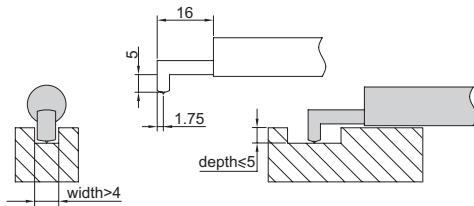
measure plane surfaces, holes and cylinders with diameter > Ø10mm

small roughness probe (optional), code ISR-SB10A-R2



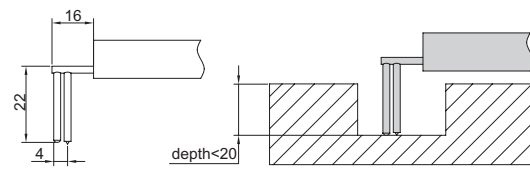
measure surfaces with small roughness

groove probe (optional), code ISR-SB20A



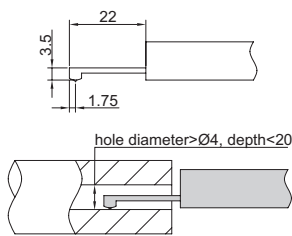
measure plane surfaces and grooves

deep groove probe (optional), code ISR-SB120A



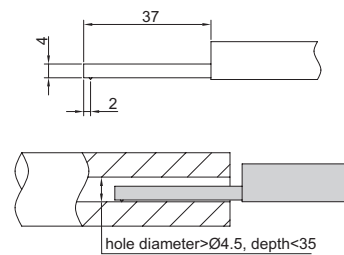
measure grooves with depth < 20mm

small hole probe (optional), code ISR-SB30A



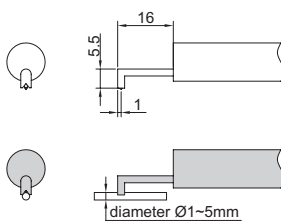
measure plane surfaces and holes with diameter > Ø4mm and depth < 20mm

deep hole probe (optional), code ISR-SB80A



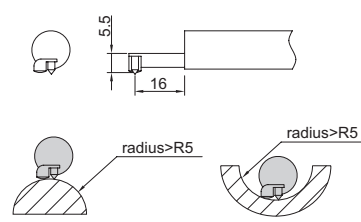
measure holes with diameter > Ø4.5mm and depth < 35mm

small rod probe (optional), code ISR-SB40A



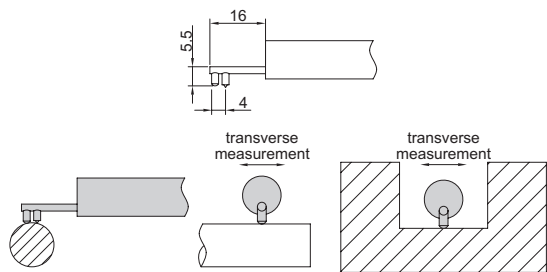
measure small rods with diameter Ø1~5mm

cylinder/hole probe (optional), code ISR-SB110A



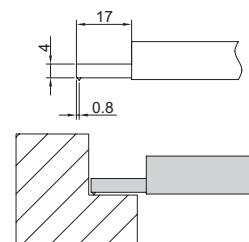
measure cylinders and holes with radius > R5mm

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

DATA OUTPUT



ISR-S300
(probe can't be changed)



ISR-S400
(probe can be changed)

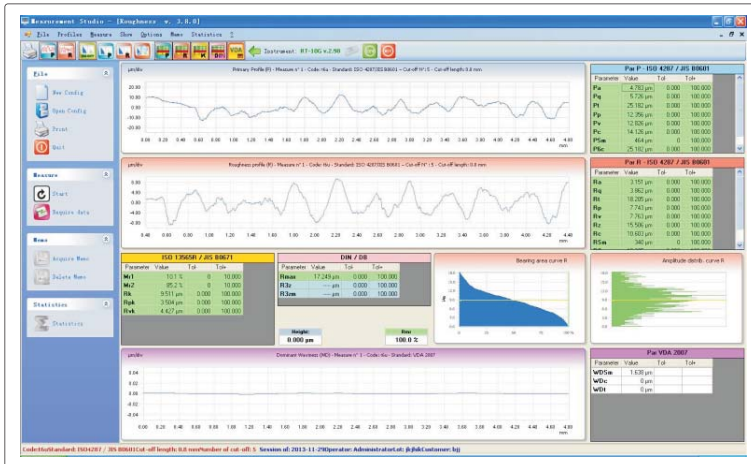
- Automatic probe leveling
- Language: English, French, German, Italian, Spanish, Portuguese
- 12 roughness parameters
- Can set tolerance
- Measuring range up to 400µm, can measure grit and shot blasting
- Traverse length up to 16mm
- The probe can be set at 90° or 270°, for transverse measurement
- 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

SPECIFICATION

| | | |
|---------------------------|--|--|
| Code | ISR-S300 (probe can't be changed) | ISR-S400 (probe can be changed) |
| Parameters | Ra, Rq, Rt, Rz, Rc, Rmax, Rsm, Rpc, Rmr, R, AR, Rx | |
| Range | Ra: 0~100 μ m, Rt: 0.05~400 μ m | |
| Accuracy | \pm 3% | |
| Resolution (Ra) | 0.001 μ m | |
| Probe | type | inductive |
| | stylus radius/angle | 5 μ m/90° |
| | stylus material | diamond |
| Measuring force | 0.75mN | |
| Measuring unit | μ m/ μ in | |
| 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 below and next page |
| Printer | ISR-S400-PRINTER |
| USB cable and software | ISR-S-SOFTWARE |
| Test stand | ISR-S400-STAND |

SPECIFICATION

Unit: mm

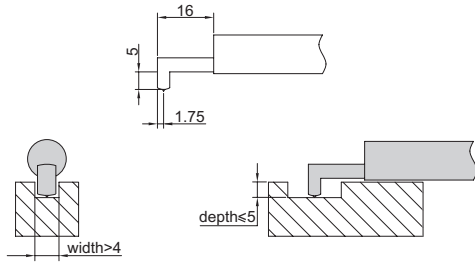
| | |
|---|--|
| <p>standard probe (included)</p> <p>measure plane surfaces, holes and cylinders with diameter > Ø10mm</p> | <p>small roughness probe (for ISR-S400, optional) code ISR-S400-SB10R2</p> <p>measure surfaces with small roughness</p> |
| <p>extension rod (for ISR-S400, optional) code ISR-S400-ER100</p> <p>for long hole</p> | |

To be continued

SPECIFICATION

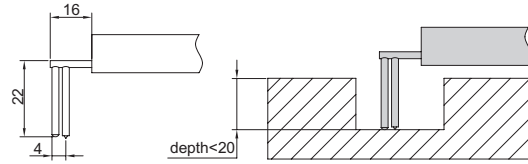
Unit: mm

**groove probe (for ISR-S400, optional)
code ISR-S400-SB20**



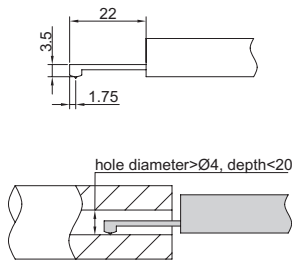
measure plane surfaces and grooves

**deep groove probe (for ISR-S400, optional)
code ISR-S400-SB120**



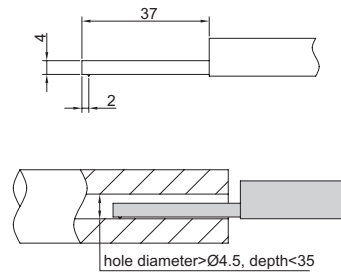
measure grooves with depth < 20 mm

**small hole probe (for ISR-S400, optional)
code ISR-S400-SB30**



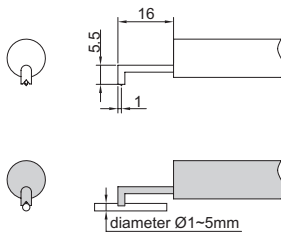
measure plane surfaces and holes with diameter > 4 mm and depth < 20 mm

**deep hole probe (for ISR-S400, optional)
code ISR-S400-SB80**



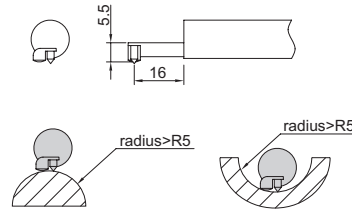
measure holes with diameter > 4.5 mm and depth < 35 mm

**small rod probe (for ISR-S400, optional)
code ISR-S400-SB40**



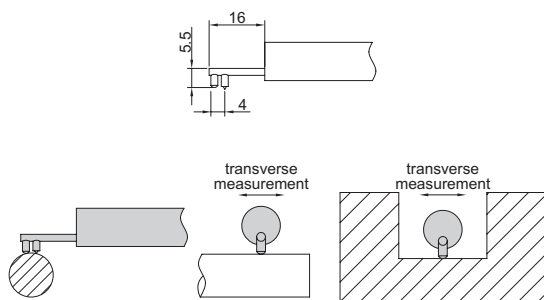
measure small rods with diameter 1~5 mm

**cylinder/hole probe (for ISR-S400, optional)
code ISR-S400-SB110**



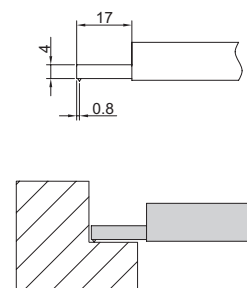
measure cylinders and holes with radius > R5 mm

**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

SURFACE ROUGHNESS REFERENCE SPECIMEN

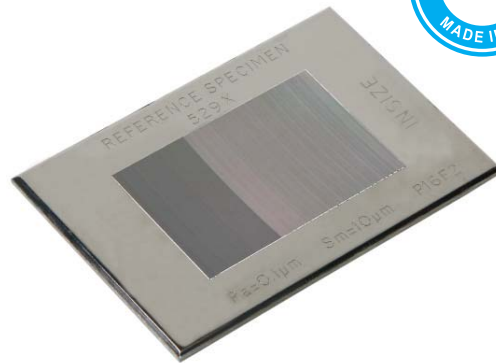
MEASURING ACCURACY CAN BE IMPROVED, IF THE CALIBRATION IS MADE ON A REFERENCE SPECIMEN WITH THE ROUGHNESS VALUE CLOSE TO THE WORKPIECE TO BE MEASURED



- 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* |
| ISR-RS530X | 1.0µm* |
| ISR-RS531X | 0.3µm* |

*The actual value may be slightly different



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



| Code | Machining method | Roughness (Ra) | Roughness (Rz) | Quantity |
|-----------|------------------|---------------------|----------------------|----------|
| ISR-CS017 | Shot blasting | 3.2, 8, 13, 18µm | 19.2, 48, 78, 108µm | 4pcs |
| ISR-CS018 | Grit blasting | 3.2, 10.5, 18, 25µm | 19.2, 63, 108, 150µm | 4pcs |



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 |
| | | Parallel | 0.025, 0.05, 0.1, 0.2μm | 0.34, 0.56, 1.12, 1.5μm |
| ISR-CS318 | Cylindrical lapping | 0.025, 0.05, 0.1, 0.2μm | 0.46, 0.54, 0.63, 1.23μm | 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 |

COATING THICKNESS GAGE CODE ISO-2000FN

SUITABLE FOR SMALL SURFACES, CONCAVE
OR CONVEX SURFACES AFTER CALIBRATION



main unit
ISO-2000FN



magnetic induction probe Fe (optional)
ISO-2000FN-FE



eddy current probe NFe (optional)
ISO-2000FN-NFE

- Suitable for small surfaces, concave or convex surfaces after calibrated
- 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) | 0~2000 μ m |
| | eddy current probe (NFe) | 0~800 μ m |
| Accuracy | $\pm(1.5+2\%L)\mu$ m L is measuring thickness in μ m | |
| Resolution | 0.1 μ m (range<100 μ m) | |
| | 1 μ m (range 100~1000 μ m) | |
| | 10 μ m (range \geq 1000 μ m) | |
| Repeatability | 1 μ m (range 0~1000 μ m) | |
| | 10 μ m (range \geq 1000 μ m) | |
| 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 | 2x1.5V AA batteries | |
| Dimension of main unit | 122x65x22mm | |
| 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 |



FOR MAGNETIC AND
NON-MAGNETIC MATERIALS

COATING THICKNESS GAGE CODE ISO-3500FN

- Integrated with magnetic-induction probe (Fe) and eddy current probe (Nfe), switch to the suitable probe automatically according to the material to be measured
- 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
Set zero without calibration foil
- Power off automatically (40 seconds without operation)



SPECIFICATION

| | | |
|---------------------------------------|---|-------------------------------------|
| Measuring range | 0~3500 μ m | |
| Accuracy | $\pm(2\%L+1)\mu$ m (range<1000 μ m) $\pm(3.5\%L)\mu$ m (range \geq 1000 μ m) | L is measuring thickness in μ m |
| Resolution | 0.1 μ m (range<100 μ m) | |
| | 1 μ m (range100~1000 μ m) | |
| | 10 μ m (range \geq 1000 μ m) | |
| Repeatability | 1 μ m (range<1000 μ m) | |
| | 10 μ m (range \geq 1000 μ m) | |
| Measuring mode | continuous and single | |
| Calibration mode | zero calibration | |
| Minimum substrate thickness | magnetic-induction: 0.2mm, eddy current: 0.05mm | |
| Minimum measuring area | 10 \times 10mm | |
| Minimum curvature radius of workpiece | concave | 30mm |
| | convex | 5mm |
| Power supply | 9V battery | |
| Dimension | 118 \times 58 \times 38mm | |
| Weight | 150g | |

STANDARD DELIVERY

| | |
|--------------------------------------|-----|
| Main unit | 1pc |
| Zero calibration block for Fe probe | 1pc |
| Zero calibration block for NFe probe | 1pc |
| 9V battery | 1pc |

OPTIONAL ACCESSORY

| | |
|---|-----------------|
| Standard foil (for checking accuracy) 20 μ m, 50 μ m, 100 μ m, 250 μ m | ISO-3500FN-FOIL |
|---|-----------------|

COATING THICKNESS GAGE CODE ISO-1500F

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) L is measuring thickness in μm | |
| Measuring mode | continuous and single | |
| Calibration mode | zero calibration, one point calibration, 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

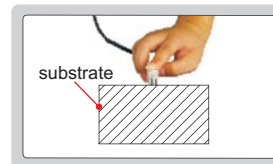
ULTRASONIC THICKNESS GAGE THROUGH COATING CODE ISU-300D

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)



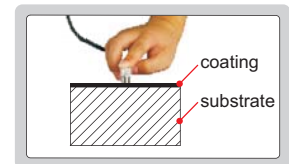
couplant (included)



transducer ISU-T12 (optional)



Echo-Echo mode (E-E)



transducer ISU-T06 (optional)



transducer ISU-T13 (optional)



SPECIFICATION

| | |
|-----------------|--|
| Measuring range | E-E mode: coating thickness 0~1mm, substrate thickness 4~25mm |
| | T-E mode: substrate thickness 0.8~300mm |
| Resolution | 0.01mm (range<100mm) 0.1mm (range≥100mm) |
| Repeatability | 0.03mm (range<100mm) 0.1mm (range≥100mm) |
| Accuracy | ±0.04mm (range<10mm) ±(0.04+H/1000)mm (range 10~100mm) ±H/333mm (range≥100mm) 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-T06, ISU-T07, ISU-T12) | 1 bottle |
| USB cable and software disc | 1pc |

OPTIONAL ACCESSARY

| | |
|-------------------------|---------------------------|
| Transducer | ISU-T06, ISU-T12, ISU-T13 |
| Couplant (for ISU-T13) | ISU-HT5-COUPPLANT |

SPECIFICATION OF TRANSDUCERS

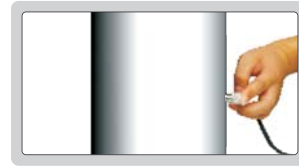
| Code | Mode | Frequency | Diameter(Ød) | Measuring range | Minimum size of pipe for measurement (diameter × wall thickness) | Applicable temperature | Application |
|---------|------|-----------|--------------|---------------------|--|------------------------|----------------------|
| ISU-T07 | T-E | 5.0MHz | 10.8mm | T-E mode: 0.8~300mm | T-E mode: 20×1.2mm | <60°C | general use |
| | E-E | | | E-E mode: 4~25mm | E-E mode: 20×4mm | | |
| 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 | 3~350mm | 30×4mm | <60°C | for casting iron |
| ISU-T13 | T-E | 5.0MHz | 13mm | 3~100mm | 25×3mm | <350°C | for high temperature |

ULTRASONIC THICKNESS GAGE CODE ISU-250C

DATA
OUTPUT



- 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-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) |
| | ±(0.04+H/1000)mm (range10~100mm) |
| | ±H/333mm (range≥100mm) |
| | 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-T06, ISU-T08, ISU-T12) | 1 bottle |
| USB cable and software disc | 1pc of each |

OPTIONAL ACCESSORY

| | |
|------------------------|---------------------------|
| Transducer | ISU-T06, ISU-T12, ISU-T13 |
| Couplant (for ISU-T13) | ISU-HT5-COULPLANT |

SPECIFICATION OF TRANSDUCERS

| Code | Frequency | Diameter(∅d) | 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-T06 | 7.5MHz | 8.5mm | 0.7~50mm | 15×1.2mm | <60°C | for thin material |
| ISU-T12 | 2.0MHz | 16.3mm | 3~350mm | 30×4mm | <60°C | for casting steel |
| ISU-T13 | 5.0MHz | 13mm | 3~100mm | 25×3mm | <350°C | for high temperature |

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) |
| | ±(0.01+0.5%H)mm (range≥10mm) 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 |
| | ISU-200D-N07 |
| | ISU-200D-W05 |
| | ISU-200D-HT5 |

SPECIFICATION OF TRANSDUCERS

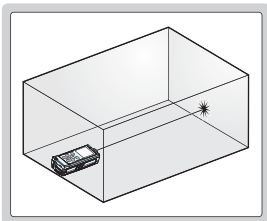
| Code | Frequency | Diameter (Ød) | Measuring range | Minimum size of pipe for measurement (diameter × wall thickness) | Applicable temperature | Application |
|--------------|-----------|---------------|-----------------|--|------------------------|----------------------|
| ISU-200D-N05 | 5.0MHz | 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 |

LASER DISTANCE METER CODE ISN-L70

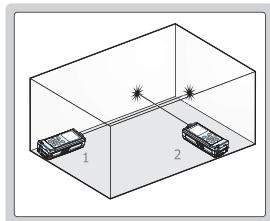
IP52
WATERPROOF



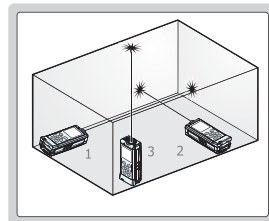
- Large display with backlight
- Unit: m, ft, in
- Distance, area, volume and height measurement
- With continuous measuring mode to track maximum and minimum value
- Automatic power-off: laser 30s, main unit 180s



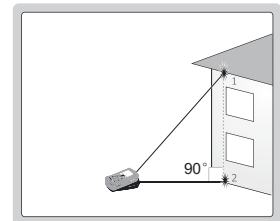
distance measurement



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

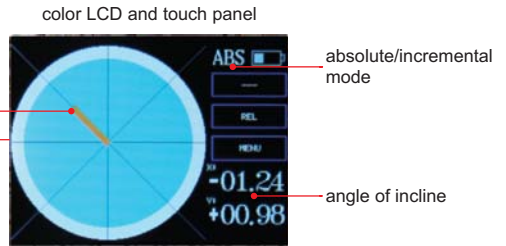
| | |
|--------------|------|
| Main unit | 1pc |
| Battery (AA) | 2pcs |
| Strap | 1pc |
| Carrying bag | 1pc |

DATA
OUTPUT

DIGITAL LEVEL



ISE-2DT



direction of incline

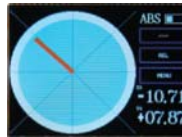
- Color LCD, touch panel
- X-Y axis measurement
- Set the tolerance and the display is shown in different colors



within the tolerance (green)

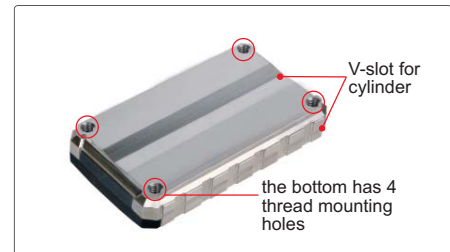
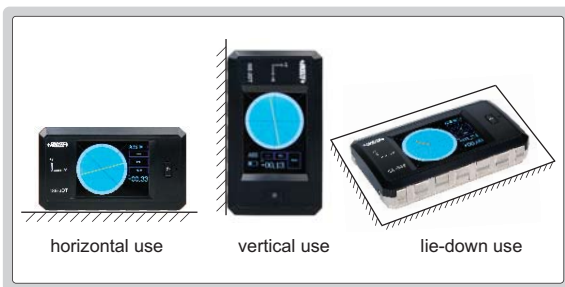
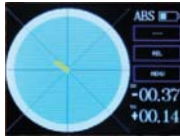


slightly out of the tolerance (yellow)



seriously out of the tolerance (red)

- To show the incline with line or bubble



SPECIFICATION

| Code | ISE-2DT |
|-----------------|---|
| Measuring range | ±30° |
| Resolution | 0.01°(=0.174mm/m) |
| Accuracy | ±0.03° (range 0~3°) ±0.05° (range >3°) |
| Power supply | rechargeable battery |
| Dimension | 115×66×23mm |
| Weight | 224g |

STANDARD DELIVERY

| | |
|-----------|-----|
| Main unit | 1pc |
| USB cable | 1pc |

OPTIONAL ACCESSORY

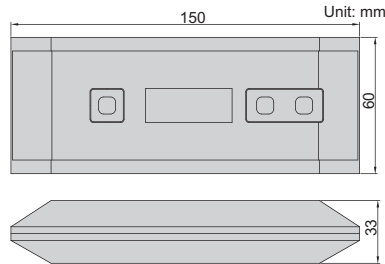
| | |
|----------|------------------|
| Software | ISE-2DT-SOFTWARE |
|----------|------------------|

DIGITAL LEVEL AND PROTRACTOR

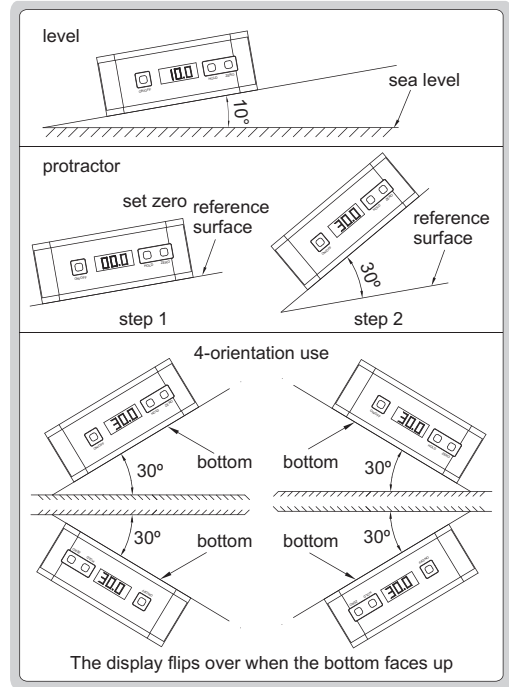


2173-360

- 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

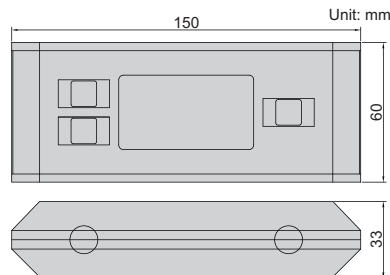
BACKLIGHT

BUZZER ALARM AT 0° AND 90°

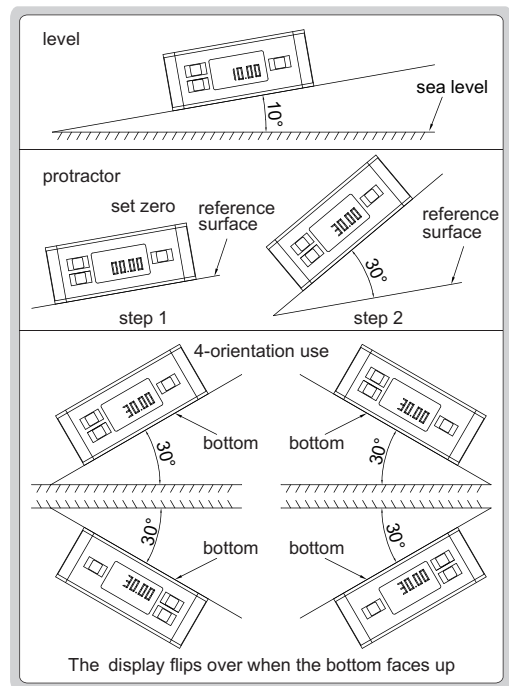


2179-360

- 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



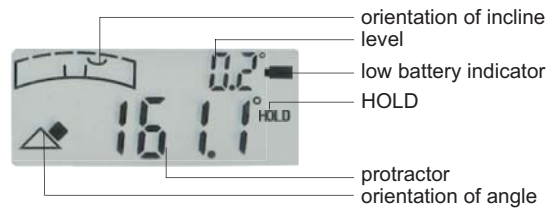
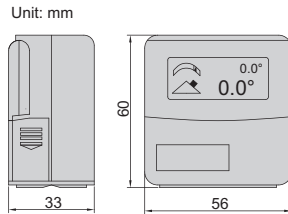
| Code | Range | Resolution | Accuracy |
|----------|----------------|-------------------|----------------------------------|
| 2179-360 | 0-360° (90°x4) | 0.05°(=0.873mm/m) | 0° and 90°: ±0.1°; others: ±0.2° |



DIGITAL LEVEL AND PROTRACTOR

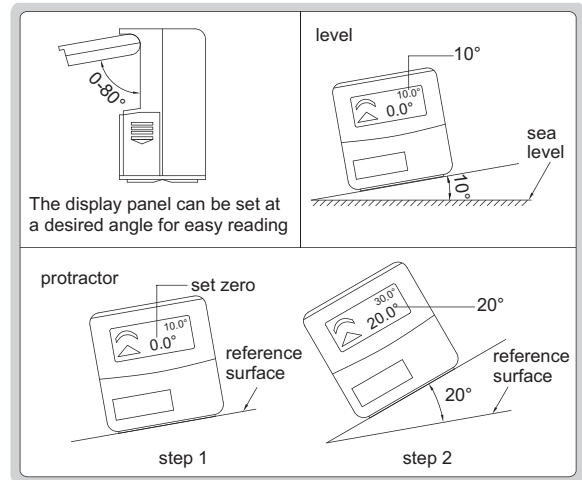


2178-1



- The display panel can be set at a desired angle for easy reading
- 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/ZERO, HOLD (keep the reading)
- Two AAA batteries
- Automatic power off

| Code | Range | Resolution | Accuracy |
|--------|--------|---------------------|-------------------------------------|
| 2178-1 | 0-180° | 0.1° (= 1.745 mm/m) | at 0° and 90°: ±0.1°; others: ±0.2° |



BACKLIGHT

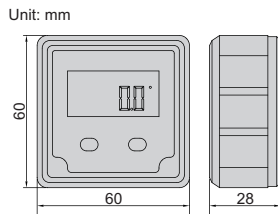
ABSOLUTE LEVEL

MAGNETIC BOTTOM

DISPLAY FLIPS OVER WHEN THE BOTTOM FACES UP



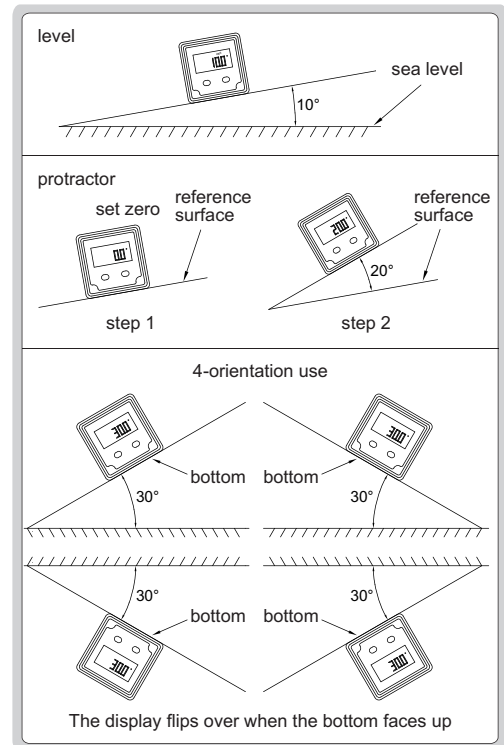
2170-1



DIGITAL LEVEL AND PROTRACTOR

- 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

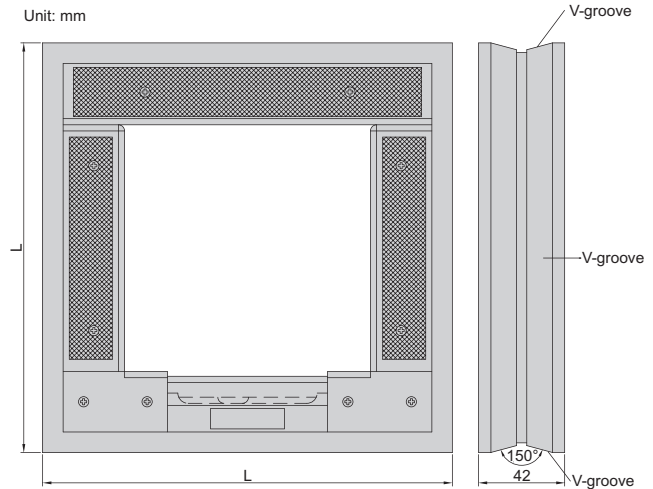


4906-200

- No need to set zero before use
- Three V-grooves for shafts (shafts dia. 19.3~115.9mm)
- With longitudinal vial

| Code | Size (LxL) | Sensitivity |
|----------|------------|-------------------|
| 4906-150 | 150x150mm | 0.02mm/m(=0.001°) |
| 4906-200 | 200x200mm | 0.02mm/m(=0.001°) |

NO NEED TO SET ZERO
BEFORE USE



BLOCK LEVEL

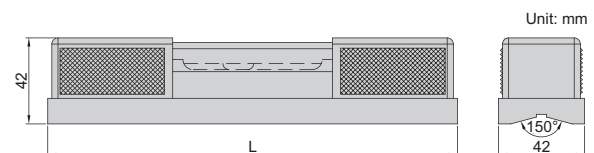


4905-200

- 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°) |

NO NEED TO SET ZERO
BEFORE USE



**BASIC
MODEL**

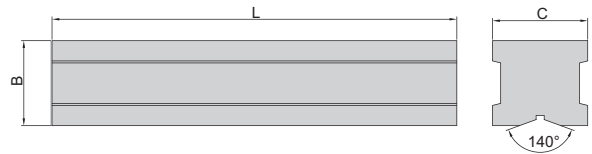
BLOCK LEVEL



4903-200A

- V-groove on bottom for shafts
- With transverse vial
- Supplied with adjusting wrench

| Code | Length (L) | Sensitivity | (mm) | |
|-----------|------------|-------------------|------|----|
| | | | B | C |
| 4903-150A | 150mm | 0.02mm/m(=0.001°) | 40 | 45 |
| 4903-200A | 200mm | 0.02mm/m(=0.001°) | 42 | 47 |
| 4903-300A | 300mm | 0.02mm/m(=0.001°) | 45 | 50 |



**NO NEED TO SET ZERO
BEFORE USE**

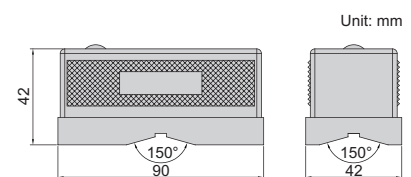
SHORT LEVEL



4907-90

- 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°) |



MINI LEVEL



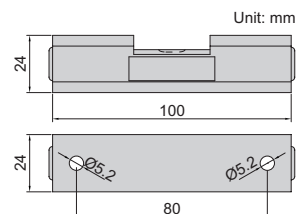
NO NEED TO SET ZERO
BEFORE USE



4908-100

- No need to set zero before use
- With mounting holes (for M5 screw)

| Code | Length | Sensitivity |
|----------|--------|-------------------|
| 4908-100 | 100mm | 0.1mm/m(=0.0057°) |



DIGITAL LEVEL

ABSOLUTE
LEVEL

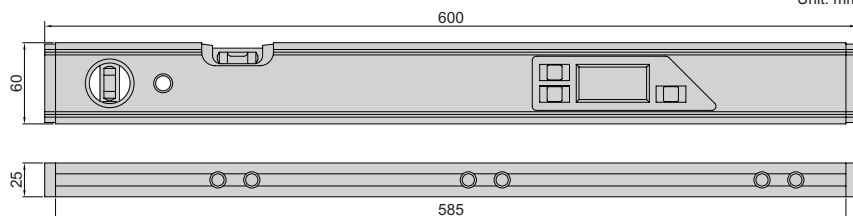
BACKLIGHT

BUZZER ALARM
AT 0° AND 90°



4910-600

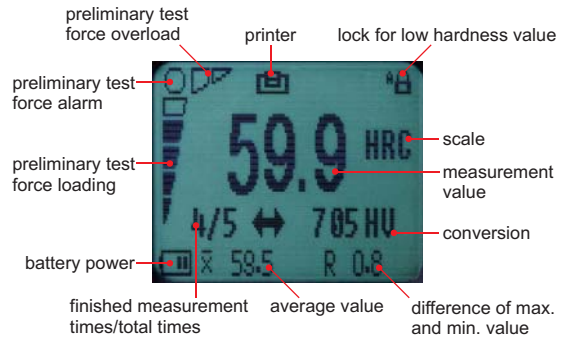
Unit: mm



- 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 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 |
| 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 HRB85-95 | 1pc |
| Hardness test block HRC60-70 | 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 |

* Add suffix on code No. to devote AC voltage and plug (refer to the last page)

AUTOMATIC ROCKWELL HARDNESS TESTER CODE ISH-MR150*



Ø60mm flat anvil



Ø150mm flat anvil



V-type anvil

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) |
| Dimension | 520×160×700mm |
| Weight | 60kg |

STANDARD DELIVERY

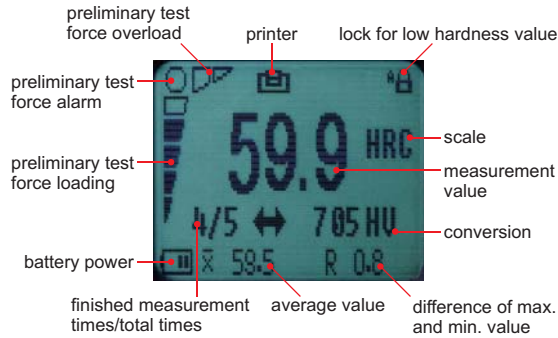
| | |
|-------------------|-----|
| Main unit | 1pc |
| Ø60mm flat anvil | 1pc |
| Ø150mm flat anvil | 1pc |
| V-type anvil | 1pc |
| Diamond indenter | 1pc |

| | |
|---------------------------------|-----|
| Ø1.5875mm carbide ball indenter | 1pc |
| Hardness test block HRB85~95 | 1pc |
| Hardness test block HRC60~70 | 1pc |
| Hardness test block HRC20~30 | 1pc |
| Anti-dust cover | 1pc |

* Add suffix on code No. to devote AC voltage and plug (refer to the last page)

DATA
OUTPUT

MANUAL DIGITAL ROCKWELL HARDNESS TESTER CODE ISH-RD200*



- 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 HRF, HRG (with standard indenters) |
| | HRE, HRH, HRK (with optional indenter) |
| Preliminary test force | 98N |
| Test force | 588N, 980N, 1471N |
| Stage elevation | manual |
| Load control | manual |
| Resolution | 0.1HR |
| Output | wireless and USB |
| Memory | 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 HRB85-95 | 1pc |
| Hardness test block HRC60-70 | 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 |

* Add suffix on code No. to devote AC voltage and plug (refer to the last page)

MANUAL ROCKWELL HARDNESS TESTER CODE ISH-R150



Ø60mm flat anvil



Ø150mm flat anvil



V-type anvil

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 HRB85~95 | 1pc |
| Hardness test block HRC60~70 | 1pc |
| Hardness test block HRC20~30 | 1pc |
| Anti-dust cover | 1pc |

projection screen with scale,
for reading Rockwell hardness

BRINELL/ROCKWELL/VICKERS HARDNESS TESTER CODE ISH-BRV*



microscope for
Vickers and Brinell
15X eyepiece

graduation 0.01mm

objective 2.5X/5X

slider



Ø60mm flat anvil for Rockwell



Ø150mm flat anvil for Rockwell



V-type anvil for Rockwell



Ø60mm flat anvil for Vickers and Brinell



V-type anvil for Vickers and Brinell

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) |
| Dimension | 546×300×767mm |
| Weight | 90kg |

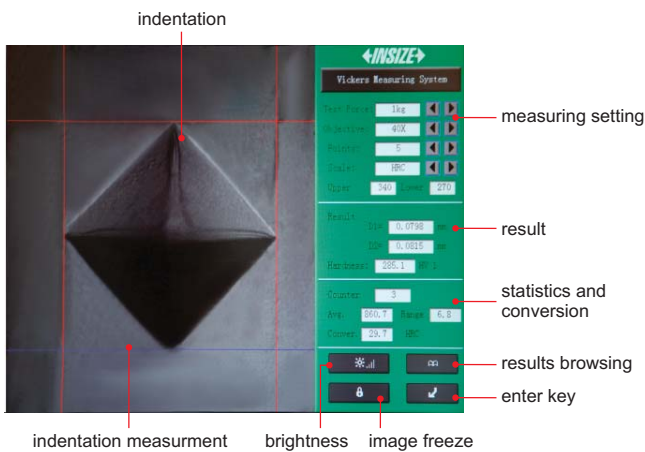
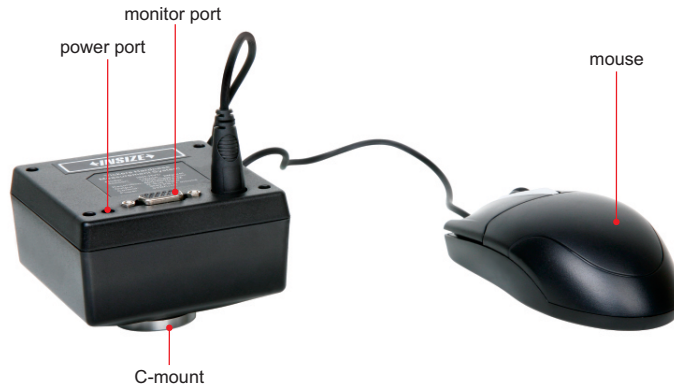
STANDARD DELIVERY

| | |
|--|-----|
| 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 |
| Rockwell test block HRC (high, low) | 1pc of each |
| Rockwell test block HRB | 1pc |
| Brinell test block | 1pc |
| Vickers test block | 1pc |
| Anti-dust cover | 1pc |

* Add suffix on code No. to devote AC voltage and plug (refer to the last page)

VICKERS HARDNESS MEASURING SYSTEM CODE ISH-HVC*



- 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)
- 2 calibration modes: length calibration and 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 |



calibration rule
graduation 0.01mm(included)



wireless printer (optional)

STANDARD DELIVERY

| | |
|---|-----|
| Main unit | 1pc |
| Mouse | 1pc |
| Calibration rule (graduation 0.01mm) | 1pc |
| AC/DC adapter | 1pc |

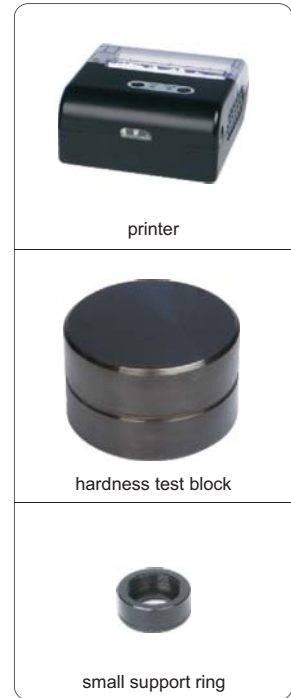
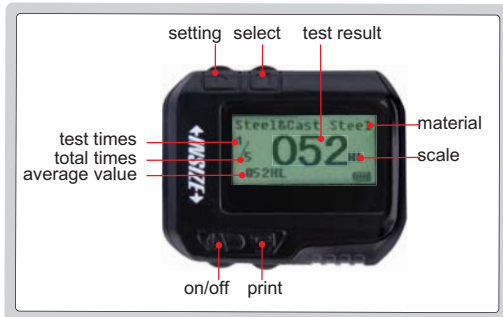
OPTIONAL ACCESSORY

| | |
|-------------------------|-----------------------|
| Wireless printer | ISM-DS-PRINTER |
|-------------------------|-----------------------|

* Add suffix on code No. to devote AC voltage and plug (refer to the last page)

DATA
OUTPUT

PORTABLE HARDNESS TESTER CODE ISH-SPHD*



- 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

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 | 1pc |
| Small support ring | 1pc |
| Cleaning brush | 1pc |
| AC/DC adapter | 1pc |
| USB cable and software disc | 1pc of each |

OPTIONAL ACCESSORY

| | |
|----------------------|---------------|
| Couplant | ISH-COUPPLANT |
| Support rings | page 322 |

APPLICABLE MATERIAL AND HARDNESS RANGE

| 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 | | | |

* Add suffix on code No. to devote AC voltage and plug (refer to the last page)

PORTABLE HARDNESS TESTER CODE ISH-SPHA*

DATA
OUTPUT



included



printer



hardness test block (standard)



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 (standard) | 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

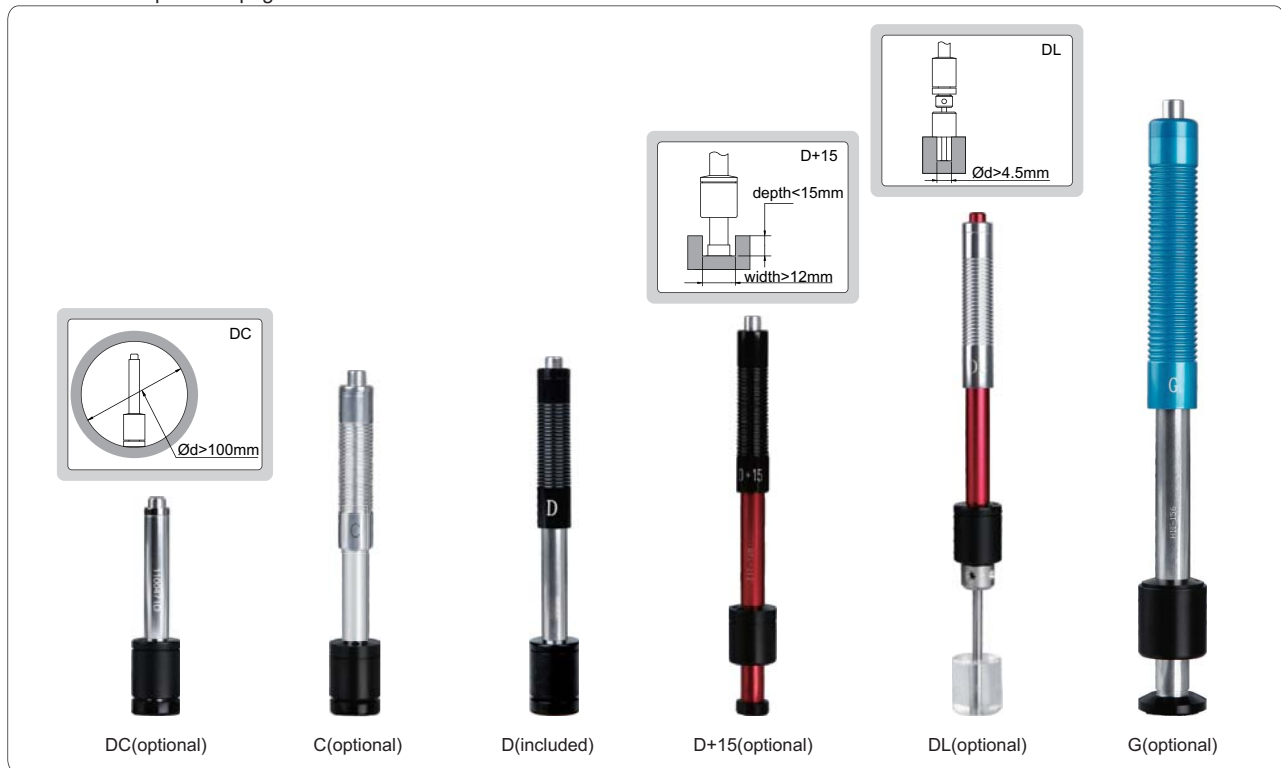
| | |
|-----------------------|---------------------|
| Impact device DC | ISH-SPHA-DC |
| Impact device C | ISH-SPHA-C |
| Impact device D+15 | ISH-SPHA-D15 |
| Impact device DL | ISH-SPHA-DL |
| Impact device G | ISH-SPHA-G |
| Hardness test block** | ISH-BHLG (page 335) |
| Couplant | ISH-COUPPLANT |
| Support rings | page 322 |

** Hardness test block (ISH-BHLG) is for impact device G (ISH-SPHA-G).
Hardness test block (standard) is for all others impact devices.

* Add suffix on code No. to devote AC voltage and plug (refer to the last page)

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 HARDNESS TESTER CODE ISH-PHA*



included



printer



hardness test block



small support ring

- 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

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 | 1pc |
| Small support ring | 1pc |
| Cleaning brush | 1pc |
| AC/DC adapter | 1pc |

OPTIONAL ACCESSORY

| | |
|----------------------|---------------|
| Couplant | ISH-COULPLANT |
| Support rings | page 322 |

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 | | | | |

* Add suffix on code No. to devote AC voltage and plug (refer to the last page)

PORTABLE HARDNESS TESTER CODE ISH-PHB



hardness test block (included)



small support ring (included)



wireless printer (optional)



- 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 | 1pc |
| Small support ring | 1pc |
| Cleaning brush | 1pc |

OPTIONAL ACCESSORY

| | |
|-------------------------|----------------|
| Wireless printer | ISH-DS-PRINTER |
| Couplant | ISH-COULPLANT |
| Support rings | page 322 |

APPLICABLE MATERIAL AND HARDNESS RANGE FOR IMPACT DEVICE D

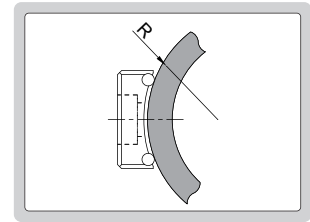
| Material | HLD | HV | HB | HRC | HRB | HS | Tensile strength(MPa) |
|---------------------|---------|--------|--------|-------|--------|--------|-----------------------|
| Steel & cast steel | 300-900 | 81-955 | 81-654 | 20-68 | 38-100 | 32-100 | 375-2639 |
| Tool steel | 300-840 | 80-898 | | 20-67 | | | |
| 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 | | | | |

SUPPORT RINGS FOR PORTABLE HARDNESS TESTER

type A



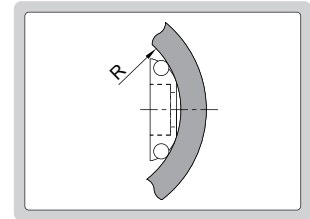
ISH-R1015



type B



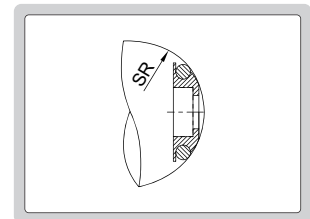
ISH-R1113



type C



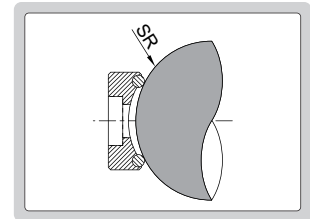
ISH-SR1113



type D



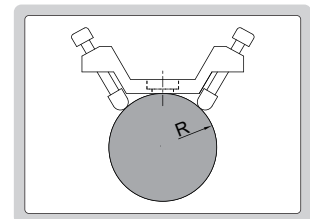
ISH-SR1015



type E



ISH-RUN



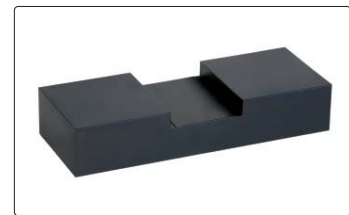
SPECIFICATION

| 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 |

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 |

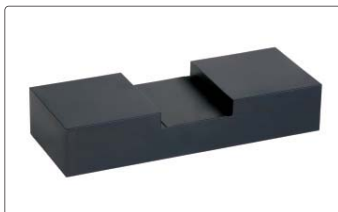
| | |
|-------------------------------------|-----|
| Hardness test block HRB85-95 | 1pc |
| Hardness test block HRC60-70 | 1pc |
| Hardness test block HRC20-30 | 1pc |

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

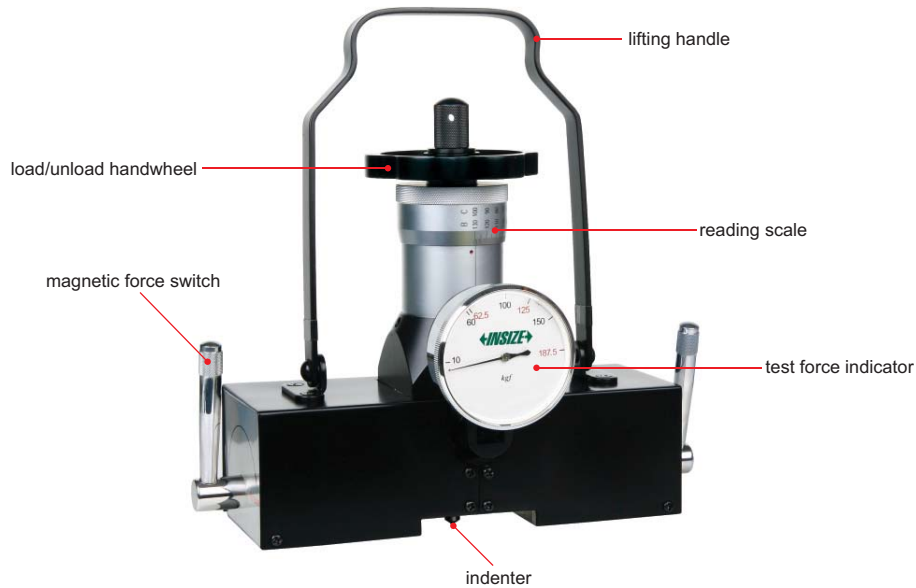
| | |
|---|--|
| Hardness scale | HRA, HRB, HRC, HRD, HRF, HRG |
| Preliminary test force | 10kg |
| Test force | 60kg, 100kg, 150kg |
| Load control | manual |
| Min. reading | 1HR |
| Flat workpiece requirement | length>180mm, width>60mm, thickness>5mm |
| Cylinder or tube workpiece requirement | length>180mm, 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 | 1pc |
| 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

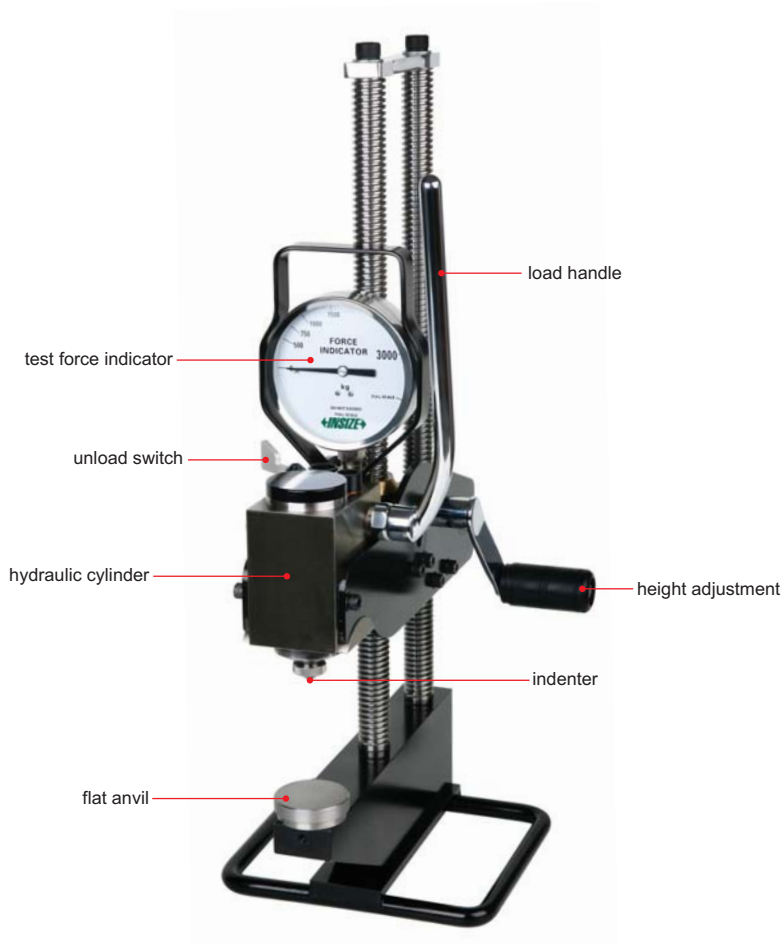
| | |
|--|---|
| Rockwell scale | HRA, HRB, HRC, HRD, HRF, HRG |
| Brinell measuring range | 20~650HBW |
| Rockwell test force | 10kg preload, 60kg, 100kg, 150kg total load |
| Brinell test force | 62.5kg, 125kg, 187.5kg |
| Load control | manual |
| Min. Rockwell reading | 1HR |
| Measuring microscope | 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

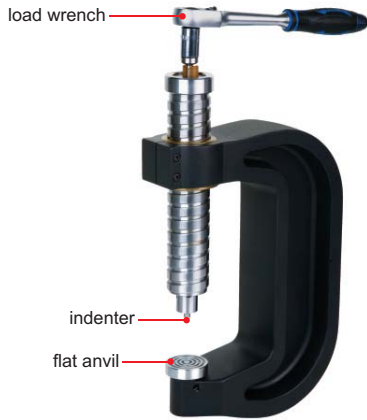
| | |
|-----------------------|------------------------------------|
| Measuring range | 16~650HBW |
| Test force | 3000kg |
| Indenter | Ø10mm carbide ball |
| Measuring microscope | 20X, graduation 0.01mm |
| Max. workpiece height | 350mm |
| Max. workpiece depth | 90mm (from the center of indenter) |
| Dimension | 270×225×570mm |
| Weight | 13.8kg |

STANDARD DELIVERY

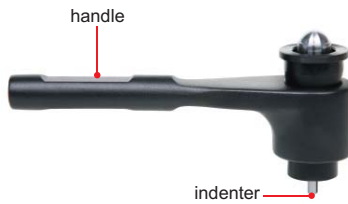
| | |
|-----------------|-----|
| Main unit | 1pc |
| Flat anvil | 1pc |
| V-type anvil | 1pc |
| Spherical anvil | 1pc |

| | |
|----------------------|------|
| Ø10mm carbide ball | 2pcs |
| Brinell test block | 1pc |
| Measuring microscope | 1pc |

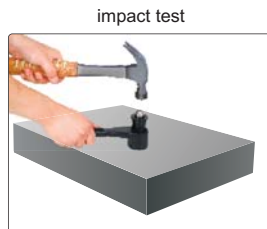
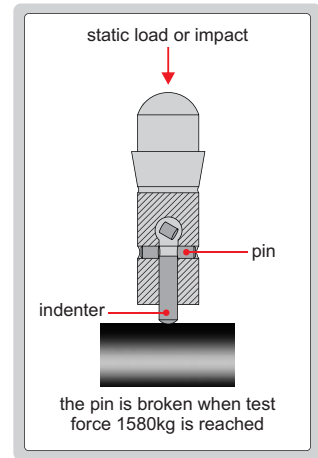
PIN BRINELL HARDNESS TESTER CODE ISHB-P101



static test clamp



impact test clamp



- Measure Brinell hardness of large and heavy workpieces
- 1580kg test force and $\varnothing 7.26\text{mm}$ ball indenter, equal to 3000kg test force and $\varnothing 10\text{mm}$ 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 (with $\varnothing 7.26\text{mm}$ indenter, included) 350~650HBW (with $\varnothing 4\text{mm}$ indenter, optional) |
| Test force | 1580kg |
| Accuracy | static test: $\pm 3\%$ impact test: $\pm 5\%$ |
| 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 |
| $\varnothing 7.26\text{mm}$ indenter | 1pc |
| Hardness test block | 1pc |
| Pin | 250pcs |
| Measuring microscope | 1pc |

OPTIONAL ACCESSORY

| | |
|-----------------------------------|--------------------|
| $\varnothing 4\text{mm}$ indenter | ISHB-P101-INDENTER |
| Pin | 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 | 0.6~8mm | 0.6~6mm |
| Internal diameter requirement of tube workpiece | >Ø10mm | >Ø10mm | >Ø6mm | >Ø10mm | >Ø6mm | >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 | 0.6~8mm | 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) ±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



- 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 | |

* Add suffix on code No. to devote AC voltage and plug (refer to the last page)

STANDARD DELIVERY

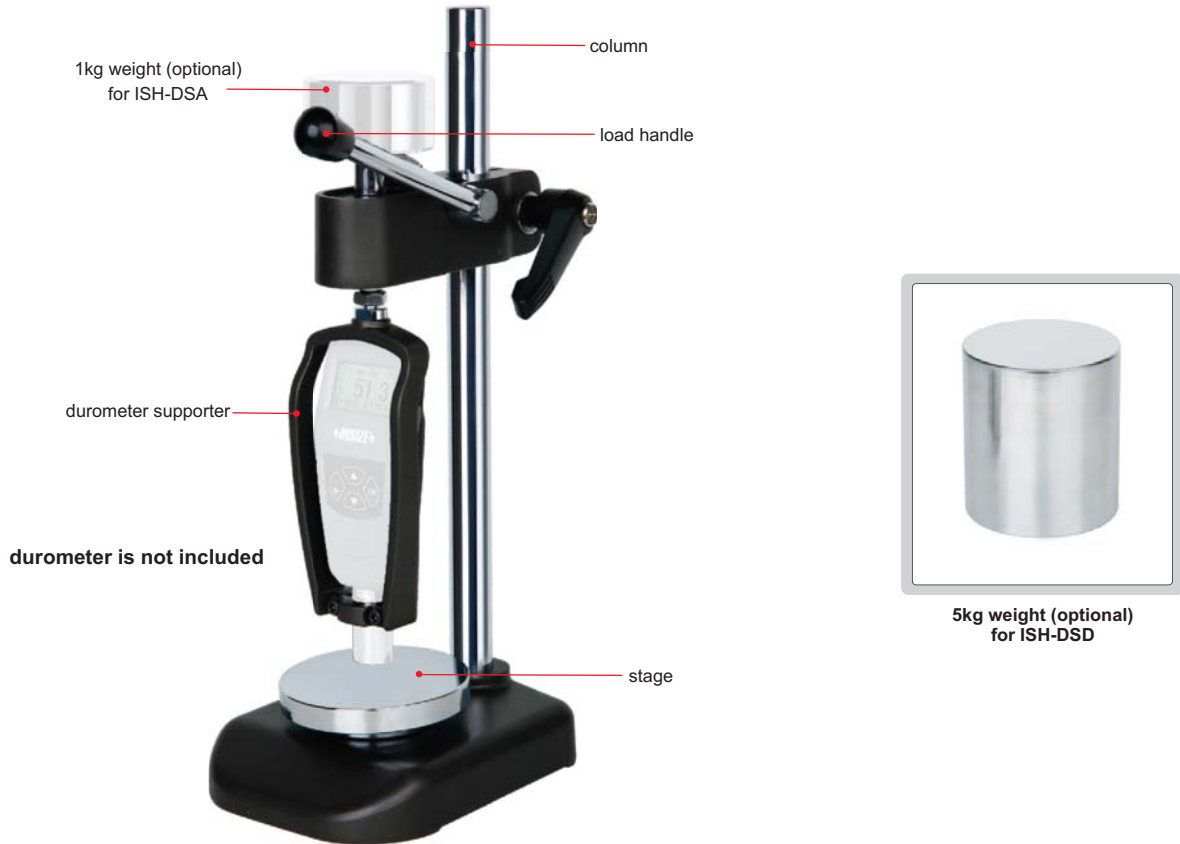
| | |
|------------------------|------|
| Main unit | 1 pc |
| Calibration block | 1 pc |
| USB cable and software | 1 pc |
| AC/DC adapter | 1 pc |

OPTIONAL ACCESSORY

| | |
|--------------------------|----------------|
| Printer | ISH-DS-PRINTER |
| Test stand | ISH-DS-STAND |
| 1kg weight (for ISH-DSA) | ISH-DSA-W1 |
| 5kg weight (for ISH-DSD) | ISH-DSD-W5 |

** Use **ISH-DSD** when measuring result is more than 90HA
Use **ISH-DSA** when measuring result is less than 20HD

TESTING STAND FOR DIGITAL SHORE DUROMETER CODE ISH-DS-STAND



- Can perform repeatable hardness measurement due to fewer possibilities of human error or measurement variations
- 1kg weight is for **ISH-DSA**, 5kg weight is for **ISH-DSD**

SPECIFICATION

| | |
|--------------------------|---------------|
| Stage diameter | Ø88mm |
| Maximum workpiece height | 75mm |
| Dimension | 125×163×350mm |
| Weight | 4kg |

STANDARD DELIVERY

| | |
|---------------------|-----|
| Testing stand | 1pc |
| Durometer supporter | 1pc |

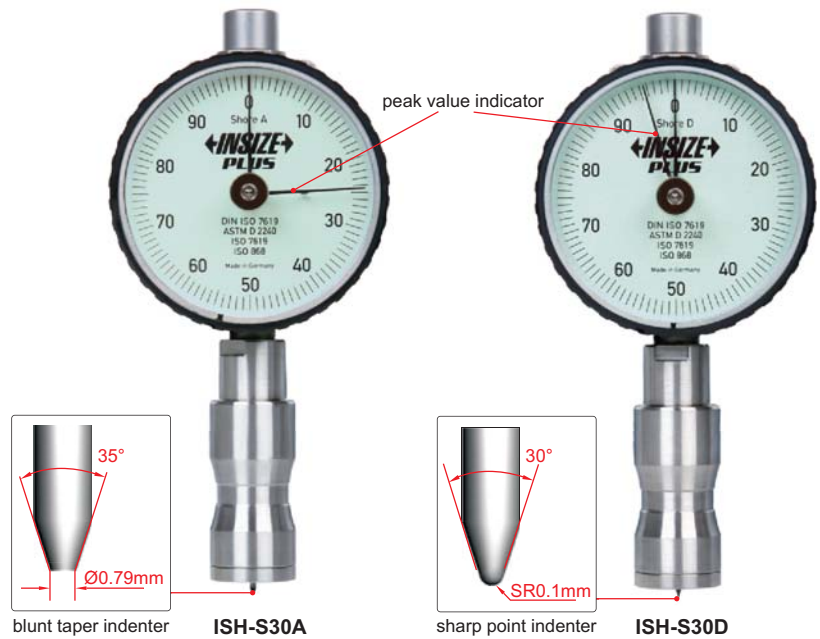
OPTIONAL ACCESSORY

| | |
|--------------------------|------------|
| 1kg weight (for ISH-DSA) | ISH-DSA-W1 |
| 5kg weight (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 more than 90HA
Use ISH-S30A when measuring result is less than 20HD

HARDNESS TEST BLOCK FOR SHORE DUROMETER



ISH-S30A-BLOCK



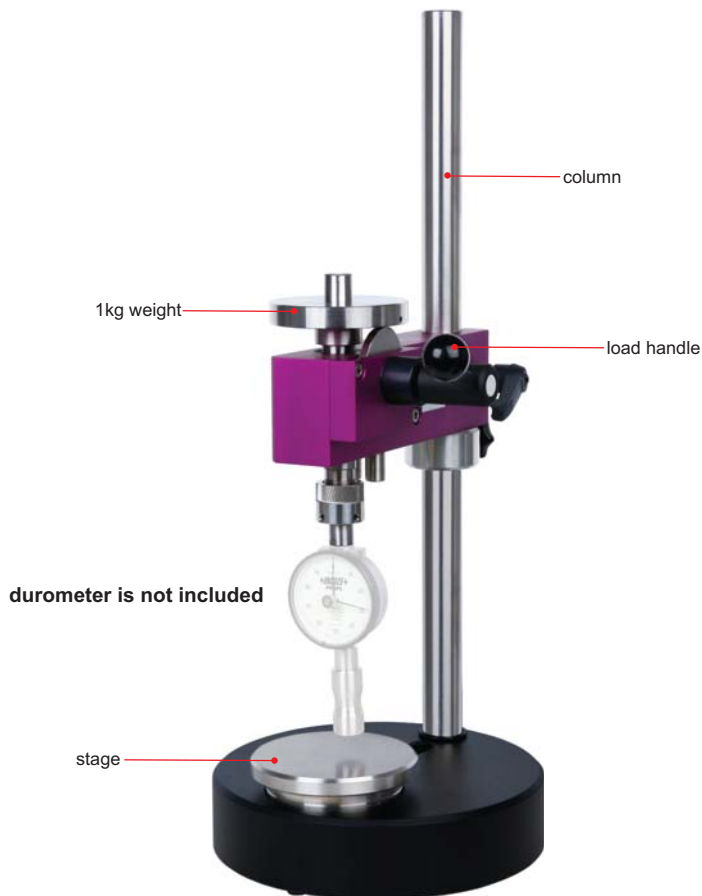
ISH-S30D-BLOCK

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 |



TESTING STAND FOR DIGITAL SHORE DUROMETER CODE ISH-OS2



calibration block (included)



4kg weight (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 is for **ISH-S30A**, 4kg weight is for **ISH-S30D**

SPECIFICATION

| | |
|--------------------------|-----------------------------------|
| Stage diameter | Ø98mm |
| Maximum workpiece height | 180mm |
| Maximum workpiece depth | 115mm (from test point to column) |
| Weight | 1kg (for ISH-S30A) |
| Dimension | Ø200×500mm |
| Weight | 18kg |

STANDARD DELIVERY

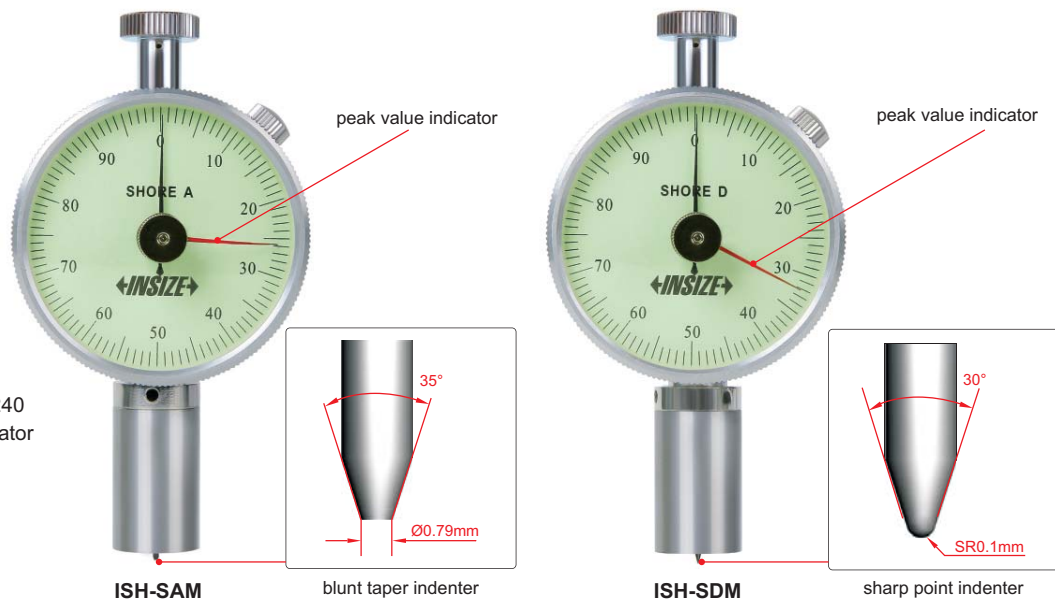
| | |
|-------------------|-----|
| Testing stand | 1pc |
| Calibration block | 1pc |

OPTIONAL ACCESSORY

| | |
|-----------------------------------|------------|
| 4kg weight (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**



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 | |

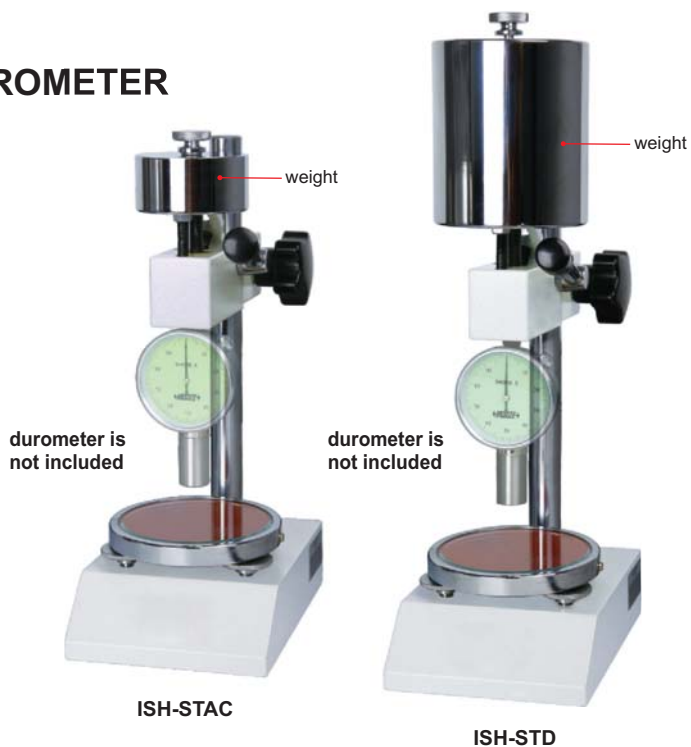
* Use **ISH-SDM** when measuring result is higher than 90HA
Use **ISH-SAM** when measuring result is lower than 20HD

TESTING STAND FOR SHORE DUROMETER

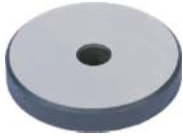
- Can perform repeatable hardness measurement due to fewer possibilities of human error or measurement variations

SPECIFICATION

| Code | ISH-STAC | ISH-STD |
|--------------------------|----------|---------|
| Applicable durometer | ISH-SAM | ISH-SDM |
| Stage diameter | Ø100mm | Ø100mm |
| Maximum workpiece height | 75mm | 75mm |
| Mass of weight | 1kg | 5kg |



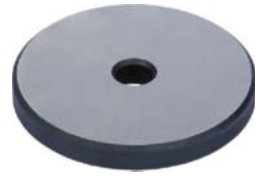
HARDNESS TEST BLOCK



Rockwell



Vickers



Brinell



Micro-Vickers



Leeb



Shore

SPECIFICATION

| Code | Type | Hardness |
|------------|---------------|---|
| ISH-BHRC1 | Rockwell C | 25-35HRC |
| ISH-BHRC2 | | 40-50HRC |
| ISH-BHRC3 | | 55-65HRC |
| ISH-BHRB | Rockwell B | 75-95HRB |
| ISH-BHRA | Rockwell A | 70-85HRA |
| ISH-BHV5A | Vickers | 150-250HV5 |
| ISH-BHV5B | | 400-500HV5 |
| ISH-BHV5C | | 650-750HV5 |
| ISH-BHV10A | | 400-500HV10 |
| ISH-BHV10B | | 650-750HV10 |
| ISH-BHV30 | | 400-500HV30 |
| ISH-BHB25A | Brinell | 75-125HBW 2.5/62.5 |
| ISH-BHB25B | | 150-250HBW 2.5/187.5 |
| ISH-BHB5A | | 75-125HBW 5/250 |
| ISH-BHB5B | | 150-250HBW 5/750 |
| ISH-BHB10A | | 75-125HBW 10/1000 |
| ISH-BHB10B | | 150-250HBW 10/3000 |
| ISH-BHV005 | Micro-Vickers | 200-300HV0.05 |
| ISH-BHV01A | | 200-300HV0.1 |
| ISH-BHV01B | | 400-500HV0.1 |
| ISH-BHV02A | | 400-500HV0.2 |
| ISH-BHV02B | | 700-800HV0.2 |
| ISH-BHV05 | | 700-800HV0.5 |
| ISH-BHV1 | | 700-800HV1 |
| ISH-BHLD | Leeb | 750-830HLD, 750-830HLDC, 872-916HLDL, 757-833HLD+15, 812-889HLC |
| ISH-BHLG | | 550-630HLG |
| ISH-BSA | Shore A | 7pcs/set: 30-39HA, 40-49HA, 50-59HA, 60-69HA, 70-79HA, 80-89HA, 90-99HA |

DIGITAL FORCE GAGE

DATA
OUTPUT



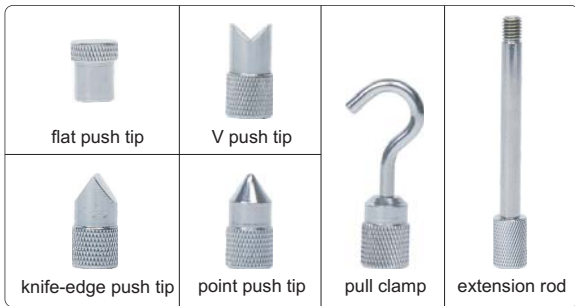
ISF-DF5KA
type B

- 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



accessory for type B



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

* Add suffix on code No. to devote AC voltage and plug (refer to the last page)

**TESTING STAND
CODE ISF-MT1K**

force gage is not included



digital scale (optional)



horizontal orientation test

- For tensile and compress test with force gages
- Can be used in vertical and horizontal orientation

SPECIFICATION

| | |
|----------------------|---|
| Load capacity | 1000N |
| Travel | 200mm (3mm vertical movement per revolution of handwheel) |
| Dimension | 196×250×446mm |
| Weight | 13kg |

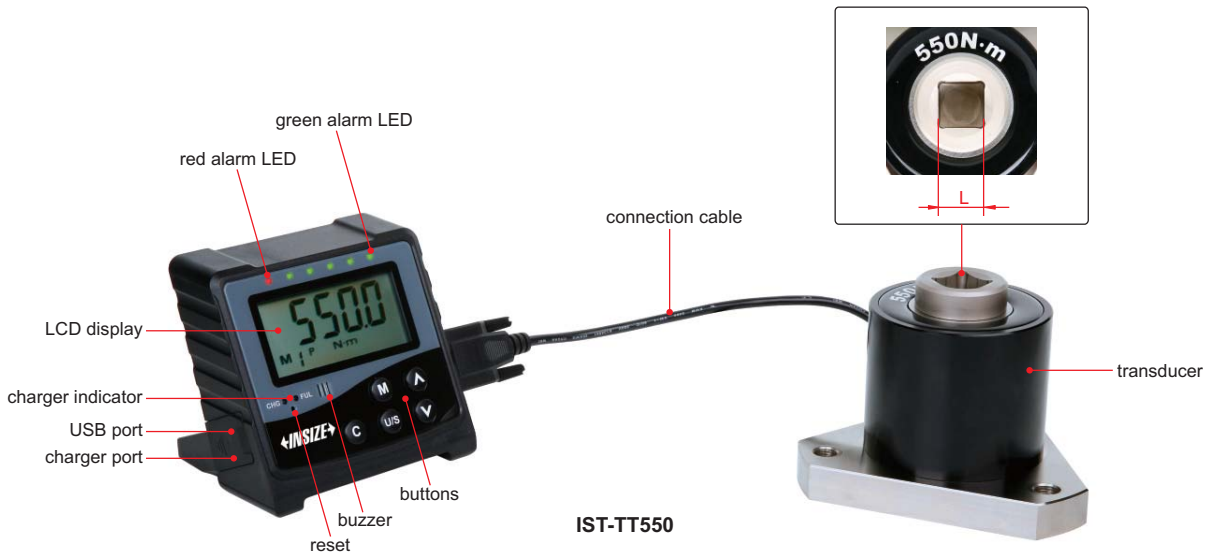
OPTIONAL ACCESSORY

| | |
|---|-----------------------|
| Digital scale (range: 200mm, resolution: 0.01mm/0.0005") | ISF-MT1K-SCALE |
|---|-----------------------|

DIGITAL TORQUE TESTER

NOT SUITABLE FOR ELECTRIC WRENCHES, IMPACT WRENCHES 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



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 | ±0.5% (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" 3/8" to 1/4" | 3/4" to 1/2" 1/2" to 3/8" | 1" to 3/4" 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 |

* Add suffix on code No. to devote AC voltage and plug (refer to the last page)

TORQUE SCREWDRIVER



IST-SD200

SPECIFICATION

| Code | IST-SD50 | IST-SD200 | IST-SD400 |
|-------------------|-------------------|------------|------------|
| Range | 10~50cN.m | 40~200cN.m | 80~400cN.m |
| Accuracy | clockwise | ±3% | ±2.5% |
| | counter-clockwise | ±4% | ±3.5% |
| Resolution | 0.1cN.m | 0.1cN.m | 0.1cN.m |
| Size of shank (L) | 1/4" | 1/4" | 1/4" |
| Power supply | 1×AAA battery | | |
| Length | 193mm | 203mm | 203mm |
| Weight | 190g | 200g | 200g |

- 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
- Supplied with calibration certificate

OPTIONAL ACCESSORY

Calibration cable

IST-SD-CABLE

SMALL RANGE DIGITAL TORQUE WRENCH



IST-WP20

SPECIFICATION

| Code | IST-WP12 | IST-WP20 |
|-------------------|-------------------|----------|
| Range | 2.4~12N.m | 4~20N.m |
| Accuracy | clockwise | ±3% |
| | counter-clockwise | ±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 |

- 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)
- Supplied with calibration certificate

OPTIONAL ACCESSORY

Calibration cable

IST-W-CABLE

SHORT HANDLE DIGITAL TORQUE WRENCH



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)
- Supplied with calibration certificate

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



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)
- Supplied with calibration certificate

SPECIFICATION

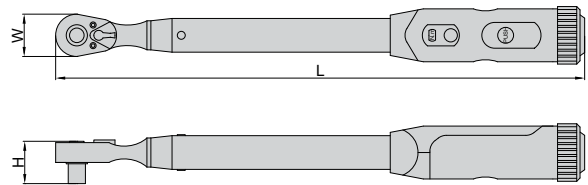
| Code | IST-W30A | IST-W135A | IST-W200A | IST-W340A | IST-W500A | IST-W850A |
|-------------------|--------------------|-----------|-----------|-----------|------------|------------|
| Range | 6~30N.m | 27~135N.m | 40~200N.m | 68~340N.m | 100~500N.m | 170~850N.m |
| Accuracy | clockwise | ±2% | ±2% | ±2% | ±2.5% | ±2.5% |
| | counter-clock wise | ±3% | ±3% | ±3% | ±3.5% | ±3.5% |
| Resolution | 0.01N.m | 0.1N.m | 0.1N.m | 0.1N.m | 0.1N.m | 0.1N.m |
| Square driver (L) | 1/4" | 3/8" | 1/2" | 1/2" | 3/4" | 3/4" |
| Power supply | 2×AA batteries | | | | | |
| Length | 390mm | 415mm | 530mm | 650mm | 950mm | 1220mm |
| Weight | 830g | 950g | 1400g | 1600g | 2100g | 2550g |

OPTIONAL ACCESSORY

| | |
|-------------------|-------------|
| Calibration cable | IST-W-CABLE |
|-------------------|-------------|

TORQUE WRENCH

CLOCKWISE
OPERATION ONLY



Set torque:



step 1: unlock



step 2: adjust



step 3: lock

SPECIFICATION

| Code | IST-1WM25 | IST-1WM100 | IST-1WM100A | IST-1WM200 | IST-1WM340 | IST-1WM340A | IST-1WM550 | IST-1WM750 |
|------------------------------|-----------|------------|-------------|------------|------------|-------------|------------|------------|
| Range (clockwise, unit: N.m) | 5~25 | 20~100 | 20~100 | 40~200 | 60~340 | 60~340 | 110~550 | 150~750 |
| Accuracy | ±4% | ±4% | ±4% | ±4% | ±4% | ±4% | ±4% | ±4% |
| Graduation | 0.1N.m | 0.5N.m | 0.5N.m | 0.5N.m | 1N.m | 1N.m | 2N.m | 2.5N.m |
| Square driver (D) | 1/4" | 3/8" | 1/2" | 1/2" | 1/2" | 3/4" | 3/4" | 3/4" |
| Dimension (LxWxH, unit: mm) | 323x23x21 | 400x32x29 | 400x32x32 | 517x40x39 | 620x40x37 | 620x40x46 | 918x60x55 | 1210x60x55 |
| Weight | 760g | 988g | 998g | 1360g | 1730g | 1784g | 4528g | 5850g |

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 |
| 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 |

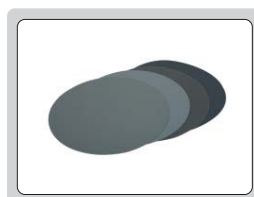
GRINDER AND POLISHER CODE ISJ-PMA200



- 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 |
| Dimension | 750×690×460mm |
| Weight | 55kg |

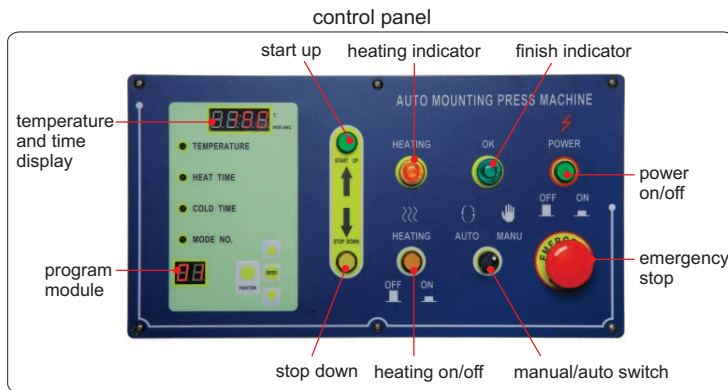
STANDARD DELIVERY

| | |
|------------------------------|-------|
| 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 | AC200V, 1600W |
| Dimension | 580×550×590mm |
| Weight | 80kg |

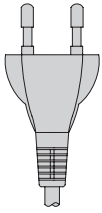
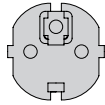
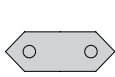
STANDARD DELIVERY

| | |
|--------------------------|----------|
| Main unit | 1pc |
| Spray | 1 bottle |
| Hot mounting resin (1kg) | 1 bag |

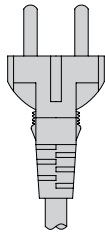
OPTIONAL ACCESSORY

| | |
|--------------------------|---------------|
| Spray | ISJ-MMA32-LQD |
| Hot mounting resin (1kg) | ISJ-MMA32-PDR |

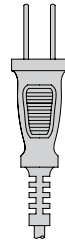
SUFFIX



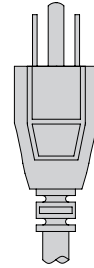
plug A



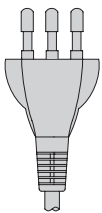
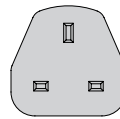
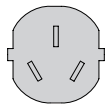
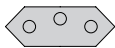
plug B



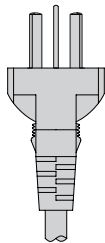
plug C



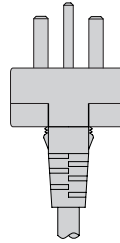
plug D



plug E



plug F



plug G

- Add suffix on code No. to devote AC voltage and plug, such as ISP-Z3015-P and ISP-Z3015-U

| Suffix | -P | -U | -B | -K | -Y |
|------------|-------------|-------------|-------------|--------|-------------|
| Plug types | plug A or B | plug C or D | plug A or E | plug G | plug C or F |
| Voltage | 220V | 110V | 220V | 220V | 220V |

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