

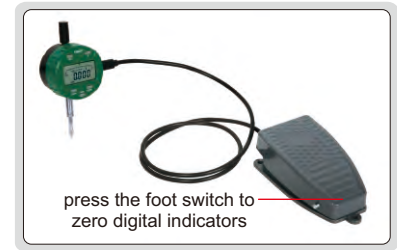
ZEROING FOOT SWITCH

- For zeroing of digital indicators



7360-1M

application



7

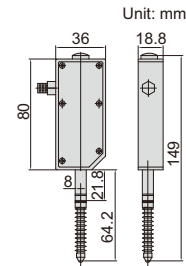
| Code | Description | Interface of digital indicators | Applicable products |
|---------|--|---------------------------------|------------------------|
| 7360-1M | zeroing foot switch with cable (length 2.5m) | | for digital indicators |

LINEAR GAGES

LINEAR GAGE
IP65
WATERPROOF



7107-11

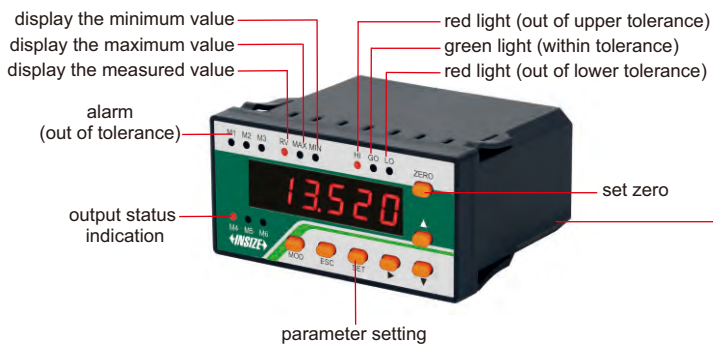


- Capacitance type linear encoder
- Shock-proof, water proof, dust proof, suitable for high speed movement, long working life
- Optional: display unit **7106-1A**, multichannel interface box **7107-1** or **7107-2**

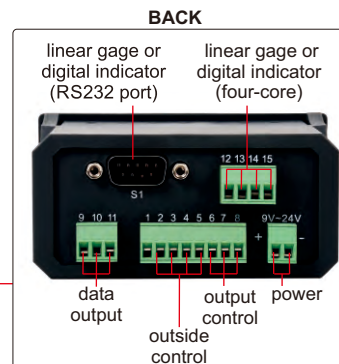
SPECIFICATION

| Code | 7107-11 | 7107-12 |
|---------------------|---------------------------------|------------------|
| Measuring range | 12mm/0.47" | 12mm/0.47" |
| Resolution | 0.01mm/0.0004" | 0.001mm/0.00004" |
| Accuracy | 20µm | 5µm |
| Hysteresis | 10µm | 2µm |
| Measuring principle | capacitance type linear encoder | |
| 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 | |

DISPLAY UNIT CODE 7106-1A

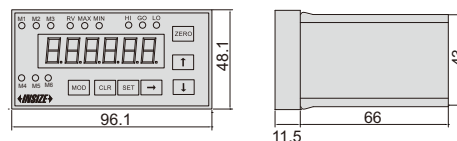


7106-1A

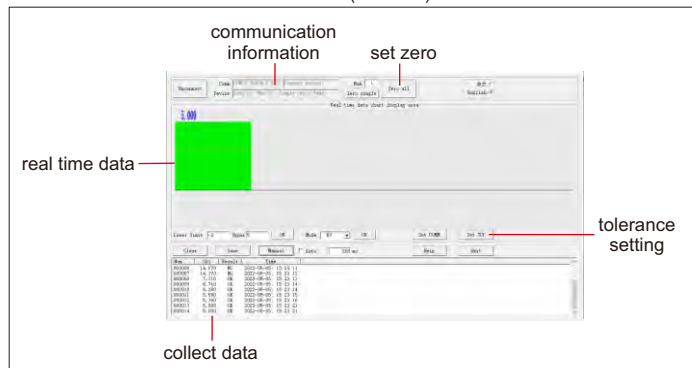


- Can be connected with **7107-11** or **7107-12** linear gage, can also be connected with digital indicator (data cable **7309-C01M** is needed)
- Set tolerance and make judgment (out of upper tolerance, within tolerance, out of lower tolerance), output the judgment to control outside devices, control from outside (set zero, hold reading and collect data)
- Software of display unit (included): in the software, it is possible to set tolerance and show judgment (red when out of tolerance, green when within tolerance), set zero, collect data manually or automatically (time is adjustable), output data to Excel, print report

Unit: mm



software (included)



connected with
7107-11 or **7107-12** linear gage



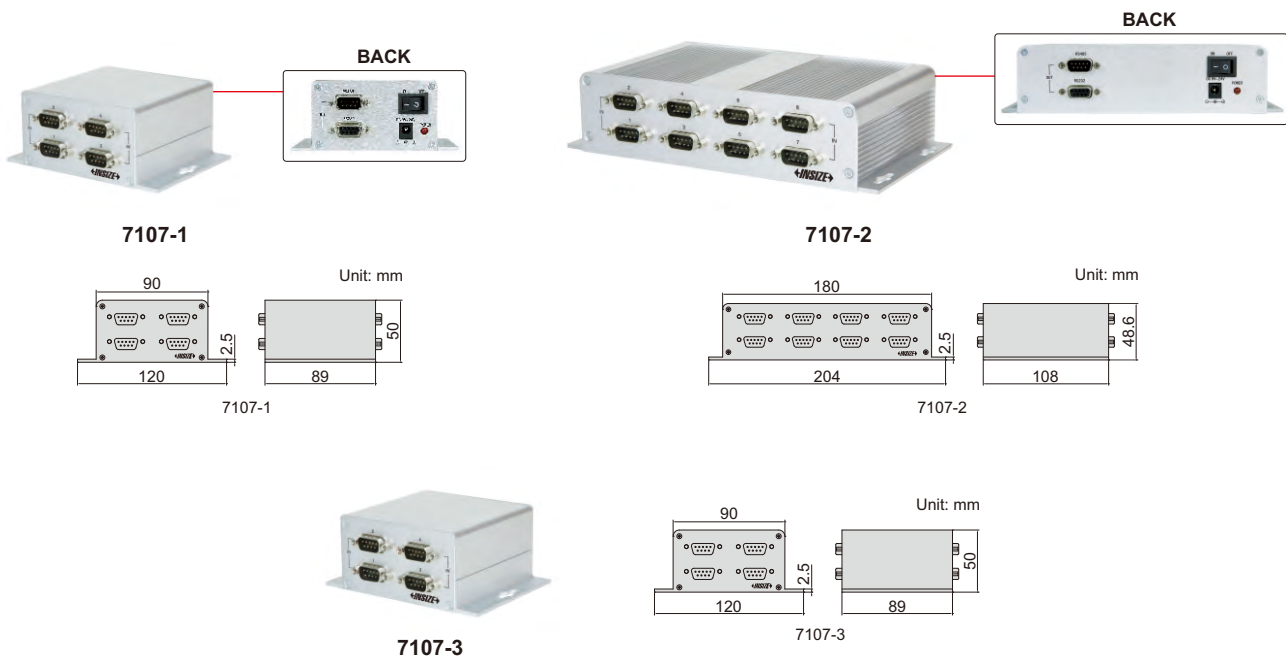
connected with digital indicator
(data cable **7309-C01M** is needed)



SPECIFICATION

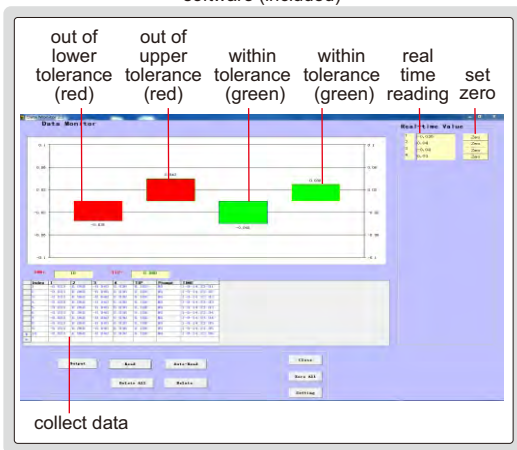
| | |
|--|---|
| Code | 7106-1A |
| Display | 6 digits |
| Quantity of linear gage or digital indicator to be connected | 1 pc |
| Tolerance | set tolerance and make judgment with alarm and lights (out of upper tolerance, within tolerance, out of lower tolerance) |
| Output control | output the tolerance judgment (out of upper tolerance, within tolerance, out of lower tolerance) to control outside devices |
| Outside control | control the display units from outside (set zero, hold reading and collect data) |
| Data output | connect to computer software and serial communication |
| Power supply | DC 9~24V |

MULTICHANNEL INTERFACE BOXES

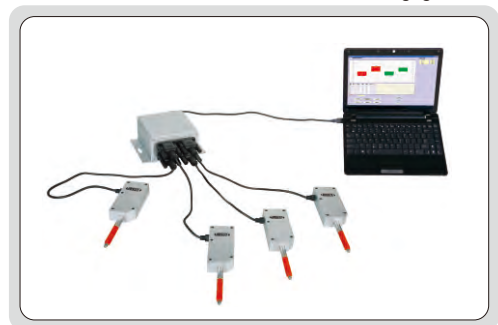


- Can be connected with **7107-11** or **7107-12** linear gages, can also be connected with digital indicators (data cable **7309-C01M** is needed)
- Connection box (code: **7107-3**) is needed to connect interface boxes, when two or more interface boxes are used. Maximum 4 interface boxes can be connected.
- Software of interface boxes (included): in the software, it is possible to set tolerance of each channel and show judgment (red when out of tolerance, green when within tolerance), set zero, collect data manually or automatically (time is adjustable), output data to Excel, print report.

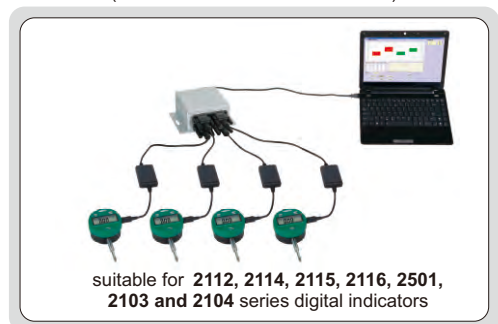
software (included)



connected with **7107-11** or **7107-12** linear gages



connected with digital indicators
(data cable **7309-C01M** is needed)



suitable for **2112, 2114, 2115, 2116, 2501, 2103 and 2104** series digital indicators

INTERFACE BOX SPECIFICATION

| Code | 7107-1 | 7107-2 |
|--|-----------------|--------|
| Quantity of linear gages or digital indicators to be connected | 4 pcs | 8 pcs |
| Data output | RS232 and RS485 | |
| Power supply | DC 9~24V | |

CONNECTION BOX (OPTIONAL) SPECIFICATION

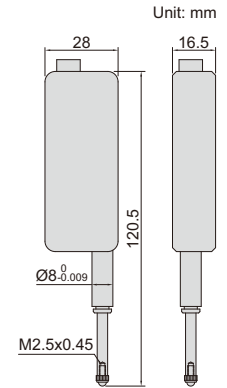
| Code | 7107-3 |
|---|--|
| Quantity of interface boxes to be connected | 4 pcs (maximum 4 interface boxes can be connected) |
| Data output | RS232 and RS485 |
| Power supply | DC 9~24V |

IP43
WATERPROOF

ABSOLUTE ENCODER, THE ORIGINAL
DATA REMAINS AFTER POWER OFF

HIGH PRECISION DIGITAL LINEAR GAGES

**INSPECTION
CERTIFICATE**



- Scale type: optical grating
- Absolute encoder, the original data remains after power off
- Digital signal output, amplifier is not required
- Repeatability: 0.5µm
- Measuring force: 1.5N
- Dust/waterproof: IP43
- Baud rate: 9600 (can be customized)
- Cable length: 3m (can be customized)

| Code | Range | Resolution | Accuracy | Outgoing cable direction | Output signal | Output interface |
|----------|----------|------------|----------|--------------------------|------------------|------------------|
| 7130-10 | 0-12.7mm | 0.1µm | 1.6µm | horizontal | RS232, TTL level | |
| 7130-10L | 0-12.7mm | 0.1µm | 1.6µm | vertical | RS232, TTL level | |
| 7130-11 | 0-12.7mm | 0.1µm | 1.6µm | horizontal | RS232, 232 level | |
| 7130-11L | 0-12.7mm | 0.1µm | 1.6µm | vertical | RS232, 232 level | |
| 7130-12 | 0-12.7mm | 0.1µm | 1.6µm | horizontal | RS485 | |
| 7130-12L | 0-12.7mm | 0.1µm | 1.6µm | vertical | RS485 | |
| 7130-13 | 0-12.7mm | 0.1µm | 1.6µm | horizontal | RS232, TTL level | |
| 7130-13L | 0-12.7mm | 0.1µm | 1.6µm | vertical | RS232, TTL level | |
| 7130-14 | 0-12.7mm | 0.1µm | 1.6µm | horizontal | RS232, 232 level | |
| 7130-14L | 0-12.7mm | 0.1µm | 1.6µm | vertical | RS232, 232 level | |

**JEWELLED
BEARING**

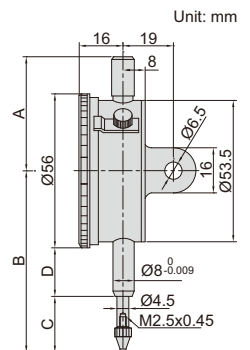
**INSPECTION
CERTIFICATE**
TRACEABLE TO NIST

PRECISION DIAL INDICATORS

- Graduation: 0.001mm
- Jeweled bearing
- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 167~168), contact points (page 164~166)



2313-1A



| Code | Range | Accuracy | Hysteresis | Range/rev | Dial reading | Remark | A | B | C | D |
|------------|-------|----------|------------|-----------|--------------|-----------|----|------|------|----|
| 2313-1FA * | 1mm | 5µm | 2µm | 0.2mm | 0-100-0 | flat back | 45 | 62.5 | 19.5 | 15 |
| 2313-2FA * | 2mm | 6µm | 2.5µm | 0.2mm | 0-100-0 | flat back | 45 | 62.5 | 19.5 | 15 |
| 2313-1A * | 1mm | 5µm | 2µm | 0.2mm | 0-100-0 | lug back | 45 | 62.5 | 19.5 | 15 |
| 2313-2A * | 2mm | 6µm | 2.5µm | 0.2mm | 0-100-0 | lug back | 45 | 62.5 | 19.5 | 15 |

* Supplied with manufacturer inspection certificate traceable to NIST USA

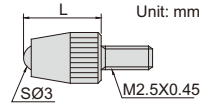
BALL POINTS

| Code | Material of measuring face | L (mm) |
|-----------|----------------------------|--------|
| 6282-0101 | carbide | 7.3 |
| 6282-0103 | ceramic | 7.3 |
| 6282-0104 | carbide | 8.3 |
| 6282-0106 | carbide | 12.1 |
| 6282-0107 | carbide | 14 |
| 6282-0108 | carbide | 15 |
| 6282-0109 | ceramic | 15 |
| 6282-0110 | carbide | 17 |

| Code | Material of measuring face | L (mm) |
|-----------|----------------------------|--------|
| 6282-0111 | carbide | 19.3 |
| 6282-0112 | carbide | 20 |
| 6282-0113 | ceramic | 20 |
| 6282-0114 | carbide | 22 |
| 6282-0115 | carbide | 25 |
| 6282-0116 | ceramic | 25 |
| 6282-0117 | carbide | 30 |
| 6282-0118 | ceramic | 30 |



6282-0101

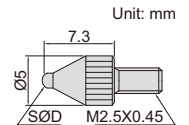


| Code | Material of measuring face | SØD (mm) |
|-----------|----------------------------|----------|
| 6282-0301 | steel | 1 |
| 6282-0302 | carbide | 1.5 |
| 6282-0303 | carbide | 1.8 |

| Code | Material of measuring face | SØD (mm) |
|-----------|----------------------------|----------|
| 6282-0304 | carbide | 2.5 |
| 6282-0305 | carbide | 4 |



6282-0301



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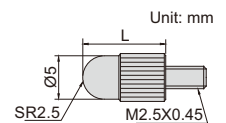
SHELL TYPE POINTS

| Code | Material of measuring face | L (mm) |
|-----------|----------------------------|--------|
| 6282-0202 | steel | 5 |
| 6282-0203 | steel | 10 |
| 6282-0205 | steel | 15 |

| Code | Material of measuring face | L (mm) |
|-----------|----------------------------|--------|
| 6282-0207 | steel | 20 |
| 6282-0208 | steel | 25 |
| 6282-0210 | steel | 30 |



6282-0202

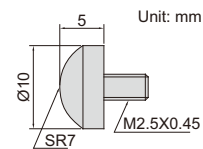


SPHERICAL POINT

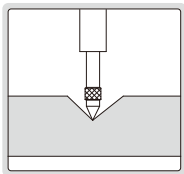
| Code | Material of measuring face |
|-----------|----------------------------|
| 6282-0401 | steel |



6282-0401



CONICAL POINTS



6282-0601



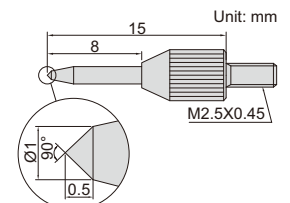
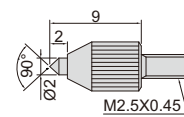
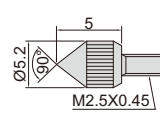
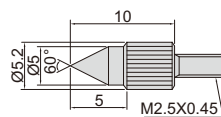
6282-0701



6282-0801



6282-0901

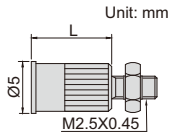


| Code | Material of measuring face |
|-----------|----------------------------|
| 6282-0601 | steel |
| 6282-0701 | steel |
| 6282-0801 | steel |
| 6282-0901 | steel |

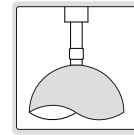
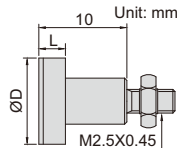
FLAT POINTS



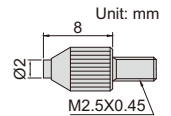
6282-1101



6282-1201



6282-1301



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

| Code | Material of measuring face | ØD | L |
|-----------|----------------------------|------|-----|
| 6282-1201 | steel | 10mm | 3mm |
| 6282-1202 | steel | 15mm | 4mm |
| 6282-1203 | steel | 20mm | 3mm |
| 6282-1204 | steel | 25mm | 4mm |
| 6282-1205 | steel | 30mm | 4mm |

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

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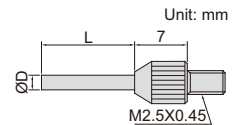
NEEDLE POINTS

| Code | Material of measuring face | ØD (mm) | L (mm) |
|-----------|----------------------------|---------|--------|
| 6282-1701 | steel | 0.45 | 3 |
| 6282-1702 | steel | 0.45 | 5 |
| 6282-1703 | carbide | 1 | 3 |
| 6282-1704 | carbide | 1 | 5 |
| 6282-1705 | carbide | 1 | 8 |
| 6282-1706 | carbide | 1 | 10 |
| 6282-1707 | carbide | 1 | 20 |
| 6282-1708 | carbide | 1 | 40 |
| 6282-1709 | carbide | 1.5 | 5 |

| Code | Material of measuring face | ØD (mm) | L (mm) |
|-----------|----------------------------|---------|--------|
| 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 |



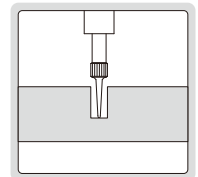
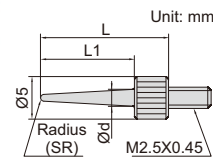
6282-1711



| Code | Material of measuring face | L1 (mm) | L (mm) | SR | Ød (mm) |
|-----------|----------------------------|---------|--------|-----|---------|
| 6282-1601 | steel | 11 | 15 | 0.4 | 2 |
| 6282-1602 | steel | 13 | 17 | 0.2 | 2 |
| 6282-1603 | steel | 21 | 25 | 0.4 | 3 |
| 6282-1604 | steel | 31 | 35 | 0.4 | 3 |



6282-1601

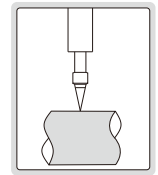
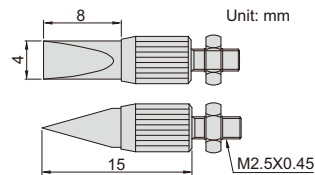


KNIFE EDGE POINT

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



6282-1001

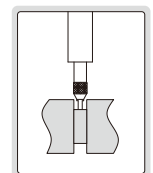
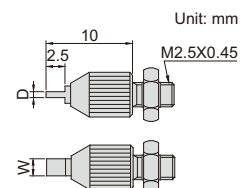


BLADE POINTS

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



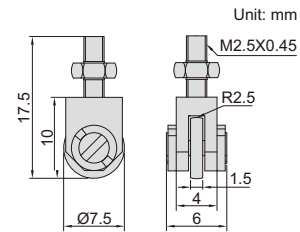
6282-1801



ROLLER POINT



6282-1901



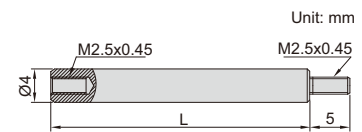
| Code | Material of measuring face |
|-----------|----------------------------|
| 6282-1901 | steel |

EXTENSION RODS

7



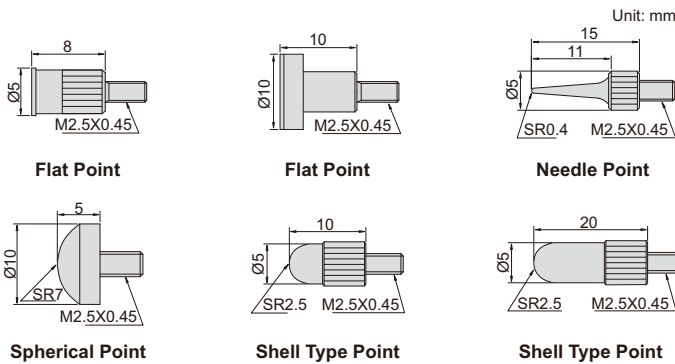
6282-2010



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

| Code | Material | L (mm) |
|-----------|----------|--------|
| 6282-2010 | steel | 55 |
| 6282-2011 | steel | 60 |
| 6282-2012 | steel | 65 |
| 6282-2013 | steel | 70 |
| 6282-2014 | steel | 75 |
| 6282-2015 | steel | 80 |
| 6282-2016 | steel | 90 |
| 6282-2017 | steel | 100 |

POINT SET



6282-S6

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

SPINDLE LIFT KNOB

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

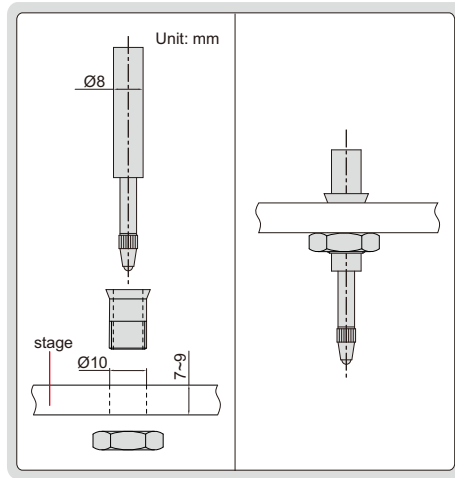


7332

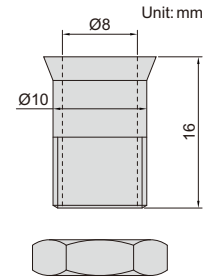


| Code |
|------|
| 7332 |

SHAFT SLEEVE



7333



■ For dial indicators and probes with shaft diameter Ø8mm

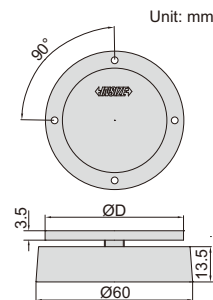
Code
7333

MAGNETIC BACKS

| Code | ØD | For digital/dial indicators |
|---------|--------|---------------------------------|
| 7331-M1 | 51.5mm | 2103 |
| | | 2104 |
| | | 2108 |
| | | 2109 |
| | | 2112 |
| | | 2115 |
| | | 2116 |
| | | 2117 |
| | | 2118 |
| | | 2138 |
| | | 2139 |
| | | 2501 |
| | | 2301 |
| | | 2302 |
| | | 2308 |
| | | 2309 (except 2309-30, 2309-30F) |
| | | 2313 |
| | | 2314 |
| | | 2316 |
| | | 2324 |
| 7331-M2 | 54mm | 2801 |
| | | 2318 |



7331-M2



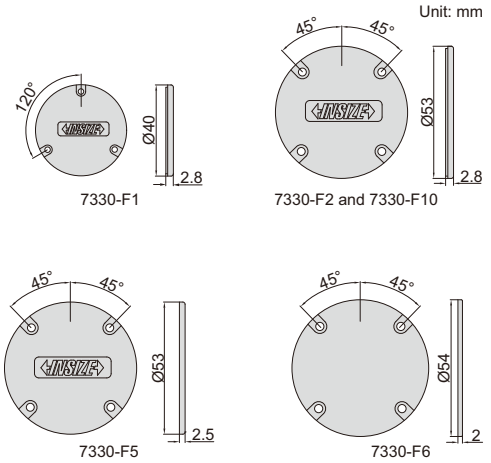
FLAT BACKS



7330-F2

| Code | For digital/dial indicators |
|---------|---------------------------------|
| 7330-F1 | 2311 |
| 7330-F2 | 2301 |
| | 2302 |
| | 2308 |
| | 2309 (except 2309-30, 2309-30F) |
| | 2313 |
| | 2314 |
| | 2316 |
| | 2324 |
| | 2801 |

| Code | For digital/dial indicators |
|----------|-----------------------------|
| 7330-F5 | 2103 |
| | 2104 |
| | 2108 |
| | 2109 |
| | 2112 |
| | 2115 |
| | 2116 |
| | 2117 |
| | 2118 |
| | 2138 |
| 2139 | |
| 2501 | |
| 7330-F6 | 2318 |
| 7330-F10 | 2310 |



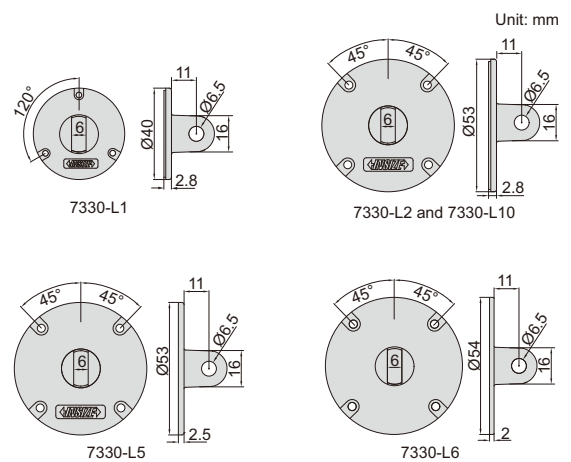
LUG BACKS



7330-L2

| Code | For digital/dial indicators |
|---------|---------------------------------|
| 7330-L1 | 2311 |
| 7330-L2 | 2301 |
| | 2302 |
| | 2308 |
| | 2309 (except 2309-30, 2309-30F) |
| | 2313 |
| | 2314 |
| | 2316 |
| | 2324 |
| | 2801 |

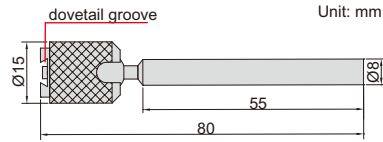
| Code | For digital/dial indicators |
|----------|-----------------------------|
| 7330-L5 | 2103 |
| | 2104 |
| | 2108 |
| | 2109 |
| | 2112 |
| | 2115 |
| | 2116 |
| | 2117 |
| | 2118 |
| | 2138 |
| 2139 | |
| 2501 | |
| 7330-L6 | 2318 |
| 7330-L10 | 2310 |



DIAL TEST INDICATOR UNIVERSAL HOLDER



6297-1



Unit: mm



- Set the indicators at the desired attitude to the workpiece

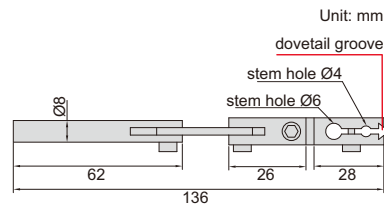
Code

6297-1

DIAL TEST INDICATOR HOLDER



6296-1



Unit: mm



- Supplied with hex key

Code

6296-1

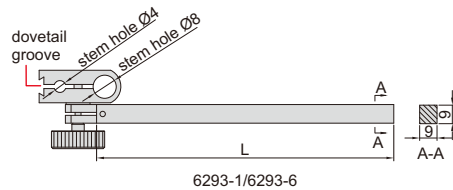
DIAL TEST INDICATOR HOLDERS



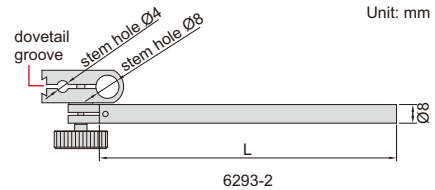
6293-1



6293-2



6293-1/6293-6



Unit: mm

6293-2

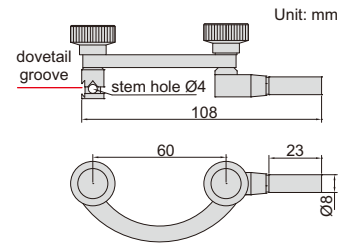
| Code | Stem section | Stem length (L) |
|--------|--------------|-----------------|
| 6293-1 | 9x9mm | 100mm |
| 6293-6 | 9x9mm | 50mm |
| 6293-2 | Ø8mm | 115mm |

DIAL TEST INDICATOR HOLDER

- Can be used with dial test indicators



6291-1



Code
6291-1

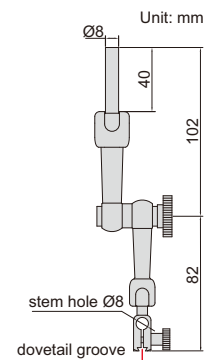
7

DIAL TEST INDICATOR HOLDER

- Can be used with dial test indicators



6295-1A



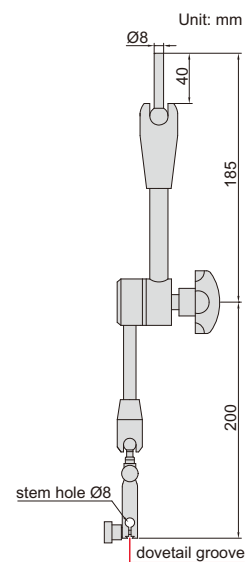
Code
6295-1A

DIAL INDICATOR HOLDER

- Can be used with dial test indicators or dial indicators

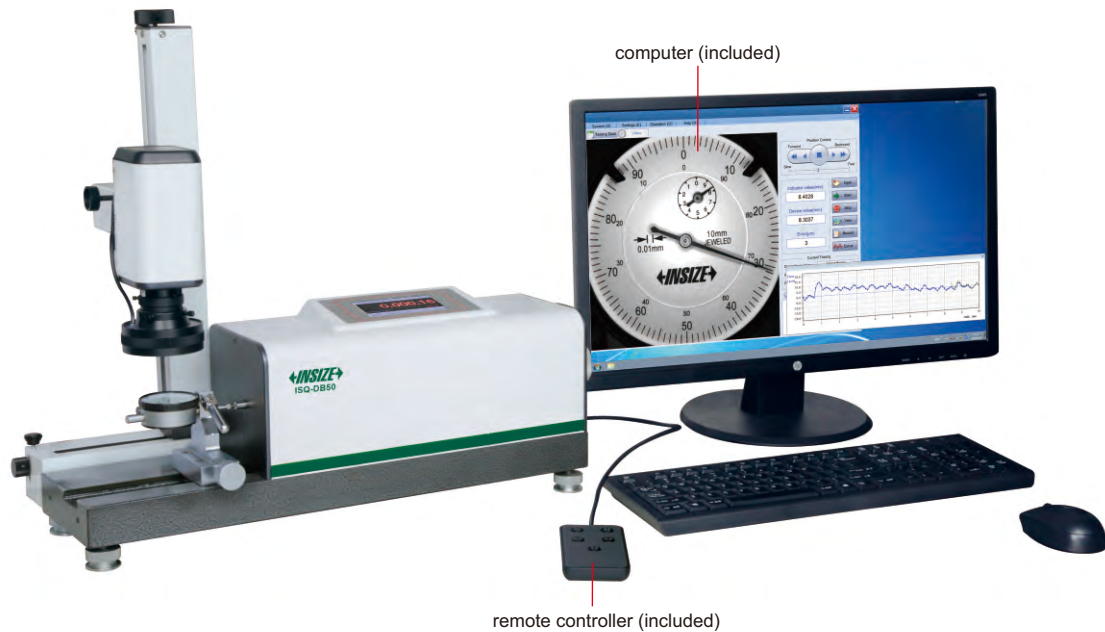


6294-1A



Code
6294-1A

AUTOMATIC DIAL INDICATOR TESTER CODE ISQ-DB50



- Automatic measurement
- Semi-automatic measurement is possible, operate by hand and find graduation lines by eyes, for indicators with stains on dial faces
- Automatic zero setting
- Detection accuracy of graduation lines:
1/15 graduation for 0.001mm dial indicators or dial test indicators,
1/30 graduation for 0.01mm dial indicators or dial test indicators
- Suitable for dial indicators or dial test indicators with plain and convex crystals

SPECIFICATION

| | |
|-----------------------|--|
| Applicable products | dial indicators, digital indicators, dial test indicators and bore gages |
| Standard | DIN878, DIN2270, ASME B89.1.10M, BS907, BS2795, JIS B7503, JIS B7533 and so on. customized standard: customers can set the range, interval, accuracy and hysteresis |
| Measuring range | 0-50mm |
| Resolution | 0.1 μ m |
| Repeatability | 0.1 μ m |
| Speed | average 0.6s/point (adjustable) It takes 3 minutes to calibrate a 10mm dial indicator (100 points forward and 100 points backward) |
| Accuracy | any 1mm: 0.8 μ m any 2mm: 1.0 μ m any 10mm: 1.3 μ m any 30mm: 1.5 μ m 50mm: 2.0 μ m |
| Hysteresis | 0.5 μ m |
| Output | RS232 |
| Power supply | 220V, 50Hz |
| Operation temperature | 20 \pm 5 $^{\circ}$ C |
| Operation humidity | (50-70)%RH |
| Dimension (L×W×H) | 640×240×530mm |
| Weight | 35kg |

STANDARD DELIVERY

| | |
|--|-------|
| Main unit | 1 pc |
| Holder for dial indicators and digital indicators (\varnothing 8mm, 3/8") | 1 pc |
| Holder for dial test indicators (\varnothing 4mm, \varnothing 6mm, \varnothing 8mm) | 3 pcs |
| Holder for bore gages (\varnothing 4-28mm) | 1 pc |
| Computer | 1 pc |
| Remote controller | 1 pc |
| Software | 1 pc |

OPTIONAL ACCESSORY

| | |
|-------------------------------------|-----------|
| Holder for split type bore gages | ISQ-DB501 |
| Cable for INSIZE digital indicators | ISQ-DB502 |

To be continued

ATTENTION: NOT SUITABLE FOR DIAL INDICATORS WITH GRADUATION 0.001MM



DIAL INDICATOR TESTER CODE 2396-25A

- To calibrate dial indicators, test indicators and dial bore gages
- Dimension: 270x210x205mm
- Weight: 11kg

Micrometer head

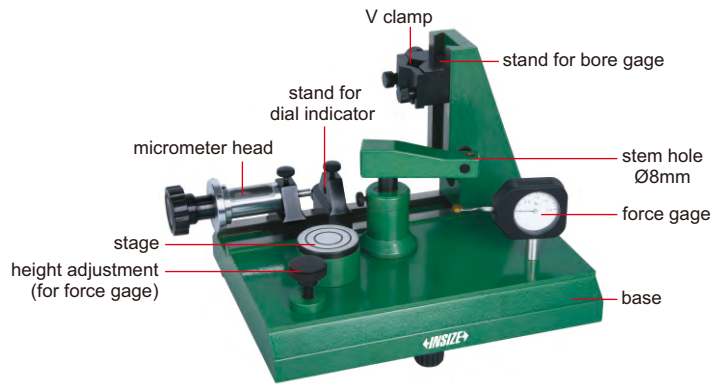
| Range | Sampling interval | Accuracy | Hysteresis |
|--------|-------------------|---|------------|
| 0-25mm | 0.1mm | 4µm (0-25mm), 3µm (0-10mm), 2µm (0-1mm) | 1µm |

Force gage

| Range | Graduation | Accuracy |
|--------|------------|------------------------|
| 0-1.6N | 0.05N | ±5% (of load capacity) |

Stage

| Diameter | Flatness | Roughness |
|----------|----------|-----------|
| 50mm | 1µm | 0.05µm |

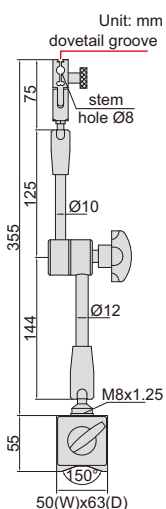
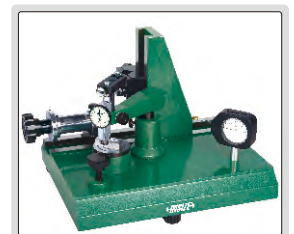


2396-25A



Half round gage block (optional)

| Code | Parallelism |
|------------|-------------|
| 2396-block | 1µm |



6208-80A

UNIVERSAL MAGNETIC STAND (ECONOMIC TYPE)

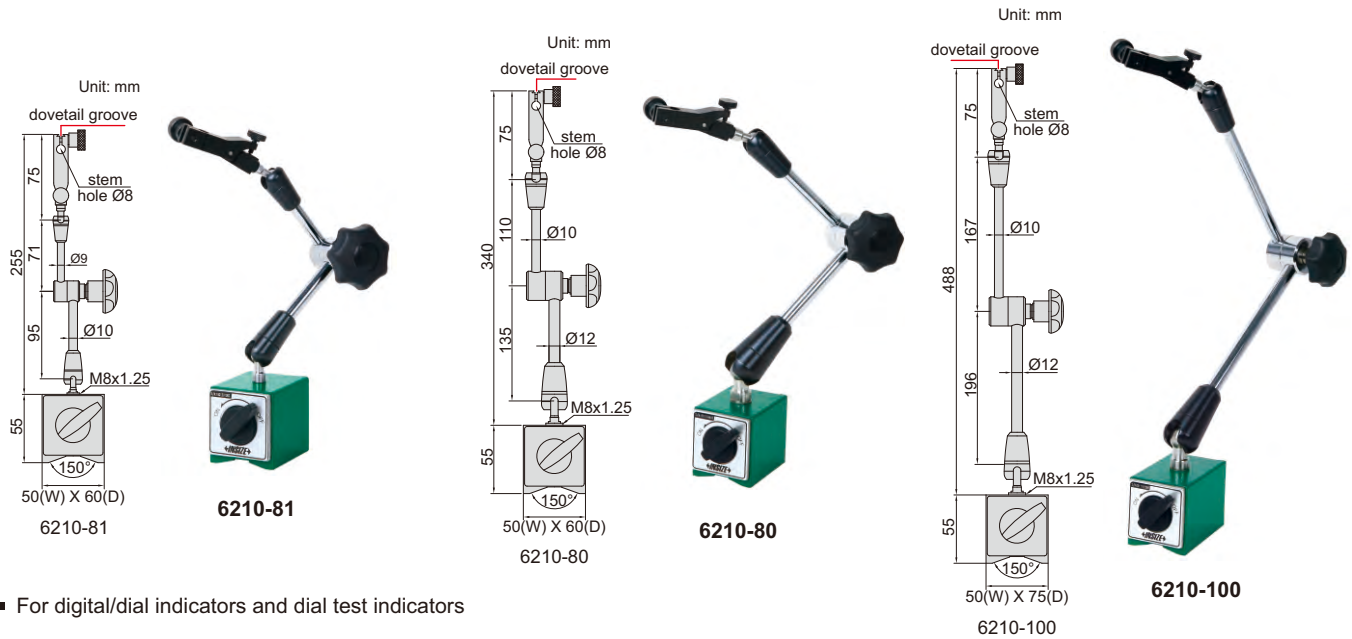
ATTENTION: LOW LOCKING FORCE

- For digital/dial indicators and dial test indicators

| Code | Magnetic force | Applicable holding stem | Remark |
|----------|----------------|-------------------------|--|
| 6208-80A | 80kgf | Ø8mm | with fine adjustment and dovetail groove |

UNIVERSAL MAGNETIC STANDS

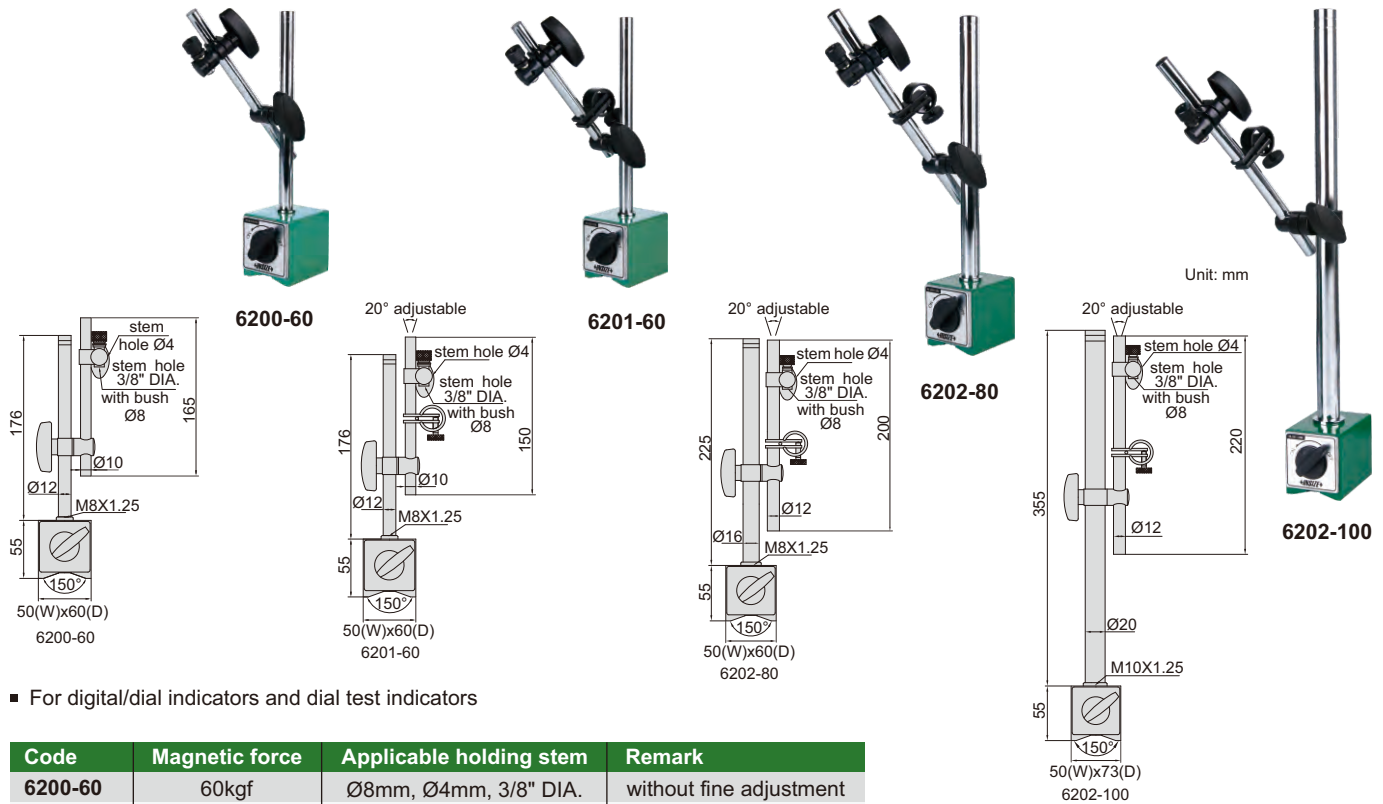
7



■ 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 |

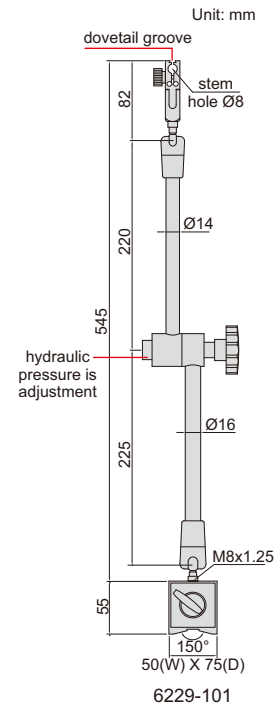
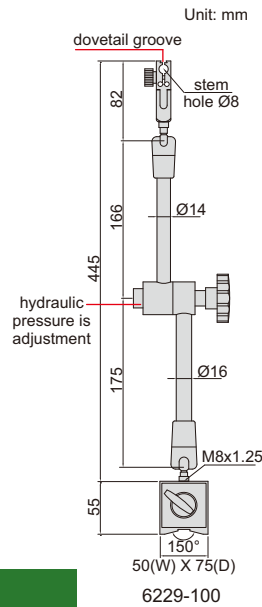
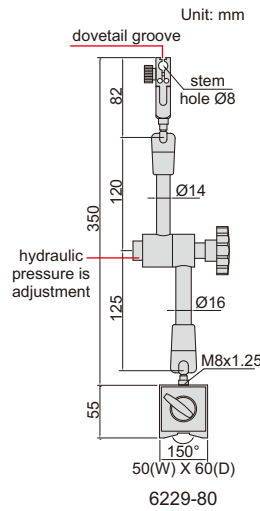
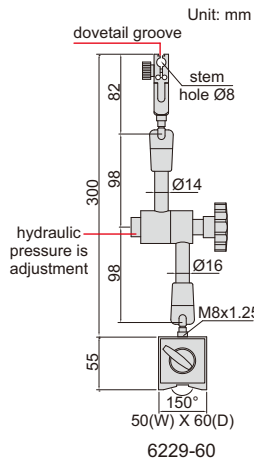
MAGNETIC STANDS



■ For digital/dial indicators and dial test indicators

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

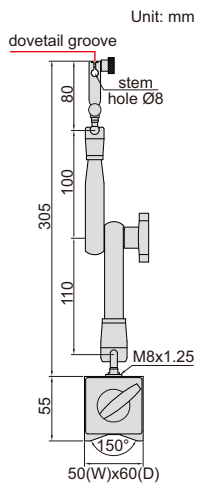
HYDRAULIC UNIVERSAL MAGNETIC STANDS



- Hydraulic pressure is adjustment
- For digital/dial indicators and dial test indicators

| Code | Magnetic force | Applicable holding stem | Remark |
|----------|----------------|-------------------------|--|
| 6229-60 | 60kgf | Ø8mm | with fine adjustment and dovetail groove |
| 6229-80 | 80kgf | Ø8mm | with fine adjustment and dovetail groove |
| 6229-100 | 100kgf | Ø8mm | with fine adjustment and dovetail groove |
| 6229-101 | 100kgf | Ø8mm | with fine adjustment and dovetail groove |

LARGE LOCKING FORCE MAGNETIC STAND



6219-80

- For digital/dial indicators and dial test indicators

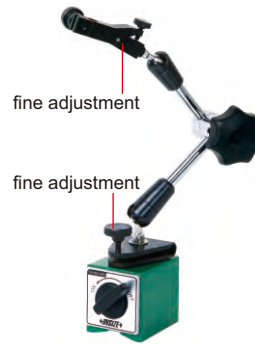
| Code | Magnetic force | Applicable holding stem | Remark |
|---------|----------------|-------------------------|--|
| 6219-80 | 80kgf | Ø8mm | with fine adjustment and dovetail groove |

MAGNETIC STAND WITH TWO FINE ADJUSTMENTS

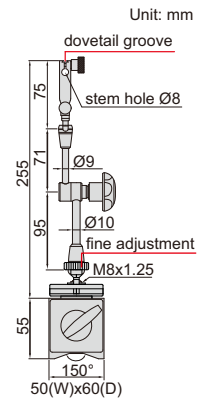
- With two fine adjustments on the head and on the base
- For digital/dial indicators and dial test indicators

7

| Code | Magnetic force | Applicable holding stem | Remark |
|---------|----------------|-------------------------|---|
| 6272-80 | 80kgf | Ø8mm | with two fine adjustments and dovetail groove |



6272-80



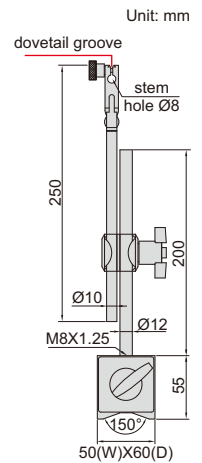
MAGNETIC STAND

- For digital/dial indicators and dial test indicators

| Code | Magnetic force | Applicable holding stem | Remark |
|---------|----------------|-------------------------|--|
| 6216-80 | 80kgf | Ø8mm | with fine adjustment and dovetail groove |



6216-80



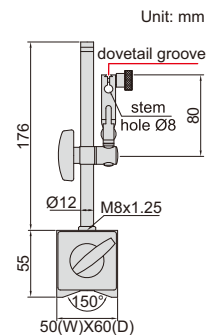
MAGNETIC STAND (FOR 0.001MM DIAL AND DIAL TEST INDICATORS)

- For 0.001mm and 0.01mm dial and dial test indicators

| Code | Magnetic force | Applicable holding stem | Remark |
|---------|----------------|-------------------------|--|
| 6221-80 | 80kgf | Ø8mm | with fine adjustment and dovetail groove |



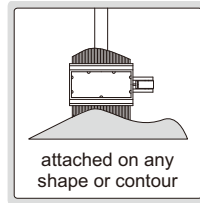
6221-80



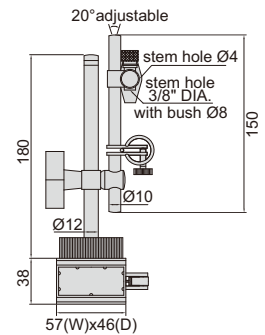
MAGNETIC STAND FOR UNEVEN SURFACE

Unit: mm

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



6215-60



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

ATTENTION: FOR DIAL TEST INDICATORS ONLY

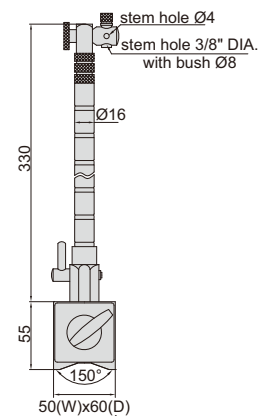
FLEX ARM MAGNETIC STAND

Unit: mm

- For dial test indicators



6207-80A



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

ATTENTION: FOR DIAL TEST INDICATORS ONLY

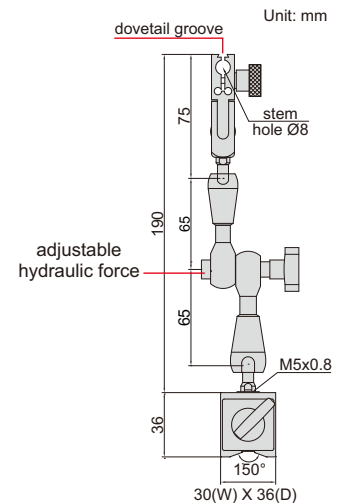
HYDRAULIC MINI MAGNETIC STAND

Unit: mm

- For dial test indicators
- With fine adjustment and dovetail groove
- Adjustable hydraulic force



6228-40



| Code | Magnetic force | Applicable holding stem |
|---------|----------------|-------------------------|
| 6228-40 | 40kgf | Ø8mm |

MINI MAGNETIC STAND

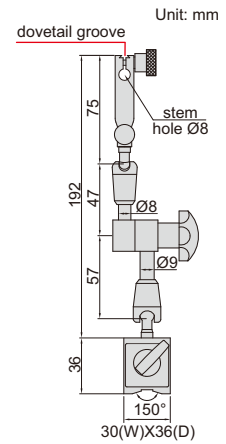
ATTENTION: FOR DIAL TEST INDICATORS ONLY

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

7



6224-40



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

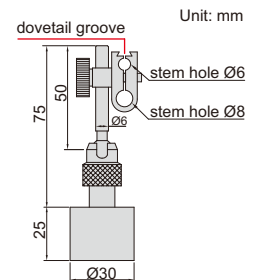
MINI MAGNETIC STAND

ATTENTION: FOR DIAL TEST INDICATORS ONLY

- For dial test indicators
- With dovetail groove



6211-10

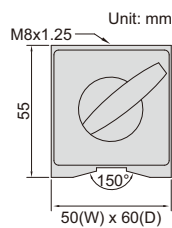


| Code | Magnetic force | Applicable holding stem |
|---------|----------------|-------------------------|
| 6211-10 | 10kgf | Ø6mm, Ø8mm |

MAGNETIC BASES



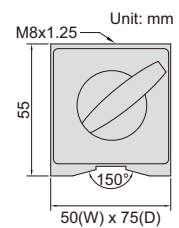
6212-80



6212-80



6212-100

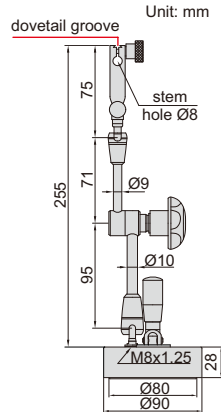


6212-100

| Code | Magnetic force |
|----------|----------------|
| 6212-80 | 80kgf |
| 6212-100 | 100kgf |

VACUUM STAND

- Suitable for granite surface plates or cast iron surface plates
- For digital/dial indicators and dial test indicators



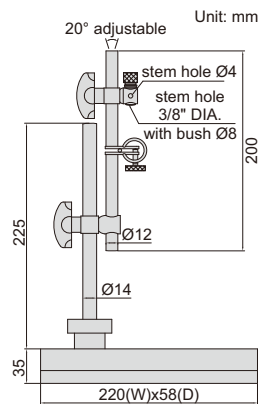
6217-B

| Code | Diameter of vacuum disc | Vacuum force | Applicable holding stem | Remark |
|--------|-------------------------|--------------|-------------------------|--|
| 6217-B | Ø80mm | 80kgf | Ø8mm | with fine adjustment and dovetail groove |

7

UNIVERSAL STAND

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



6214-A

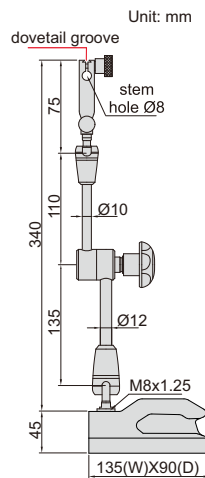
| Code | Applicable holding stem |
|--------|-------------------------|
| 6214-A | Ø8mm, Ø4mm, 3/8" DIA. |

UNIVERSAL DIAL INDICATOR STANDS (NON-MAGNETIC)

- Hardened base
- Suitable for granite surface plates and cast iron surface plates
- For digital/dial indicators and dial test indicators



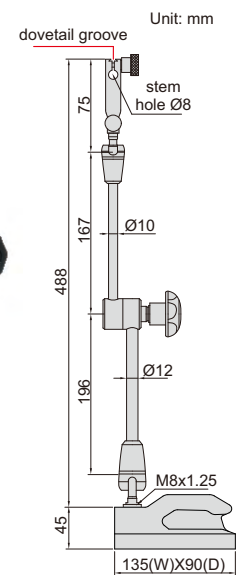
6225-80



6225-80



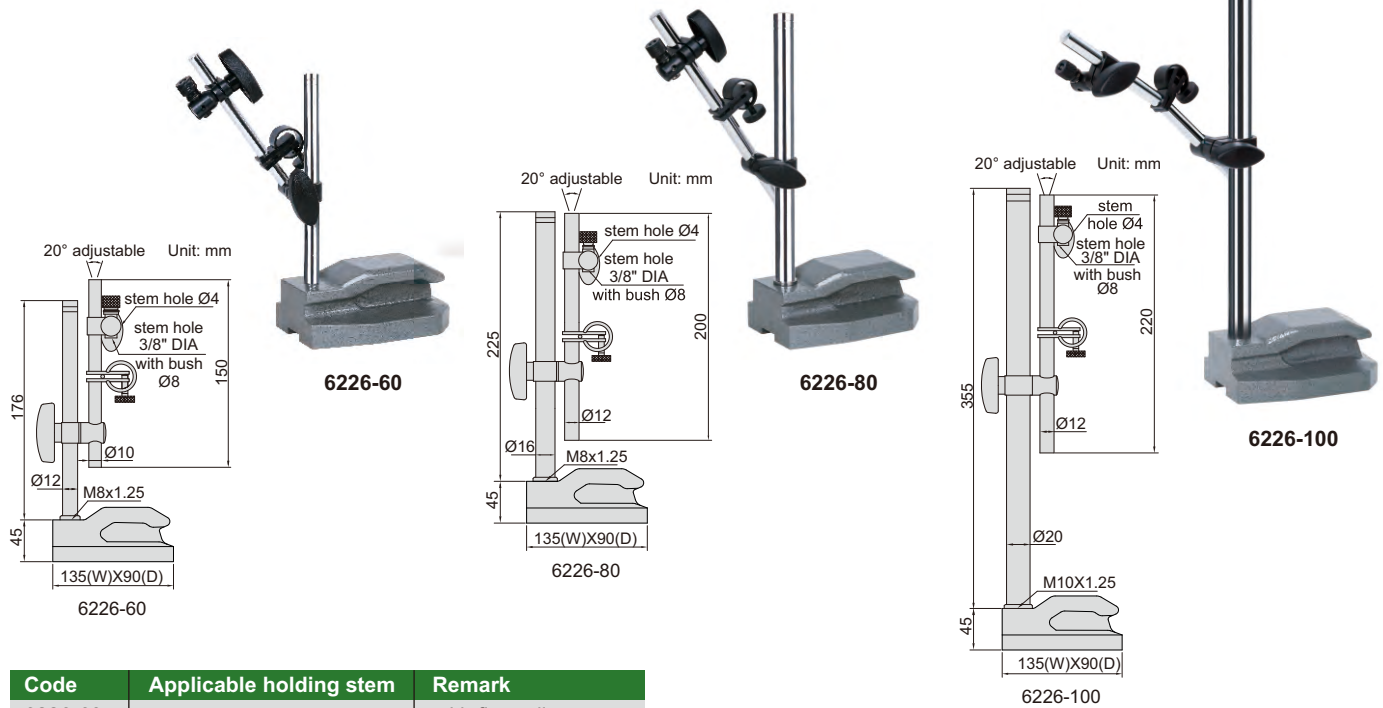
6225-100



6225-100

| Code | Applicable holding stem | Remark |
|----------|-------------------------|--|
| 6225-80 | Ø8mm | with fine adjustment and dovetail groove |
| 6225-100 | Ø8mm | with fine adjustment and dovetail groove |

DIAL INDICATOR STANDS (NON-MAGNETIC)



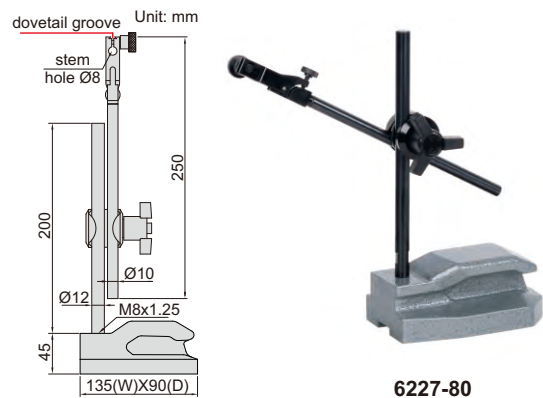
| Code | Applicable holding stem | Remark |
|----------|-------------------------|----------------------|
| 6226-60 | Ø8mm, Ø4mm, 3/8" DIA | with fine adjustment |
| 6226-80 | Ø8mm, Ø4mm, 3/8" DIA | with fine adjustment |
| 6226-100 | Ø8mm, Ø4mm, 3/8" DIA | with fine adjustment |

- Hardend base
- Suitable for granite surface plates and cast iron surface plates
- For digital/dial indicators and dial test indicators

DIAL INDICATOR STAND (NON-MAGNETIC)

- Hardend base
- Suitable for granite surface plates and cast iron surface plates
- For digital/dial indicators and dial test indicators

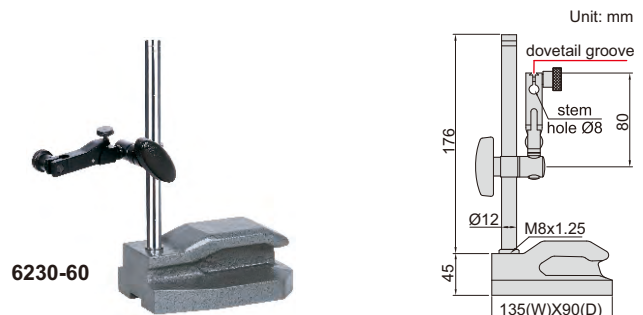
| Code | Applicable holding stem | Remark |
|---------|-------------------------|--|
| 6227-80 | Ø8mm | with fine adjustment and dovetail groove |



DIAL INDICATOR STAND (FOR 0.001MM DIAL AND DIAL TEST INDICATORS)

- Hardend base
- Suitable for granite surface plates or cast iron surface plates
- For 0.001mm and 0.01mm dial and dial test indicators

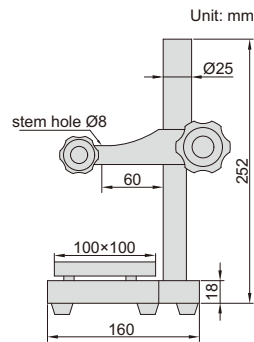
| Code | Applicable holding stem | Remark |
|---------|-------------------------|--|
| 6230-60 | Ø8mm | with fine adjustment and dovetail groove |



ATTENTION: WITHOUT FINE ADJUSTMENT

DIAL INDICATOR STAND

- Vertical travel of holder: 150mm
- Ceramic anvil
- Supplied with dust cover



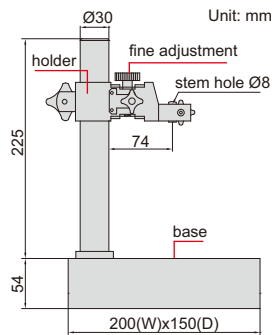
6876-150

| Code | Applicable holding stem | Anvil |
|----------|-------------------------|--------------------------------|
| 6876-150 | Ø8mm | ceramic, plain, flatness 1.5µm |

7

GRANITE DIAL INDICATOR STAND

- Vertical travel of holder: 150mm
- Fine adjustment range: 2mm
- Supplied with dust cover



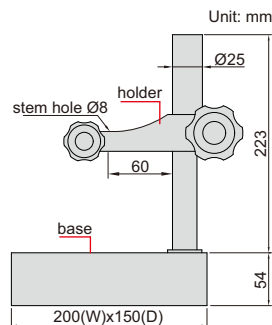
6866-150

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

ATTENTION: WITHOUT FINE ADJUSTMENT

GRANITE DIAL INDICATOR STAND (BASIC TYPE)

- Vertical travel of holder: 170mm
- Supplied with dust cover

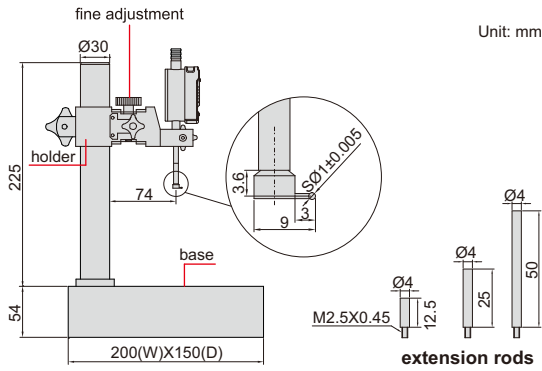


6841-170

| Code | Applicable holding stem | Base |
|----------|-------------------------|----------------|
| 6841-170 | Ø8mm | flatness 2.5µm |

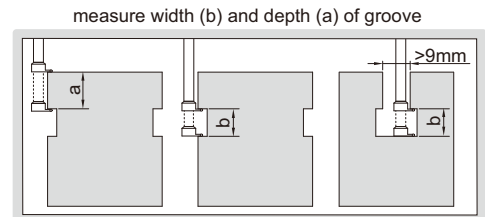
DIGITAL GROOVE MEASUREMENT STANDS

DATA
OUTPUT



6870-150

- Button function: on/off, zero, mm/inch, measuring direction change, data preset, absolute/incremental measurement
- Vertical travel of holder: 150mm
- Fine adjustment range: 2mm
- CR2032 battery, automatic power off (time is adjustable)
- Data output
- Supplied with extension rods: 12.5mm (1 pc), 25mm (1 pc), 50mm (1 pc)
- Supplied with groove point and dust cover
- Optional accessory: data output cable (code 7315-50M, 7302-40M, 7305-40M)



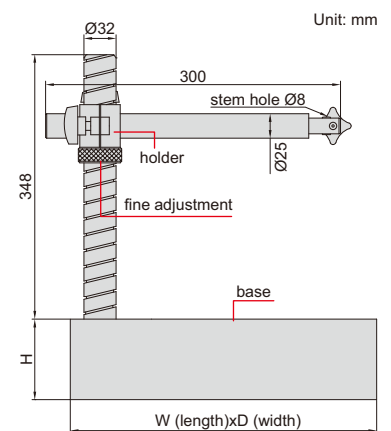
| Code | Digital indicator stroke | Digital indicator resolution | Accuracy | Applicable holding stem | Base |
|-----------|--------------------------|------------------------------|----------|-------------------------|----------------|
| 6870-150 | 12.7mm/0.5" | 0.01mm/0.0005" | ±20µm | Ø8mm | flatness 2.5µm |
| 6870-1501 | 12.7mm/0.5" | 0.001mm/0.00005" | ±5µm | Ø8mm | flatness 2.5µm |

GRANITE DIAL INDICATOR STANDS

- Vertical travel of holder: 250mm
- Fine adjustment range: entire stroke
- Supplied with dust cover

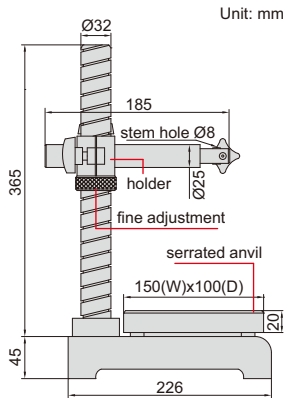


6867-250

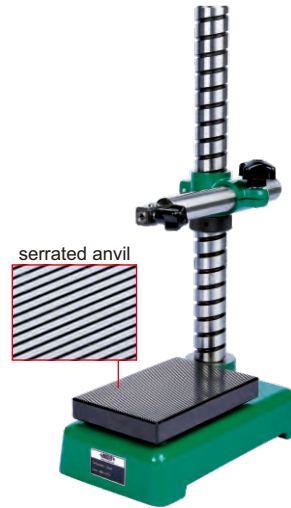


| Code | Applicable holding stem | W | D | H | Base |
|----------|-------------------------|-------|-------|-------|----------------|
| 6867-250 | Ø8mm | 300mm | 300mm | 75mm | flatness 2.8µm |
| 6867-400 | Ø8mm | 400mm | 300mm | 100mm | flatness 3µm |

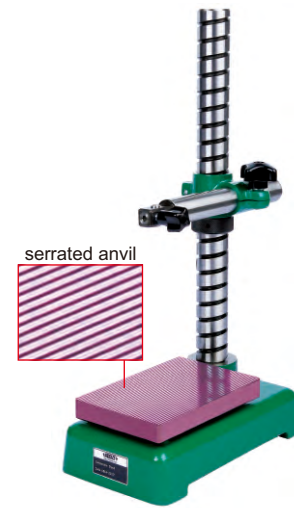
DIAL INDICATOR STANDS



- Vertical travel of holder: 250mm
- Fine adjustment range: entire stroke
- Supplied with dust cover



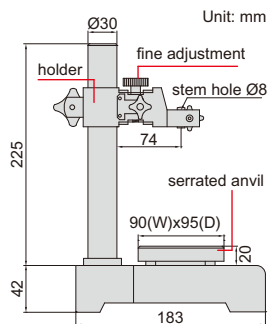
6864-250



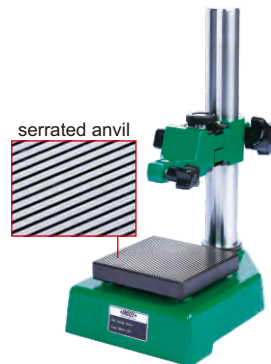
6864-250T

| Code | Applicable holding stem | Anvil |
|-----------|-------------------------|--|
| 6864-250 | Ø8mm | steel (hardness HRC60±2), serrated, flatness 1.5µm |
| 6864-250T | Ø8mm | ceramic, serrated, flatness 1.5µm |

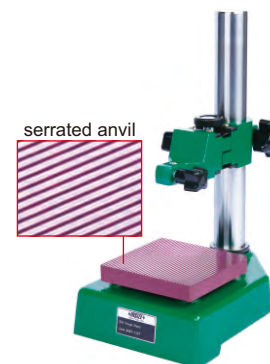
DIAL INDICATOR STANDS



- Vertical travel of holder: 150mm
- Fine adjustment range: 2mm
- Supplied with dust cover



6863-150



6863-150T

| Code | Applicable holding stem | Anvil |
|-----------|-------------------------|--|
| 6863-150 | Ø8mm | steel (hardness HRC60±2), serrated, flatness 1.5µm |
| 6863-150T | Ø8mm | ceramic, serrated, flatness 1.5µm |

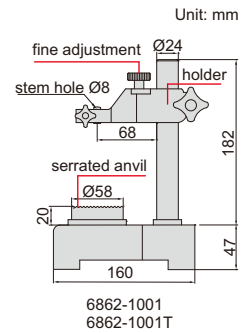
DIAL INDICATOR STANDS



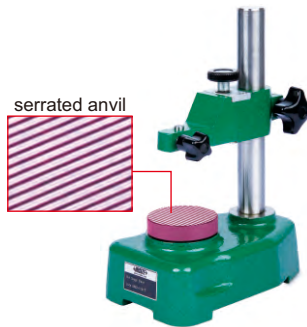
6862-1001



6862-1002



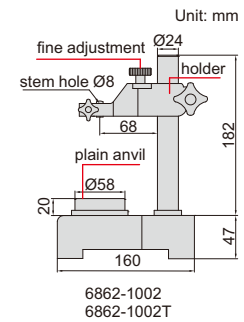
6862-1001
6862-1001T



6862-1001T



6862-1002T



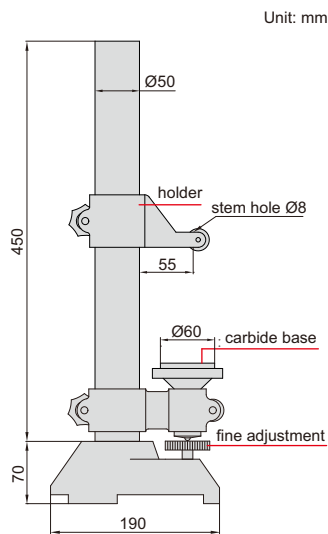
6862-1002
6862-1002T

| Code | Applicable holding stem | Anvil |
|------------|-------------------------|--|
| 6862-1001 | Ø8mm | steel (hardness HRC60±2), serrated, flatness 1.5µm |
| 6862-1002 | Ø8mm | steel (hardness HRC60±2), plain, flatness 1.5µm |
| 6862-1001T | Ø8mm | ceramic, serrated, flatness 1.5µm |
| 6862-1002T | Ø8mm | ceramic, plain, flatness 1.5µm |

- Vertical travel of holder: 100mm
- Fine adjustment range: 2mm
- Supplied with dust cover

HEAVY DUTY DIAL INDICATOR STAND

- Vertical travel of holder: 300mm
- Fine adjustment range: 5mm
- Carbide base
- Supplied with dust cover
- Optional accessory:
holder with stem hole Ø28 (code 6869-D28)

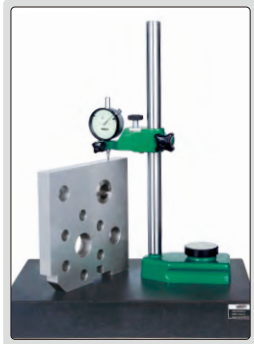


6869-300

| Code | Applicable holding stem | Base |
|----------|-------------------------|------------------------------|
| 6869-300 | Ø8mm | plain, flatness 1µm, carbide |

TRANSFER STANDS

application



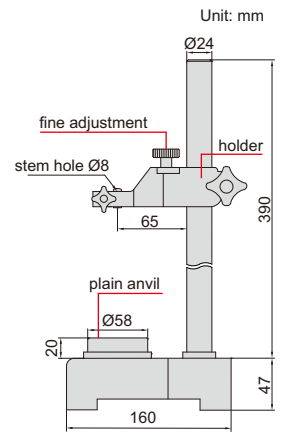
rigid construction, designed to make comparison height measurement (set zero with gage block then measure height of workpiece) with dial indicators or digital indicators (variation of measuring force is high)



6865-300



6865-300T



- Vertical travel of holder: 335mm
- Fine adjustment range: 2mm
- Supplied with dust cover

| Code | Applicable holding stem | Anvil |
|-----------|-------------------------|---|
| 6865-300 | Ø8mm | steel (hardness HRC60±2), plain, flatness 1.5µm |
| 6865-300T | Ø8mm | ceramic, plain, flatness 1.5µm |

REFER TO PAGE 67-68 FOR DETAILS

DIGITAL HEIGHT GAGES



1155-505



1157-501



1157-502



1158-100

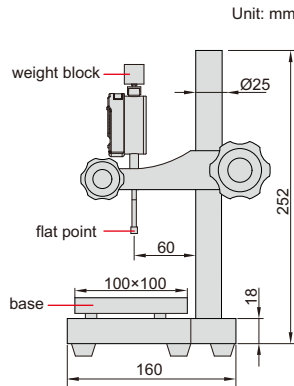
DIGITAL RUBBER THICKNESS GAGES

DATA OUTPUT

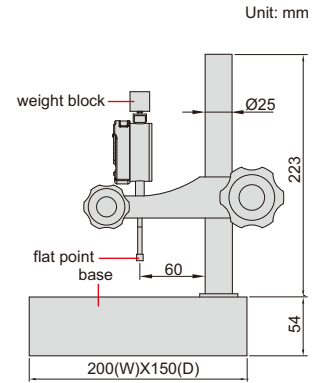
7



2878-6B



2878-71B



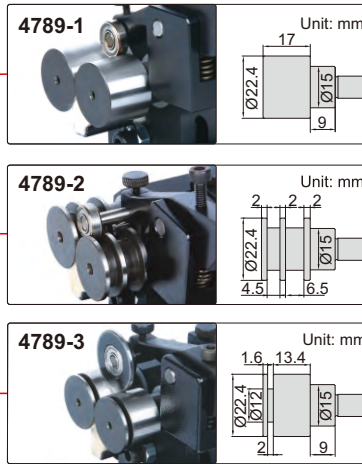
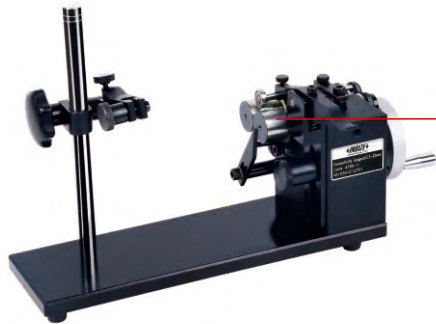
- Measure thickness of vulcanized rubber and plastic products
- Button function: on/off, inch/mm, zero, data preset, change measuring direction, absolute/incremental measurement
- CR2032 battery, automatic power off (time is adjustable)
- Supplied with dust cover
- Optional accessory: data output cable (code **7315-50M**, **7302-50M**, **7305-50M**), flat points, weight blocks

| Code | Range | Resolution | Accuracy | Flat point diameter | Pressure | Base |
|----------|-------------|------------------|----------|---------------------|------------|--------------------------------|
| 2878-6A | 12.7mm/0.5" | 0.01mm/0.0005" | 20µm | 6mm | 22KPa±5KPa | ceramic, plain, flatness 1.5µm |
| 2878-6B | 12.7mm/0.5" | 0.001mm/0.00005" | 5µm | 6mm | 22KPa±5KPa | ceramic, plain, flatness 1.5µm |
| 2878-71A | 12.7mm/0.5" | 0.01mm/0.0005" | 20µm | 6mm | 22KPa±5KPa | granite, plain, flatness 2.5µm |
| 2878-71B | 12.7mm/0.5" | 0.001mm/0.00005" | 5µm | 6mm | 22KPa±5KPa | granite, plain, flatness 2.5µm |

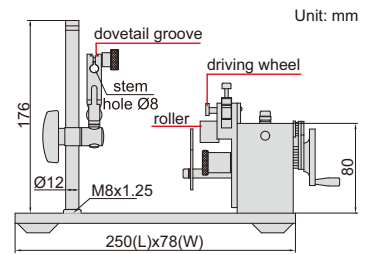
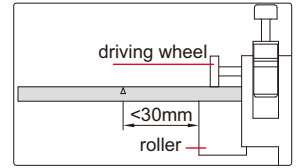
Flat points and weight blocks (optional)

| Flat point | Flat point code | Pressure | | | | |
|-------------------|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| | | 10KPa±2KPa | 22KPa±5KPa | 20KPa±3KPa | 70KPa±5KPa | 1.6KPa±0.1KPa |
| | | Weight block code | Weight block code | Weight block code | Weight block code | Weight block code |
| Ø4mm | 2878-P4 | — | 2878-W4B | — | — | — |
| Ø5mm | 2878-P5 | 2878-W5A | 2878-W5B | 2878-W5C | 2878-W5D | — |
| Ø6mm | 2878-P6 | 2878-W6A | 2878-W6B | — | — | — |
| Ø8mm | 2878-P8 | 2878-W8A | 2878-W8B | — | — | — |
| Ø10mm | 2878-P10 | 2878-W10A | 2878-W10B | 2878-W10C | — | — |
| Ø25mm | 2878-P25 | — | — | — | — | 2878-W25E |
| 1x4mm (rectangle) | 2878-P14 | — | — | — | 2878-W14D | — |

CONCENTRICITY GAGES



to ensure the accuracy 2µm, the distance between measuring point and roller should be <30mm



| Code | Applicable diameter |
|--------|---------------------|
| 4789-1 | Ø3.5mm-25mm |
| 4789-2 | Ø1mm-25mm |
| 4789-3 | Ø1mm-25mm |

- Accuracy 2µm
- Optional accessory: dial test indicator

HIGH STABILITY,
LONG WORKING LIFE

CONCENTRICITY GAGES

dial test indicator is optional



4725-45

dial test indicator is optional

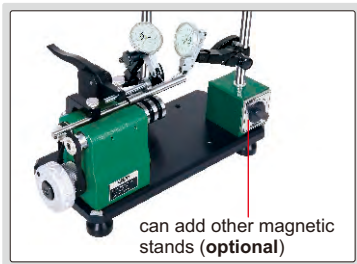


4725-60

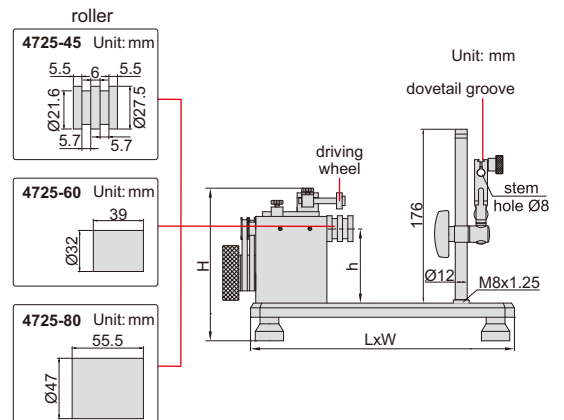
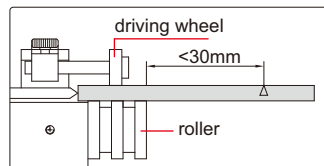
dial test indicator is optional



4725-80



to ensure the accuracy 2µm, the distance between measuring point and roller should be <30mm

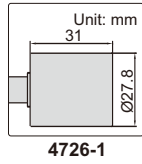


| Code | Diameter range | Center height (h) | LxWxH | Weight |
|---------|----------------|-------------------|---------------|--------|
| 4725-45 | 3-45mm | 80mm | 280x130x170mm | 6kg |
| 4725-60 | 8-60mm | 90mm | 350x160x190mm | 15.6kg |
| 4725-80 | 8-80mm | 130mm | 400x200x250mm | 25kg |

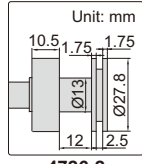
- With ball bearing, high stability, long working life
- Accuracy 2µm
- Optional accessory: dial test indicator

CONCENTRICITY GAGES

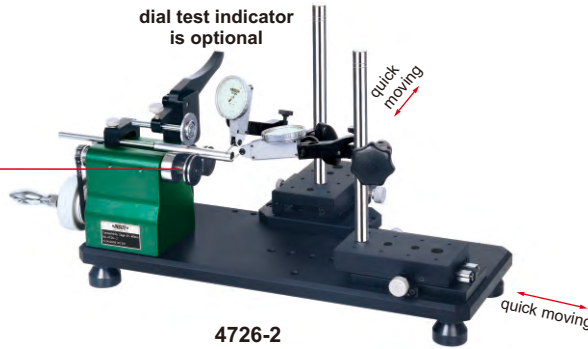
QUICK-POSITIONING, SUITABLE FOR MASS MEASUREMENT



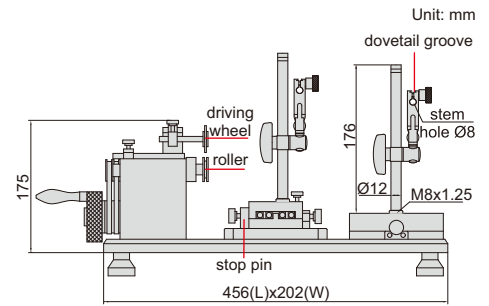
4726-1



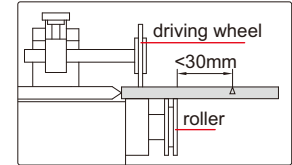
4726-2



4726-2



to ensure the accuracy 2 μ m, the distance between measuring point and roller should be <30mm

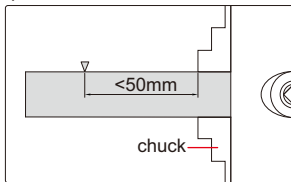


| Code | Applicable diameter |
|--------|---------------------|
| 4726-1 | Ø4-40mm |
| 4726-2 | Ø2-40mm |

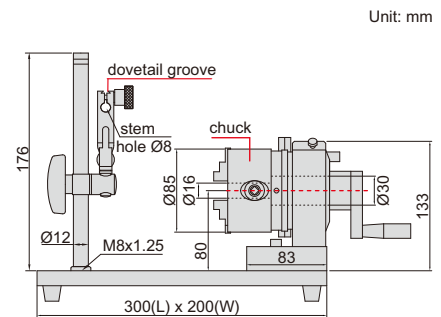
- With ball bearing, high stability, long working life
- Accuracy: 2 μ m
- Optional accessory: dial test indicator

CONCENTRICITY GAGE

to ensure the accuracy 3 μ m, the distance between measuring point and roller should be <50mm



4786-1



- Accuracy: 3 μ m
- Ø50mm setting ring and Ø55mm calibration cylinder are included
- Optional accessory: dial test indicator

| Code | Applicable inside diameter | Applicable outside diameter |
|--------|----------------------------|-----------------------------|
| 4786-1 | Ø24-64mm | Ø2-70mm |

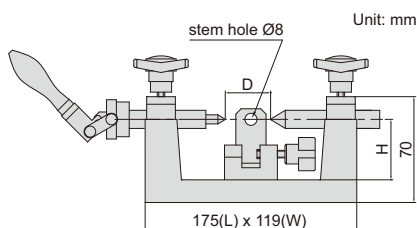
for cylinder



for tube



MINI BENCH CENTER



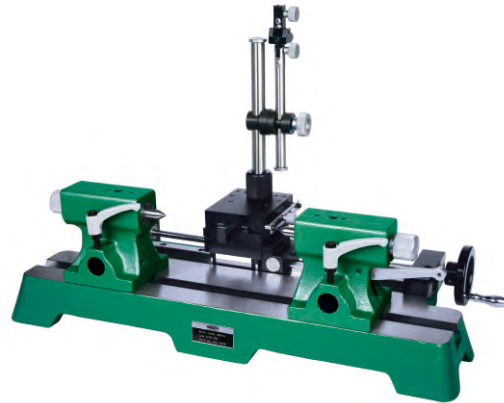
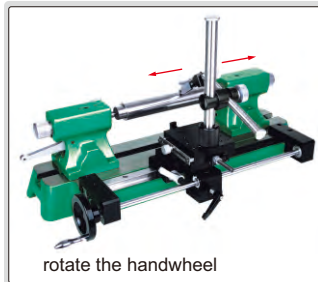
4721-75A

| Code | Runout accuracy | Center height (H) | Distance between two centers (D) | Diameter of center (Ød) | Taper of center | Weight | Load |
|----------|-----------------|-------------------|----------------------------------|-------------------------|-----------------|--------|------|
| 4721-75A | 2 μ m | 40mm | 35-100mm | 6mm | MT1 | 4.5kg | 4kg |

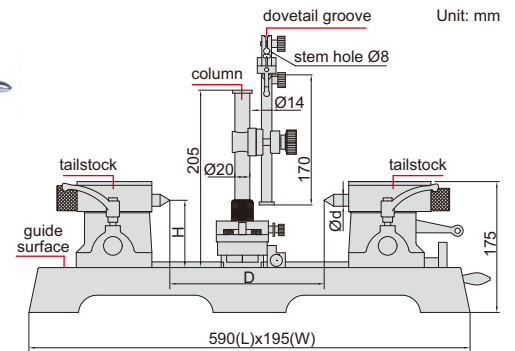
BENCH CENTER WITH STRAIGHTNESS MEASUREMENT



straightness measurement



4723-300



- Hardened cast-iron guide surface

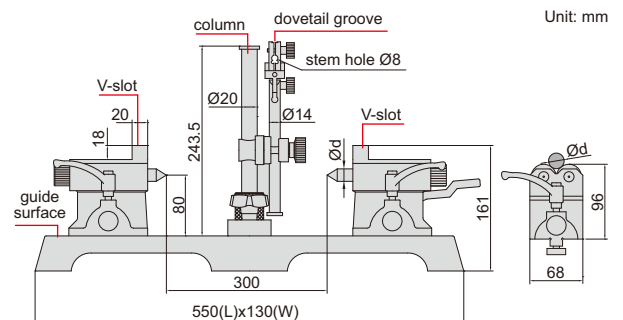
| Code | Parallelism* | Runout accuracy | Accuracy of straightness measurement | Center height (H) | Distance between two centers (D) | Diameter of center (Ød) | Taper of center | Weight | Load |
|----------|--------------|-----------------|--------------------------------------|-------------------|----------------------------------|-------------------------|-----------------|--------|------|
| 4723-300 | 4µm | 2µm | 0.02mm | 90mm | 300mm | 18mm | MT2 | 38kg | 25kg |

*Parallelism of two centers to the guide surface

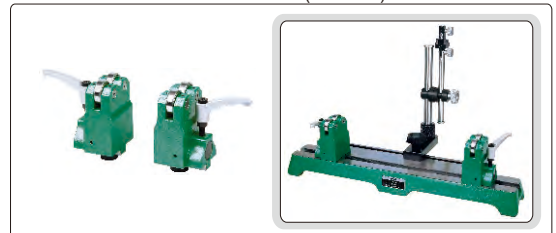
BENCH CENTER WITH ROLLER TAILSTOCKS



4720-300



roller tailstocks (included)

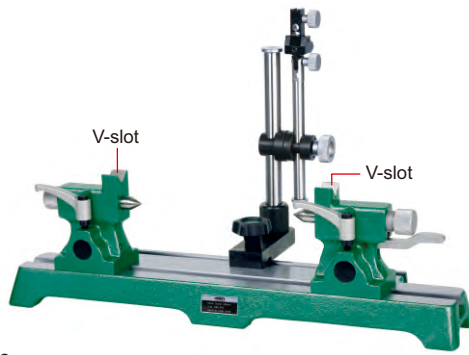


- Hardened cast-iron guide surface
- Supplied with V-slot/center tailstocks and roller tailstocks
- V-slot for cylinder Ø4~22mm
- Roller for cylinder Ø5~100mm

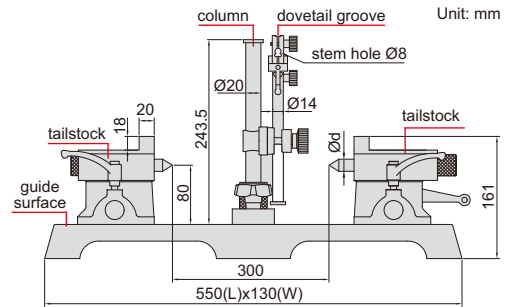
| Code | Parallelism* | Runout accuracy | Center height | Distance between two centers | Diameter of center (Ød) | Taper of center | Load |
|----------|--------------|-----------------|---------------|------------------------------|-------------------------|-----------------|-----------------------------------|
| 4720-300 | 0.01mm | 2µm | 80mm | 300mm | 16mm | MT1 | 25kg (40kg for roller tailstocks) |

*Parallelism of two centers to the guide surface

BENCH CENTER



4782-300



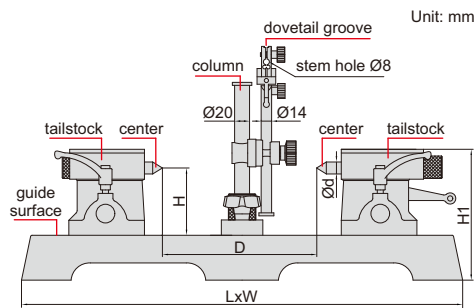
- Hardened cast-iron guide surface
- Movable column
- V-slot for cylinder Ø4~Ø22mm

7

| Code | Parallelism* | Runout accuracy | Center height | Distance between two centers | Taper of center | Diameter of center (Ød) | Load |
|----------|--------------|-----------------|---------------|------------------------------|-----------------|-------------------------|------|
| 4782-300 | 0.01mm | 2µm | 80mm | 300mm | MT1 | Ø16mm | 25kg |

*Parallelism of two centers to the guide surface

BENCH CENTERS



4788-300

- Movable column
- Optional accessory: umbrella centers, rotary centers

rotary centers
(optional)



umbrella centers
(optional)



High accuracy

(mm)

| Code | Parallelism* | Runout accuracy | Center height (H) | Distance between two centers(D) | L | W | H1 | Diameter of center (Ød) | Taper of center | Weight | Load |
|-------------|--------------|-----------------|-------------------|---------------------------------|------|-----|-----|-------------------------|-----------------|--------|------|
| 4788-300 | 0.010mm | 2µm | 90 | 300 | 590 | 192 | 175 | 18.0 | MT2 | 34kg | 25kg |
| 4788-400 | 0.010mm | 2µm | 130 | 400 | 770 | 206 | 241 | 24.1 | MT3 | 66kg | 60kg |
| 4788-600 | 0.010mm | 2µm | 130 | 600 | 930 | 220 | 250 | 24.1 | MT3 | 90kg | 60kg |
| 4788-600H2 | 0.010mm | 2µm | 200 | 600 | 930 | 220 | 325 | 24.1 | MT3 | 105kg | 60kg |
| 4788-1000 | 0.010mm | 3µm | 130 | 1000 | 1330 | 220 | 262 | 24.1 | MT3 | 112kg | 60kg |
| 4788-1000H2 | 0.010mm | 3µm | 200 | 1000 | 1330 | 220 | 337 | 24.1 | MT3 | 125kg | 85kg |
| 4788-1000H3 | 0.010mm | 3µm | 300 | 1000 | 1330 | 220 | 442 | 31.6 | MT4 | 165kg | 85kg |

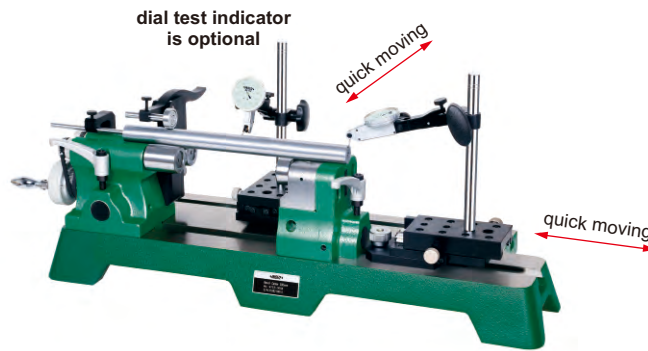
Low accuracy

(mm)

| Code | Parallelism* | Runout accuracy | Center height (H) | Distance between two centers(D) | L | W | H1 | Diameter of center (Ød) | Taper of center | Weight | Load |
|----------|--------------|-----------------|-------------------|---------------------------------|------|-----|-----|-------------------------|-----------------|--------|------|
| 4788-D2 | 0.010mm | 3µm | 90 | 200 | 490 | 180 | 175 | 20.0 | MT2 | 27kg | 25kg |
| 4788-D3 | 0.010mm | 3µm | 90 | 300 | 590 | 195 | 175 | 20.0 | MT2 | 36kg | 25kg |
| 4788-D4 | 0.012mm | 3µm | 130 | 400 | 730 | 205 | 241 | 28.0 | MT3 | 68kg | 60kg |
| 4788-D6 | 0.015mm | 3µm | 130 | 600 | 930 | 220 | 250 | 28.0 | MT3 | 91kg | 60kg |
| 4788-D8 | 0.015mm | 3µm | 130 | 800 | 1130 | 220 | 250 | 28.0 | MT3 | 99kg | 60kg |
| 4788-D10 | 0.015mm | 3µm | 130 | 1000 | 1330 | 220 | 262 | 28.0 | MT3 | 116kg | 60kg |

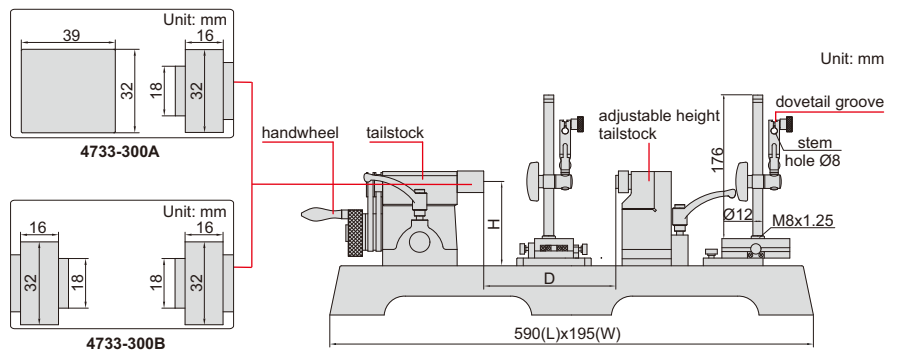
*Parallelism of two centers to the guide surface

BENCH CENTERS



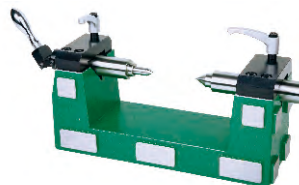
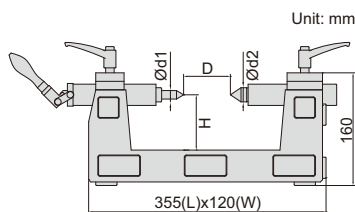
4733-300A

- Hardened cast-iron guide surface
- Quick moving is suitable for mass production inspection
- Adjustable height tailstock: 0-15mm, suitable for inspecting workpieces with different diameters
- Optional accessory: dial test indicator

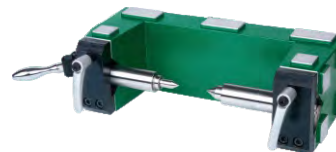


| Code | Runout accuracy | Center height (H) | Distance between two centers (D) | Applicable diameter | Adjustable height | Remarks |
|-----------|-----------------|-------------------|----------------------------------|---------------------|-------------------|-------------------|
| 4733-300A | 2µm | 90mm | 300mm | Ø8-60mm | 0-15mm | with handwheel |
| 4733-300B | 2µm | 90mm | 300mm | Ø8-60mm | 0-15mm | without handwheel |

VERTICAL AND HORIZONTAL BENCH CENTER



horizontal use



side use



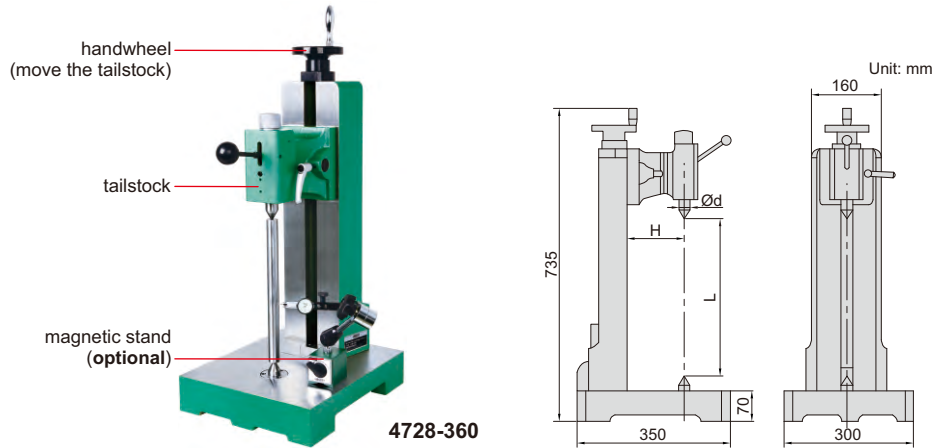
vertical use

- For vertical, side and horizontal use

| Code | Runout accuracy | Center height (H) | Distance between two centers (D) | Diameter of center (Ød1/Ød2) | Taper of center | Weight | Load |
|----------|-----------------|-------------------|----------------------------------|------------------------------|-----------------|--------|------|
| 4722-200 | 2µm | 80mm | 200mm | 12mm/20.2mm | MT1/MT3 | 22kg | 25kg |

VERTICAL BENCH CENTER

- Distance between two centers (L): 360mm
- Hardened cast-iron guide surface
- Use handwheel to move the tailstock
- Optional accessory: magnetic stands, dial test indicators



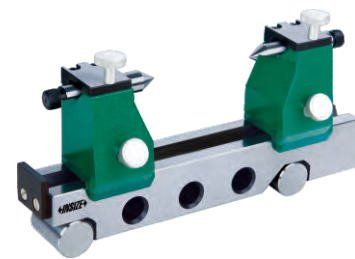
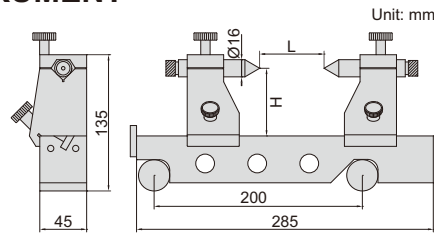
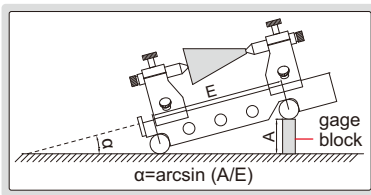
4728-360

| Code | Parallelism* | Runout accuracy | Center height (H) | Diameter of center (Ød) | Taper of center | Weight | Load |
|----------|--------------|-----------------|-------------------|-------------------------|-----------------|--------|------|
| 4728-360 | 0.01mm | 2µm | 130mm | 24.1mm | MT3 | 85kg | 80kg |

*Parallelism of two centers to the guide surface

7

TAPER INSPECTION INSTRUMENT



4157-200

CAN BE CUSTOMIZED

- Check the taper angle of taper bar/taper plug gages /Morse taper/ISO taper etc. The run out can be checked as well
- Sine bar accuracy (when $\alpha=30^\circ$): ± 5 seconds

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

SHANK RUNOUT TESTERS



4771-30

standard shank (included)



- Measure the radial runout of shanks, collets and cutting tools
- Optional accessory: dial test indicators, magnetic stands

| Code | Taper | Accuracy |
|---------|-------|----------|
| 4771-30 | BT30 | 1µm |
| 4771-40 | BT40 | 1µm |
| 4771-50 | BT50 | 1µm |

