

DIGITAL RADIUS GAGE

- Resolution: 0.005mm/0.00005"
- Buttons: on/off, hold, mm/inch, s (select jaws), zero
- Measure radius of internal or external arcs
- Display can be rotated by 320°
- Supplied with 5 jaws for different sizes of arc
- Battery CR2032, automatic power off

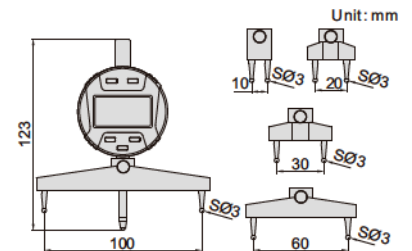
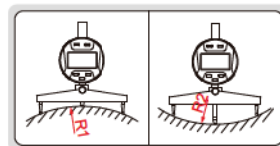


2183



ATTENTION: NO DATA OUTPUT

Measuring jaw	Range of external radius (R1)	Range of internal radius (R2)
10mm	5-11mm	7-13.4mm
20mm	11-22mm	13.4-25mm
30mm	22-83mm	25-87mm
60mm	83-250mm	87-250mm
100mm	250-910mm	250-910mm



Code	Range of external radius (R1)	Range of internal radius (R2)	Accuracy (mm)
2183	5-910mm/0.2-35.83"	7-910mm/0.3-35.83"	±0.01R*

* R is the radius to be measured

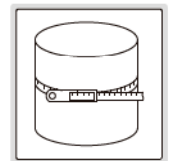
CIRCUMFERENCE TAPES

- Graduation: 0.1mm
- Measure diameter and circumference of pipes, trees, tires, etc.
- Laser engraved scale
- Made of stainless steel

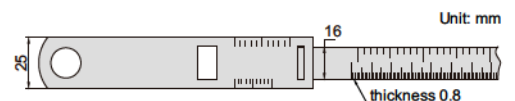


7114-950

ATTENTION: BASIC MODEL



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



COMPACT DIGITAL INDICATORS

- Button function:
 - in/mm: short press for inch/metric conversion
 - long press to change measuring direction
 - ABS: short press for absolute/incremental measurement
 - long press to preset data
 - 0/ON: short press to turn on when power is off
 - short press to set zero when power is on
 - long press to turn off
- CR1632 battery, automatic power off
- Data output
- Optional accessory: data output cable (code 7306-40, 7302-SPC3A, 7305-SPC1A), contact points (page 86~87)

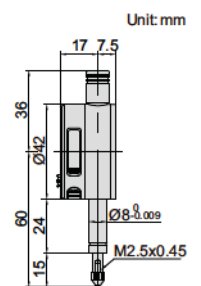
Code	Range	Resolution	Accuracy	Hysteresis	Remark
2114-5F*	5mm/0.2"	0.01mm/0.0005"	20µm	10µm	flat back
2114-51F*	5mm/0.2"	0.001mm/0.00005"	5µm	2µm	flat back

* Supplied with manufacturer inspection certificate traceable to NIST USA



2114-51F

DATA OUTPUT

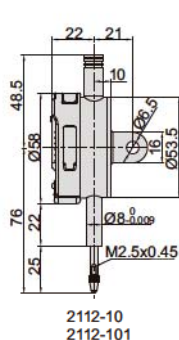


DIGITAL INDICATORS (STANDARD MODEL)

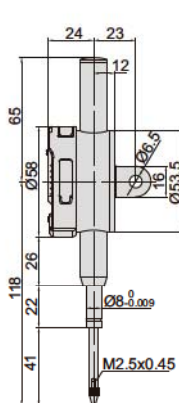


**DATA
OUTPUT**

spindle lift knob is included

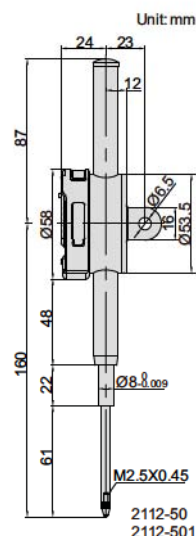


2112-10



2112-25
2112-251

2112-251



2112-50
2112-501



2112-501

- Button function: on/off, inch/mm, zero
- CR2032 battery, automatic power off
- Data output
- Optional accessory: data output cable (code 7306-40, 7302-SPC3A, 7305-SPC1A), backs (page 88), contact points (page 86~87)

Resolution 0.001mm/0.00005"

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

Resolution 0.01mm/0.0005"

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

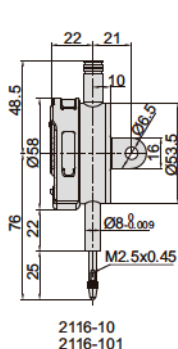
* Supplied with manufacturer inspection certificate traceable to NIST USA

METRIC DIGITAL INDICATORS



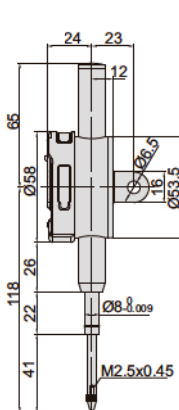
**DATA
OUTPUT**

spindle lift knob is included



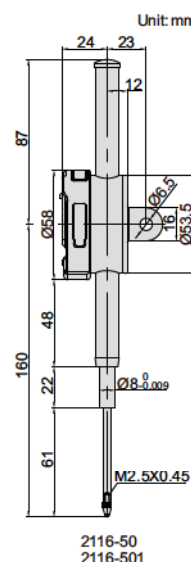
2116-10
2116-101

2116-10



2116-25
2116-251

2116-251



2116-50
2116-501



2116-501

- Button function: on/off, +/-, zero
- CR2032 battery, automatic power off
- Data output
- Optional accessory: data output cable (code 7306-40, 7302-SPC3A, 7305-SPC1A), backs (page 88), contact points (page 86~87)

Resolution 0.001mm

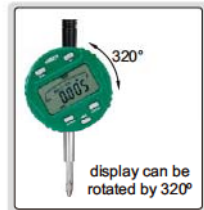
Code	Range	Accuracy	Hysteresis	Remark
2116-101F *	12.7mm	5µm	2µm	flat back
2116-251F *	25.4mm	5µm	3µm	flat back
2116-501F *	50.8mm	6µm	3µm	flat back
2116-101*	12.7mm	5µm	2µm	lug back
2116-251*	25.4mm	5µm	3µm	lug back
2116-501*	50.8mm	6µm	3µm	lug back

Resolution 0.01mm

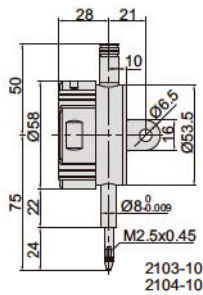
Code	Range	Accuracy	Hysteresis	Remark
2116-10F *	12.7mm	20µm	10µm	flat back
2116-25F *	25.4mm	20µm	10µm	flat back
2116-50F *	50.8mm	30µm	10µm	flat back
2116-10 *	12.7mm	20µm	10µm	lug back
2116-25 *	25.4mm	20µm	10µm	lug back
2116-50 *	50.8mm	30µm	10µm	lug back

* Supplied with manufacturer inspection certificate traceable to NIST USA

**INSPECTION
CERTIFICATE**
TRACEABLE TO NIST

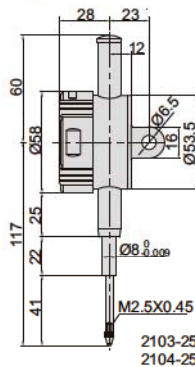


display can be rotated by 320°

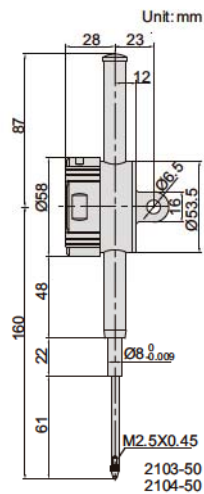


2103-10

DATA
OUTPUT



2104-25



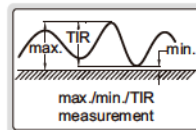
2103-50

- Reading in digital and analog
- Display can be rotated by 320°
- Button function: tolerance Go and No-Go display, data preset, measuring direction change, max./min./TIR measurement, inch/metric conversion, absolute/incremental measurement
- CR2032 battery, automatic power off
- Data output
- Optional accessory: data output cable (code 7306-40, 7302-SPC3A, 7305-SPC1A), backs (page 88), contact points (page 86~87)

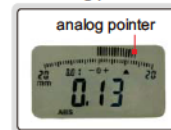
spindle lift knob
is included



max./min./TIR



analog pointer



Resolution 0.001mm/0.00005"

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

Resolution 0.01mm/0.0005"

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

* Supplied with manufacturer inspection certificate traceable to NIST USA

**INSPECTION
CERTIFICATE**
TRACEABLE TO NIST

ONE BATTERY FOR
4000 WORKING HOURS

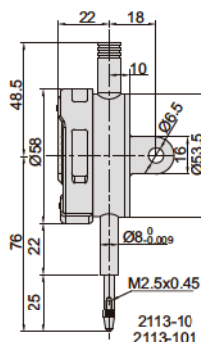
DATA
OUTPUT

data output
cable (optional)

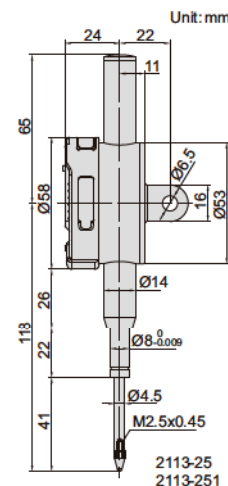


7305-SPC1A

spindle lift knob
is included



2113-10



2113-251



- No auto power off, tracking the deformation of mould and steel structure for a long time
- Low power consumption
- Button function: on/off, zero, inch/mm
- CR2032 battery
- Data output
- Optional accessory: backs (page 88), contact points (page 86~87), data output cable (code 7305-SPC1A)

Resolution 0.001mm/0.00005"

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

Resolution 0.01mm/0.0005"

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

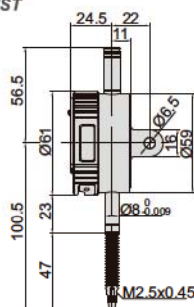
* Supplied with manufacturer inspection certificate traceable to NIST USA

WATERPROOF DIGITAL INDICATORS



WATERPROOF

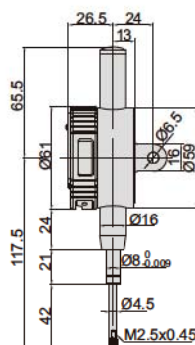
**DATA
OUTPUT**



2115-10
2115-101



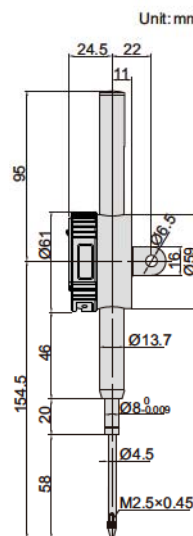
2115-10



2115-25
2115-251



2115-25



2115-50
2115-501



2115-50

Resolution 0.001mm/0.00005"

Code	Range	Dust/waterproof	Accuracy	Hysteresis	Remark
2115-101*	12.7mm/0.5"	IP65	5μm	2μm	lug back
2115-251*	25.4mm/1"	IP54	5μm	3μm	lug back
2115-501*	50.8mm/2"	IP54	6μm	3μm	lug back
2115-101F*	12.7mm/0.5"	IP65	5μm	2μm	flat back
2115-251F*	25.4mm/1"	IP54	5μm	3μm	flat back
2115-501F*	50.8mm/2"	IP54	6μm	3μm	flat back

Resolution 0.01mm/0.0005"

Code	Range	Dust/waterproof	Accuracy	Hysteresis	Remark
2115-10 *	12.7mm/0.5"	IP65	20μm	10μm	lug back
2115-25 *	25.4mm/1"	IP54	20μm	10μm	lug back
2115-50 *	50.8mm/2"	IP54	30μm	10μm	lug back
2115-10F *	12.7mm/0.5"	IP65	20μm	10μm	flat back
2115-25F *	25.4mm/1"	IP54	20μm	10μm	flat back
2115-50F *	50.8mm/2"	IP54	30μm	10μm	flat back

* Supplied with manufacturer inspection certificate traceable to NIST USA

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



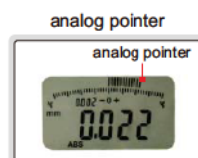
- Dust/waterproof
- Button function: on/off, zero, mm/inch
- CR2032 battery, automatic power off
- Data output
- Optional accessory: data output cable
(code 7306-40, 7302-SPC3A, 7305-SPC1A),
backs (page 88), contact points (page 86-87)

DIGITAL INDICATORS FOR BORE GAGES

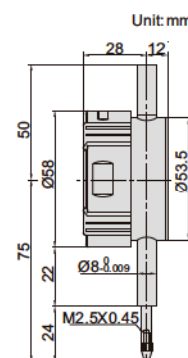


DATA
OUTPUT

- 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 digital and analog
- Display can be rotated by 320°
- Button function: minimum value tracking, calibration, data preset, inch/metric conversion, absolute/incremental measurement
- CR2032 battery, automatic power off
- Data output
- Optional accessory: data output cable (code 7306-40, 7302-SPC3A, 7305-SPC1A), backs (page 88), contact points (page 86~87)



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

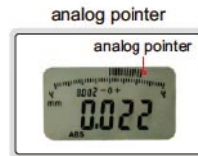
* Supplied with manufacturer inspection certificate traceable to NIST USA



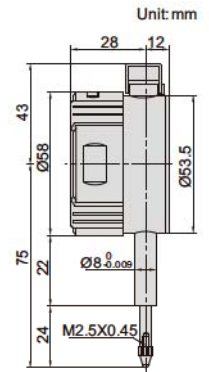
DATA
OUTPUT

DIGITAL INDICATORS WITH LIFTING LEVER

- Reading in digital and analog
- Display can be rotated by 320°
- Button function: tolerance Go and No-Go display, data preset, measuring direction change, max./min./TIR measurement, inch/metric conversion, absolute/incremental measurement
- CR2032 battery, automatic power off
- Data output
- Optional accessory: data output cable (code 7306-40, 7302-SPC3A, 7305-SPC1A), backs (page 88), contact points (page 86~87)



2109-10



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

* Supplied with manufacturer inspection certificate traceable to NIST USA

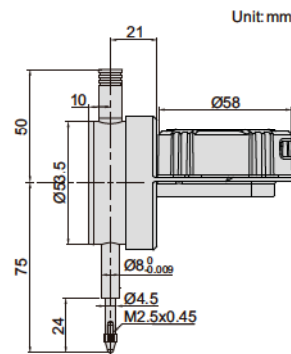


VIDEO

BACK PLUNGER TYPE DIGITAL INDICATORS

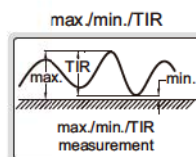


2118-10



DATA
OUTPUT

- Display can rotate 320°, and display direction is changeable
- Reading in digital and analog
- Button function: tolerance Go and No-Go display, data preset, measuring direction change, max./min./TIR measurement, inch/metric conversion, absolute/incremental measurement
- CR2032 battery, automatic power off
- Data output
- Optional accessory: data output cable (code 7306-40, 7302-SPC3A, 7305-SPC1A), backs (page 88), contact points (page 86~87)



spindle lift knob
is included



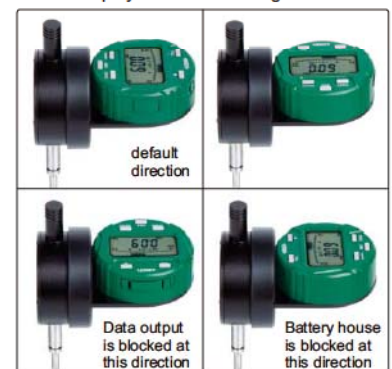
analog pointer



display can rotate 320°



display direction is changeable



Remark: To change above direction, 4 fixing screws on the back of display need to be removed first.

Code	Range	Resolution	Accuracy	Hysteresis	Remark
2118-10 *	12.7mm/0.5"	0.01mm/0.0005"	20µm	10µm	flat back
2118-101 *	12.7mm/0.5"	0.001mm/0.00005"	5µm	2µm	flat back

* Supplied with manufacturer inspection certificate traceable to NIST USA

LARGE STROKE DIGITAL INDICATORS

spindle lift knob is included



- Button function: on/off, zero, mm/inch
- CR2032 battery, automatic power off
- Data output
- Optional accessory: data output cable (code 7306-40, 7302-SPC3A, 7305-SPC1A), backs (page 88), contact points (page 86~87)

Resolution 0.01mm/0.0005"

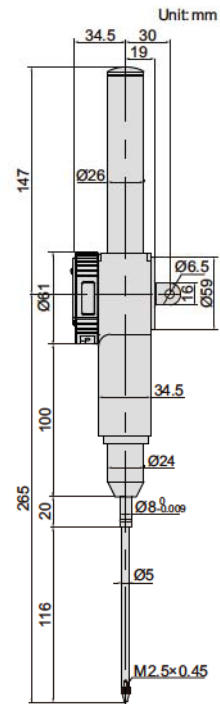
Code	Range	Accuracy	Hysteresis	Remark
2117-100	100mm/4"	30μm	10μm	lug back

Resolution 0.001mm/0.00005"

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



2117-100

Unit: mm
DATA OUTPUT

PRECISION DIAL INDICATORS

- Graduation: 0.001mm
- Jeweled bearing
- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 88), contact points (page 86~87)

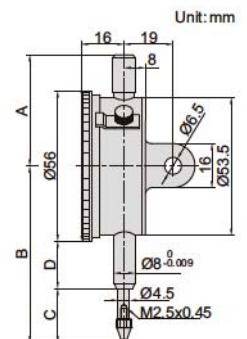


2313-1A

INSPECTION
CERTIFICATE
TRACEABLE TO NISTJEWELLED
BEARING

Code	Range	Accuracy	Hysteresis	Range/rev	Dial reading	Remark	(mm)			
2313-1FA*	1mm	5μm	2μm	0.2mm	0-100-0	flat back	A	B	C	D
2313-2FA*	2mm	8μm	2.5μm	0.2mm	0-100-0	flat back	45	62.5	19.5	15
2313-1A*	1mm	5μm	2μm	0.2mm	0-100-0	lug back	45	62.5	19.5	15
2313-2A*	2mm	8μm	2.5μm	0.2mm	0-100-0	lug back	45	62.5	19.5	15

* Supplied with manufacturer inspection certificate traceable to NIST USA



Unit: mm

COMPACT DIAL INDICATORS

- Meet DIN878
- Jeweled bearing
- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 88), contact points (page 86~87)

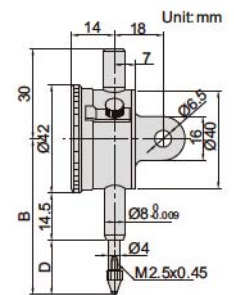


2311-5

INSPECTION
CERTIFICATE
TRACEABLE TO NISTJEWELLED
BEARING

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

* Supplied with manufacturer inspection certificate traceable to NIST USA



Unit: mm

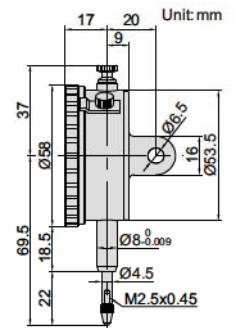


- Meet DIN878
- Jeweled bearing
- Supplied with limit hands and bezel clamp
- Packed in carton box
- Optional accessory: backs (page 88), contact points (page 86~87)



2301-10

DIAL INDICATORS (PROMOTION MODEL)



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

* Supplied with manufacturer inspection certificate traceable to NIST USA



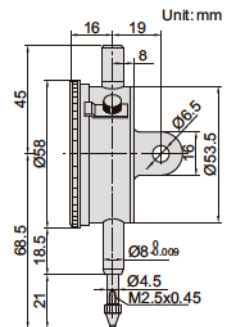
JEWELLED BEARING

- Meet DIN878
- Jeweled bearing
- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 88), contact points (page 86~87)



2308-10A

DIAL INDICATORS (STANDARD MODEL)



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

* Supplied with manufacturer inspection certificate traceable to NIST USA



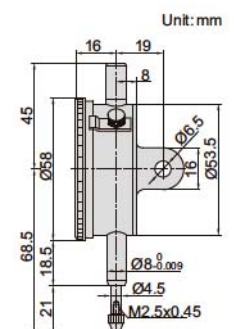
JEWELLED BEARING

- Meet DIN878
- Suitable for depth and step measurements
- Jeweled bearing
- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 88), contact points (page 86~87)



2801-10

REVERSE READING DIAL INDICATORS



Code	Range	Graduation	Accuracy	Hysteresis	Range/rev	Dial reading	Remark
2801-10F *	10mm	0.01mm	17µm	3µm	1mm	100-0	flat back
2801-10 *	10mm	0.01mm	17µm	3µm	1mm	100-0	lug back

* Supplied with manufacturer inspection certificate traceable to NIST USA

SHOCKPROOF DIAL INDICATORS

SHOCK
PROOF

JEWELLED BEARING

- Meet DIN878
- Shockproof
- Jeweled bearing
- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 88), contact points (page 86~87)

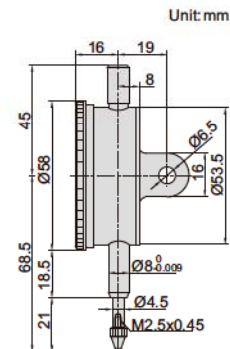


2314-10A



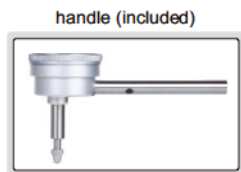
Code	Range	Graduation	Accuracy	Hysteresis	Range/rev	Dial reading	Remark
2314-3FA *	3mm	0.01mm	14µm	3µm	1mm	0-100	flat back
2314-5FA *	5mm	0.01mm	16µm	3µm	1mm	0-100	flat back
2314-10FA *	10mm	0.01mm	20µm	3µm	1mm	0-100	flat back
2314-3A *	3mm	0.01mm	14µm	3µm	1mm	0-100	lug back
2314-5A *	5mm	0.01mm	16µm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

* Supplied with manufacturer inspection certificate traceable to NIST USA



BACK PLUNGER TYPE DIAL INDICATORS

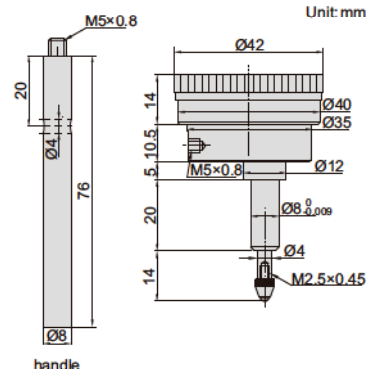
- Supplied with handle
- With limit pointers
- Optional accessory:
contact points (page 86~87)



2357-5

Code	Range	Graduation	Accuracy	Hysteresis	Range/rev	Dial reading
2357-5*	5mm	0.01mm	15µm	5µm	1mm	0-100

* Supplied with manufacturer inspection certificate traceable to NIST USA



WATERPROOF DIAL INDICATORS

IP54
WATERPROOF

JEWELLED BEARING

- Meet DIN878
- IP54 dust/waterproof
- Jeweled bearing

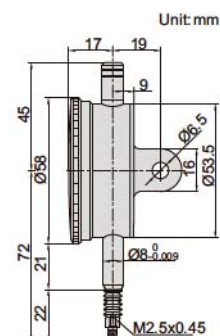


2324-10



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

* Supplied with manufacturer inspection certificate traceable to NIST USA



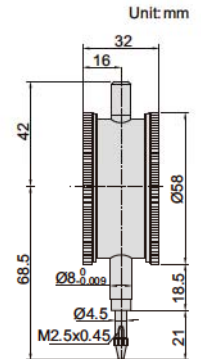


DOUBLE FACE DIAL INDICATOR

- Meet DIN878
- Read from both sides
- Jeweled bearing
- Supplied with limit pointers
- Optional accessory: contact points (page 86~87)



2328-10



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

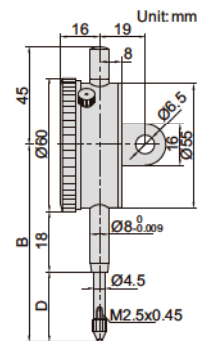
* Supplied with manufacturer inspection certificate traceable to NIST USA

DIAL INDICATORS (GRADUATION 0.1mm)

- Supplied with limit pointers and bezel clamp
- Optional accessory: contact points (page 86~87)



2318-30



(mm)

Code	Range	Graduation	Accuracy	Hysteresis	Range/rev	Dial reading	Remark	B	D
2318-10F	10mm	0.1mm	40µm	20µm	10mm	0-10	flat back	70	20
2318-20F	20mm	0.1mm	50µm	20µm	10mm	0-10	flat back	85	35
2318-25F	25mm	0.1mm	60µm	20µm	10mm	0-10	flat back	85	35
2318-30F	30mm	0.1mm	60µm	20µm	10mm	0-10	flat back	90	40
2318-10	10mm	0.1mm	40µm	20µm	10mm	0-10	lug back	70	20
2318-20	20mm	0.1mm	50µm	20µm	10mm	0-10	lug back	85	35
2318-25	25mm	0.1mm	60µm	20µm	10mm	0-10	lug back	85	35
2318-30	30mm	0.1mm	60µm	20µm	10mm	0-10	lug back	90	40



DIAL INDICATORS (LONG STROKE)

- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 88), contact points (page 86~87)

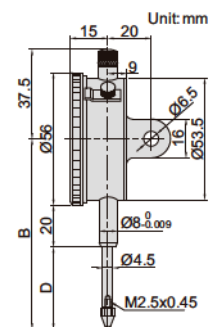


2310-30A

(mm)

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

* Supplied with manufacturer inspection certificate traceable to NIST USA



- Supplied with limit pointers and bezel clamp
- Packed in carton box
- Optional accessory: backs (page 88), contact points (page 86~87)



2302-25

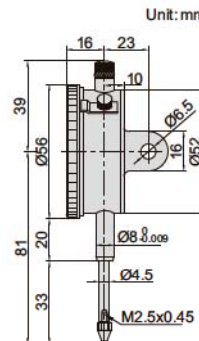
**INSPECTION
CERTIFICATE**
TRACEABLE TO NIST

DIAL INDICATORS (LONG STROKE)

carton box



Unit: mm



Code	Range	Graduation	Accuracy	Hysteresis	Range/rev	Dial reading	Remark
2302-25F*	25mm	0.01mm	35μm	7μm	1mm	0-100	flat back
2302-25*	25mm	0.01mm	35μm	7μm	1mm	0-100	lug back with spare flat back

* Supplied with manufacturer inspection certificate traceable to NIST USA

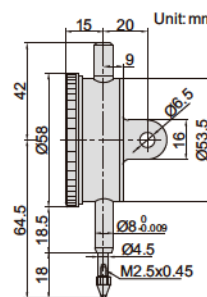
- Graduation: 0.01mm
- Meet DIN878
- Eliminate the possibility of reading errors due to miscounting
- Shockproof
- Supplied with limit pointers
- Optional accessory: backs (page 88), contact points (page 86~87)

**INSPECTION
CERTIFICATE**
TRACEABLE TO NIST

ONE REVOLUTION DIAL INDICATORS

SHOCK
PROOF

2316-05



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

* Supplied with manufacturer inspection certificate traceable to NIST USA

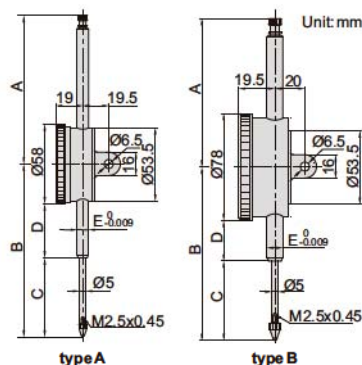
- Shockproof
- Jeweled bearing
- Supplied with limit pointers
- Optional accessory: backs (page 88), contact points (page 86~87)



2309-50

DIAL INDICATORS (LONG STROKE)

**INSPECTION
CERTIFICATE**
TRACEABLE TO NIST

JEWEL
BEARINGSHOCK
PROOF

type A

type B

Code	Type	A	B	C	D	E
2309-30F	A	37.5	89.5	40.9	19.5	Ø8
2309-30	A	37.5	89.5	40.9	19.5	Ø8
2309-50	A	108.3	126.2	57.7	39.5	Ø8
2309-50D	B	108.3	126.2	57.7	29.5	Ø8
2309-80	A	138.4	168.4	88	51.3	Ø8
2309-80D	B	138.4	168.4	88	41.3	Ø8
2309-100D	B	167.6	207.8	108	60.8	Ø10

(mm)

back of type B

stem clamp Ø10mm
for 2309-100D

Code	Range	Graduation	Type	Accuracy	Hysteresis	Range/rev	Dial reading	Remark
2309-30F*	30mm	0.01mm	A	35μm	7μm	1mm	0-100	flat back
2309-30*	30mm	0.01mm	A	35μm	7μm	1mm	0-100	lug back
2309-50*	50mm	0.01mm	A	40μm	8μm	1mm	0-100	flat back with spare lug back
2309-50D*	50mm	0.01mm	B	40μm	8μm	1mm	0-100	flat back with spare lug back
2309-80	80mm	0.01mm	A	50μm	9μm	1mm	0-100	flat back with spare lug back
2309-80D	80mm	0.01mm	B	50μm	9μm	1mm	0-100	flat back with spare lug back
2309-100D	100mm	0.01mm	B	50μm	9μm	1mm	0-100	flat back with spare lug back

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

2) 2309-100D is supplied with stem clamp Ø10mm for magnetic stands (code 6200-60, 6201-60, 6202-80, 6202-100)

3) 2309-30 and 2309-30F can not accept optional backs (page 88)

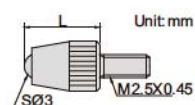
* Supplied with manufacturer inspection certificate traceable to NIST USA

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

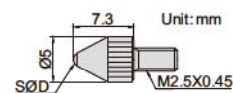
Code	Material of measuring face	L (mm)
6282-0109	ceramic	15
6282-0110	carbide	17
6282-0111	carbide	19.3
6282-0112	carbide	20
6282-0113	ceramic	20
6282-0114	carbide	22

Code	Material of measuring face	L (mm)
6282-0115	carbide	25
6282-0116	ceramic	25
6282-0117	carbide	30
6282-0118	ceramic	30



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

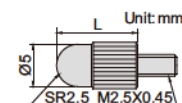
Code	Material of measuring face	SØD (mm)
6282-0304	carbide	2.5
6282-0305	carbide	4



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

SHELL TYPE POINTS

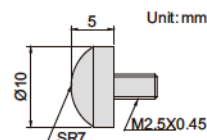


6282-0202

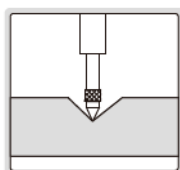
Code	Material of measuring face
6282-0401	steel



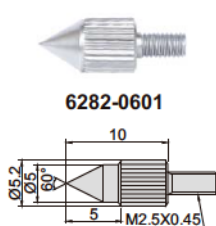
6282-0401



SPHERICAL POINT



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



6282-0601



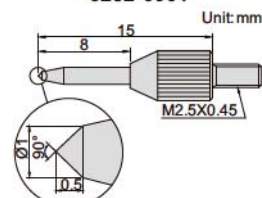
6282-0701



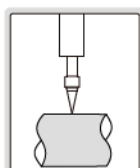
6282-0801



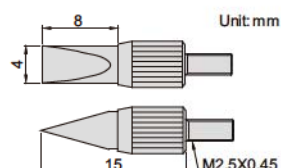
6282-0901



CONICAL POINTS



6282-1001

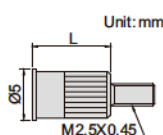


KNIFE EDGE POINT

Code	Material of measuring face
6282-1001	steel



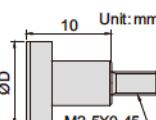
6282-1101



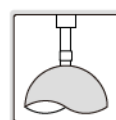
Code	Material of measuring face	L (mm)
6282-1101	steel	8
6282-1102	steel	10



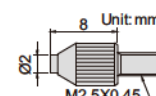
6282-1201



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



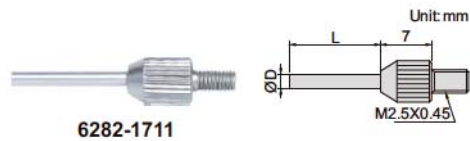
6282-1301



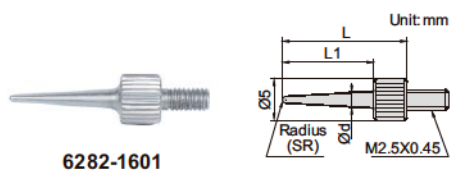
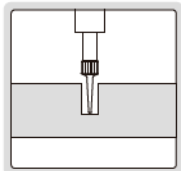
Code	Material of measuring face
6282-1301	carbide

FLAT POINTS

NEEDLE POINTS



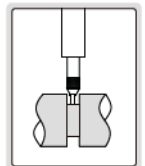
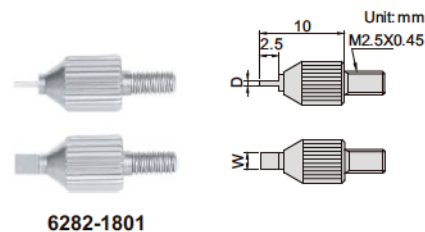
Code	Material of measuring face	ØD	L	Code	Material of measuring face	ØD	L
6282-1701	steel	0.45	3	6282-1710	carbide	1.5	10
6282-1702	steel	0.45	5	6282-1711	carbide	1.5	13
6282-1703	carbide	1	3	6282-1712	carbide	1.5	20
6282-1704	carbide	1	5	6282-1713	carbide	1.5	40
6282-1705	carbide	1	8	6282-1714	carbide	2	8
6282-1706	carbide	1	10	6282-1715	carbide	2	18
6282-1707	carbide	1	20	6282-1716	carbide	2	28
6282-1708	carbide	1	40	6282-1717	carbide	2	40
6282-1709	carbide	1.5	5				



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

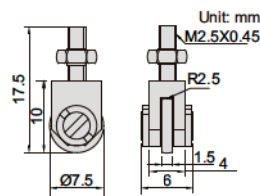
BLADE POINTS

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

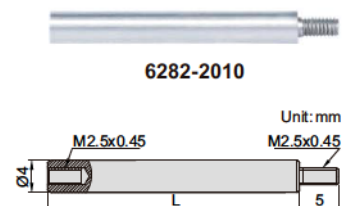
Code	Material of measuring face
6282-1901	steel



6282-1901

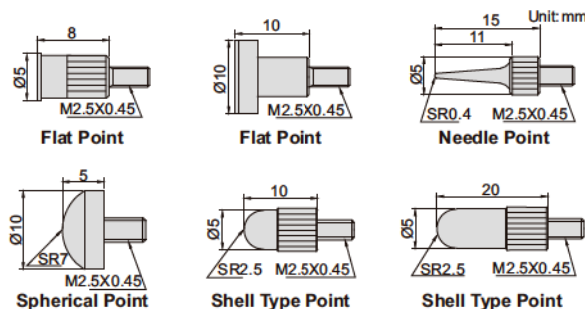
EXTENSION RODS

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



POINT SET

Code	Material of measuring face
6282-S6	steel



6282-S6

SPINDLE LIFT KNOB

Code
7332

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



7332



MAGNETIC BACKS

Code	ØD	For digital/dial indicators (mm)
7331-M1	51.5	2103
		2104
		2108
		2109
		2112
		2113
		2115
		2116
		2117
		2118
		2301
		2302
		2308
		2309 (except 2309-30, 2309-30F)
		2313
7331-M2	54	2314
		2316
		2801
		2318

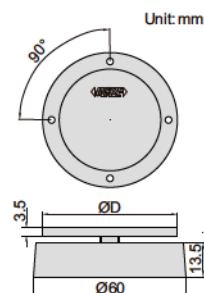


front



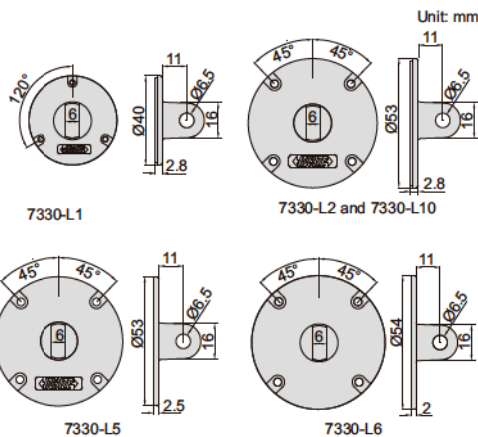
back

7331-M2



Unit: mm

Code	For digital/dial indicators	Code	For digital/dial indicators
7330-L1	2311	7330-L5	2104
7330-L2	2301		2108
	2302		2109
	2308		2112
	2309 (except 2309-30, 2309-30F)		2113
	2313		2115
	2314		2116
	2316		2117
7330-L5	2801		2118
	2103	7330-L6	2318
		7330-L10	2310

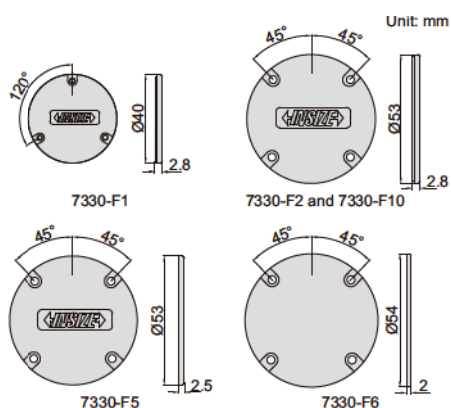


LUG BACKS



7330-L2

Code	For digital/dial indicators	Code	For digital/dial indicators
7330-F1	2311	7330-F5	2104
7330-F2	2301		2108
	2302		2109
	2308		2112
	2309 (except 2309-30, 2309-30F)		2113
	2313		2115
	2314		2116
	2316		2117
7330-F5	2801		2118
	2103	7330-F6	2318
		7330-F10	2310



FLAT BACKS



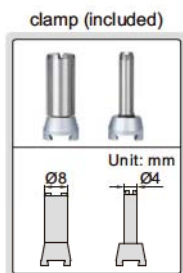
7330-F2

DIAL TEST INDICATORS

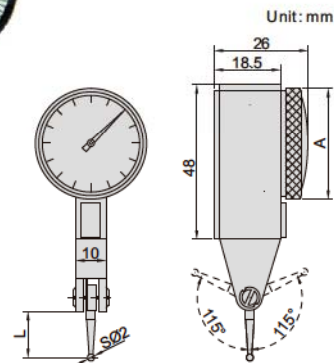
**INSPECTION
CERTIFICATE**
TRACEABLE TO NIST

**JEWELLED
BEARING**

- Meet DIN2270 (except 2380-02, 2381-02)
- Jeweled bearing
- Carbide contact point
- Two measuring directions
- Anti magnetic body
- Supplied with two clamps: diameter Ø4mm and Ø8mm
- Optional accessory: styli (page 91)



2380-08



(mm)

Code	Range	Graduation	Accuracy	Hysteresis	Dial reading	A	L
2380-08 *	0.8mm	0.01mm	13µm	3µm	0-40-0	Ø30	13.5
2381-08 *	0.8mm	0.01mm	13µm	3µm	0-40-0	Ø37	13.5
2380-02 *	0.2mm	0.002mm	6µm	2µm	0-100-0	Ø30	12.5
2381-02 *	0.2mm	0.002mm	6µm	2µm	0-100-0	Ø37	12.5

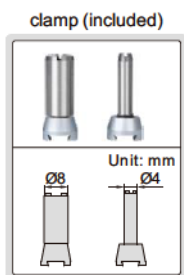
* Supplied with manufacturer inspection certificate traceable to NIST USA

BACK PLUNGER TYPE DIAL TEST INDICATOR

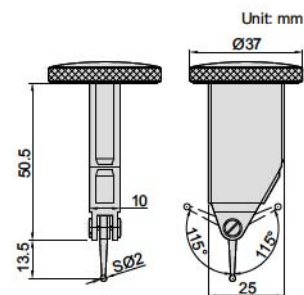
**INSPECTION
CERTIFICATE**
TRACEABLE TO NIST

**JEWELLED
BEARING**

- Meet DIN2270
- Jeweled bearing
- Carbide contact point
- Two measuring directions
- Anti magnetic body
- Supplied with two clamps: diameter Ø4mm and Ø8mm
- Optional accessory: styli (page 91)



2398-08



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

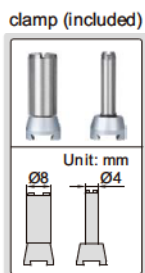
* Supplied with manufacturer inspection certificate traceable to NIST USA

TILTED FACE TYPE DIAL TEST INDICATOR

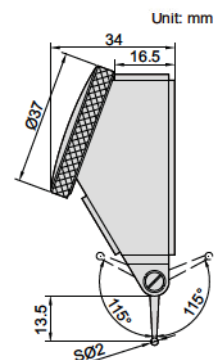
**INSPECTION
CERTIFICATE**
TRACEABLE TO NIST

**JEWELLED
BEARING**

- Meet DIN2270
- Jeweled bearing
- Carbide contact point
- Two measuring directions
- Anti magnetic body
- Supplied with two clamps: diameter Ø4mm and Ø8mm
- Optional accessory: styli (page 91)



2399-08



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

* Supplied with manufacturer inspection certificate traceable to NIST USA

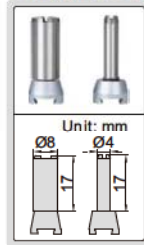
**INSPECTION
CERTIFICATE**
TRACEABLE TO NIST

**JEWELLED
BEARING**

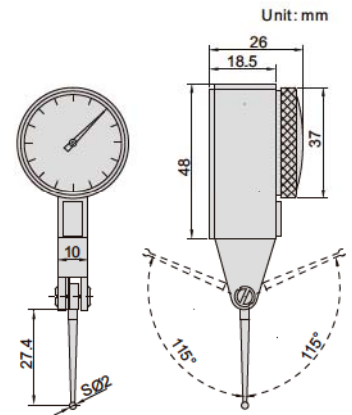
LONG STYLI DIAL TEST INDICATOR

- Meet DIN2270
- Jeweled bearing
- Carbide contact point
- Two measuring directions
- Anti magnetic body
- Supplied with two clamps:
diameter Ø4mm and Ø8mm
- Optional accessory:
styli (page 91)

clamp (included)



2383-08A



Code	Range	Graduation	Accuracy	Hysteresis	Dial reading
2383-08A*	0.8mm	0.01mm	13µm	3µm	0-40-0

* Supplied with manufacturer inspection certificate traceable to NIST USA

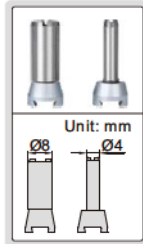
**INSPECTION
CERTIFICATE**
TRACEABLE TO NIST

**JEWELLED
BEARING**

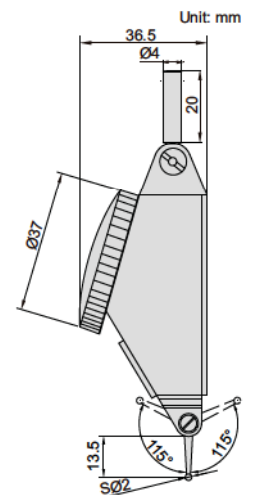
LARGE RANGE DIAL TEST INDICATOR

- Dial Reading: 0-40-0
- Jeweled bearing
- Carbide contact point
- Two measuring directions
- Anti magnetic body
- Supplied with two clamps:
diameter Ø4mm and Ø8mm
- Optional accessory: styli (page 91)

clamp (included)



2386-16A



Code	Range	Graduation	Accuracy	Hysteresis
2386-16A*	1.6mm	0.01mm	25µm	8µm

* Supplied with manufacturer inspection certificate traceable to NIST USA

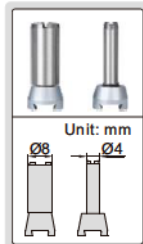
**INSPECTION
CERTIFICATE**
TRACEABLE TO NIST

**JEWELLED
BEARING**

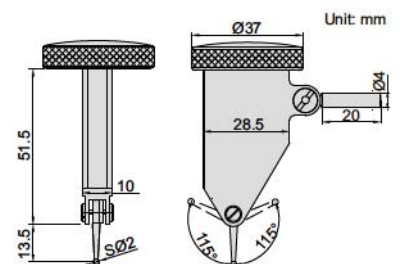
LARGE RANGE BACK PLUNGER TYPE DIAL TEST INDICATOR

- Dial Reading: 0-40-0
- Jeweled bearing
- Carbide contact point
- Two measuring directions
- Anti magnetic body
- Supplied with two clamps:
diameter Ø4mm and Ø8mm
- Optional accessory: styli (page 91)

clamp (included)



2480-16



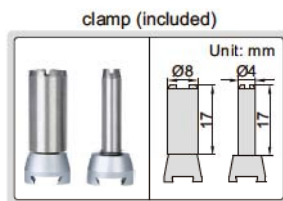
Code	Range	Graduation	Accuracy	Hysteresis
2480-16*	1.6mm	0.01mm	18µm	3µm

* Supplied with manufacturer inspection certificate traceable to NIST USA

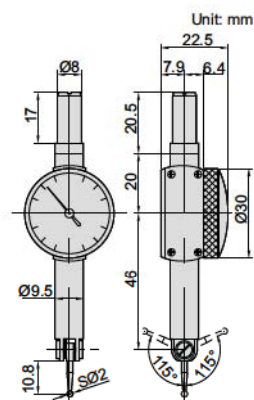
ROUND BODY DIAL TEST INDICATOR



- Meet DIN2270
- Jeweled bearing
- Carbide contact point
- Adjustable two measuring directions
- Anti magnetic body
- Supplied with two clamps:
diameter Ø4mm and Ø8mm
- Optional accessory: styli (page 91)



2391-08

JEWELLED
BEARING

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

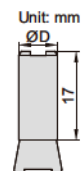
* Supplied with manufacturer inspection certificate traceable to NIST USA

CLAMPS FOR DIAL TEST INDICATORS

Code	ØD
6298-1	Ø4mm
6298-2	Ø8mm

6298-1

6298-2



STYLI FOR DIAL TEST INDICATORS



6284-3

(mm)					(mm)				
Code	For dial test indicator	Material of contact point	L	D	Code	For dial test indicator	Material of contact point	L	D
6284-1	2380-08,	steel	13.5	SØ1	6284-61	2386-16A 2480-16	steel	13.5	SØ1
6284-3	2398-08	carbide	13.5	SØ2	6284-62		carbide	13.5	SØ2
6284-4	2381-08,	ruby	13.5	SØ2	6284-63		ruby	13.5	SØ2
6284-8	2399-08	carbide	13.5	SØ3	6284-64		carbide	13.5	SØ3
6284-21	2380-02 2381-02	steel	12.5	SØ1	6284-81	2383-08A	steel	27.4	SØ1
6284-22		carbide	12.5	SØ2	6284-82		carbide	27.4	SØ2
6284-23		carbide	12.5	SØ3	6284-83		ruby	27.4	SØ2
6284-71	2391-08	carbide	10.8	SØ2	6284-84		carbide	27.4	SØ3

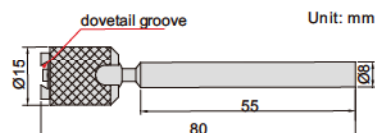
DIAL TEST INDICATOR UNIVERSAL HOLDER

- Set the indicators at the desired attitude to the workpiece

Code
6297-1



6297-1



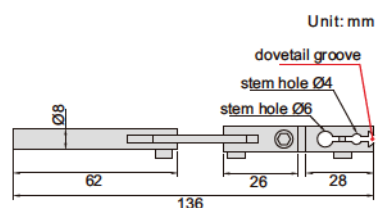
DIAL TEST INDICATOR HOLDER

- Supplied with hex key

Code
6296-1



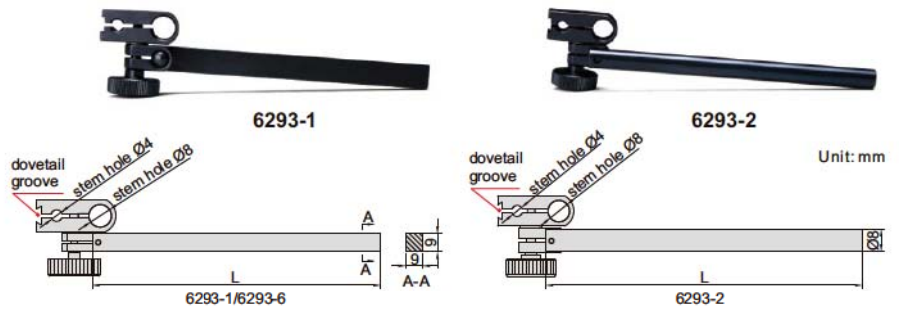
6296-1



DIAL TEST INDICATOR HOLDERS

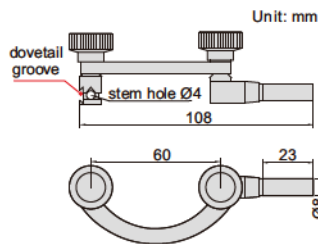


Code	Stem section	Stem length (L)
6293-1	9x9mm	100mm
6293-6	9x9mm	50mm
6293-2	Ø8mm	115mm



- Center cylinders or holes on machine tools

Code
6291-1



DIAL TEST INDICATOR CENTERING HOLDER



ATTENTION: NOT SUITABLE FOR GAGES WITH GRADUATION 0.001MM

- 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)

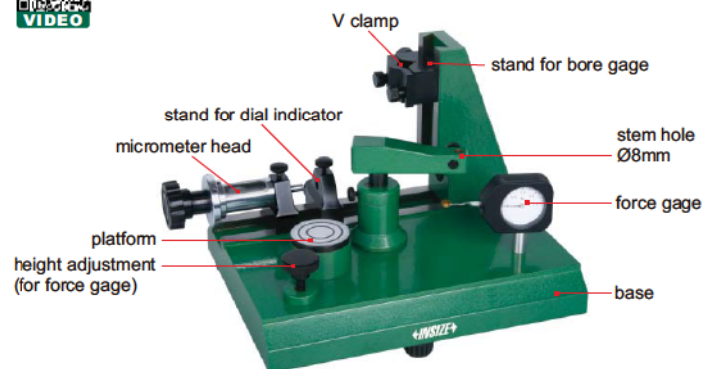
Platform

Diameter	Flatness	Roughness
50mm	1µm	0.05µm



VIDEO

DIAL GAGE TESTER CODE 2396-25A



2396-25A



half round gage block
code 2396-block
(optional)

Half round gage block (optional)

Code	Parallelism
2396-block	1µm



Inspect accuracy of dial
indicators (range 0-25mm)



Inspect accuracy of dial bore
gages (range 6-450mm)



Inspect accuracy of
test indicators



Test force of dial indicators



Test repeatability of dial
indicators

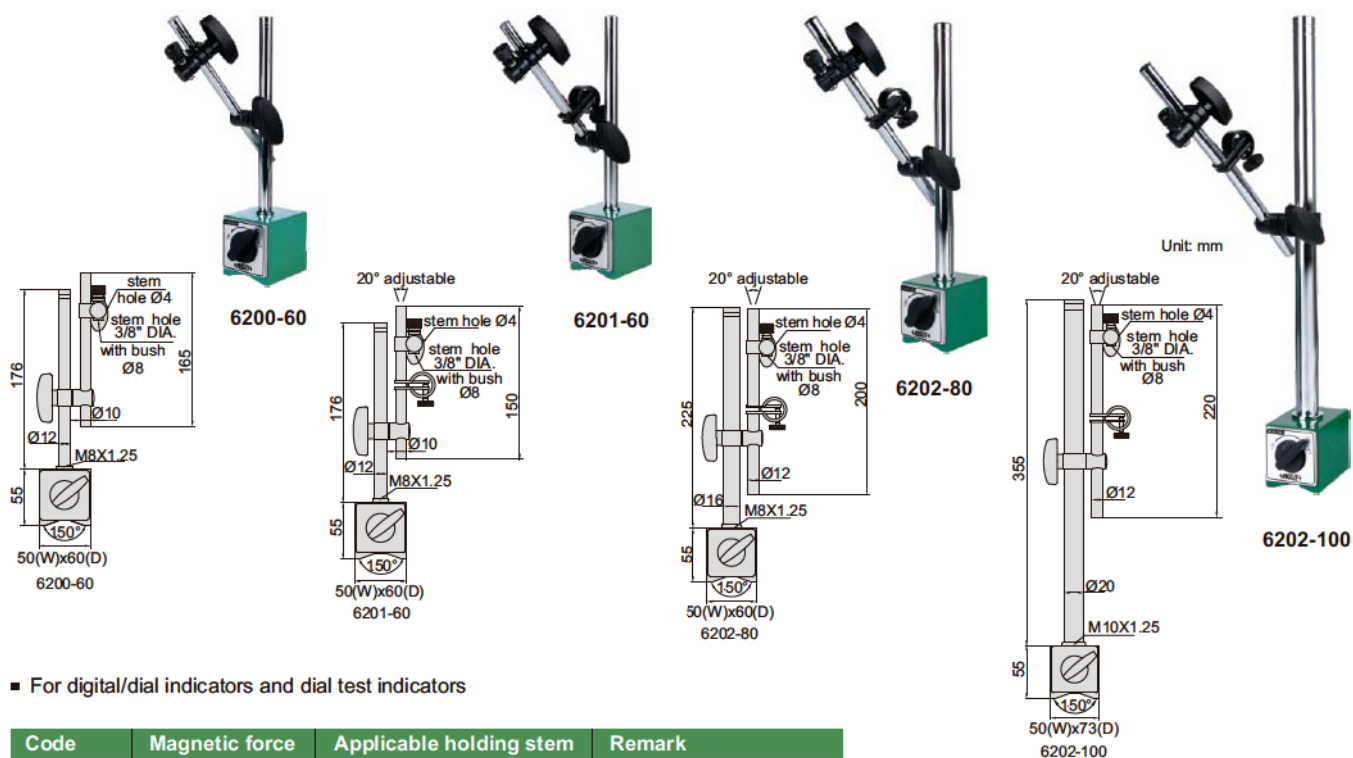


Test the effect of lateral force on
accuracy of dial indicators
(half round gage block is required)



Test the effect of lateral force on
accuracy of test indicators
(half round gage block is required)

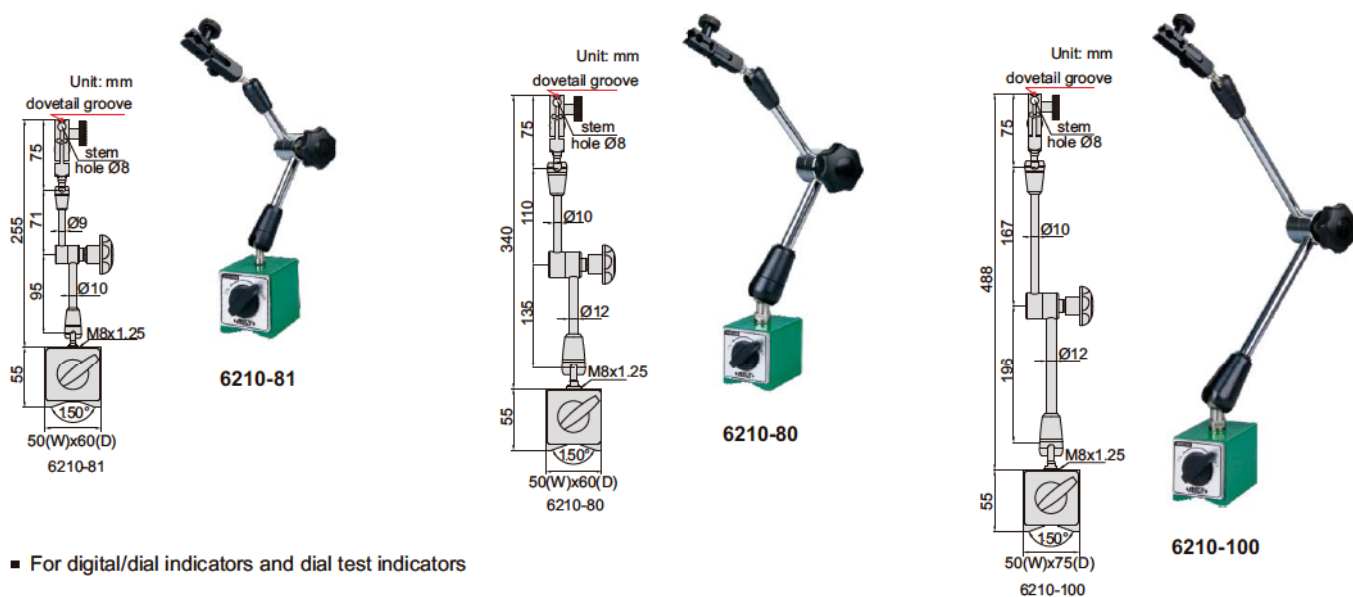
MAGNETIC STANDS



■ 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

UNIVERSAL MAGNETIC STANDS (HEAVY DUTY)



■ For digital/dial indicators and dial test indicators

Code	Magnetic force	Applicable holding stem	Remark
6210-81	80kgf	Ø8mm	with fine adjustment and dovetail groove
6210-80	80kgf	Ø8mm	with fine adjustment and dovetail groove
6210-100	100kgf	Ø8mm	with fine adjustment and dovetail groove

UNIVERSAL MAGNETIC STAND (LIGHT DUTY)

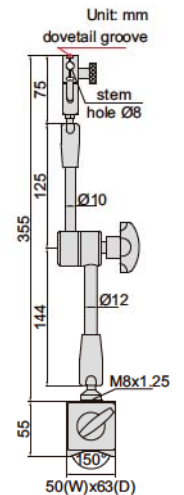
ATTENTION: LOW
LOCKING FORCE

- 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



6208-80A



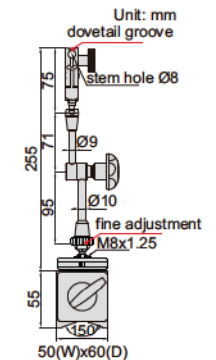
MAGNETIC STAND WITH DOUBLE FINE ADJUSTMENT

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

Code	Magnetic force	Applicable holding stem	Remark
6272-80	80kgf	Ø8mm	with double fine adjustment and dovetail groove

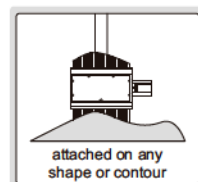


6272-80



MAGNETIC STAND FOR UNEVEN SURFACE

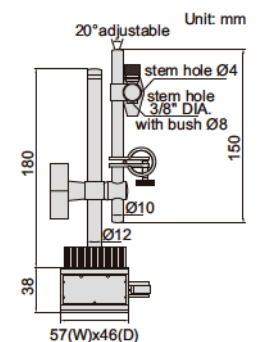
- For digital/dial indicators and dial test indicators
- With fine adjustment



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



6215-60



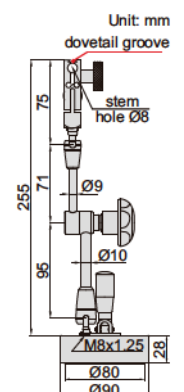
VACUUM STAND

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

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



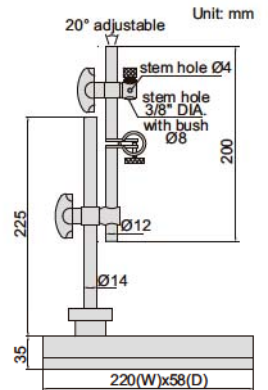
6217-B



UNIVERSAL STAND

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

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

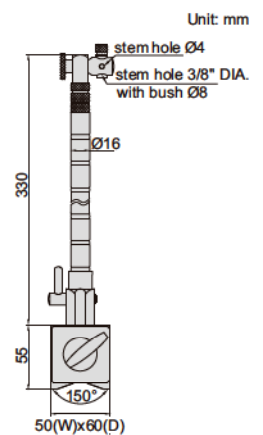


FLEX ARM MAGNETIC STAND

ATTENTION: FOR DIAL TEST INDICATORS ONLY

- For dial test indicators

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

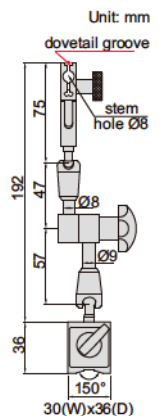


MINI MAGNETIC STAND

ATTENTION: FOR DIAL TEST INDICATORS ONLY

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

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

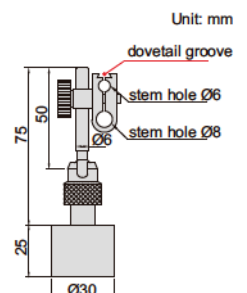


MINI MAGNETIC STAND

ATTENTION: FOR DIAL TEST INDICATORS ONLY

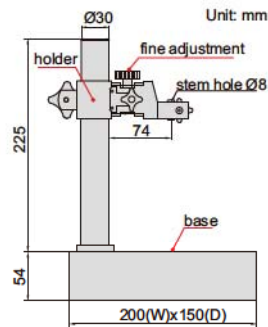
- For dial test indicators
- With dovetail groove

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



GRANITE DIAL INDICATOR STAND

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



dust cover (included)



6866-150

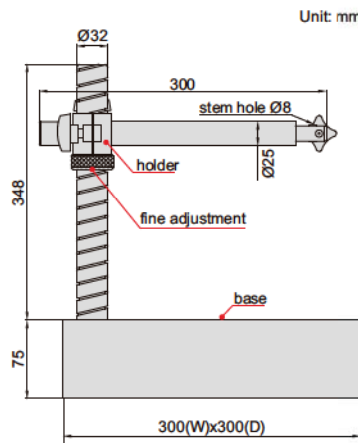
Code	Applicable holding stem	Base
6866-150	Ø8mm	flatness 2.5µm

GRANITE DIAL INDICATOR STAND

dust cover (included)



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

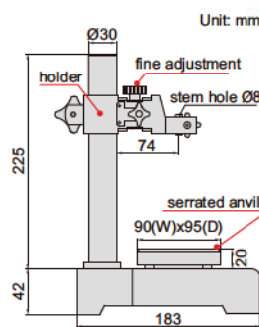


6867-250

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

DIAL INDICATOR STAND

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



dust cover (included)



6863-150

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

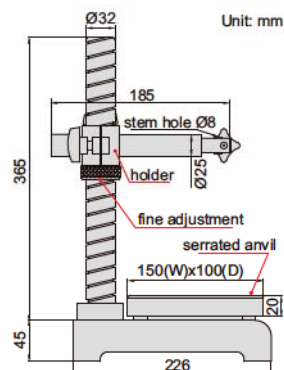
DIAL INDICATOR STAND

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

dust cover (included)



6864-250



Unit: mm

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

DIAL INDICATOR STANDS

dust cover (included)



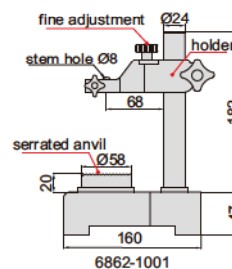
- Vertical travel of holder: 100mm
- Fine adjustment range: 2mm
- Supplied with dust cover



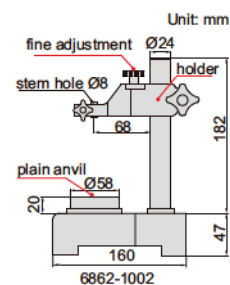
6862-1001



6862-1002



6862-1001



6862-1002

Unit: mm

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

TRANSFER STAND

dust cover (included)



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

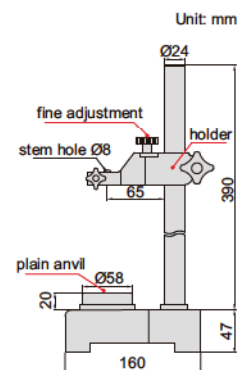


6865-300

Application



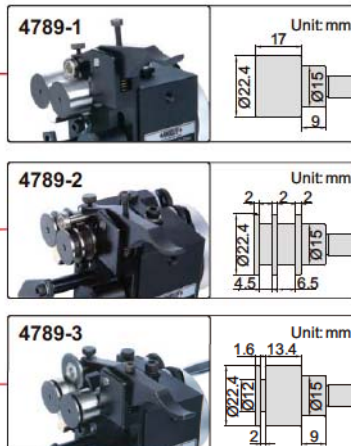
Rigid construction, designed to make comparison height measurement (set zero with gage block then measure height of workpiece) with dial indicators or digital indicators (variation of measuring force is high)



Unit: mm

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

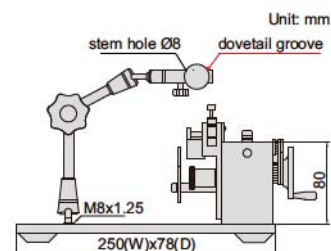
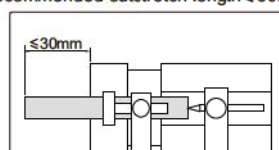
CONCENTRICITY GAGES



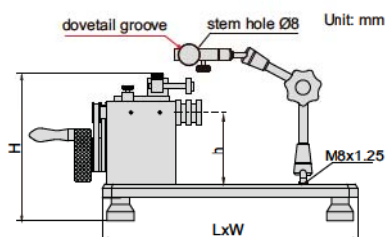
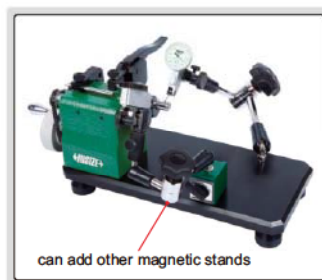
- Accuracy 2μm
- Optional accessory: dial test indicator, mini magnetic stand (code 6224-40)

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

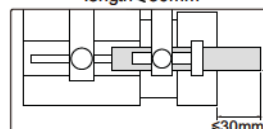
recommended outstretch length ≤ 30mm



CONCENTRICITY GAGES



recommended outstretch length ≤ 30mm



HIGH STABILITY,
LONG WORKING LIFE

dial test indicator is not included

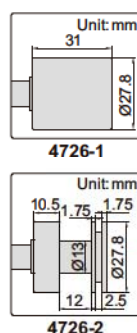
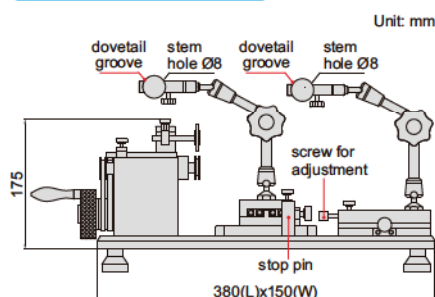


- With ball bearing, high stability, long working life

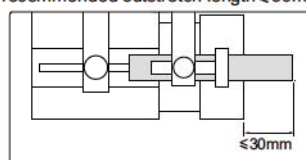
Code	Accuracy	Diameter range	Center height (h)	LxHxW	Weight
4725-45	2μm	3-45mm	80mm	280x130x150mm	6kg
4725-60	2μm	5-60mm	90mm	428x215x200mm	16.5kg
4725-80	2μm	8-80mm	130mm	445x256x260mm	29.5kg

CONCENTRICITY GAGES

QUICK-POSITIONING, SUITABLE
FOR MASS MEASUREMENT



recommended outstretch length ≤ 30mm



dial test indicator is not included

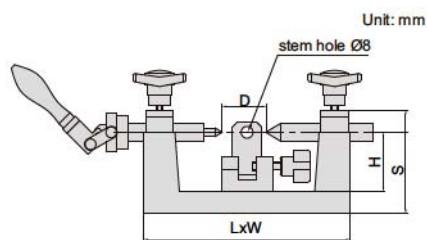


4726-2

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

Code	Applicable diameter
4726-1	Ø3-40mm
4726-2	Ø1-40mm

MINI BENCH CENTER

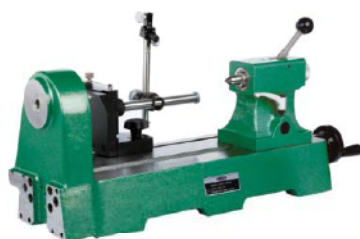


4721-75A

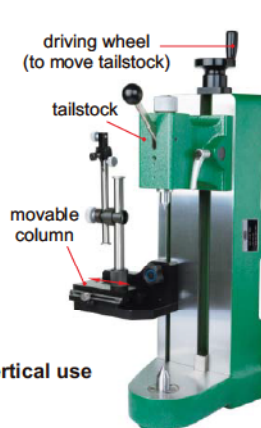


Code	Runout accuracy	Center height (H)	Distance between two centers (D)	Taper of center	Size (LxWxS)	Weight	Load
4721-75A	2μm	40mm	35-100mm	MT1	175x119x70mm	4.5kg	4kg

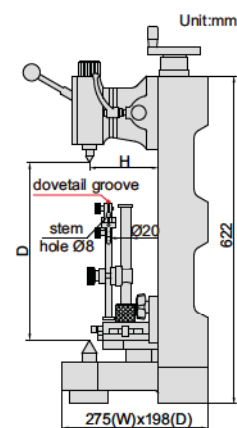
VERTICAL AND HORIZONTAL BENCH CENTER



horizontal use



vertical use

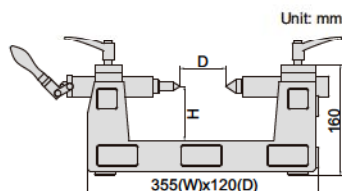


- For vertical and horizontal use
- Move tailstock by driving wheel

Code	Parallelism*	Runout accuracy	Center height (H)	Distance between two centers (D)	Taper of upper center	Taper of lower center	Weight	Load
4783-380	0.01mm	2μm	130mm	380mm	MT2	MT3	80kg	60kg

* Parallelism of two centers to the guide surface

VERTICAL AND HORIZONTAL BENCH CENTER



horizontal use



side use



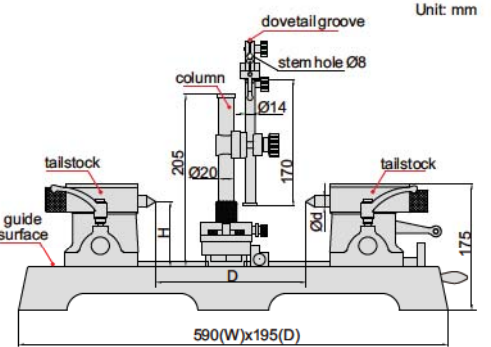
vertical use

- For vertical, side and horizontal use

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

BENCH CENTER WITH STRAIGHTNESS MEASUREMENT

straightness measurement



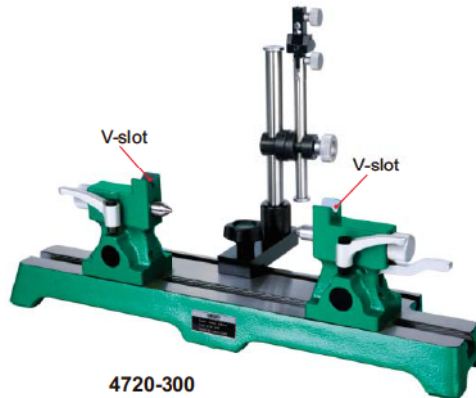
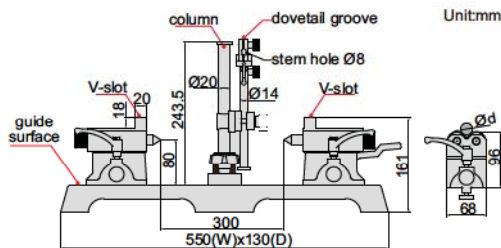
- Hardened cast-iron guide surface

4723-300

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	0.01mm	90mm	300mm	18mm	MT2	38kg	25kg

* Parallelism of two centers to the guide surface

BENCH CENTER WITH ROLLER TAILSTOCKS



roller tailstocks (included)



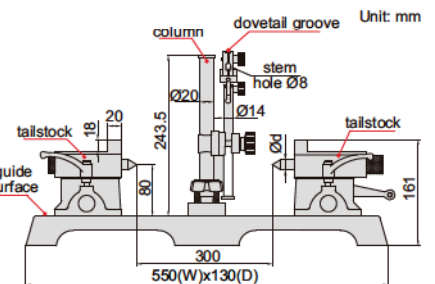
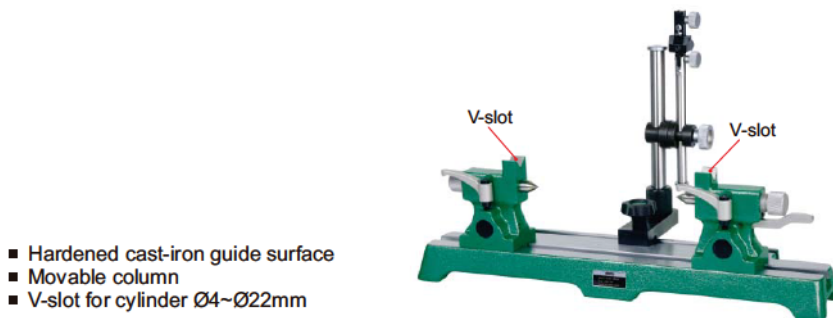
- Hardened cast-iron guide surface
- Supplied with V-slot/center tailstocks and roller tailstocks
- V-slot for cylinder Ø4~22mm
- Roller for cylinder Ø5~100mm

4720-300

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

* Parallelism of two centers to the guide surface

BENCH CENTER (BASIC MODEL)



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

4782-300

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

* Parallelism of two centers to the guide surface

BENCH CENTERS

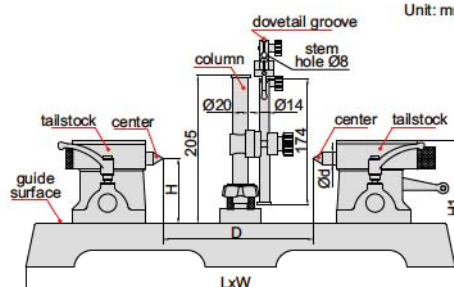


Unit: mm

- Movable column



4788-300



High accuracy (heavy weight, hardened guide surface)

(mm)

Code	Parallelism*	Runout accuracy	Center height (H)	Distance between two centers(D)	LxW	Height (H1)	Diameter of center (Ød)	Taper of center	Weight	Load
4788-300	0.010mm	2µm	90	300	590x192	175	18.0	MT2	34kg	25kg
4788-400	0.010mm	2µm	130	400	770x206	241	24.1	MT3	66kg	60kg
4788-600	0.010mm	2µm	130	600	930x220	250	24.1	MT3	90kg	60kg
4788-600H2	0.010mm	2µm	200	600	930x220	325	24.1	MT3	105kg	60kg
4788-1000	0.010mm	3µm	130	1000	1330x220	262	24.1	MT3	112kg	60kg
4788-1000H2	0.010mm	3µm	200	1000	1330x220	337	24.1	MT3	125kg	85kg
4788-1000H3	0.010mm	3µm	300	1000	1330x220	442	31.6	MT4	165kg	85kg

* Parallelism of two centers to the guide surface

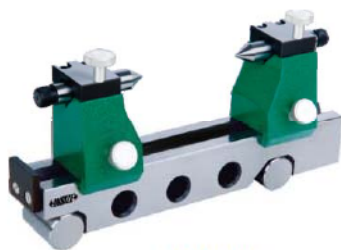
Low accuracy (light weight, guide surface is not hardened)

(mm)

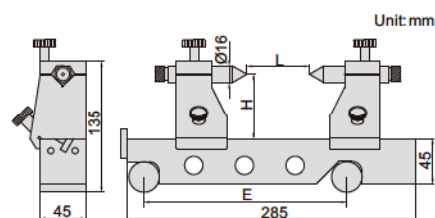
Code	Parallelism*	Runout accuracy	Center height (H)	Distance between two centers(D)	LxW	Height (H1)	Diameter of center (Ød)	Taper of center	Weight	Load
4788-D2	0.010mm	3µm	90	200	490x180	175	18.0	MT2	27kg	25kg
4788-D3	0.010mm	3µm	90	300	590x195	175	18.0	MT2	36kg	25kg
4788-D4	0.012mm	3µm	130	400	730x205	241	24.1	MT3	68kg	60kg
4788-D6	0.015mm	3µm	130	600	930x220	250	24.1	MT3	91kg	60kg
4788-D8	0.015mm	3µm	130	800	1130x220	250	24.1	MT3	99kg	60kg
4788-D10	0.015mm	3µm	130	1000	1330x220	262	24.1	MT3	116kg	60kg

* Parallelism of two centers to the guide surface

SINE BENCH CENTER



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

