

HIGH PRECISION DIGITAL INDICATORS

- DATA OUTPUT
- Ø28MM STEM SUITABLE FOR REINFORCED CLAMPING
- ABSOLUTE ENCODER, THE ORIGINAL DATA REMAINS AFTER POWER OFF

- LINEAR BALL BEARINGS FOR TEN MILLION TIMES USE
- ATTENTION: RECHARGEABLE BATTERY, FOR 24 HOURS CONTINUOUS WORKING

- Linear ball bearings for ten million times use
- Ø28mm stem suitable for reinforced clamping
- Absolute encoder, the original data remains after power off
- Adjustable resolution: 0.0002mm/0.00001" / 0.001mm/0.00005" / 0.01mm/0.0005"
- Reading in digital and analog
- Button function: data output, tolerance, data preset, data hold, measuring direction change, max./min./TIR, power off time, on/off, mm/inch, adjust resolution
- Power: rechargeable battery, for 24 hours continuous working
- Ruby probe

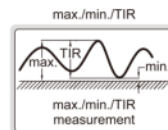
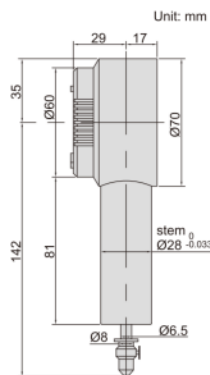
With data interface

Optional accessory:
 wireless transmitter, code **7315-60**,
 data output cable (keyboard format), code **7302-60**
 data output cable (serial port format), code **7305-G60**
 (cable length 3m, optional cable length maximum 15m; RS232 protocol, optional RS485 protocol)

Code	Range	Accuracy	Hysteresis	Remark
2140-6	0-6mm/0-0.24"	1.6µm	0.8µm	flat back



2140-6



warning when over tolerance

over upper limit

over lower limit

analog pointer

analog pointer

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

Built-in wireless

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

Code	Range	Accuracy	Hysteresis	Remark
2140-6WL	0-6mm/0-0.24"	1.6µm	0.8µm	flat back

HIGH PRECISION DIGITAL INDICATORS



- DATA OUTPUT
- LINEAR BALL BEARINGS FOR TEN MILLION TIMES USE

- ATTENTION: RECHARGEABLE BATTERY, FOR 24 HOURS CONTINUOUS WORKING

- ABSOLUTE ENCODER, THE ORIGINAL DATA REMAINS AFTER POWER OFF

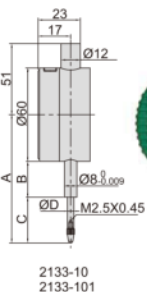
- Linear ball bearings for ten million times use
- Absolute encoder, the original data remains after power off
- Reading in digital and analog
- Data output
- With flat back
- Button function: data output, tolerance, data preset, data hold, measuring direction change, max./min./TIR, power off time, on/off, mm/inch, adjust resolution
- Power: rechargeable battery, for 24 hours continuous working
- Optional accessory: contact points wireless transmitter, code **7315-60**
 data output cable (keyboard format), code **7302-60**
 data output cable (serial port format), code **7305-G60**
 (cable length 3m, optional cable length maximum 15m; RS232 protocol, optional RS485 protocol)

Low precision

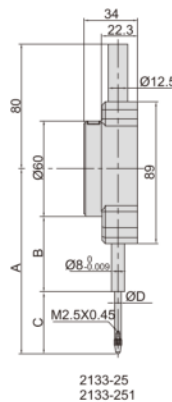
Carbide probe
 Adjustable resolution: 0.0005mm/0.00002" / 0.001mm/0.00005" / 0.01mm/0.0005"

Code	Range	Accuracy	Hysteresis	A	B	C	ØD
2133-10*	12.7mm/0.5"	3µm	1.5µm	75.4	20.6	24.8	5
2133-25*	25.4mm/1"	3µm	1.5µm	109.5	38.5	41	5
2133-50*	50.8mm/2"	3µm	1.5µm	201	32	72	4.5

*Supplied with manufacturer inspection certificate



2133-10



2133-25



2133-50

warning when over tolerance

over upper limit

over lower limit

analog pointer

analog pointer

spindle lift knob is included

max./min./TIR

High precision

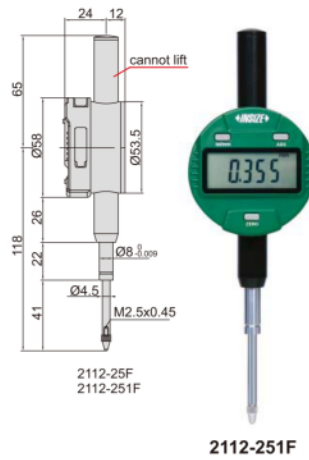
Ruby probe
 Adjustable resolution: 0.0002mm/0.00001" / 0.001mm/0.00005" / 0.01mm/0.0005"

Code	Range	Accuracy	Hysteresis	A	B	C	ØD
2133-101*	12.7mm/0.5"	1.5µm	1µm	77.4	26	21.4	4
2133-251*	25.4mm/1"	1.8µm	1µm	116.1	42.5	44	4

DIGITAL INDICATORS (STANDARD TYPE)

INSPECTION CERTIFICATE

DATA OUTPUT



- Button function: on/off, inch/mm, zero, data preset, change measuring direction, absolute/incremental measurement
- Switchable high/low frequency measurement mode, high frequency mode is suitable for high speed moving of spindle and has large power consumption, low power consumption in low frequency mode
- Keep preset data in memory after restart
- CR2032 battery, automatic power off (time is adjustable), data output
- Optional accessory: data output cable (code **7315-50M**, **7302-40M**, **7305-40M**), backs, contact points

Resolution 0.01mm/0.0005"

Code	Range	Accuracy	Hysteresis	Maximum measuring force	Remark
2112-10F*	12.7mm/0.5"	20µm	10µm	1.5N	flat back
2112-25F*	25.4mm/1"	20µm	10µm	2.2N	flat back
2112-50F*	50.8mm/2"	30µm	10µm	2.5N	flat back
2112-10*	12.7mm/0.5"	20µm	10µm	1.5N	lug back
2112-25*	25.4mm/1"	20µm	10µm	2.2N	lug back
2112-50*	50.8mm/2"	30µm	10µm	2.5N	lug back

*Supplied with manufacturer inspection certificate

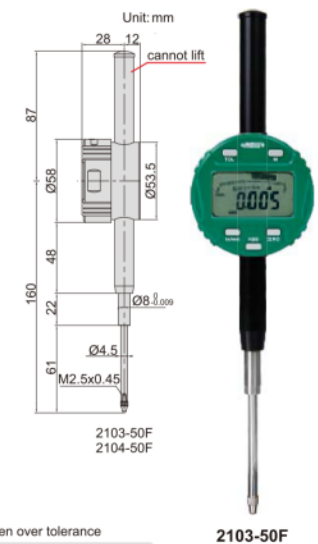
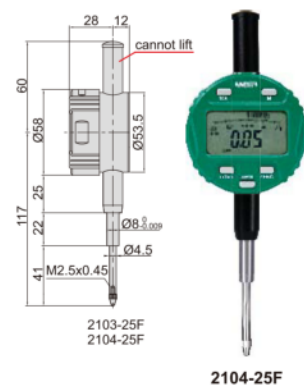
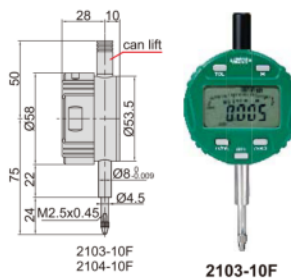
Resolution 0.001mm/0.00005"

Code	Range	Accuracy	Hysteresis	Maximum measuring force	Remark
2112-10F*	12.7mm/0.5"	5µm	2µm	1.5N	flat back
2112-25F*	25.4mm/1"	5µm	3µm	2.2N	flat back
2112-50F*	50.8mm/2"	6µm	3µm	2.5N	flat back

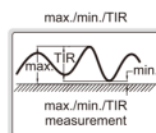
DIGITAL INDICATORS (ADVANCED TYPE)

INSPECTION CERTIFICATE

DATA OUTPUT



- Reading in digital and analog
- Display can be rotated by 320°
- Button function: tolerance Go and No-Go display, data preset, measuring direction change, max./min./TIR measurement, inch/metric conversion, absolute/incremental measurement
- Keep preset data and tolerance data in memory after restart
- CR2032 battery, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (code **7315-50M**, **7302-40M**, **7305-40M**), backs, contact points



Resolution 0.001mm/0.00005"

Code	Range	Accuracy	Hysteresis	Maximum measuring force	Remark
2103-10F*	12.7mm/0.5"	5µm	2µm	1.5N	flat back
2103-25F*	25.4mm/1"	5µm	3µm	2.2N	flat back
2103-50F*	50.8mm/2"	6µm	3µm	2.5N	flat back

*Supplied with manufacturer inspection certificate

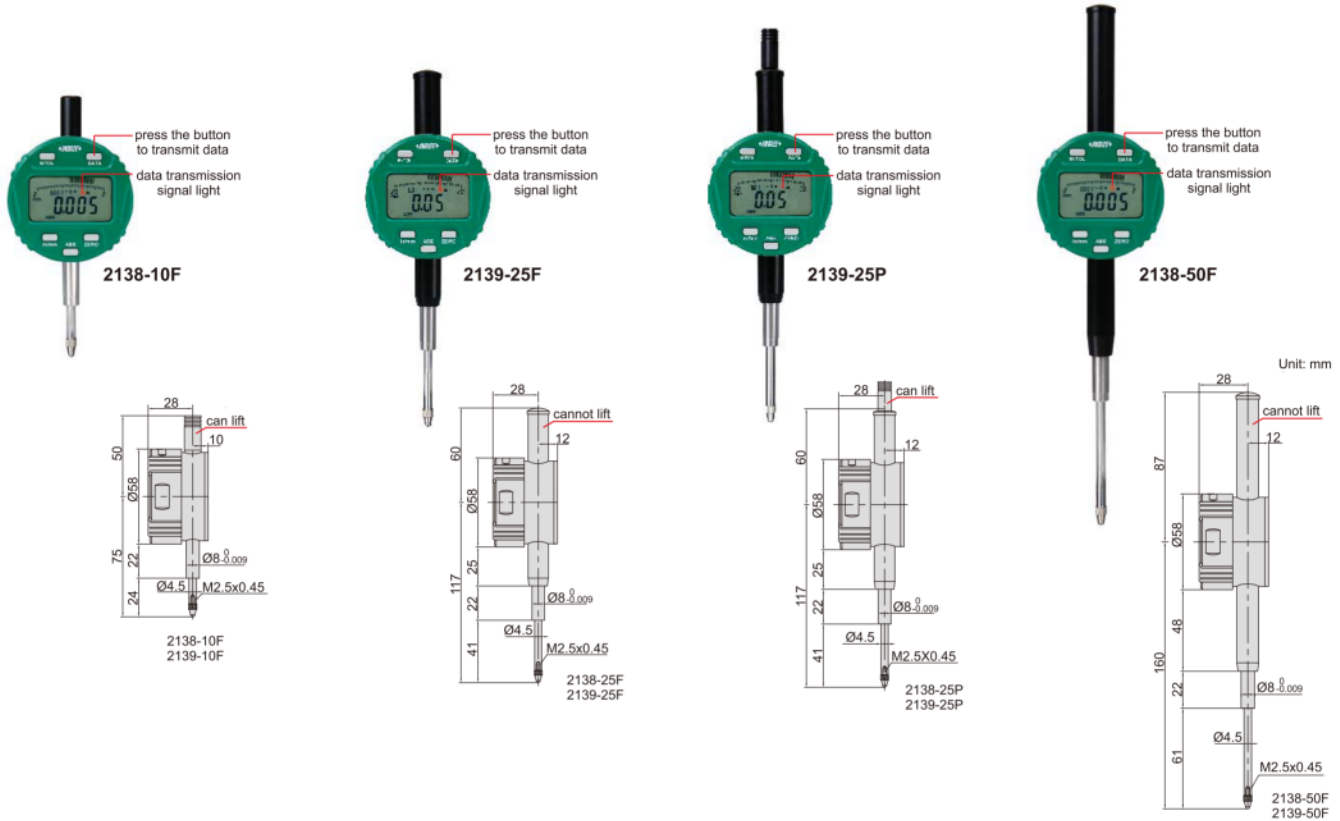
Resolution 0.01mm/0.0005"

Code	Range	Accuracy	Hysteresis	Maximum measuring force	Remark
2104-10F*	12.7mm/0.5"	20µm	10µm	1.5N	flat back
2104-25F*	25.4mm/1"	20µm	10µm	2.2N	flat back
2104-50F*	50.8mm/2"	30µm	10µm	2.5N	flat back

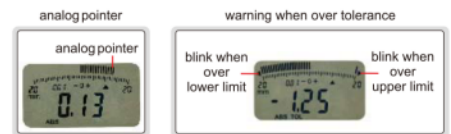
DIGITAL INDICATORS (WITH TRANSMISSION BUTTON AND SIGNAL LIGHT)



INSPECTION CERTIFICATE DATA OUTPUT

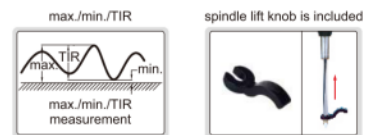


- Reading in digital and analog
- Display can be rotated by 320°
- Button function: on/off, zero, tolerance Go and No-Go display, data preset, measuring direction change, max./min./TIR measurement, inch/metric conversion, absolute/incremental measurement, data output
- Keep preset data and tolerance data in memory after restart
- CR2032 battery, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (code 7315-50M, 7302-40M, 7305-40M), backs, contact points



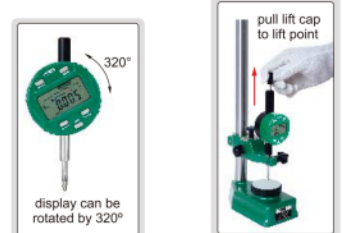
Resolution 0.001mm/0.00005"

Code	Range	Accuracy	Hysteresis	Maximum measuring force	Remark
2138-10F*	12.7mm/0.5"	5µm	2µm	1.5N	flat back
2138-25F*	25.4mm/1"	5µm	3µm	2.2N	flat back
2138-50F*	50.8mm/2"	6µm	3µm	2.5N	flat back
2138-25P*	25.4mm/1"	5µm	3µm	2.2N	flat back, with lift cap
2138-50P*	50.8mm/2"	6µm	3µm	2.5N	flat back, with lift cap



Resolution 0.01mm/0.0005"

Code	Range	Accuracy	Hysteresis	Maximum measuring force	Remark
2139-10F*	12.7mm/0.5"	20µm	10µm	1.5N	flat back
2139-25F*	25.4mm/1"	20µm	10µm	2.2N	flat back
2139-50F*	50.8mm/2"	30µm	10µm	2.5N	flat back
2139-25P*	25.4mm/1"	20µm	10µm	2.2N	flat back, with lift cap
2139-50P*	50.8mm/2"	30µm	10µm	2.5N	flat back, with lift cap



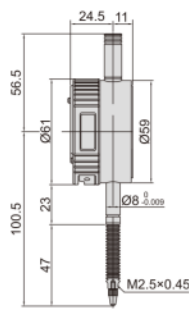
*Supplied with manufacturer inspection certificate

WATERPROOF DIGITAL INDICATORS

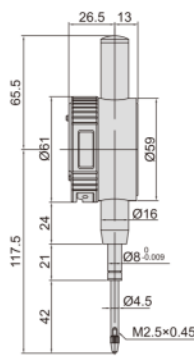
INSPECTION CERTIFICATE

WATERPROOF

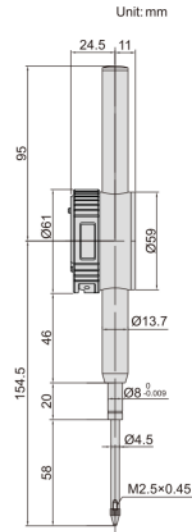
DATA OUTPUT



2115-10F

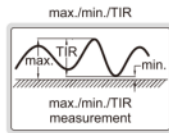


2115-25F



2115-50F

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



Resolution 0.001mm/0.00005"

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

Resolution 0.01mm/0.0005"

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

*Supplied with manufacturer inspection certificate

- Dust/waterproof
- Button function: on/off, zero, mm/inch, data preset, tolerance, change measuring direction, max./min./TIR measurement, absolute/incremental measurement
- Keep preset data and tolerance data in memory after restart
- CR2032 battery, automatic power off
- Data output
- Optional accessory: data output cable (code 7315-50M, 7302-40M, 7305-40M), backs, contact points

warning when over tolerance



DIGITAL INDICATOR FOR BORE GAGES (WITH TRANSMISSION BUTTON AND SIGNAL LIGHT)

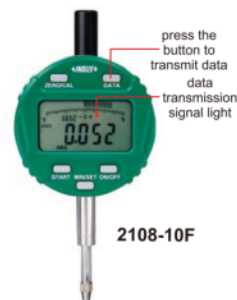
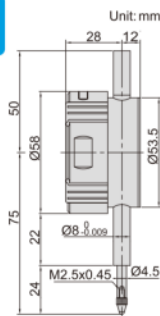
THE ORIGINAL DATA REMAINS AFTER POWER OFF

DATA OUTPUT

INSPECTION CERTIFICATE

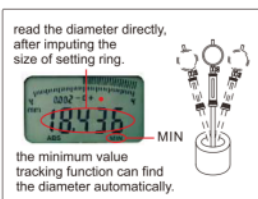


display can be rotated by 320°



2108-10F

- Specially designed for bore gages
- The minimum value tracking function can find the diameter automatically
- Read the diameter directly, after inputting the size of setting ring
- Reading in digital and analog
- Display can be rotated by 320°
- Button function: on/off, minimum value tracking, calibration, data preset, inch/metric conversion
- Data remains after power off, no need to recalibrate after power on
- CR2032 battery
- Automatic power off (time is adjustable)
- Data output, with flat back
- Optional accessory: data output cable (code 7315-50M, 7302-40M, 7305-40M), backs, contact points, spindle lift knob



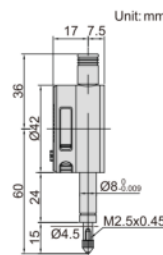
Code	Range	Resolution	Accuracy	Hysteresis
2108-10F*	12.7mm/0.5"	0.002mm/0.0001" (can switch to: 0.01mm/0.0005")	20µm	10µm

*Supplied with manufacturer inspection certificate

COMPACT DIGITAL INDICATOR

INSPECTION CERTIFICATE

DATA OUTPUT



2114-5F

- Button function:
 - in/mm: short press for inch/metric conversion
 - long press to change measuring direction
 - ABS: short press for absolute/incremental measurement
 - long press to preset data
 - 0/ON: short press to turn on when power is off
 - short press to set zero when power is on
 - long press to turn off
- Keep preset data in memory after restart
- CR1632 battery, automatic power off
- Data output, with flat back
- Optional accessory: data output cable (code 7315-50M, 7302-40M, 7305-40M), contact points

Code	Range	Resolution	Accuracy	Hysteresis
2114-5F*	5mm/0.2"	0.01mm/0.0005"	20µm	10µm

*Supplied with manufacturer inspection certificate

BACK PLUNGER TYPE DIGITAL INDICATOR

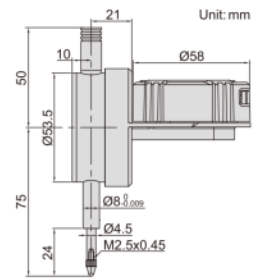
INSPECTION
CERTIFICATE

DATA
OUTPUT

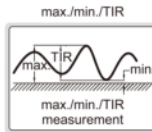
- Display can rotate 320°, and display direction is changeable
- Reading in digital and analog
- Button function: tolerance Go and No-Go display, data preset, measuring direction change, max./min./TIR measurement, inch/metric conversion, absolute/incremental measurement
- Keep preset data and tolerance data in memory after restart
- CR2032 battery, automatic power off (time is adjustable)
- Data output, with flat back
- Optional accessory: data output cable (code 7315-50M, 7302-40M, 7305-40M), backs, contact points



2118-10



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

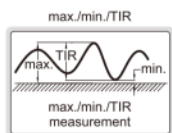


Code	Range	Resolution	Accuracy	Hysteresis
2118-10*	12.7mm/0.5"	0.01mm/0.0005"	20µm	10µm

*Supplied with manufacturer inspection certificate

LARGE STROKE DIGITAL INDICATORS

DATA
OUTPUT



- Button function: on/off, zero, mm/inch, data preset, tolerance, change measuring direction, max./min./TIR measurement, absolute/incremental measurement
- Keep preset data and tolerance data in memory after restart
- CR2032 battery, automatic power off
- Maximum measuring force: 3.2N
- Data output
- Optional accessory: data output cable (code 7315-50M, 7302-40M, 7305-40M), backs, contact points

Resolution 0.01mm/0.0005"

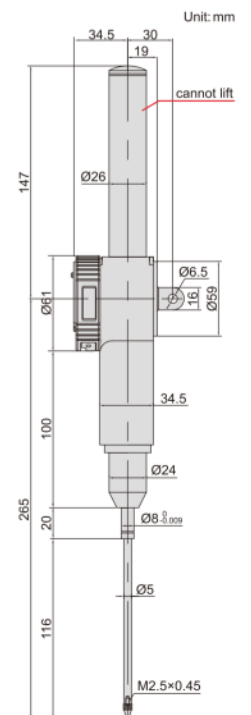
Code	Range	Accuracy	Hysteresis	Remark
2117-100	100mm/4"	30µm	10µm	lug back

Resolution 0.001mm/0.00005"

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

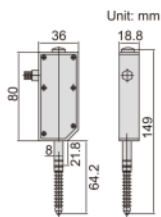


2117-100



LINEAR GAGES

LINEAR GAGE
IP65
WATERPROOF



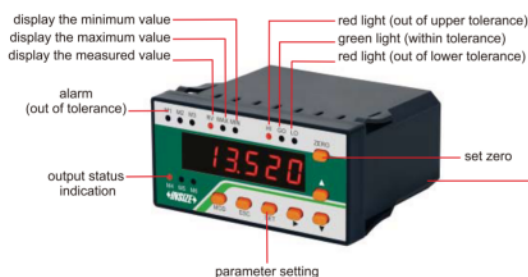
7107-11

SPECIFICATION

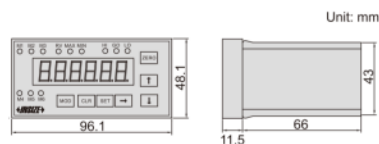
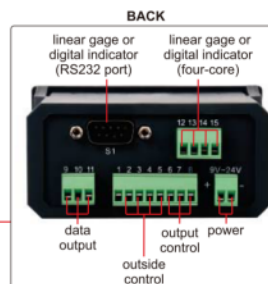
Code	7107-11	7107-12
Measuring range	12mm/0.47"	12mm/0.47"
Resolution	0.01mm/0.0004"	0.001mm/0.00004"
Accuracy	20µm	5µm
Hysteresis	10µm	2µm
Measuring principle	capacitance type linear encoder	
Voltage	5V	
Sampling frequency	100 times/sec.	
Working life	ten million times	
Dust/waterproof	IP65	
Measuring force	1.5N	
Cable length	2m	
Data output	RS232	

- 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**

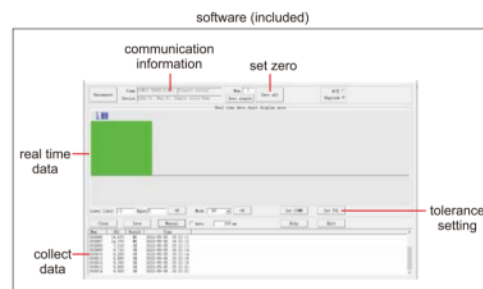
DISPLAY UNIT CODE 7106-1A



7106-1A

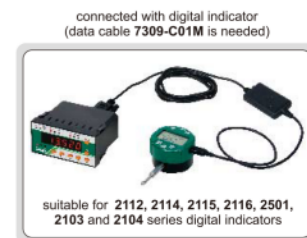


- Can be connected with **7107-11** or **7107-12** linear gage, can also be connected with digital indicator (data cable **7309-C01M** is needed)
- Set tolerance and make judgment (out of upper tolerance, within tolerance, out of lower tolerance), output the judgment to control outside devices, control 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



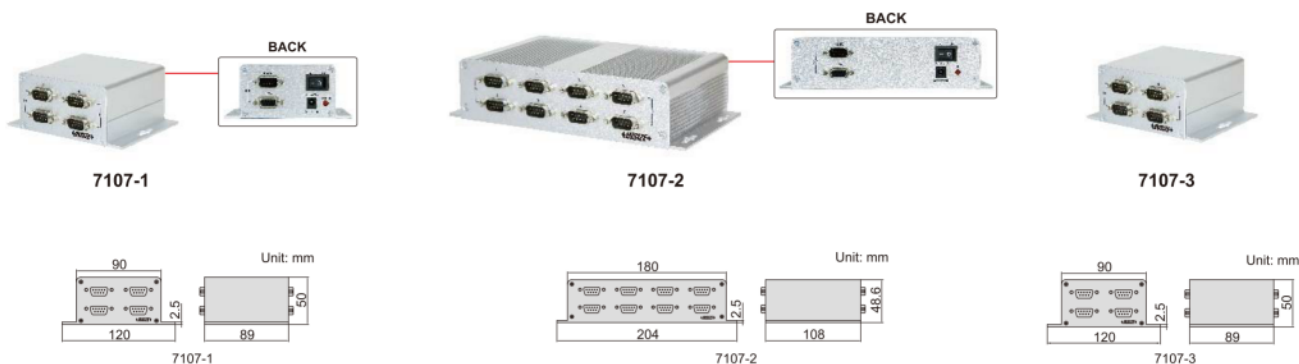
SPECIFICATION

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



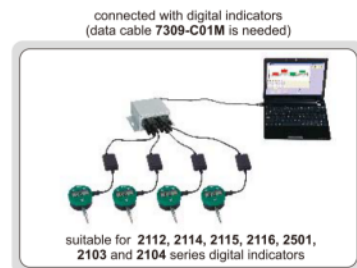
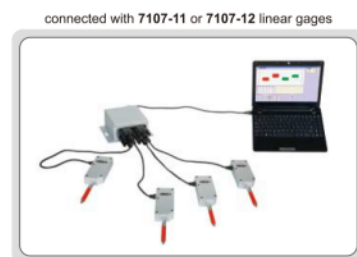
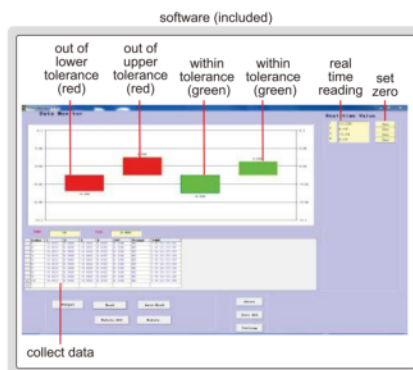
- Can be connected with **7107-11** or **7107-12** linear gages, can also be connected with digital indicators (data cable **7309-C01M** is needed)
- Connection box (code **7107-3**) is needed to connect interface boxes, when two or more interface boxes are used. Maximum 4 interface boxes can be connected.
- 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.

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



DIGITAL LINEAR GAGES



IP43
WATERPROOF

ABSOLUTE ENCODER, THE ORIGINAL DATA REMAINS AFTER POWER OFF

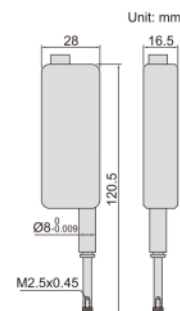
- Scale type: optical grating
- Absolute encoder, the original data remains after power off
- Digital signal output, amplifier is not required
- Repeatability: 0.5µm
- Measuring force: 1.5N
- Dust/waterproof: IP43
- Baud rate: 9600 (can be customized)
- Cable length: 3m (can be customized)



7130-10



7130-10L



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	

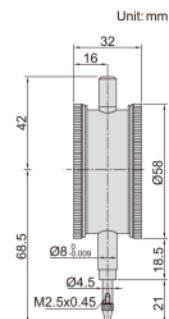
DOUBLE FACE DIAL INDICATOR



- Graduation: 0.01mm
- Meet DIN878
- Read from both sides
- Jeweled bearing
- Supplied with limit pointers
- Optional accessory: contact points



2328-10



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

*Supplied with manufacturer inspection certificate

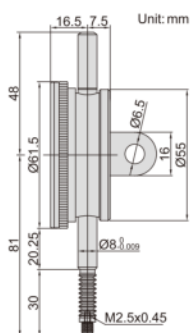
WATERPROOF DIAL INDICATORS

IP54
WATERPROOF



2324-10A

- Hysteresis: 3µm
- Dial reading: 0-100
- Meet DIN878
- IP54 dust/waterproof
- With limit pointers
- Optional accessory: back, contact points



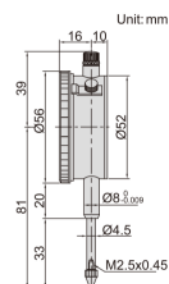
Code	Range	Graduation	Accuracy	Range/rev	Remark
2324-10FA*	10mm	0.01mm	17µm	1mm	flat back
2324-10A*	10mm	0.01mm	17µm	1mm	lug back

*Supplied with manufacturer inspection certificate

DIAL INDICATOR (BASIC TYPE, LONG STROKE)



2302-25F



carton box



- Graduation: 0.01mm
- Dial reading: 0-100
- Supplied with limit pointers and bezel clamp
- Packed in carton box
- Optional accessory: backs, contact points

Code	Range	Accuracy	Hysteresis	Range/rev	Remark
2302-25F*	25mm	35µm	7µm	1mm	flat back

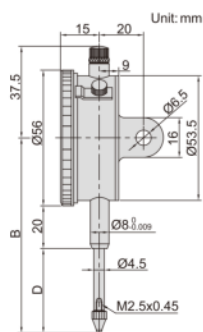
*Supplied with manufacturer inspection certificate

DIAL INDICATORS (LONG STROKE)



2310-30A

- Graduation: 0.01mm
- Dial reading: 0-100
- Supplied with limit pointers and bezel clamp
- Optional accessory: backs, contact points



(mm)

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

*Supplied with manufacturer inspection certificate

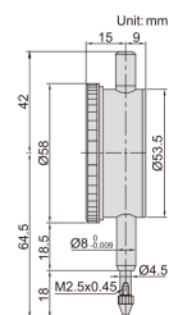
ONE REVOLUTION DIAL INDICATORS



SHOCK PROOF



2316-05F



- Dial indicator stroke: 5mm
- Meet DIN878
- Eliminate the possibility of reading errors due to miscounting
- Shockproof
- With flat back
- Supplied with limit pointers
- Optional accessory: backs, contact points

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

*Supplied with manufacturer inspection certificate

DIAL INDICATORS (LONG STROKE)

JEWELLED BEARING

SHOCK PROOF

INSPECTION CERTIFICATE



2309-50

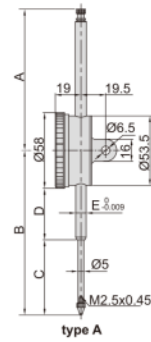
- Range/rev: 1mm
- Dial reading: 0-100
- Shockproof
- Jeweled bearing
- Supplied with limit pointers
- Optional accessory: backs, contact points



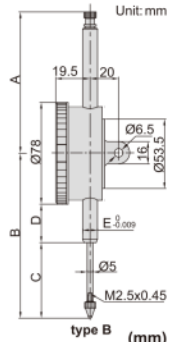
back of type B



stem clamp Ø10mm of 2309-100D



type A



type B (mm)

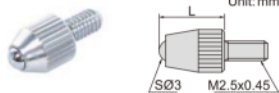
Code	Range	Type	Graduation	Accuracy	Hysteresis	Remark
2309-30F *	30mm	A	0.01mm	35µm	7µm	flat back
2309-50 *	50mm	A	0.01mm	40µm	8µm	flat back with spare lug back
2309-50D *	50mm	B	0.01mm	40µm	8µm	flat back with spare lug back
2309-100D	100mm	B	0.01mm	50µm	9µm	flat back with spare lug back

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

Note: 1) 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) 2309-30F can not accept optional backs

* Supplied with manufacturer inspection certificate

CONTACT POINTS



6282-0101

BALL POINT

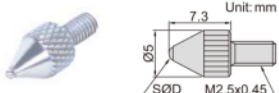
Code	Material of measuring face	L (mm)
6282-0101	carbide	7.3
6282-0103	ceramic	7.3
6282-0104	carbide	8.3



6282-0205

SHELL TYPE POINT

Code	Material of measuring face	L
6282-0205	steel	15mm
6282-0210	steel	30mm



6282-0301

BALL POINT

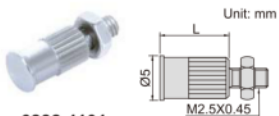
Code	Material of measuring face	SØD
6282-0301	steel	1mm
6282-0302	carbide	1.5mm
6282-0303	carbide	1.8mm
6282-0304	carbide	2.5mm
6282-0305	carbide	4mm



6282-0401

SPHERICAL POINT

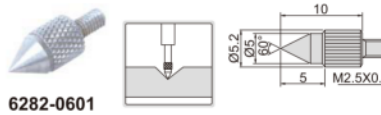
Code	Material of measuring face
6282-0401	steel



6282-1101

FLAT POINT

Code	Material of measuring face	L
6282-1101	steel	8mm



6282-0601

CONICAL POINT

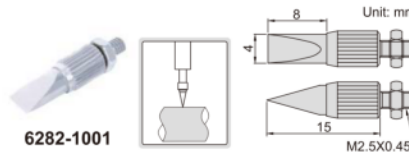
Code	Material of measuring face
6282-0601	steel



6282-1601

NEEDLE POINT (mm)

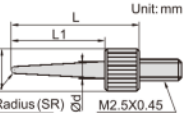
Code	Material of measuring face	L1	L	SR	Ød
6282-1601	steel	11	15	0.4	2
6282-1602	steel	13	17	0.2	2
6282-1603	steel	21	25	0.4	3
6282-1604	steel	31	35	0.4	3



6282-1001

KNIFE EDGE POINT

Code	Material of measuring face
6282-1001	steel



6282-1706

NEEDLE POINT

Code	Material of measuring face	ØD	L
6282-1705	carbide	1mm	8mm
6282-1706	carbide	1mm	10mm
6282-1707	carbide	1mm	20mm
6282-1708	carbide	1mm	40mm
6282-1712	carbide	1.5mm	20mm
6282-1713	carbide	1.5mm	40mm
6282-1714	carbide	2mm	8mm
6282-1715	carbide	2mm	18mm
6282-1716	carbide	2mm	28mm
6282-1717	carbide	2mm	40mm



6282-1301

FLAT POINT

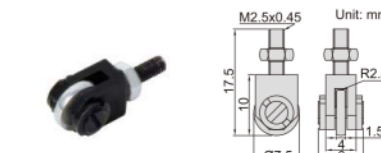
Code	Material of measuring face
6282-1301	carbide



6282-1201

FLAT POINT (mm)

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

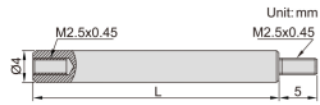


6282-1901

ROLLER POINT

Code	Material of measuring face
6282-1901	steel

EXTENSION RODS



6282-2011

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

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

SPINDLE LIFT KNOB



7332



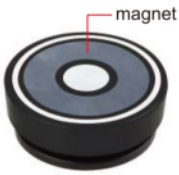
- For dial/digital indicators with spindle diameter Ø4.5mm or Ø5mm

Code
7332

MAGNETIC BACKS



front



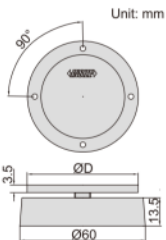
back

7331-M2



(mm)

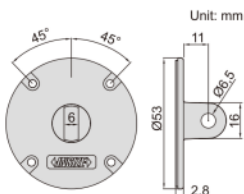
Code	ØD	For digital/dial indicators
7331-M1	51.5	2103
		2104
		2108
		2109
		2112
		2115
		2116
		2117
		2118
		2138
		2301
		2302
		2308
		2309 (except 2309-30, 2309-30F)
		2313
		2314
		2316
2801		
2318		
7331-M2	54	



LUG BACKS



7330-L2



7330-L2 and 7330-L10

Code	For digital/dial indicators
7330-L1	2311
7330-L2	2308
	2309 (except 2309-30, 2309-30F)
	2313
	2314
	2324
	2316
7330-L5	2103
	2104
	2108
	2109
	2112
	2113
2115	
7330-L10	2310

DIAL TEST INDICATORS

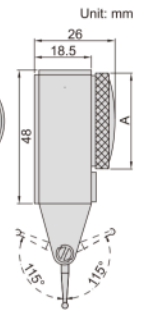
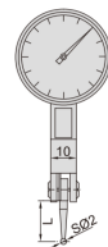
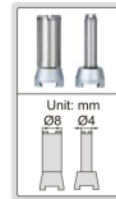


JEWELLED BEARING



2380-08

clamps (included)



- 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

Graduation: 0.01mm

(mm)

Code	Range	Accuracy	Hysteresis	Dial reading	A	L
2380-08*	0.8mm	13µm	3µm	0-40-0	Ø30	13.5
2381-08*	0.8mm	13µm	3µm	0-40-0	Ø37	13.5

Graduation: 0.002mm

(mm)

Code	Range	Accuracy	Hysteresis	Dial reading	A	L
2380-02*	0.2mm	6µm	2µm	0-100-0	Ø30	12.5
2381-02*	0.2mm	6µm	2µm	0-100-0	Ø37	12.5

Graduation: 0.001mm

(mm)

Code	Range	Accuracy	Hysteresis	Dial reading	A	L
2381-021*	0.2mm	6µm	2µm	0-100-0	Ø37	12.5

*Supplied with manufacturer inspection certificate

TILTED FACE TYPE DIAL TEST INDICATOR

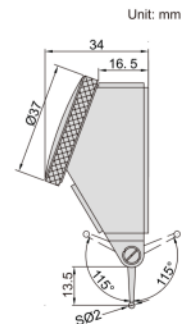
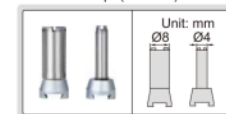


JEWELLED BEARING



2399-08

clamps (included)



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

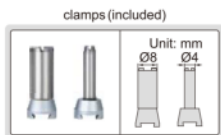
Code	Range	Graduation	Accuracy	Hysteresis	Dial reading
2399-08*	0.8mm	0.01mm	13µm	3µm	0-40-0

*Supplied with manufacturer inspection certificate

VERTICAL TYPE DIAL TEST INDICATOR

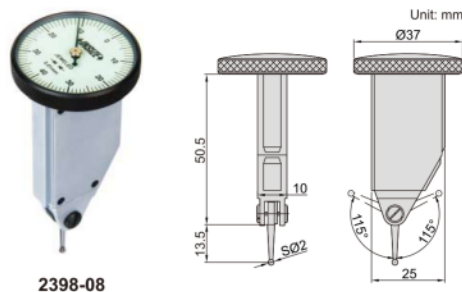


- Meet DIN2270
- Jeweled bearing
- Carbide contact point
- Two measuring directions
- Anti magnetic body
- Supplied with two clamps: diameter Ø4mm and Ø8mm
- Optional accessory: styli



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

*Supplied with manufacturer inspection certificate



JEWELLED BEARING

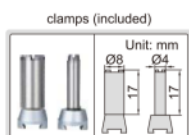
LONG STYLI DIAL TEST INDICATOR



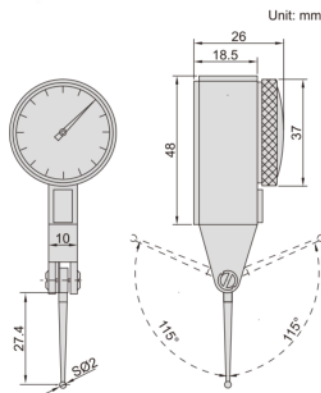
JEWELLED BEARING



2383-08A



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



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

*Supplied with manufacturer inspection certificate

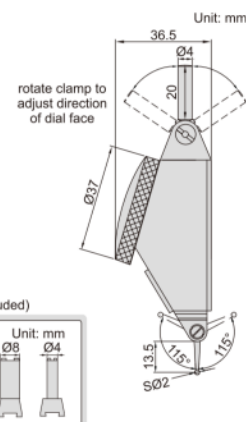
LARGE RANGE DIAL TEST INDICATOR



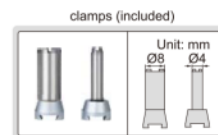
JEWELLED BEARING



2386-16A



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



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

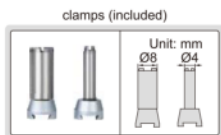
*Supplied with manufacturer inspection certificate

LARGE RANGE BACK PLUNGER TYPE DIAL TEST INDICATOR

JEWELLED BEARING



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

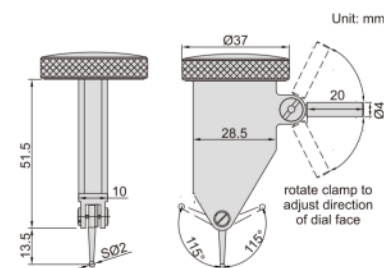


Code	Range	Graduation	Accuracy	Hysteresis	Dial reading
2480-16*	1.6mm	0.01mm	18µm	3µm	0-40-0

*Supplied with manufacturer inspection certificate



2480-16



CLAMPS FOR DIAL TEST INDICATORS

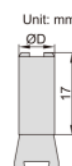
Code	ØD
6298-1	Ø4mm
6298-2	Ø8mm



6298-1



6298-2



STYLI FOR DIAL TEST INDICATORS



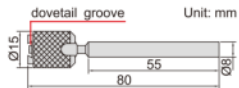
		(mm)		
Code	For dial test indicator	Material of contact point	L	D
6284-1	2380-08	steel	13.5	SØ1
6284-3		carbide	13.5	SØ2
6284-4	2381-08	ruby	13.5	SØ2
6284-8	2399-08	carbide	13.5	SØ3
6284-21	2380-02	steel	12.5	SØ1
6284-22	2381-02	carbide	12.5	SØ2

DIAL TEST INDICATOR UNIVERSAL HOLDER

- Set the indicators at the desired attitude to the workpiece



Code
6297-1

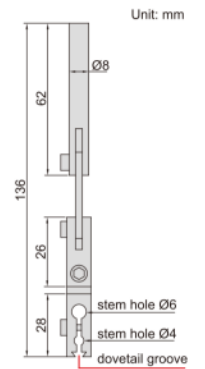


DIAL TEST INDICATOR HOLDER



- Supplied with hex key

Code
6296-1



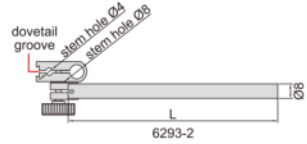
DIAL TEST INDICATOR HOLDERS



6293-1



6293-2



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



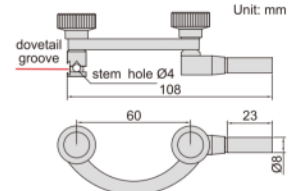
DIAL TEST INDICATOR HOLDER



6291-1

- Can be used with dial test indicators

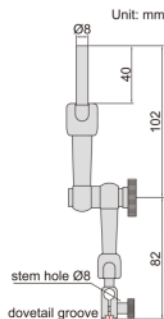
Code
6291-1



DIAL TEST INDICATOR HOLDER

- Can be used with dial test indicators

Code
6295-1A

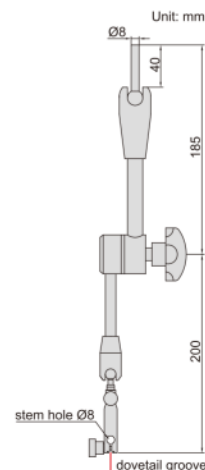


6295-1A

DIAL INDICATOR HOLDER

- Can be used with dial test indicators or dial indicators

Code
6294-1A

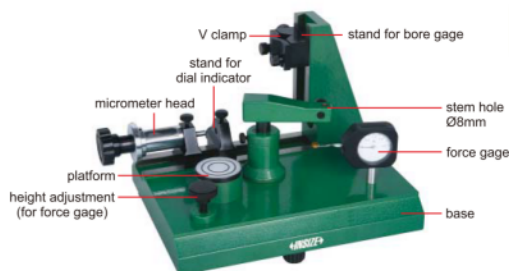


6294-1A

DIAL INDICATOR TESTER CODE 2396-25A

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

ATTENTION: NOT SUITABLE FOR INDICATORS WITH GRADUATION 0.001MM



2396-25A

Micrometer head

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

Force gage

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

Platform

Diameter	Flatness	Roughness
50mm	1µm	0.05µm



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



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



inspect accuracy of test indicators



half round gage block
code 2396-block (optional)



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)

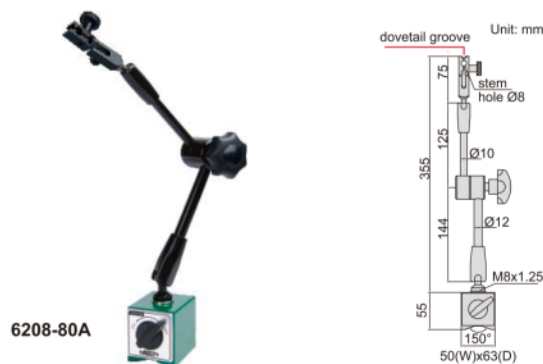
Half round gage block (optional)

Code	Parallelism
2396-block	1µm

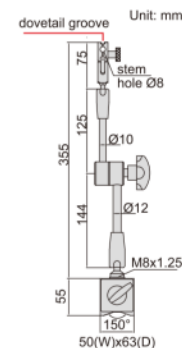
UNIVERSAL MAGNETIC STAND (ECONOMIC TYPE)

ATTENTION: LOW LOCKING FORCE

- Applicable holding stem: Ø8mm
- For digital/dial indicators and dial test indicators



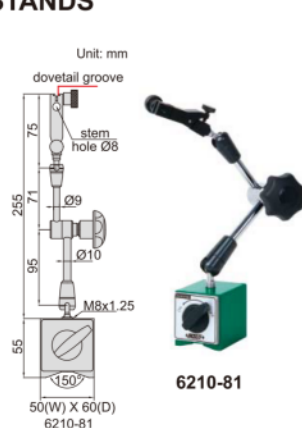
6208-80A



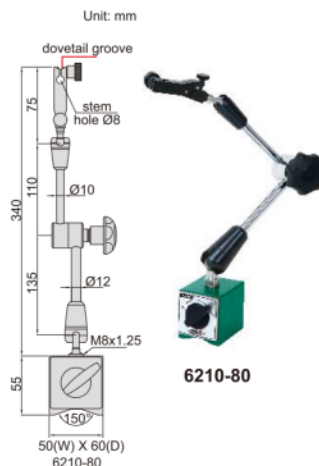
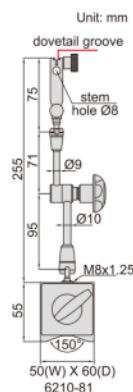
Code	Magnetic force	Remark
6208-80A	80kgf	with fine adjustment and dovetail groove

UNIVERSAL MAGNETIC STANDS

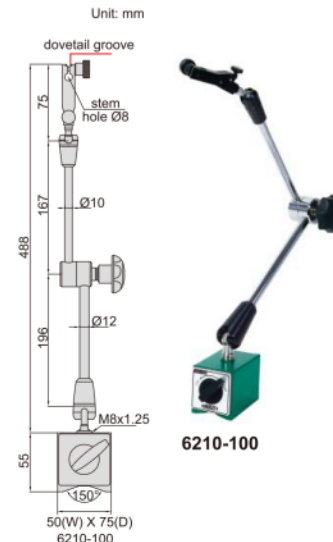
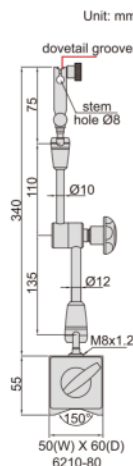
- For digital/dial indicators and dial test indicators
- With fine adjustment and dovetail groove



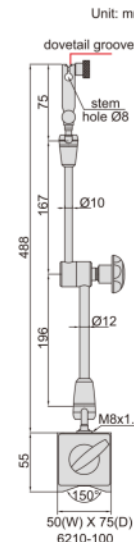
6210-81



6210-80

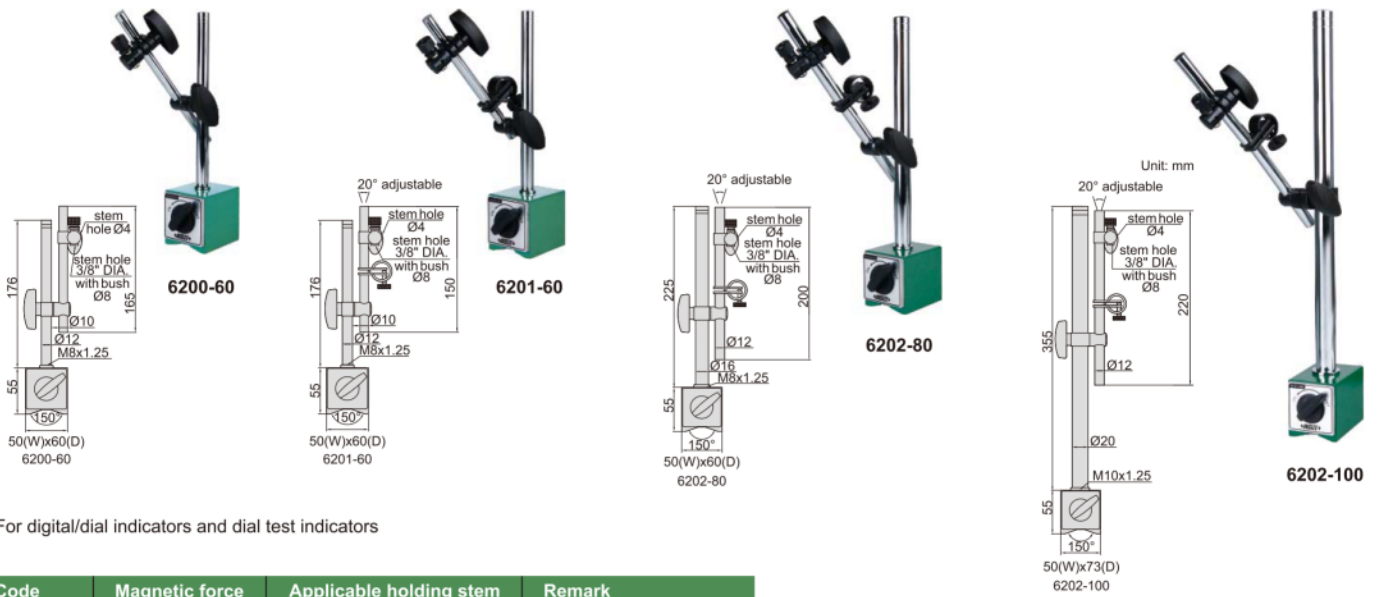


6210-100



Code	Magnetic force	Applicable holding stem
6210-81	80kgf	Ø8mm
6210-80	80kgf	Ø8mm
6210-100	100kgf	Ø8mm

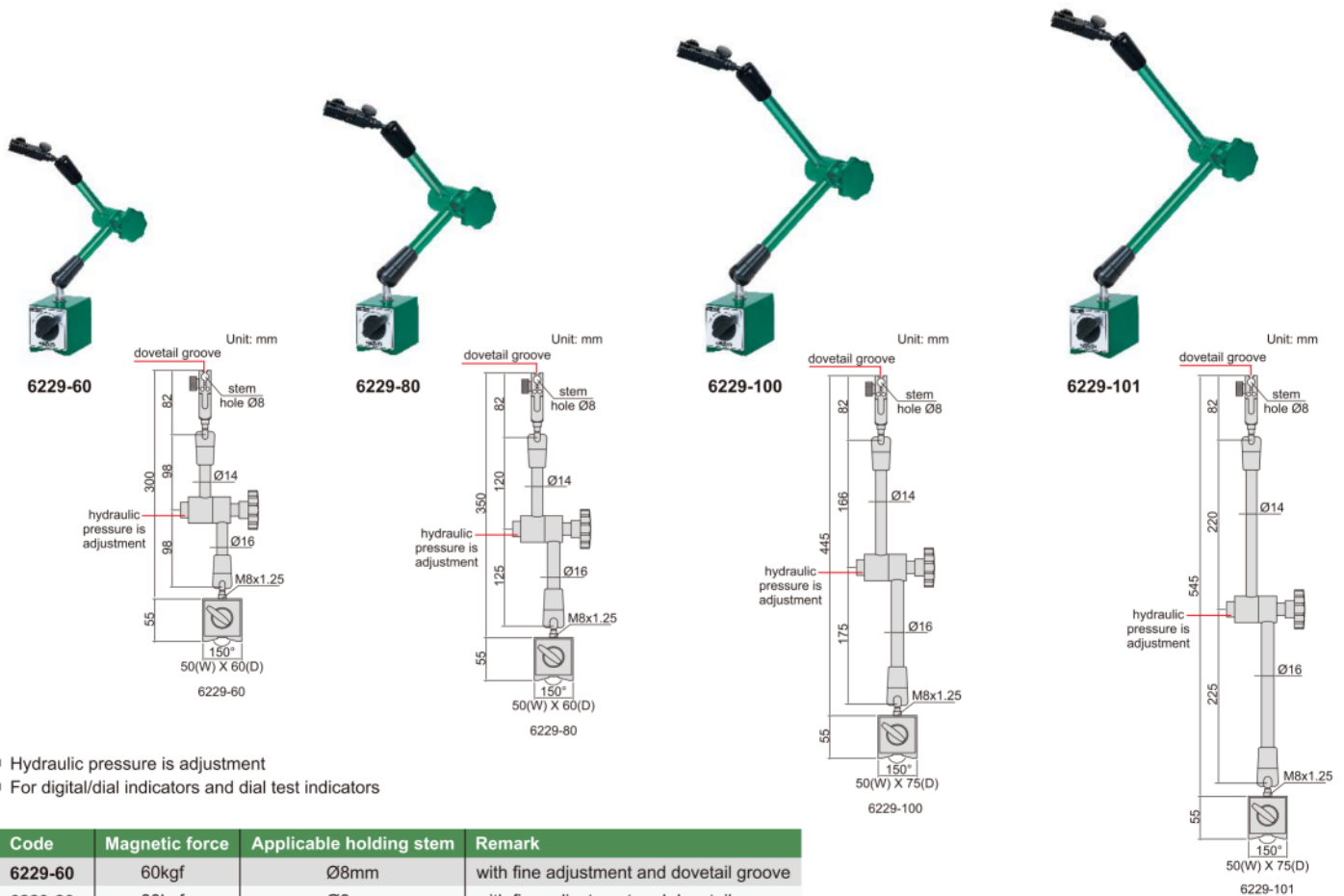
MAGNETIC STANDS



■ 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

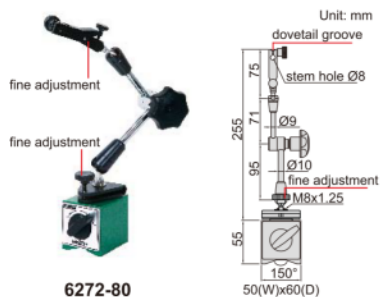


■ Hydraulic pressure is adjustment
 ■ For digital/dial indicators and dial test indicators

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

MAGNETIC STAND WITH DOUBLE FINE ADJUSTMENT

- Magnetic force: 80kgf
- With double fine adjustments on the head and on the base
- For digital/dial indicators and dial test indicators



6272-80

50(W)x60(D)

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

MAGNETIC STAND

- For digital/dial indicators and dial test indicators



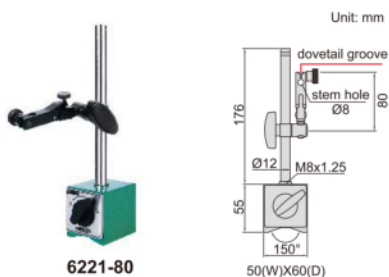
6216-80

50(W)x60(D)

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

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

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



6221-80

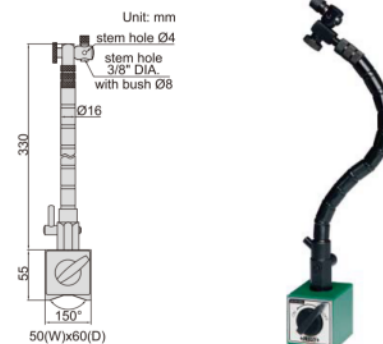
50(W)x60(D)

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

FLEX ARM MAGNETIC STAND

ATTENTION: FOR DIAL TEST INDICATORS ONLY

- For dial test indicators



50(W)x60(D)

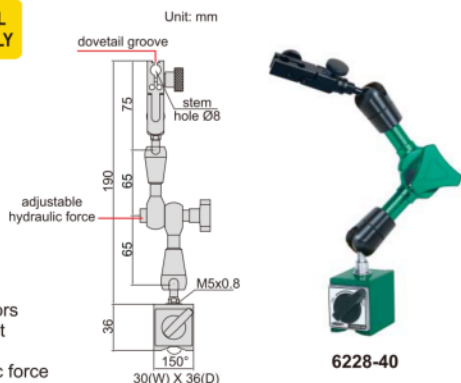
6207-80A

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

HYDRAULIC MINI MAGNETIC STAND

ATTENTION: FOR DIAL TEST INDICATORS ONLY

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



6228-40

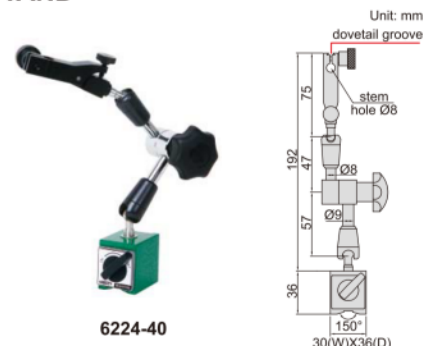
30(W) X 36(D)

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



6224-40

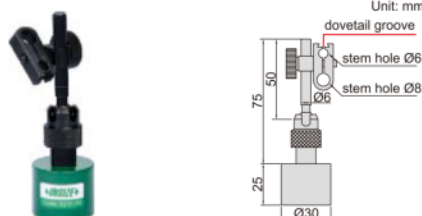
30(W)x36(D)

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

MINI MAGNETIC STAND

- For dial test indicators
- With dovetail groove

6211-10



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

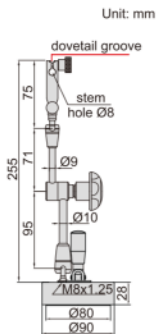
ATTENTION: FOR DIAL TEST INDICATORS ONLY

VACUUM STAND

- Diameter of vacuum disc: Ø80mm
- Suitable for granite surface plates or cast iron surface plates
- For digital/dial indicators and dial test indicators



6217-B



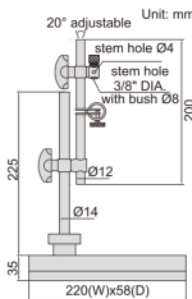
Code	Vacuum force	Applicable holding stem	Remark
6217-B	80kgf	Ø8mm	with fine adjustment and dovetail groove

UNIVERSAL STAND

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



6214-A



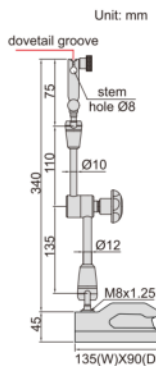
Code	Applicable holding stem
6214-A	Ø8mm, Ø4mm, 3/8" DIA.

UNIVERSAL DIAL INDICATOR STANDS (NON-MAGNETIC)

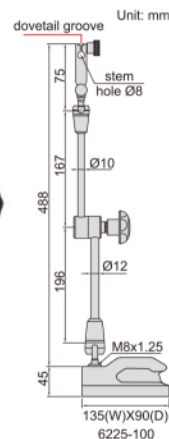
- Hardened base
- Suitable for granite surface plates and cast iron surface plates
- For digital/dial indicators and dial test indicators



6225-80



6225-100

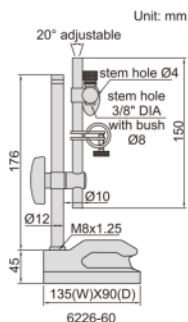


Code	Applicable holding stem	Remark
6225-80	Ø8mm	with fine adjustment and dovetail groove
6225-100	Ø8mm	with fine adjustment and dovetail groove

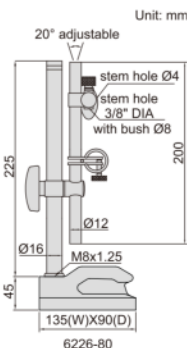
DIAL INDICATOR STANDS (NON-MAGNETIC)



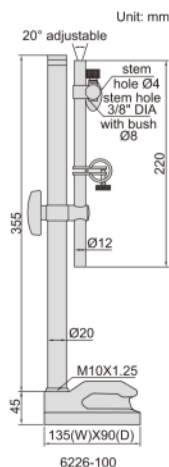
6226-60



6226-80



6226-100



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

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

DIAL INDICATOR STAND (NON-MAGNETIC)

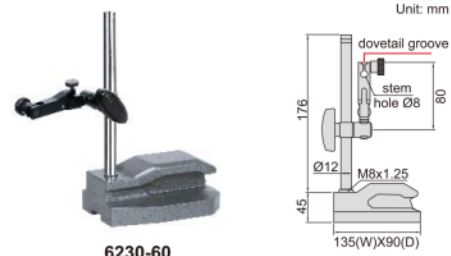


6227-80

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

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

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

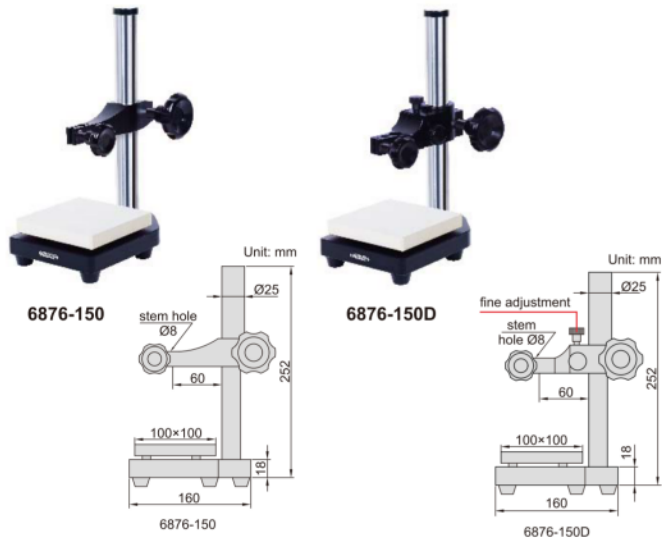


6230-60

- Non-magnetic and hardened 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

DIAL INDICATOR STANDS



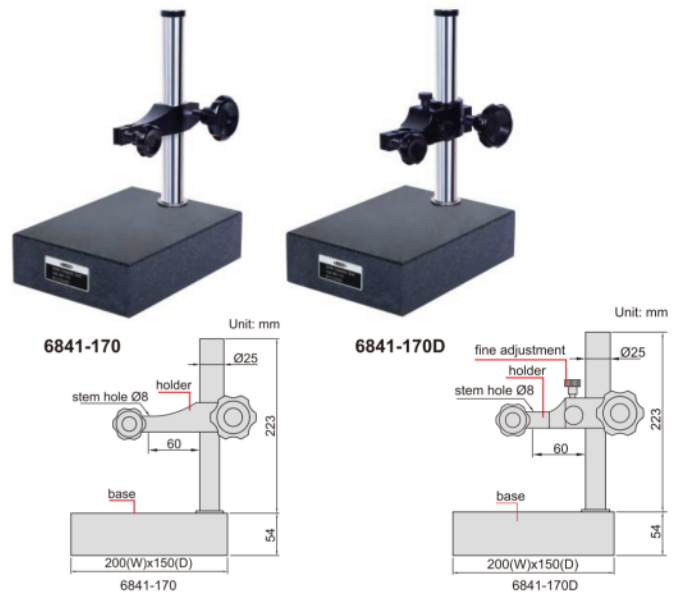
6876-150

6876-150D

- Vertical travel of holder: 150mm
- Applicable holding stem: Ø8mm
- Ceramic anvil
- Supplied with dust cover

Code	Anvil	Remark
6876-150	ceramic, plain, flatness 1.5µm	without fine adjustment
6876-150D	ceramic, plain, flatness 1.5µm	with fine adjustment, fine adjustment range 3mm

GRANITE DIAL INDICATOR STANDS (BASIC TYPE)



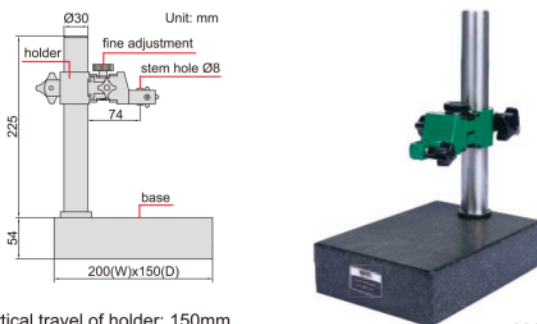
6841-170

6841-170D

- Vertical travel of holder: 170mm
- Applicable holding stem: Ø8mm
- Supplied with dust cover

Code	Anvil	Remark
6841-170	flatness 1.5µm	without fine adjustment
6841-170D	flatness 1.5µm	with fine adjustment, fine adjustment range 3mm

GRANITE DIAL INDICATOR STAND

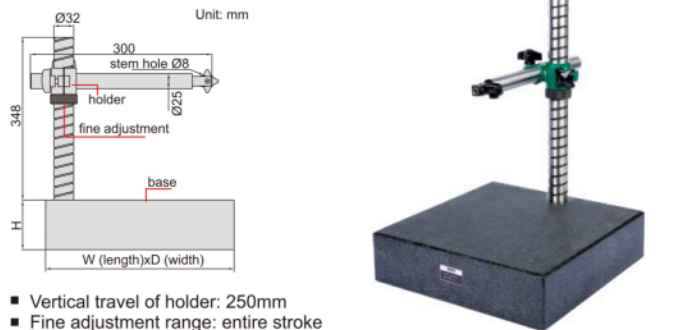


6866-150

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

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

GRANITE DIAL INDICATOR STANDS

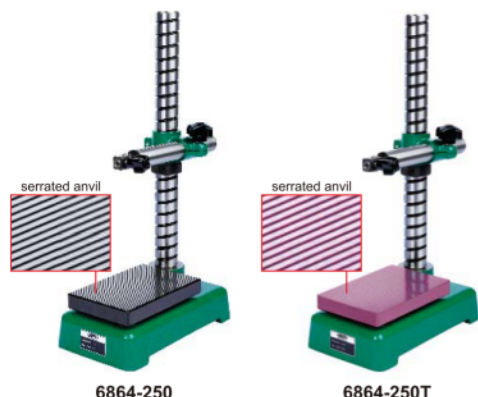


6867-250

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

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

DIAL INDICATOR STANDS

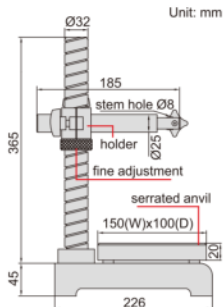


6864-250

6864-250T

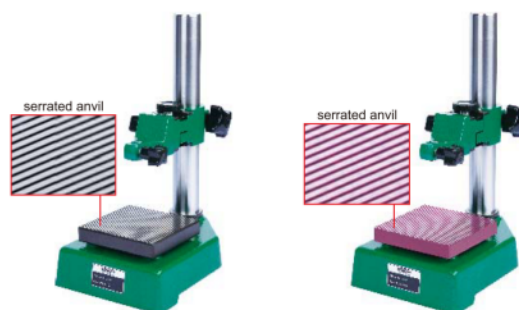
- Vertical travel of holder: 250mm
- Applicable holding stem: Ø8mm
- Fine adjustment range: entire stroke
- Supplied with dust cover

Code	Anvil
6864-250	steel (hardness HRC60±2), serrated, flatness 1.5µm
6864-250T	ceramic, serrated, flatness 1.5µm



Unit: mm

DIAL INDICATOR STANDS

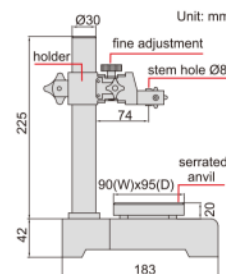


6863-150

6863-150T

- Vertical travel of holder: 150mm
- Fine adjustment range: 2mm
- Applicable holding stem: Ø8mm
- Supplied with dust cover

Code	Anvil
6863-150	steel (hardness HRC60±2), serrated, flatness 1.5µm
6863-150T	ceramic, serrated, flatness 1.5µm



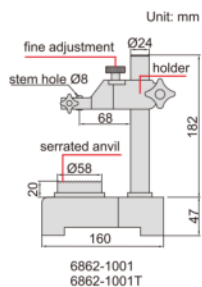
Unit: mm

DIAL INDICATOR STANDS



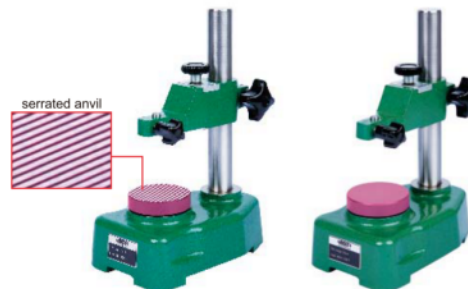
6862-1001

6862-1002



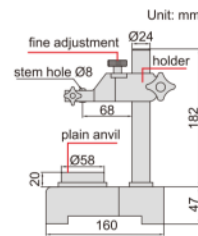
6862-1001
6862-1001T

Unit: mm



6862-1001T

6862-1002T



6862-1002
6862-1002T

Unit: mm

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

- Vertical travel of holder: 100mm
- Fine adjustment range: 2mm
- Applicable holding stem: Ø8mm
- Supplied with dust cover

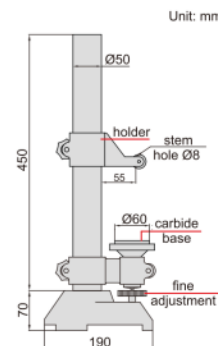
HEAVY DUTY DIAL INDICATOR STAND

- 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)

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



6869-300



Unit: mm

TRANSFER STANDS

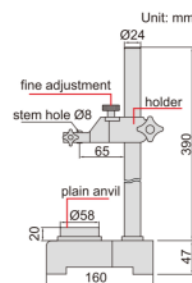
- Vertical travel of holder: 335mm
- Fine adjustment range: 2mm
- Applicable holding stem: Ø8mm
- Supplied with dust cover



6865-300



6865-300T



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

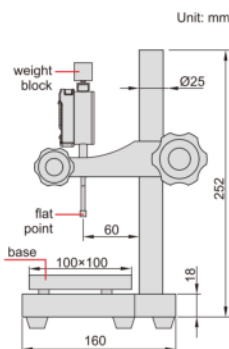
Code	Anvil
6865-300	steel (hardness HRC60±2), plain, flatness 1.5µm
6865-300T	ceramic, plain, flatness 1.5µm

DIGITAL RUBBER THICKNESS GAGES

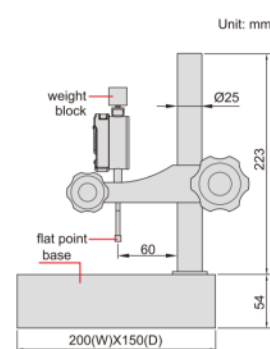
DATA OUTPUT



2878-6B



2878-71B



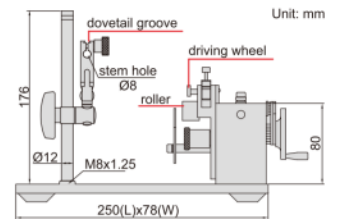
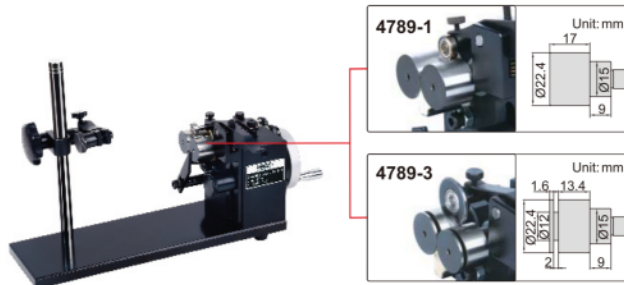
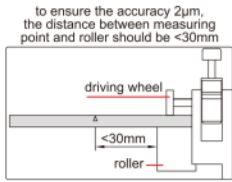
- Measure thickness of vulcanized rubber and plastic products
- Button function: on/off, inch/mm, zero, data preset, change measuring direction, absolute/incremental measurement
- CR2032 battery, automatic power off (time is adjustable)
- Supplied with dust cover
- Optional accessory: data output cable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



- Optional accessory: dial test indicator

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

CONCENTRICITY GAGES

**HIGH STABILITY,
LONG WORKING LIFE**

dial test indicator is optional

dial test indicator is optional

dial test indicator is optional



4725-45



4725-60

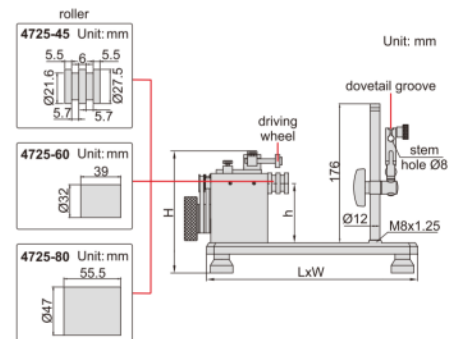
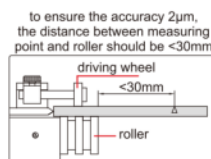


4725-80

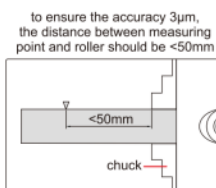


- With ball bearing, high stability, long working life
- Accuracy: 2µm
- Optional accessory: dial test indicator

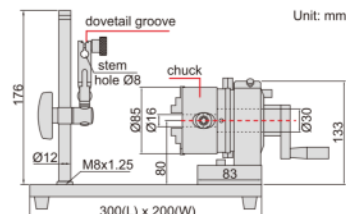
Code	Diameter range	Center height (h)	LxWxH	Weight
4725-45	3-45mm	80mm	280x130x170mm	6kg
4725-60	8-60mm	90mm	350x160x190mm	15.6kg
4725-80	8-80mm	130mm	400x200x250mm	25kg



CONCENTRICITY GAGE



4786-1

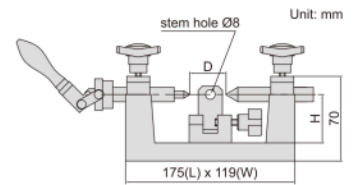


- Accuracy: 3µm
- Ø50mm setting ring and Ø55mm calibration cylinder are included
- Optional accessory: dial test indicator

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

MINI BENCH CENTER

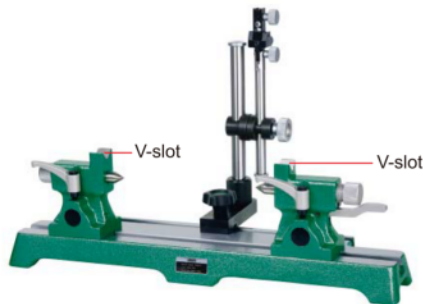
- Distance between two centers (D): 35-100mm
- Diameter of center (Ød): 6mm
- Taper of center: MT1



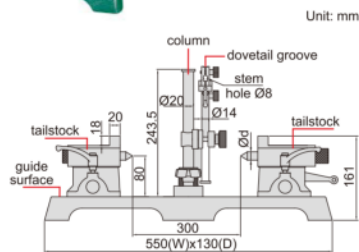
4721-75A

Code	Runout accuracy	Center height (H)	Weight	Load
4721-75A	2µm	40mm	4.5kg	4kg

BENCH CENTER (BASIC TYPE)



4782-300

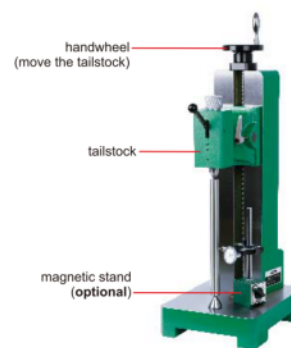


- Runout accuracy: 2µm
- Distance between two centers: 300mm
- Taper of center: MT1
- Hardened cast-iron guide surface
- Movable column
- V-slot for cylinder Ø4~Ø22mm

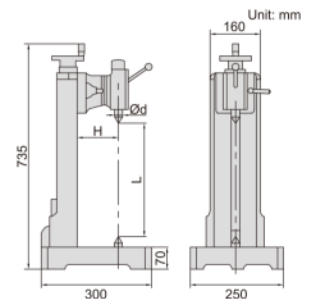
Code	Parallelism*	Center height	Diameter of center (Ød)	Load
4782-300	0.01mm	80mm	Ø16mm	25kg

*Parallelism of two centers to the guide surface

VERTICAL BENCH CENTER



4728-360



- Runout accuracy: 2µm
- Distance between two centers (L): 360mm
- Diameter of center (Ød): 24.1mm
- Taper of center: MT3
- Hardened cast-iron guide surface
- Use handwheel to move the tailstock
- Optional accessory: magnetic stands, dial test indicators

Code	Parallelism*	Center height (H)	Weight	Load
4728-360	0.01mm	130mm	85kg	80kg

*Parallelism of two centers to the guide surface

SHANK RUNOUT TESTERS

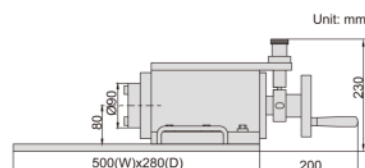
standard shank (included)



4771-30

- 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



measure radial runout of shank



measure radial runout of collet



measure radial runout of cutter



measure radial runout of end mill

