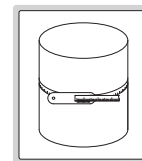


## CIRCUMFERENCE TAPES

**INSIZE PLUS**  
MADE IN EUROPE



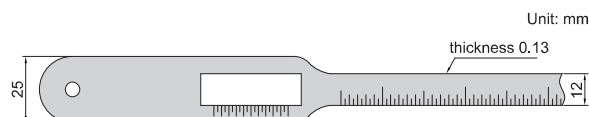
- Measure diameter of cables, thin plastic pipes, etc., which may deform
- Laser engraved scale
- Made of stainless steel

7116-115

6

7

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



## HIGH PRECISION DIGITAL INDICATORS

ABSOLUTE ENCODER, THE ORIGINAL DATA REMAINS AFTER POWER OFF

Ø28MM STEM SUITABLE FOR REINFORCED CLAMPING

DATA OUTPUT

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, wireless receiver, code 7315-2, 7315-3  
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

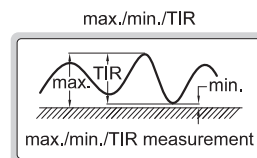
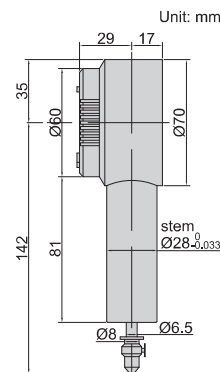
### Built-in wireless

Optional accessory:  
wireless receiver (keyboard format), code 2134-R1  
wireless receiver (serial port format), code 2134-R2

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



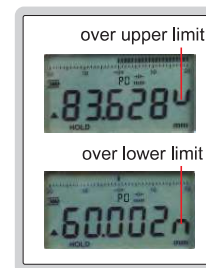
2140-6



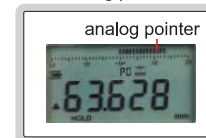
wireless receiver  
2134-R1, 2134-R2 (optional)



warning when over tolerance



analog pointer



LINEAR BALL BEARINGS  
FOR TEN MILLION TIMES USE

ABSOLUTE ENCODER, THE ORIGINAL  
DATA REMAINS AFTER POWER OFF

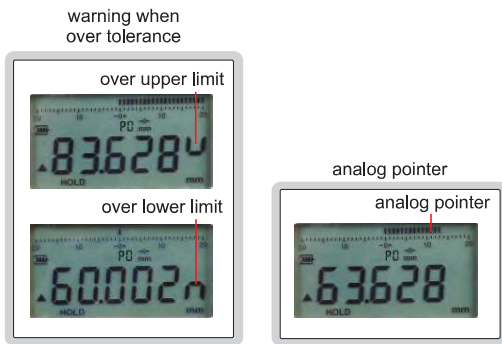
DATA  
OUTPUT

ATTENTION: RECHARGEABLE BATTERY,  
FOR 24 HOURS CONTINUOUS WORKING

**INSPECTION  
CERTIFICATE**  
TRACEABLE TO NIST

## HIGH PRECISION DIGITAL INDICATORS

7



2133-10



2133-25



2133-50

- Linear ball bearings for ten million times use
- Absolute encoder, the original data remains after power off
- Reading in digital and analog
- Data output
- 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 (page 161-163) 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	Remark
2133-10*	12.7mm/0.5"	3µm	1.5µm	75.4mm	20.6mm	24.8mm	5mm	flat back
2133-25*	25.4mm/1"	3µm	1.5µm	109.5mm	38.5mm	41mm	5mm	flat back
2133-50*	50.8mm/2"	3µm	1.5µm	201mm	32mm	72mm	4.5mm	flat back

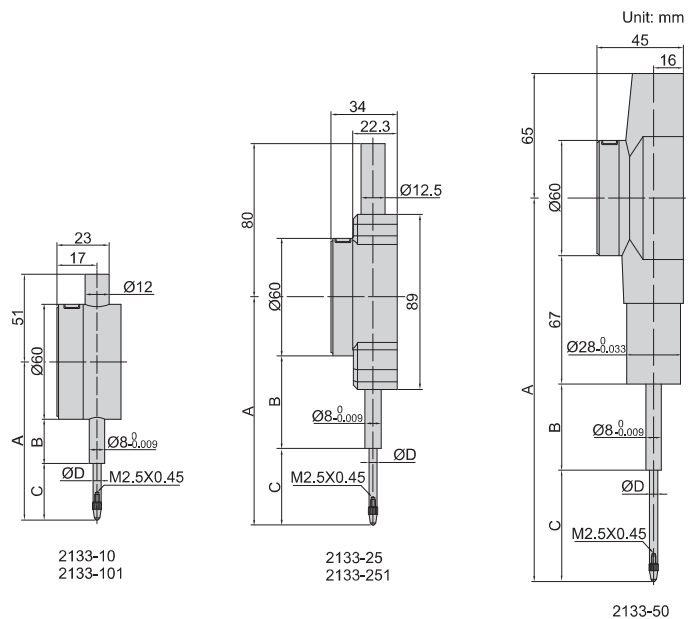
### High precision

Ruby probe

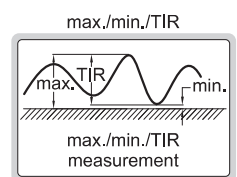
Adjustable resolution: 0.0002mm/0.00001"  
0.001mm/0.00005"  
0.01mm/0.0005"

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

\*Supplied with manufacturer inspection certificate traceable to NIST USA



spindle lift knob is included



# WIRELESS HIGH PRECISION DIGITAL INDICATORS

ATTENTION: RECHARGEABLE BATTERY, FOR 24 HOURS CONTINUOUS WORKING

LINEAR BALL BEARINGS FOR TEN MILLION TIMES USE

ABSOLUTE ENCODER, THE ORIGINAL DATA REMAINS AFTER POWER OFF

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

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



warning when over tolerance

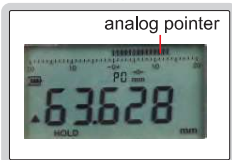
over upper limit



over lower limit



analog pointer



2134-10

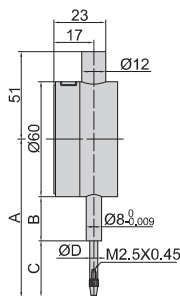


2134-25

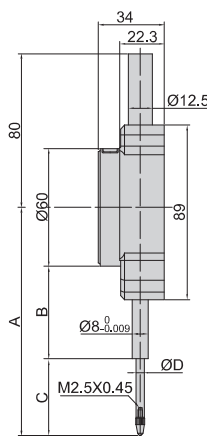


2134-50

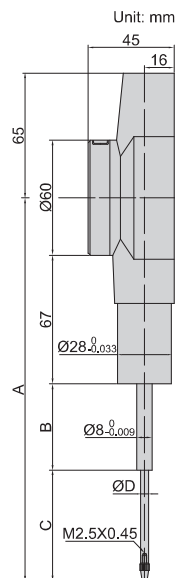
- Built-in wireless transmission, ZigBee signal
- Linear ball bearings for ten million times use
- Absolute encoder, the original data remains after power off
- Reading in digital and analog
- Button function: data output, tolerance, data preset, data hold, measuring direction change, max./min./TIR, power off time, on/off, mm/inch, adjust resolution
- Power: rechargeable battery, for 24 hours continuous working
- Optional accessory: contact points (page 161~163) wireless receiver, code: **2134-R1** (keyboard format) **2134-R2** (serial port format)



2134-10  
2134-101



2134-25  
2134-251



2133-50

### 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	Remark
2134-10*	12.7mm/0.5"	3µm	1.5µm	75.4mm	20.6mm	24.8mm	5mm	flat back
2134-25*	25.4mm/1"	3µm	1.5µm	109.5mm	38.5mm	41mm	5mm	flat back
2134-50*	50.8mm/2"	3µm	1.5µm	201mm	32mm	72mm	4.5mm	flat back

### High precision

Ruby probe

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

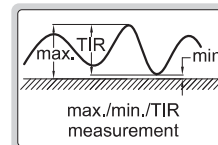
Code	Range	Accuracy	Hysteresis	A	B	C	ØD	Remark
2134-101*	12.7mm/0.5"	1.5µm	1µm	77.4mm	26mm	21.4mm	4mm	flat back
2134-251*	25.4mm/1"	1.8µm	1µm	116.1mm	42.5mm	44mm	4mm	flat back

\* Supplied with manufacturer inspection certificate traceable to NIST USA

spindle lift knob is included



max./min./TIR

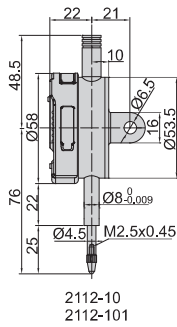


## DIGITAL INDICATORS (STANDARD TYPE)

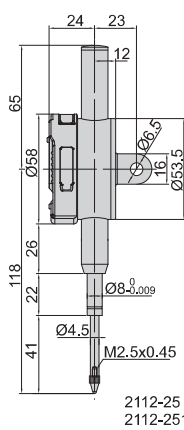
**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

DATA OUTPUT

spindle lift knob is included



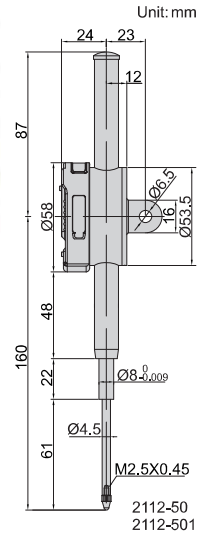
2112-10



2112-25  
2112-251



2112-251



Unit: mm

2112-50  
2112-501



2112-501

- Button function: on/off, inch/mm, zero, data preset, change measuring direction, absolute/incremental measurement
- Keep preset 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 (page 164~165), contact points (page 161~163)

### 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"

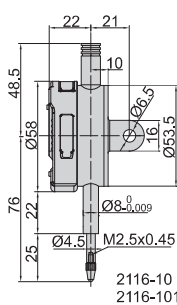
Code	Range	Accuracy	Hysteresis	Remark
2112-10F*	12.7mm/0.5"	20µm	10µm	flat back
2112-25F*	25.4mm/1"	20µm	10µm	flat back
2112-50F*	50.8mm/2"	30µm	10µm	flat back
2112-10*	12.7mm/0.5"	20µm	10µm	lug back
2112-25*	25.4mm/1"	20µm	10µm	lug back
2112-50*	50.8mm/2"	30µm	10µm	lug back

\*Supplied with manufacturer inspection certificate traceable to NIST USA

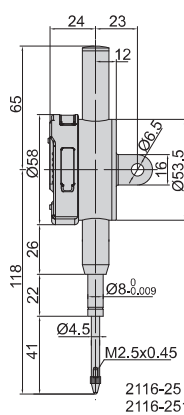
**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

DATA OUTPUT

spindle lift knob is included



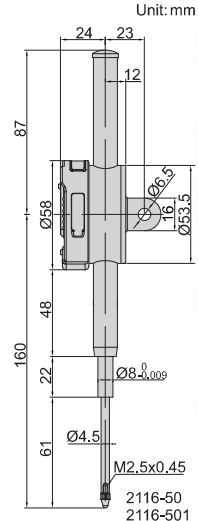
2116-10



2116-25  
2116-251



2116-251



Unit: mm

2116-50  
2116-501



2116-501

- Button function: on/off, zero, change measuring direction, data preset, absolute/incremental measurement
- Keep preset 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 (page 164~165), contact points (page 161~163)

### 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

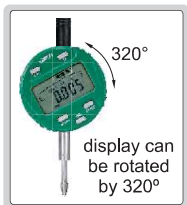
\*Supplied with manufacturer inspection certificate traceable to NIST USA

## DIGITAL INDICATORS (ADVANCED TYPE)

DATA  
OUTPUT

**INSPECTION  
CERTIFICATE**  
TRACEABLE TO NIST

7



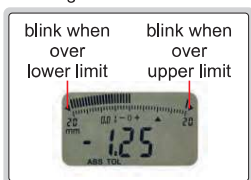
spindle lift knob is included



analog pointer



warning when over tolerance



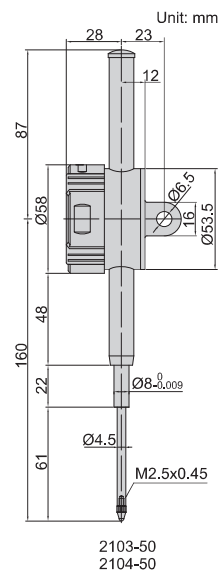
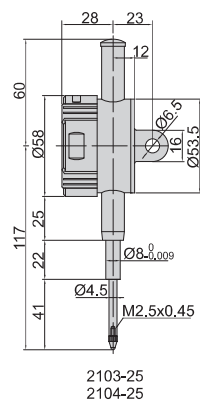
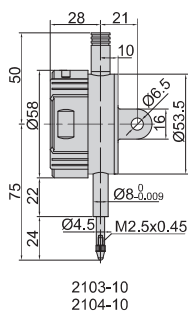
2103-10



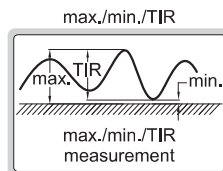
2104-25



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
- 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 (page 164~165), contact points (page 161~163)



### 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"

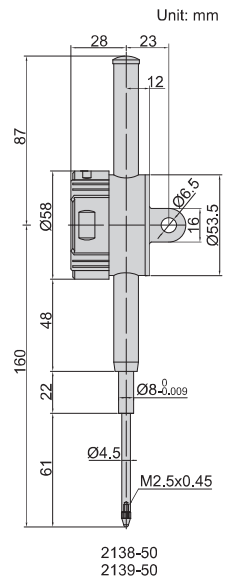
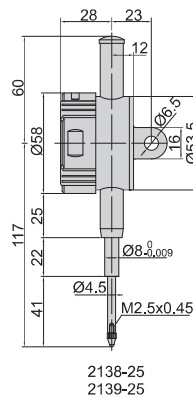
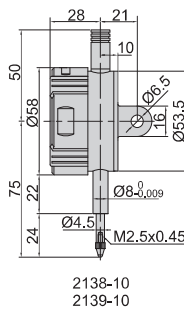
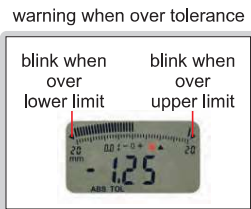
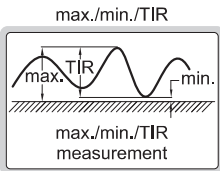
Code	Range	Accuracy	Hysteresis	Remark
2104-10F*	12.7mm/0.5"	20µm	10µm	flat back
2104-25F*	25.4mm/1"	20µm	10µm	flat back
2104-50F*	50.8mm/2"	30µm	10µm	flat back
2104-10*	12.7mm/0.5"	20µm	10µm	lug back
2104-25*	25.4mm/1"	20µm	10µm	lug back
2104-50*	50.8mm/2"	30µm	10µm	lug back

\* Supplied with manufacturer inspection certificate traceable to NIST USA



## DIGITAL INDICATORS (WITH TRANSMIT BUTTON AND LIGHT)

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
- Data output
- Optional accessory: data output cable, backs (page 164~165), contact points (page 161~163)

### Resolution 0.001mm/0.00005"

Code	Range	Accuracy	Hysteresis	Remark
2138-10F*	12.7mm/0.5"	5µm	2µm	flat back
2138-25F*	25.4mm/1"	5µm	3µm	flat back
2138-50F*	50.8mm/2"	6µm	3µm	flat back
2138-10*	12.7mm/0.5"	5µm	2µm	lug back
2138-25*	25.4mm/1"	5µm	3µm	lug back
2138-50*	50.8mm/2"	6µm	3µm	lug back

### Resolution 0.01mm/0.0005"

Code	Range	Accuracy	Hysteresis	Remark
2139-10F*	12.7mm/0.5"	20µm	10µm	flat back
2139-25F*	25.4mm/1"	20µm	10µm	flat back
2139-50F*	50.8mm/2"	30µm	10µm	flat back
2139-10*	12.7mm/0.5"	20µm	10µm	lug back
2139-25*	25.4mm/1"	20µm	10µm	lug back
2139-50*	50.8mm/2"	30µm	10µm	lug back

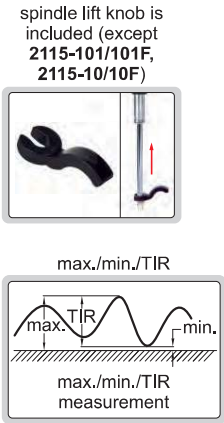
\*Supplied with manufacturer inspection certificate traceable to NIST USA

# WATERPROOF DIGITAL INDICATORS

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

**WATERPROOF**

**DATA OUTPUT**



2115-10

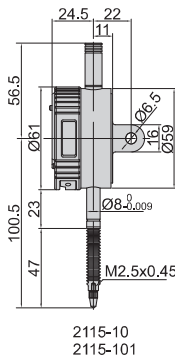


2115-25

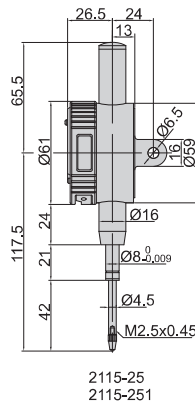


2115-50

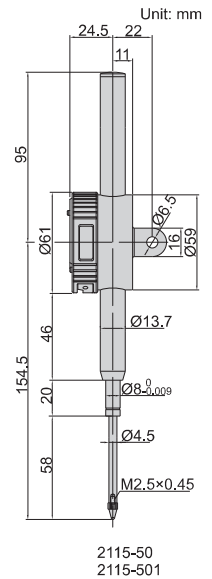
- Dust/waterproof
- Button function: on/off, zero, mm/inch, data preset, tolerance, change measuring direction, max./min./TIR measurement, absolute/incremental measurement
- Keep preset data and tolerance data in memory after restart
- CR2032 battery, automatic power off
- Data output
- Optional accessory: data output cable (code 7315-50, 7302-SPC3A, 7305-C01), backs (page 164~165), contact points (page 161~163)



2115-10  
2115-101



2115-25  
2115-251



2115-50  
2115-501

**Resolution 0.001mm/0.00005"**

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

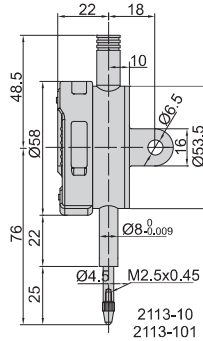
\* Supplied with manufacturer inspection certificate traceable to NIST USA

## NO AUTO POWER OFF DIGITAL INDICATORS

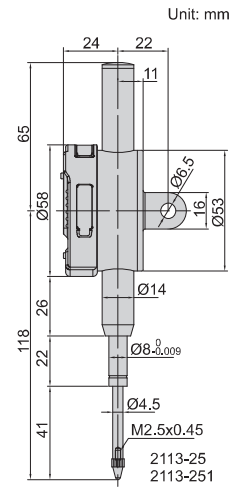
spindle lift knob is included



- 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, data preset, change measuring direction, absolute/incremental measurement
- Keep preset data in memory after restart
- CR2032 battery
- Data output
- Optional accessory: data output cable (code **7315-50M**, **7302-40M**, **7305-40M**), backs (page 164~165), contact points (page 161~163)



2113-10



2113-251

### 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

\*Supplied with manufacturer inspection certificate traceable to NIST USA

### 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

## DIGITAL INDICATORS (FOR HIGH SPEED MOVING OF SPINDLE)

ATTENTION: LARGE POWER CONSUMPTION,  
A BATTERY CAN BE USED FOR ABOUT HALF A YEAR

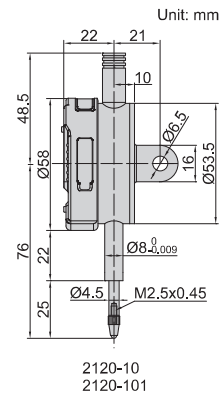
spindle lift knob is included



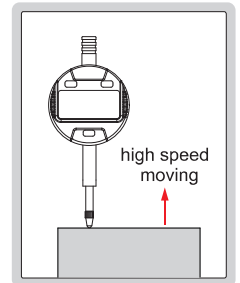
- For high speed moving of spindle
- Large power consumption, a battery can be used for about half a year
- Button function: on/off, inch/mm, zero, data preset, change measuring direction, absolute/incremental measurement
- Keep preset data in memory after restart
- CR2032 battery, automatic power off
- Data output
- Optional accessory: data output cable (code **7315-50M**, **7302-40M**, **7305-40M**), backs (page 164~165), contact points (page 161~163)



2120-10



for high speed moving  
of spindle



### Resolution 0.001mm/0.00005"

Code	Range	Accuracy	Hysteresis	Remark
2120-101F*	12.7mm/0.5"	5µm	2µm	flat back
2120-101*	12.7mm/0.5"	5µm	2µm	lug back

\*Supplied with manufacturer inspection certificate traceable to NIST USA

### Resolution 0.01mm/0.0005"

Code	Range	Accuracy	Hysteresis	Remark
2120-10F*	12.7mm/0.5"	20µm	10µm	flat back
2120-10*	12.7mm/0.5"	20µm	10µm	lug back



## ADJUSTABLE COEFFICIENT DIGITAL INDICATORS

### ■ DISPLAY READING = COEFFICIENT X SPINDLE MOVEMENT.

The coefficient can be adjusted from 0 to 9.9999. For example, coefficient is 4.5562, spindle moves 3.60mm, display reading is  $4.5562 \times 3.60 = 16.40\text{mm}$

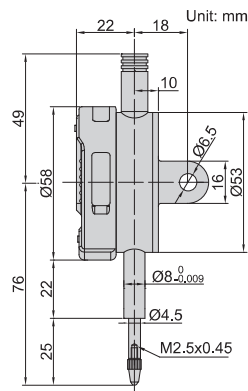
- Button function: on/off, zero, data preset, inch/mm, coefficient set, measuring direction change
- Keep preset data in memory after restart
- CR2032 battery, automatic power off
- Data output
- Optional accessory: data output cable (code **7315-50M**, **7302-40M**, **7305-40M**), backs (page 164~165), contact points (page 161~163)



2501-10

DATA OUTPUT

INSPECTION CERTIFICATE TRACEABLE TO NIST



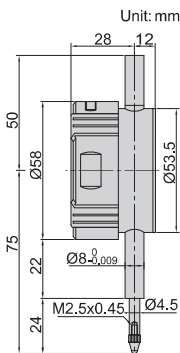
Code	Range	Resolution	Accuracy	Hysteresis	Remark
2501-10*	12.7mm/0.5"	0.01mm/0.0005"	20µm	10µm	lug back
2501-10F*	12.7mm/0.5"	0.01mm/0.0005"	20µm	10µm	flat back

\*Supplied with manufacturer inspection certificate traceable to NIST USA

7

## DIGITAL INDICATORS FOR BORE GAGES

- 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
- Data remains after power off, no need to recalibrate after power on
- CR2032 battery, automatic power off
- Data output
- Optional accessory: data output cable (code **7315-50M**, **7302-40M**, **7305-40M**), backs (page 164~165), contact points (page 161~163), spindle lift knob (code **7332**)

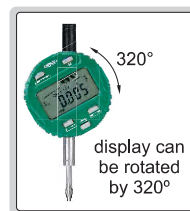


2108-10F

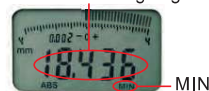
THE ORIGINAL DATA REMAINS AFTER POWER OFF

DATA OUTPUT

INSPECTION CERTIFICATE TRACEABLE TO NIST



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



The minimum value tracking function can find the diameter automatically.

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

## 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
- 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 (page 164~165), contact points (page 161~163)

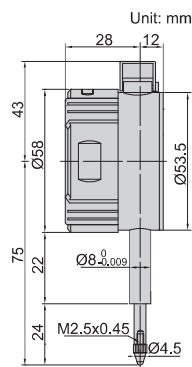


DATA OUTPUT

INSPECTION CERTIFICATE TRACEABLE TO NIST



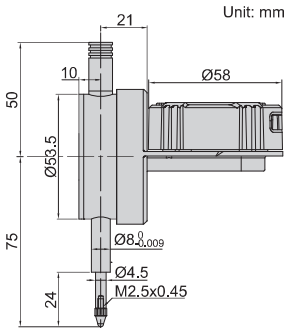
2109-10



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

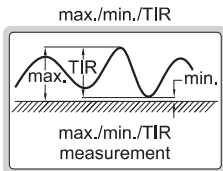
## BACK PLUNGER TYPE DIGITAL INDICATORS



display can rotate 320°



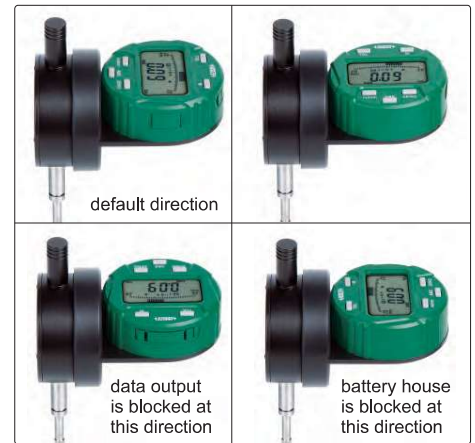
7



- 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
- Data output
- Optional accessory: data output cable (code 7315-50M, 7302-40M, 7305-40M), backs (page 164~165), contact points (page 161~163)



display direction is changeable



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

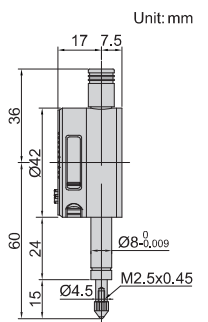
Remark: To change above direction, 4 fixing screws on the back of display need to be removed first.

## 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
- Keep preset data in memory after restart
- CR1632 battery, automatic power off
- Data output
- Optional accessory: data output cable (code 7315-50, 7302-SPC3A, 7305-C01), contact points (page 161~163)

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



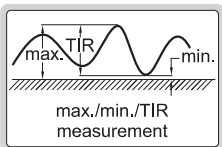
## LARGE STROKE DIGITAL INDICATORS

DATA OUTPUT

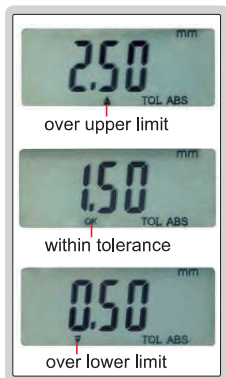
spindle lift knob is included



max./min./TIR



warning when over tolerance



- 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 7315-50, 7302-SPC3A, 7305-C01), backs (page 164~165), contact points (page 161~163)

Resolution 0.01mm/0.0005"

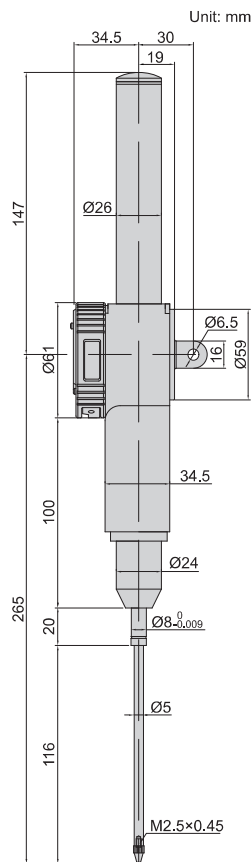
Code	Range	Accuracy	Hysteresis	Remark
2117-100	100mm/4"	30µm	10µm	lug back

Resolution 0.001mm/0.00005"

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



2117-100



## ZEROING FOOT SWITCHES

- For zeroing of digital indicators



7360-1

application



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

LINEAR GAGE  
**IP65**  
WATERPROOF

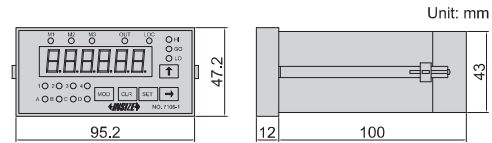
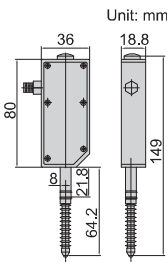
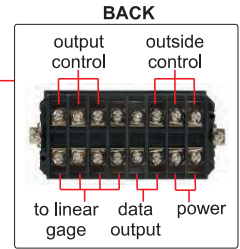
## LINEAR GAGES AND DISPLAY UNIT



linear gage



display unit  
7106-1



application



- Linear gage: shock-proof, water proof, dust proof, suitable for high speed movement, long working life
- Display unit: set tolerance and make judgment (out of upper tolerance, within tolerance, out of lower tolerance), output the judgment to control outside devices, set zero and hold reading from outside

### LINEAR GAGE SPECIFICATION

Code	7106-11	7106-12
Measuring range	12mm/0.47"	12mm/0.47"
Resolution	0.01mm/0.0004"	0.001mm/0.00004"
Accuracy	20μm	5μm
Hysteresis	10μm	2μm
Measuring principle	capacity system	
Voltage	5V	
Sampling frequency	100 times/sec.	
Working life	ten million times	
Dust/waterproof	IP65	
Measuring force	1.5N	
Cable length	2m	
Data output	four-core wire	

### DISPLAY UNIT SPECIFICATION

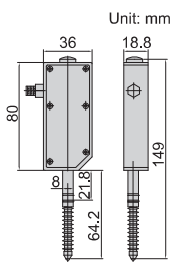
Code	7106-1
Display	6 digits
Quantity of linear gages to be connected	1 pc
Tolerance	set tolerance and make judgment with alarm and lights (out of upper tolerance, within tolerance, out of lower tolerance)
Output control	output the tolerance judgment (out of upper tolerance, within tolerance, out of lower tolerance) to control outside devices
Outside control	control the display units from outside (set zero, hold reading)
Data output	connect to PC
Power supply	DC 9~24V

# MULTI LINEAR GAGE SYSTEM

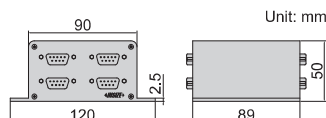
LINEAR GAGE  
**IP65**  
WATERPROOF



linear gage



4-channel interface box  
7107-1

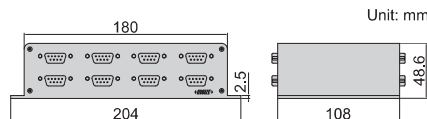


software CD  
(included)

application



8-channel interface box  
7107-2



- Interface boxes are supplied with software. 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.
- 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.

## LINEAR GAGE 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	capacity system	
Voltage	5V	
Sampling frequency	100 times/sec.	
Working life	ten million times	
Dust/waterproof	IP65	
Measuring force	1.5N	
Cable length	2m	
Data output	RS232	

## INTERFACE BOX SPECIFICATION

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

## CONNECTION BOX (OPTIONAL) SPECIFICATION

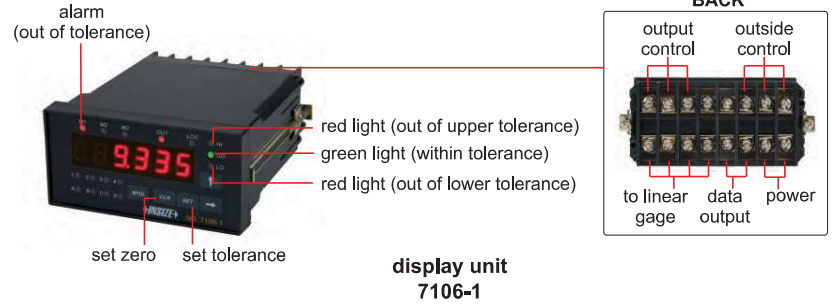
Code	7107-3
Quantity of interface boxes to be connected	4 pcs (maximum 4 interface boxes can be connected)
Data output	RS232 and RS485
Power supply	DC 9~24V



## CABLE FOR DIGITAL INDICATORS AND DISPLAY UNIT

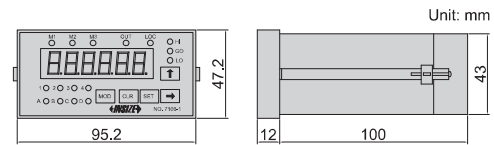


**cable of digital indicators  
7309-B01M**



**display unit  
7106-1**

application



- Display unit: set tolerance and make judgment (out of upper tolerance, within tolerance, out of lower tolerance), output the judgment to control outside devices, set zero and hold reading from outside, data preset, measuring direction change

### CABLE SPECIFICATION

Code	Description	Plug to product	Socket on product	Applicable product
7309-B01M	cable of digital indicator (length 2.5m)			digital indicators

### DISPLAY UNIT SPECIFICATION

Code	7106-1
Display	6 digits
Quantity of 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)
Data output	connect to PC
Power supply	DC 9~24V

# CABLE FOR DIGITAL INDICATORS AND MULTI CHANNEL INTERFACE BOX



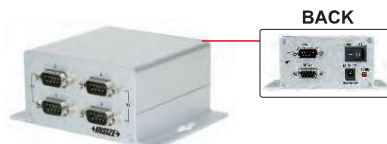
application



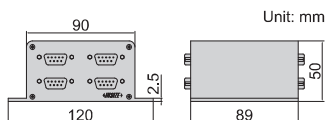
software CD (included)



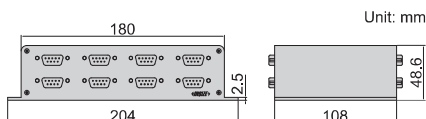
cable of digital indicators  
7309-C01M



4-channel interface box  
7107-1



8-channel interface box  
7107-2



- Interface boxes are supplied with software. 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.
- 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.

## CABLE SPECIFICATION

Code	Description	Plug to product	Socket on product	Applicable product
7309-C01M	cable of digital indicator (length 2 m)			 digital indicators

## INTERFACE BOX SPECIFICATION

Code	7107-1	7107-2
Quantity of 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

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

JEWELLED BEARING

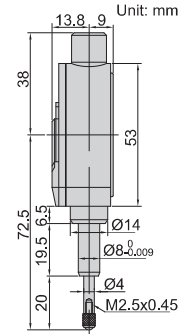
SHOCK PROOF

## DIAL COMPARATOR

**INSIZE PLUS**  
MADE IN EUROPE

- Meet DIN879-1
- Shockproof
- Jeweled bearing
- Overtravel: 3mm
- Shadow free dial face cover
- Supplied with limit pointers
- Initial measuring force 1.2N
- Optional accessory: lifting lever (code 6289-150)

lifting lever (optional)



2881-01

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

\*Supplied with manufacturer inspection certificate traceable to NIST USA

7

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

SHOCK PROOF

## HIGH PRECISION COMPACT DIAL INDICATORS

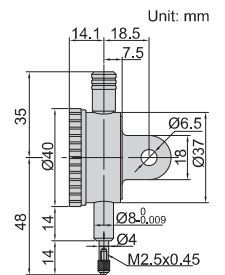
**INSIZE PLUS**  
MADE IN EUROPE

- Shockproof
- Jeweled bearing
- With limit pointers
- Optional accessory: backs (page 164~165), contact points (page 161~163), lifting lever (code 6289-150)

lifting lever (optional)



2890-1



Code	Range	Graduation	Accuracy	Hysteresis	Range/rev	Dial reading	Remark
2890-1 *	1mm	0.001mm	3µm	1.5µm	0.1mm	0-100	lug back
2890-1F *	1mm	0.001mm	3µm	1.5µm	0.1mm	0-100	flat back

\*Supplied with manufacturer inspection certificate traceable to NIST USA

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

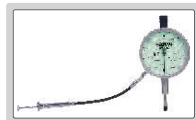
SHOCK PROOF

## HIGH PRECISION DIAL INDICATORS

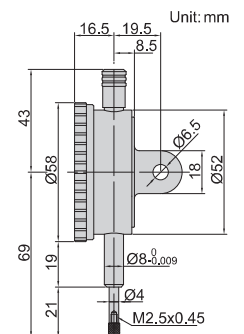
**INSIZE PLUS**  
MADE IN EUROPE

- Shockproof
- Jeweled bearing
- With limit pointers
- Optional accessory: backs (page 164~165), contact points (page 161~163), lifting lever (code 6289-150)

lifting lever (optional)



2891-1



Code	Range	Graduation	Accuracy	Hysteresis	Range/rev	Dial reading	Remark
2891-1 *	1mm	0.001mm	3µm	1.5µm	0.1mm	0-100	lug back
2891-1F *	1mm	0.001mm	3µm	1.5µm	0.1mm	0-100	flat back

\*Supplied with manufacturer inspection certificate traceable to NIST USA



## PRECISION DIAL INDICATORS

**INSIZE PLUS**  
MADE IN EUROPE

- Shockproof
- Jeweled bearing
- With limit pointers
- Optional accessory: backs (page 164~165), contact points (page 161~163)



2830-1

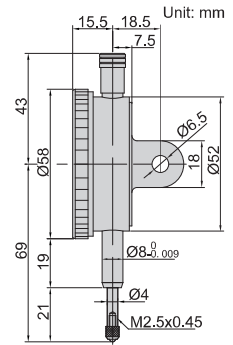
Code	Range	Graduation	Accuracy	Hysteresis	Range/rev	Dial reading	Remark
2830-1 *	1mm	0.001mm	5µm	2µm	0.2mm	0-100-0	lug back
2830-1F *	1mm	0.001mm	5µm	2µm	0.2mm	0-100-0	flat back

\*Supplied with manufacturer inspection certificate traceable to NIST USA

SHOCK  
PROOF

JEWELLED  
BEARING

**INSPECTION  
CERTIFICATE**  
TRACEABLE TO NIST



7

## COMPACT DIAL INDICATOR

**INSIZE PLUS**  
MADE IN EUROPE

- Meet DIN878
- With limit pointers
- Optional accessory: backs (page 164~165), contact points (page 161~163)

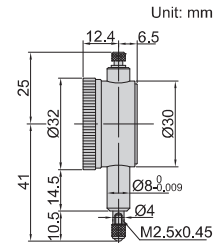


2886-3F

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

\*Supplied with manufacturer inspection certificate traceable to NIST USA

**INSPECTION  
CERTIFICATE**  
TRACEABLE TO NIST



## COMPACT DIAL INDICATORS

**INSIZE PLUS**  
MADE IN EUROPE

- Meet DIN878
- With limit pointers
- Optional accessory: backs (page 164~165), contact points (page 161~163)

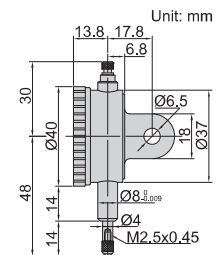


2887-5

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

\*Supplied with manufacturer inspection certificate traceable to NIST USA

**INSPECTION  
CERTIFICATE**  
TRACEABLE TO NIST



## LARGE DIAL FACE DIAL INDICATOR

**INSIZE PLUS**  
MADE IN EUROPE

- Large, easy-to-read dial face
- With limit pointers
- Optional accessory: backs (page 164~165), contact points (page 161~163)

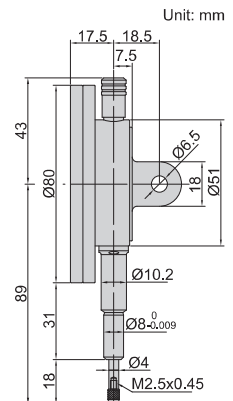


2888-10

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

\*Supplied with manufacturer inspection certificate traceable to NIST USA

**INSPECTION  
CERTIFICATE**  
TRACEABLE TO NIST



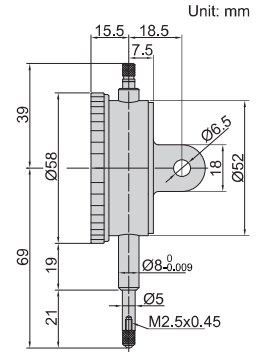
**INSPECTION  
CERTIFICATE**  
TRACEABLE TO NIST

**DIAL INDICATORS**  
**INSIZE PLUS**  
MADE IN EUROPE

- Meet DIN878
- With limit pointers
- Optional accessory: backs (page 164~165), contact points (page 161~163)



2892-10



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

\* Supplied with manufacturer inspection certificate traceable to NIST USA

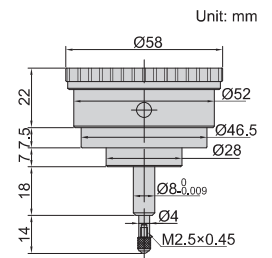
**INSPECTION  
CERTIFICATE**  
TRACEABLE TO NIST

**BACK PLUNGER DIAL INDICATOR**  
**INSIZE PLUS**  
MADE IN EUROPE

- With limit pointers
- Optional accessory: contact points (page 161~163)



2893-3



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

\* Supplied with manufacturer inspection certificate traceable to NIST USA

**INSPECTION  
CERTIFICATE**  
TRACEABLE TO NIST

SHOCK  
PROOF

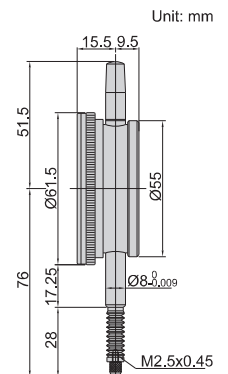
IP67  
WATERPROOF

**WATERPROOF DIAL INDICATOR**  
**INSIZE PLUS**  
MADE IN EUROPE

- Meet DIN878
- Shockproof
- IP67 dust/waterproof
- With limit pointers
- Optional accessory: contact points (page 161~163)



2894-10F



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

\* Supplied with manufacturer inspection certificate traceable to NIST USA

## DIAL INDICATORS (LONG STROKE)

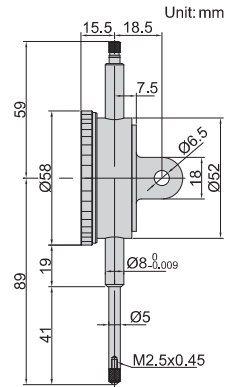
**INSIZE PLUS**  
MADE IN EUROPE

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

- With limit pointers
- Optional accessory: backs (page 164~165), contact points (page 161~163)



2889-30



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

\* Supplied with manufacturer inspection certificate traceable to NIST USA

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## ONE REVOLUTION PRECISION DIAL INDICATORS

**INSIZE PLUS**  
MADE IN EUROPE

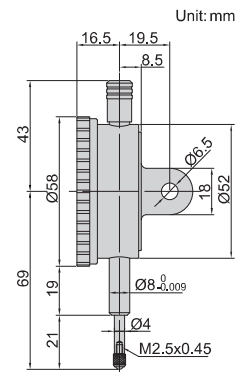
SHOCK PROOF

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

- Eliminate the possibility of reading errors due to miscounting
- Shockproof
- Jeweled bearing
- Free stroke: 4.5mm
- With limit pointers
- Optional accessory: backs (page 164~165), contact points (page 161~163), lifting lever (code 6289-150)



2885-008



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

\* Supplied with manufacturer inspection certificate traceable to NIST USA

## ONE REVOLUTION DIAL INDICATORS

**INSIZE PLUS**  
MADE IN EUROPE

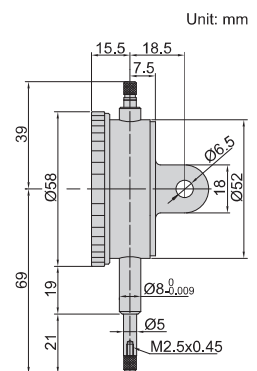
SHOCK PROOF

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

- Meet DIN878
- Eliminate the possibility of reading errors due to miscounting
- Shockproof
- Free stroke: 7mm
- With limit pointers
- Optional accessory: backs (page 164~165), contact points (page 161~163)



2882-08



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

\* Supplied with manufacturer inspection certificate traceable to NIST USA

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

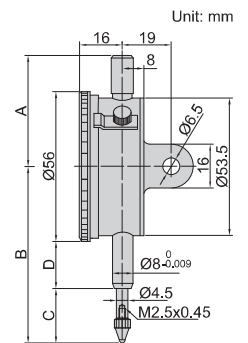
**JEWELLED BEARING**

## PRECISION DIAL INDICATORS

- Graduation: 0.001mm
- Jeweled bearing
- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 164~165), contact points (page 161~163)



2313-1A



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

\*Supplied with manufacturer inspection certificate traceable to NIST USA

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

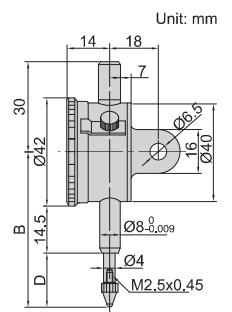
**JEWELLED BEARING**

## COMPACT DIAL INDICATORS

- Meet DIN878
- Jeweled bearing
- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 164~165), contact points (page 161~163)



2311-5



Code	Range	Graduation	Accuracy	Hysteresis	Range/rev	Dial reading	Remark	B	D
2311-3F *	3mm	0.01mm	12µm	3µm	0.5mm	0-50	flat back	46	10.5
2311-5F *	5mm	0.01mm	14µm	3µm	0.5mm	0-50	flat back	48	12.5
2311-3 *	3mm	0.01mm	12µm	3µm	0.5mm	0-50	lug back	46	10.5
2311-5 *	5mm	0.01mm	14µm	3µm	0.5mm	0-50	lug back	48	12.5

\*Supplied with manufacturer inspection certificate traceable to NIST USA

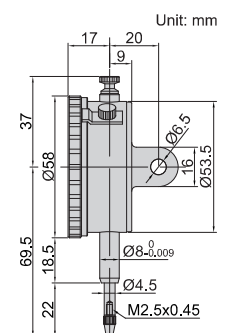
**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

## DIAL INDICATORS (BASIC TYPE)

- Meet DIN878
- Jeweled bearing
- Supplied with limit hands and bezel clamp
- Packed in carton box
- Optional accessory: backs (page 164~165), contact points (page 161~163)



2301-10



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

## DIAL INDICATORS (STANDARD TYPE)

JEWELLED BEARING

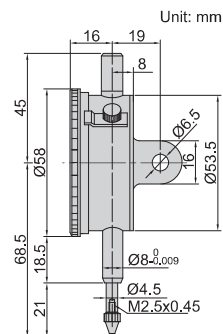
INSPECTION CERTIFICATE  
TRACEABLE TO NIST

- Meet DIN878
- Jeweled bearing
- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 164~165), contact points (page 161~163)



2308-10A

Code	Range	Graduation	Accuracy	Hysteresis	Range/rev	Dial reading	Remark
2308-3FA *	3mm	0.01mm	12μm	3μm	1mm	0-100	flat back
2308-5FA *	5mm	0.01mm	14μm	3μm	1mm	0-100	flat back
2308-10FA *	10mm	0.01mm	17μm	3μm	1mm	0-100	flat back
2308-3A *	3mm	0.01mm	12μm	3μm	1mm	0-100	lug back
2308-5A *	5mm	0.01mm	14μm	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

## REVERSE READING DIAL INDICATORS

JEWELLED BEARING

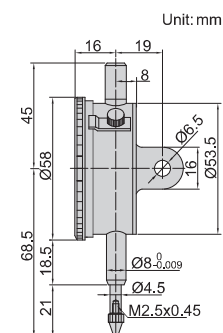
INSPECTION CERTIFICATE  
TRACEABLE TO NIST

- Meet DIN878
- Suitable for depth and step measurements
- Jeweled bearing
- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 164~165), contact points (page 161~163)



2801-10

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

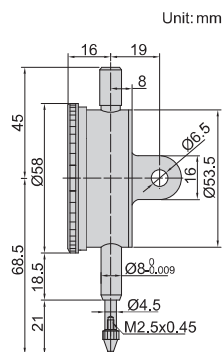
INSPECTION CERTIFICATE  
TRACEABLE TO NIST

- Meet DIN878
- Shockproof
- Jeweled bearing
- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 164~165), contact points (page 161~163)



2314-10A

Code	Range	Graduation	Accuracy	Hysteresis	Range/rev	Dial reading	Remark
2314-3FA *	3mm	0.01mm	12μm	3μm	1mm	0-100	flat back
2314-5FA *	5mm	0.01mm	14μm	3μm	1mm	0-100	flat back
2314-10FA *	10mm	0.01mm	17μm	3μm	1mm	0-100	flat back
2314-3A *	3mm	0.01mm	12μm	3μm	1mm	0-100	lug back
2314-5A *	5mm	0.01mm	14μm	3μm	1mm	0-100	lug back
2314-10A *	10mm	0.01mm	17μm	3μm	1mm	0-100	lug back



\*Supplied with manufacturer inspection certificate traceable to NIST USA

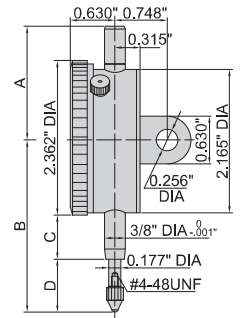
**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

## INCH DIAL INDICATORS

- Meet ASME B89.1.10M-2001
- With lug back
- Supplied with limit pointers and bezel clamp



2307-1



Code	Range	Graduation	Accuracy		Range/rev	Dial reading
			First 2.5 rev	Overall		
2307-025 *	0.25"	0.001"	$\pm 0.001$ "	$\pm 0.001$ "	0.1"	0-100
2307-05 *	0.5"	0.001"	$\pm 0.001$ "	$\pm 0.002$ "	0.1"	0-100
2307-1 *	1"	0.001"	$\pm 0.001$ "	$\pm 0.002$ "	0.1"	0-100
2307-2 *	2"	0.001"	$\pm 0.001$ "	$\pm 0.004$ "	0.1"	0-100
2307-0255 *	0.25"	0.0005"	$\pm 0.0005$ "	$\pm 0.0015$ "	0.05"	0-50
2307-055 *	0.5"	0.0005"	$\pm 0.0005$ "	$\pm 0.0015$ "	0.05"	0-50
2307-105 *	1"	0.0005"	$\pm 0.0005$ "	$\pm 0.002$ "	0.05"	0-50
2307-205 *	2"	0.0005"	$\pm 0.0005$ "	$\pm 0.002$ "	0.05"	0-50

Range	A	B	C	D
0.25"	1.811"	2.953"	0.787"	0.984"
0.5"	1.811"	2.953"	0.787"	0.984"
1"	1.811"	3.346"	0.787"	1.378"
2"	4.370"	5.472"	1.969"	2.323"

\* Supplied with manufacturer inspection certificate traceable to NIST

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

**IP54**  
WATERPROOF

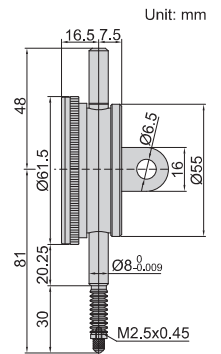
## WATERPROOF DIAL INDICATORS

- Meet DIN878
- IP54 dust/waterproof
- With limit pointers
- Optional accessory: backs (page 164~165), contact points (page 161~163)



2324-10A

Code	Range	Graduation	Accuracy	Hysteresis	Range/rev	Dial reading	Remark
2324-10FA *	10mm	0.01mm	17 $\mu$ m	3 $\mu$ m	1mm	0-100	flat back
2324-10A *	10mm	0.01mm	17 $\mu$ m	3 $\mu$ m	1mm	0-100	lug back



\* Supplied with manufacturer inspection certificate traceable to NIST USA

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

## DOUBLE FACE DIAL INDICATOR

- Meet DIN878
- Read from both sides
- Jeweled bearing
- Supplied with limit pointers
- Optional accessory: contact points (page 161~163)

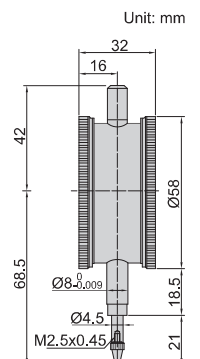


front

back

2328-10

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



\* Supplied with manufacturer inspection certificate traceable to NIST USA

## DIAL INDICATORS (LONG STROKE)

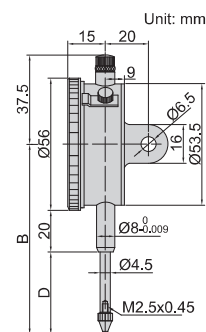


- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 164~165), contact points (page 161~163)

2310-30A

(mm)

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



\*Supplied with manufacturer inspection certificate traceable to NIST USA

## DIAL INDICATORS (LONG STROKE, BASIC TYPE)



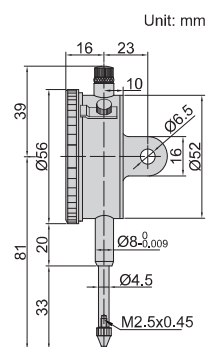
carton box



- Supplied with limit pointers and bezel clamp
- Packed in carton box
- Optional accessory: backs (page 164~165), contact points (page 161~163)

2302-25

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



\*Supplied with manufacturer inspection certificate traceable to NIST USA

## DIAL INDICATORS (GRADUATION 0.1mm)

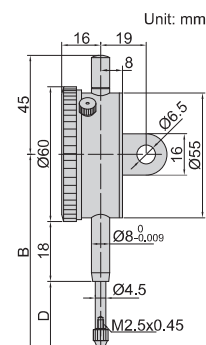


- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 164~165), contact points (page 161~163)

2318-30

(mm)

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



**INSPECTION  
CERTIFICATE**  
TRACEABLE TO NIST

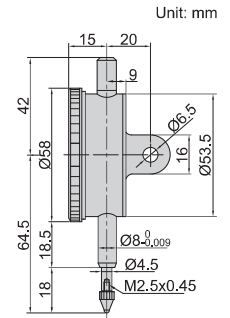
**SHOCK  
PROOF**

## ONE REVOLUTION DIAL INDICATORS

- Meet DIN878
- Eliminate the possibility of reading errors due to miscounting
- Shockproof
- Supplied with limit pointers
- Optional accessory: backs (page 164~165), contact points (page 161~163)



2316-05



Code	Range	Dial indicator stroke	Graduation	Accuracy	Hysteresis	Dial reading	Remark
2316-05F *	0.5mm	5mm	0.01mm	9μm	3μm	25-0-25	flat back
2316-1F *	1mm	5mm	0.01mm	9μm	3μm	50-0-50	flat back
2316-05 *	0.5mm	5mm	0.01mm	9μm	3μm	25-0-25	lug back
2316-1 *	1mm	5mm	0.01mm	9μm	3μm	50-0-50	lug back

\* Supplied with manufacturer inspection certificate traceable to NIST USA

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**INSPECTION  
CERTIFICATE**  
TRACEABLE TO NIST

**JEWELLED  
BEARING**

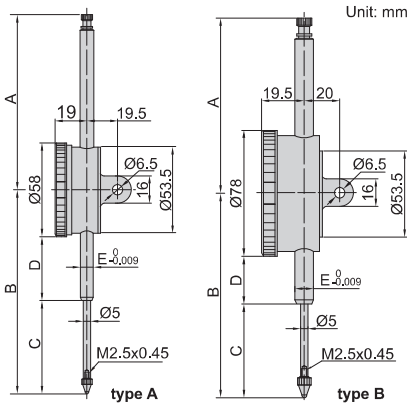
**SHOCK  
PROOF**

## DIAL INDICATORS (LONG STROKE)

- Shockproof
- Jeweled bearing
- Supplied with limit pointers
- Optional accessory: backs (page 164~165), contact points (page 161~163)



2309-50



stem clamp Ø10mm  
for 2309-100D



back of type B



Code	Type	A	B	C	D	E	(mm)
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	

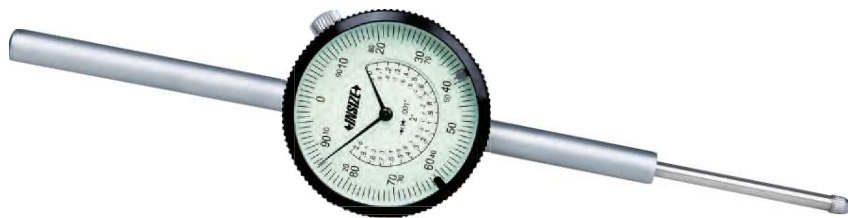
Code	Range	Graduation	Type	Accuracy	Hysteresis	Range/rev	Dial reading	Remark
2309-30F *	30mm	0.01mm	A	35μm	7μm	1mm	0-100	flat back
2309-30 *	30mm	0.01mm	A	35μm	7μm	1mm	0-100	lug back
2309-50 *	50mm	0.01mm	A	40μm	8μm	1mm	0-100	flat back with spare lug back
2309-50D *	50mm	0.01mm	B	40μm	8μm	1mm	0-100	flat 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 164~165)

\* Supplied with manufacturer inspection certificate traceable to NIST USA



## INCH LONG STROKE DIAL INDICATORS



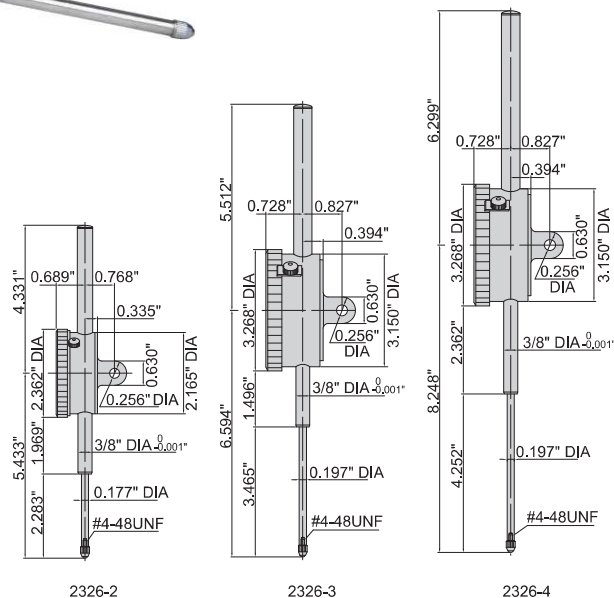
2326-2

- Graduation 0.001"
- With lug back
- Supplied with limit pointers and bezel clamp

Code	Range	Accuracy		Range/rev	Dial reading
		First 2.5 rev	Overall		
2326-2 *	2"	±0.001"	±0.004"	0.1"	0-100
2326-3 **	3"	±0.001"	±0.005"	0.1"	0-100
2326-4 **	4"	±0.001"	±0.005"	0.1"	0-100

\* Supplied with manufacturer inspection certificate traceable to NIST

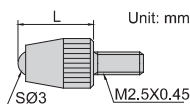
\*\* 2326-3 and 2326-4 can only be used vertically



## BALL POINTS



6282-0101



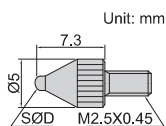
Unit: mm

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

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



6282-0301



Unit: mm

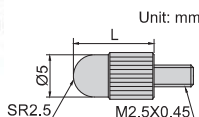
Code	Material of measuring face	SØD (mm)
6282-0301	steel	1
6282-0302	carbide	1.5
6282-0303	carbide	1.8

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

## SHELL TYPE POINTS



6282-0202



Unit: mm

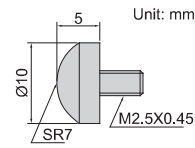
Code	Material of measuring face	L (mm)
6282-0202	steel	5
6282-0203	steel	10
6282-0205	steel	15

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

## SPHERICAL POINT

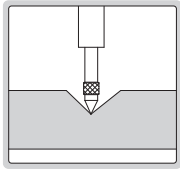


6282-0401



Code	Material of measuring face
6282-0401	steel

## CONICAL POINTS



6282-0601



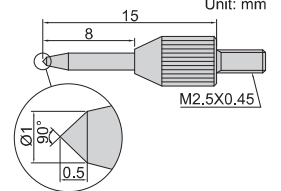
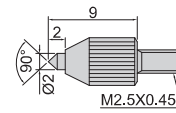
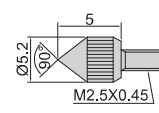
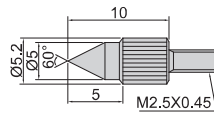
6282-0701



6282-0801



6282-0901

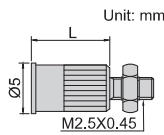


Code	Material of measuring face
6282-0601	steel
6282-0701	steel
6282-0801	steel
6282-0901	steel

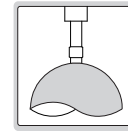
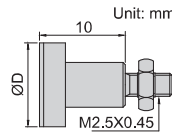
## FLAT POINTS



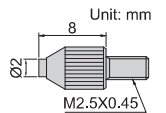
6282-1101



6282-1201



6282-1301



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

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

Code	Material of measuring face
6282-1301	carbide

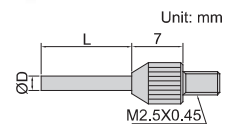
## NEEDLE POINTS

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

Code	Material of measuring face	ØD (mm)	L (mm)
6282-1710	carbide	1.5	10
6282-1711	carbide	1.5	13
6282-1712	carbide	1.5	20
6282-1713	carbide	1.5	40
6282-1714	carbide	2	8
6282-1715	carbide	2	18
6282-1716	carbide	2	28
6282-1717	carbide	2	40



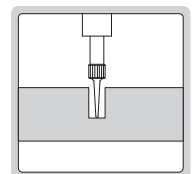
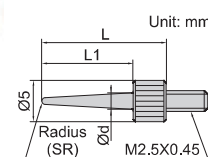
6282-1711



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



6282-1601

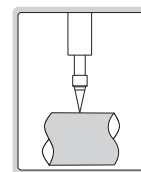
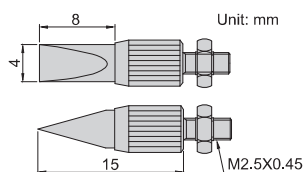


## KNIFE EDGE POINT

Code	Material of measuring face
6282-1001	steel



6282-1001



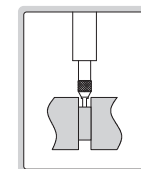
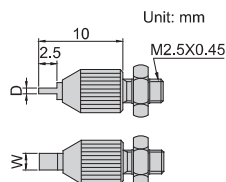
## BLADE POINTS

7

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



6282-1801

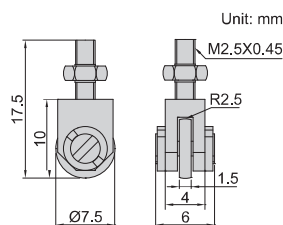


## ROLLER POINT

Code	Material of measuring face
6282-1901	steel



6282-1901



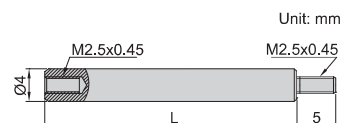
## EXTENSION RODS

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

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



6282-2010

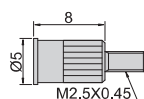


## POINT SET

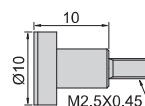


6282-S6

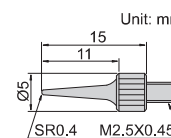
Code	Material of measuring face
6282-S6	steel



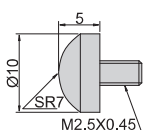
Flat Point



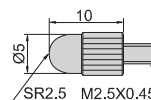
Flat Point



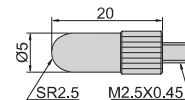
Needle Point



Spherical Point



Shell Type Point



Shell Type Point

## SPINDLE LIFT KNOB

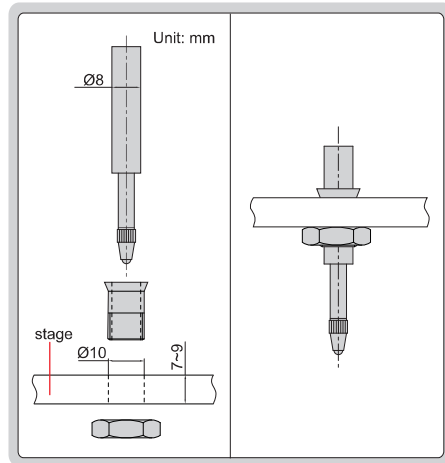
- For dial/digital indicators with spindle diameter  $\varnothing 4.5\text{mm}$  or  $\varnothing 5\text{mm}$

**Code**  
7332

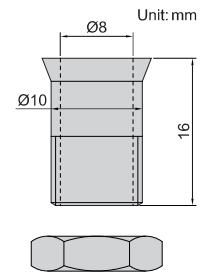


7332

## SHAFT SLEEVE



7333



- For dial indicators and probes with shaft diameter  $\varnothing 8\text{mm}$

**Code**  
7333

## MAGNETIC BACKS

Code	ØD	For digital/dial indicators
7331-M1	51.5mm	2103
		2104
		2108
		2109
		2112
		2113
		2115
		2116
		2117
		2118
		2120
		2501
		2301
		2302
		2308
		2309 (except 2309-30, 2309-30F)
		2313
		2314
2316		
2324		
2801		
7331-M2	54mm	2318

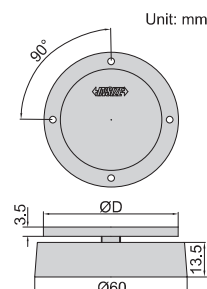


front



back

7331-M2



## FLAT BACKS

7



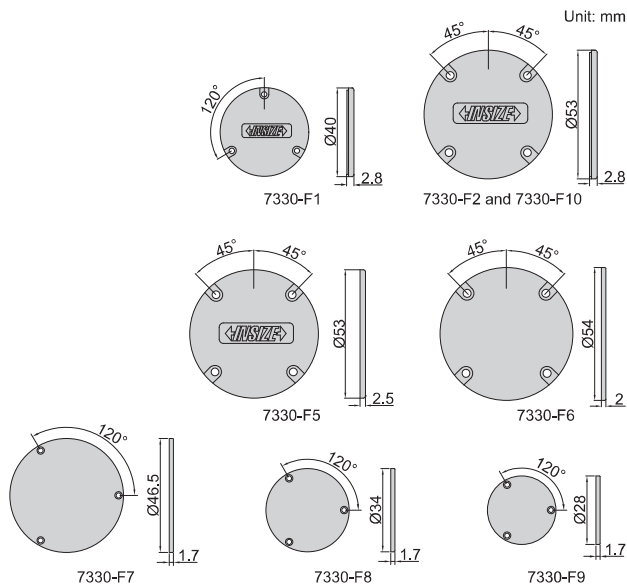
7330-F2



7330-F8

Code	For digital/dial indicators
7330-F1	2311
7330-F2	2301
	2302
	2308
	2309 (except 2309-30, 2309-30F)
	2313
	2314
	2316
	2324
7330-F5	2801
	2103
	2104
	2108
	2109
	2112
	2113

Code	For digital/dial indicators
7330-F5	2115
	2116
	2117
	2118
	2120
	2501
7330-F6	2318
7330-F7	2830
	2882
	2885
	2888
	2889
	2891
7330-F8	2892
	2890
	2887
7330-F9	2886
7330-F10	2310



## LUG BACKS



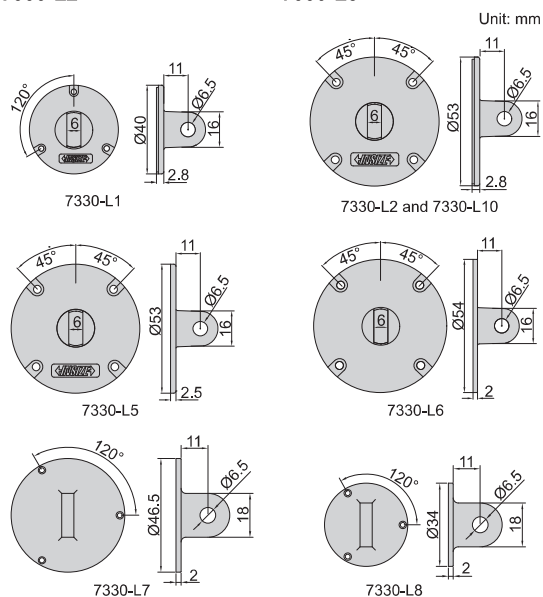
7330-L2



7330-L8

Code	For digital/dial indicators
7330-L1	2311
7330-L2	2301
	2302
	2308
	2309 (except 2309-30, 2309-30F)
	2313
	2314
	2316
	2324
7330-L5	2801
	2103
	2104
	2108
	2109
	2112
	2113

Code	For digital/dial indicators
7330-L5	2115
	2116
	2117
	2118
	2120
	2501
7330-L6	2318
7330-L7	2830
	2882
	2885
	2888
	2889
	2891
7330-L8	2892
	2890
	2887
7330-L10	2310



**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

ANTI MAGNETIC  
CARBIDE CONTACT POINT

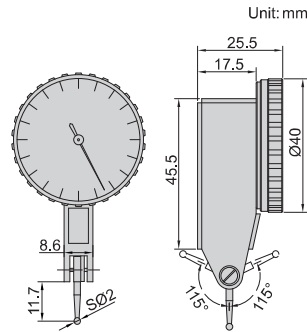
## PRECISION DIAL TEST INDICATOR

**INSIZE PLUS**  
MADE IN EUROPE

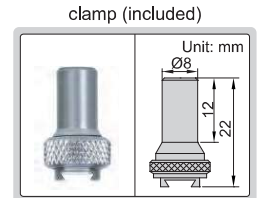


2897-02

- Meet DIN2270
- Ceramic bearing
- Anti magnetic carbide contact point
- Two measuring directions
- Supplied with one clamp: diameter Ø8mm
- Optional accessory: styli (page 170)



Unit: mm



clamp (included)

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

\*Supplied with manufacturer inspection certificate traceable to NIST USA

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

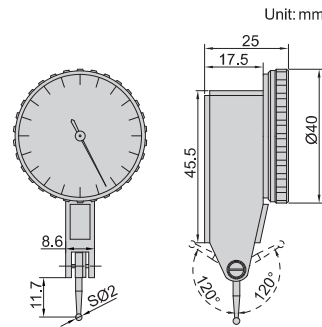
## PRECISION DIAL TEST INDICATORS

**INSIZE PLUS**  
MADE IN EUROPE

- Meet DIN2270
- Ceramic bearing
- Two measuring directions
- Supplied with one clamp: diameter Ø8mm
- Optional accessory: styli (page 170)



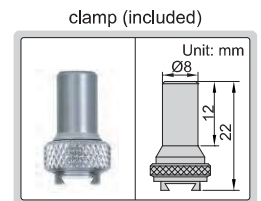
2880-02



Unit: mm



ruby contact point of 2880-02R



clamp (included)

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

\*Supplied with manufacturer inspection certificate traceable to NIST USA

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

ANTI MAGNETIC  
CARBIDE CONTACT POINT

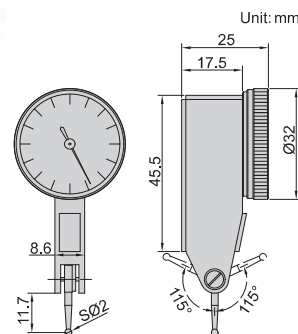
## DIAL TEST INDICATOR

**INSIZE PLUS**  
MADE IN EUROPE

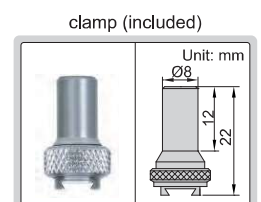
- Meet DIN2270
- Ceramic bearing
- Anti magnetic carbide contact point
- Two measuring directions
- Supplied with one clamp: diameter Ø8mm
- Optional accessory: styli (page 170)



2895-08



Unit: mm



clamp (included)

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

\*Supplied with manufacturer inspection certificate traceable to NIST USA

## LONG STYLUS DIAL TEST INDICATOR

**INSIZE PLUS**  
MADE IN EUROPE

ANTI MAGNETIC  
CARBIDE CONTACT POINT

**INSPECTION  
CERTIFICATE**  
TRACEABLE TO NIST

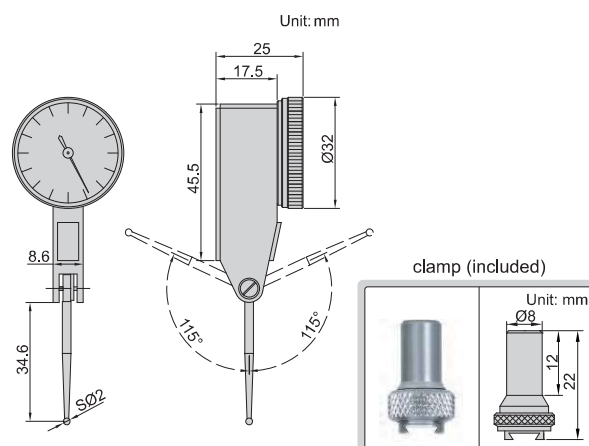


2896-05

- Meet DIN2270
- Ceramic bearing
- Anti magnetic carbide contact point
- Two measuring directions
- Supplied with one clamp: diameter Ø8mm
- Optional accessory: styli (page 170)

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

\* Supplied with manufacturer inspection certificate traceable to NIST USA



## VERTICAL TYPE LONG STYLUS DIAL TEST INDICATOR

**INSIZE PLUS**  
MADE IN EUROPE

ANTI MAGNETIC  
CARBIDE CONTACT POINT

**INSPECTION  
CERTIFICATE**  
TRACEABLE TO NIST

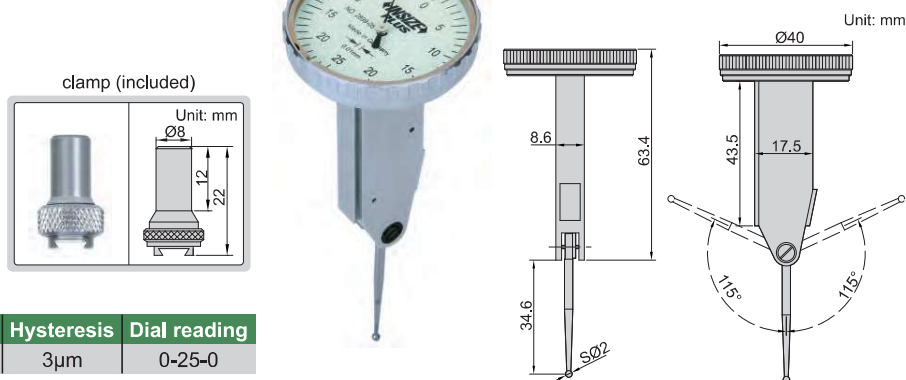


2899-05

- Meet DIN2270
- Ceramic bearing
- Anti magnetic carbide contact point
- Two measuring directions
- Supplied with one clamp: diameter Ø8mm
- Optional accessory: styli (page 170)

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

\* Supplied with manufacturer inspection certificate traceable to NIST USA



## SIDE TYPE DIAL TEST INDICATOR

**INSIZE PLUS**  
MADE IN EUROPE

ANTI MAGNETIC  
CARBIDE CONTACT POINT

**INSPECTION  
CERTIFICATE**  
TRACEABLE TO NIST

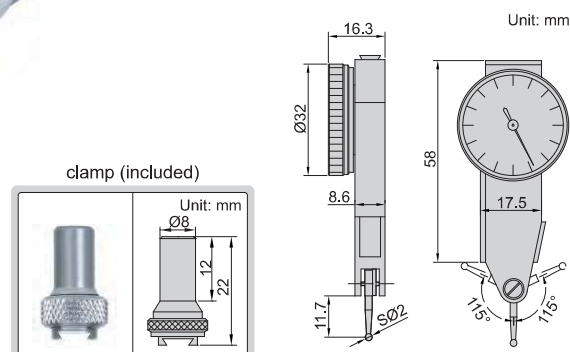


2898-08

- Meet DIN2270
- Ceramic bearing
- Anti magnetic carbide contact point
- Two measuring directions
- Supplied with one clamp: diameter Ø8mm
- Optional accessory: styli (page 170)

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

\* Supplied with manufacturer inspection certificate traceable to NIST USA

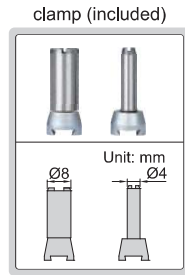


**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

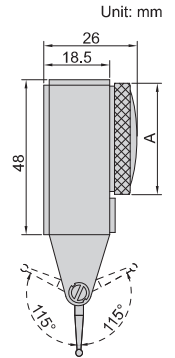
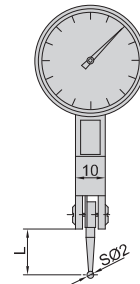
JEWELLED BEARING

## DIAL TEST INDICATORS

- 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 170)



2380-08



Unit: 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

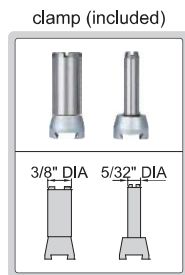
7

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

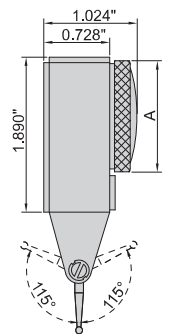
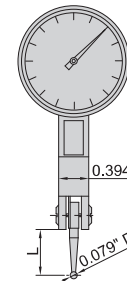
JEWELLED BEARING

## INCH DIAL TEST INDICATORS

- Jeweled bearing
- Carbide contact point
- Two measuring directions
- Anti magnetic body
- Supplied with two clamps: 5/32" DIA and 3/8" DIA



2380-31



Code	Range	Graduation	Accuracy	Dial reading	A	L
2380-31*	0.03"	0.001"	±0.001"	0-15-0	1.181" DIA	0.50"
2380-35*	0.03"	0.0005"	±0.0005"	0-15-0	1.181" DIA	0.50"
2380-301*	0.008"	0.0001"	±0.0001"	0-40-0	1.181" DIA	0.563"
2381-31*	0.03"	0.001"	±0.001"	0-15-0	1.457" DIA	0.50"
2381-35*	0.03"	0.0005"	±0.0005"	0-15-0	1.457" DIA	0.50"
2381-301*	0.008"	0.0001"	±0.0001"	0-40-0	1.457" DIA	0.563"

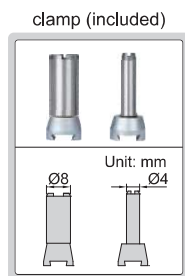
\*Supplied with manufacturer inspection certificate traceable to NIST

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

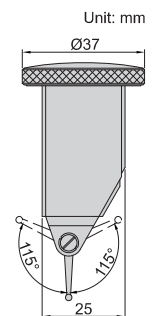
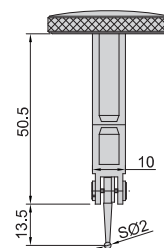
JEWELLED BEARING

## 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 (page 170)



2398-08



Unit: mm

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

- Meet DIN2270
- Jeweled bearing
- Carbide contact point
- Two measuring directions
- Anti magnetic body
- Supplied with two clamps: diameter  $\varnothing 4\text{mm}$  and  $\varnothing 8\text{mm}$
- Optional accessory: styli (page 170)



2399-08

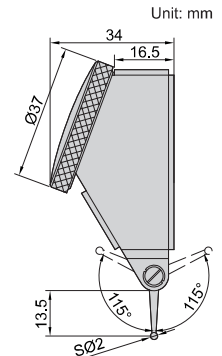
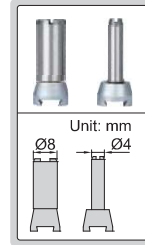
Code	Range	Graduation	Accuracy	Hysteresis	Dial reading
2399-08*	0.8mm	0.01mm	13 $\mu\text{m}$	3 $\mu\text{m}$	0-40-0

\*Supplied with manufacturer inspection certificate traceable to NIST USA

JEWELLED BEARING

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

clamp (included)



## LONG STYLUS DIAL TEST INDICATOR

- Meet DIN2270
- Jeweled bearing
- Carbide contact point
- Two measuring directions
- Anti magnetic body
- Supplied with two clamps: diameter  $\varnothing 4\text{mm}$  and  $\varnothing 8\text{mm}$
- Optional accessory: styli (page 170)



2383-08A

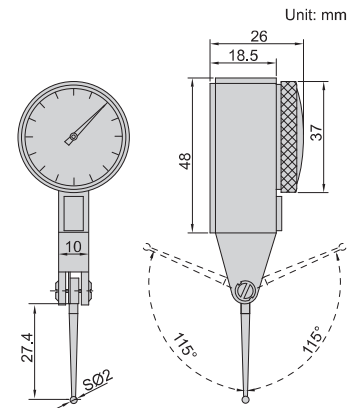
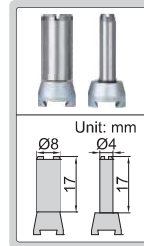
Code	Range	Graduation	Accuracy	Hysteresis	Dial reading
2383-08A*	0.8mm	0.01mm	13 $\mu\text{m}$	3 $\mu\text{m}$	0-40-0

\*Supplied with manufacturer inspection certificate traceable to NIST USA

JEWELLED BEARING

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

clamp (included)



## 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  $\varnothing 4\text{mm}$  and  $\varnothing 8\text{mm}$
- Optional accessory: styli (page 170)



2386-16A

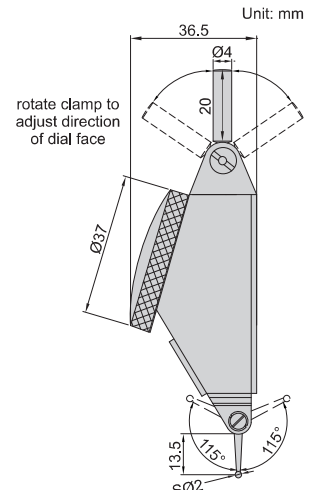
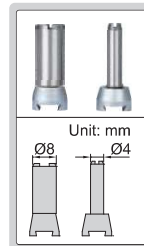
Code	Range	Graduation	Accuracy	Hysteresis
2386-16A*	1.6mm	0.01mm	25 $\mu\text{m}$	8 $\mu\text{m}$

\*Supplied with manufacturer inspection certificate traceable to NIST USA

JEWELLED BEARING

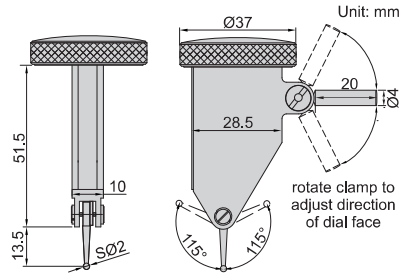
**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

clamp (included)

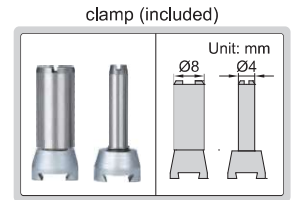


## LARGE RANGE VERTICAL TYPE DIAL TEST INDICATOR

- 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 170)



2480-16



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

\* Supplied with manufacturer inspection certificate traceable to NIST USA

## CLAMPS FOR DIAL TEST INDICATORS

Code	ØD
6298-1	Ø4mm
6298-2	Ø8mm



6298-1



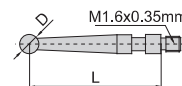
6298-2



## STYLI FOR DIAL TEST INDICATORS



6284-3



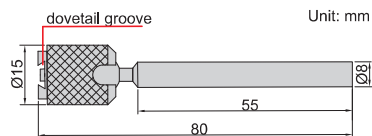
Code	For dial test indicator	Material of contact point	L	D
6284-1	2380-08	steel	13.5mm	SØ1mm
6284-3	2398-08	carbide	13.5mm	SØ2mm
6284-4	2381-08	ruby	13.5mm	SØ2mm
6284-8	2399-08	carbide	13.5mm	SØ3mm
6284-21	2380-02	steel	12.5mm	SØ1mm
6284-22		carbide	12.5mm	SØ2mm
6284-24		ruby	12.5mm	SØ2mm
6284-23		carbide	12.5mm	SØ3mm
6284-44	2880-02	carbide	11.7mm	SØ0.4mm
6284-41	2880-02R	carbide	11.7mm	SØ1mm
6284-42	2895-08	carbide	11.7mm	SØ2mm
6284-45	2897-02	ruby	11.7mm	SØ2mm
6284-43	2898-08	carbide	11.7mm	SØ3mm

Code	For dial test indicator	Material of contact point	L	D
6284-51	2896-05	carbide	34.6mm	SØ1mm
6284-52		carbide	34.6mm	SØ2mm
6284-55		ruby	34.6mm	SØ2mm
6284-53	2899-05	carbide	34.6mm	SØ3mm
6284-61	2386-16A	steel	13.5mm	SØ1mm
6284-62		carbide	13.5mm	SØ2mm
6284-63		ruby	13.5mm	SØ2mm
6284-64		carbide	13.5mm	SØ3mm
6284-81	2480-16	steel	27.4mm	SØ1mm
6284-82		carbide	27.4mm	SØ2mm
6284-83		ruby	27.4mm	SØ2mm
6284-84		carbide	27.4mm	SØ3mm

### DIAL TEST INDICATOR UNIVERSAL HOLDER



6297-1



Unit: mm

- Set the indicators at the desired attitude to the workpiece



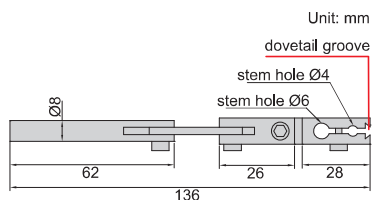
**Code**  
6297-1

7

### DIAL TEST INDICATOR HOLDER



6296-1



Unit: mm

- Supplied with hex key



**Code**  
6296-1

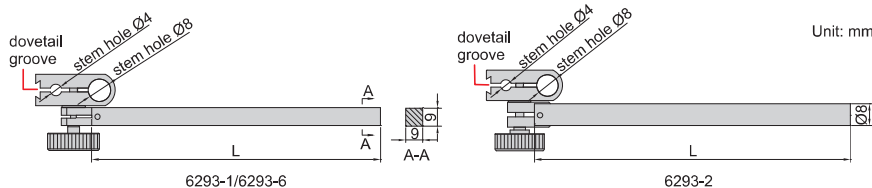
### DIAL TEST INDICATOR HOLDERS



6293-1



6293-2

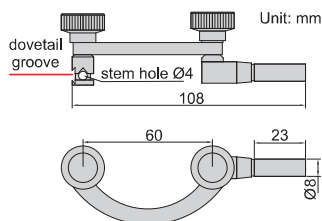


Code	Stem section	Stem length (L)
6293-1	9x9mm	100mm
6293-6	9x9mm	50mm
6293-2	Ø8mm	115mm

### DIAL TEST INDICATOR CENTERING HOLDER



6291-1



Unit: mm

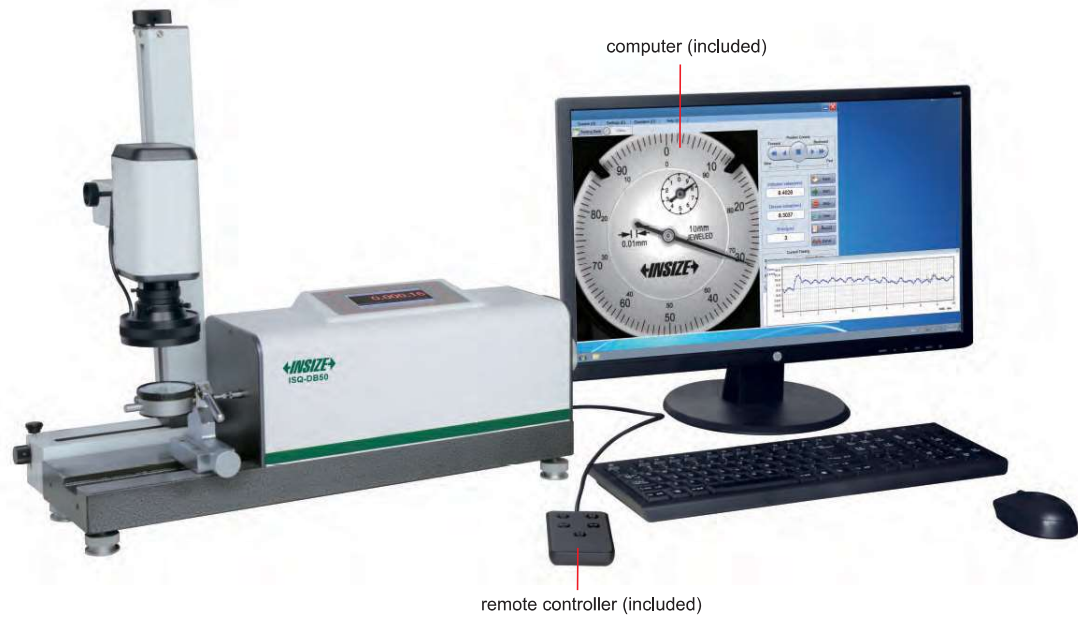
- Center cylinders or holes on machine tools



**Code**  
6291-1



## AUTOMATIC DIAL INDICATOR TESTER CODE ISQ-DB50



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

### SPECIFICATION

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

### STANDARD DELIVERY

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

### OPTIONAL ACCESSORY

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

To be continued

Continued from previous page



Ø8mm and 3/8" holder for dial indicators or digital indicators (included)



Ø4-28mm holder for bore gages (included)



holder for split type bore gages (optional)



Ø4mm, Ø6mm and Ø8mm holder for dial test indicators (included)



cable for INSIZE digital indicators (optional)

7



check dial indicators



check dial test indicators



check bore gages



check digital indicators (detect digits on screen)



check INSIZE digital indicators (connection with cable)

report

**Dial Indicator Calibration Data Sheet**

Measuring Range (Ø)mm:	Resolution:	Serial No.:	Inspection Date:
Model No.:	Adjustment:	Manufacturer:	Measuring Date:
Measuring Unit:	Cal. Acc.:	Cal. Reference:	Temperature:
Calibration No.:	Inspected Date:	Inspected By:	Inspected Date:

Item	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
Ø4mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ø6mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ø8mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Dial Indicator Calibration Certificate**

Graph showing Error Curve (µm) vs. Distance (mm). The curve fluctuates around zero, indicating measurement accuracy across the range.

table form

graph form

**Calibration certificate**

Calibration certificate showing Error Curve (µm) vs. Distance (mm). The graph displays a sawtooth pattern, indicating a specific type of error or wear. Below the graph is a table with columns for Item, Measuring Range, Resolution, and Error.

certificate form

customized standard

**Verification Setting**

**Work Range**

Work Range 1: 0 - 3 mm    Inspection Interval 1: 0.1 mm

Work Range 2:    -    mm    Inspection Interval 2:    mm

Work Range 3:    -    mm    Inspection Interval 3:    mm

Forward Distance from the last test point: 0.1 mm

**Error item**

- Any 0.1mm error    Tolerance: 5 µm
- Any 1mm error    Tolerance: 10 µm
- The measuring range    Tolerance: 14 µm
- Hysteresis Error    Tolerance: 3 µm
- Repeatability    Tolerance: 3 µm
- Tolerance: µm
- Tolerance: µm

**Repeatability**

Position Number: 3

Testing times: 5

Testing position: 0.0, 0.5, 1.0    Range proportion

Movement distance: -10 Div

**Additional test**

Maximum Error Point    Additional test range: ± 0.1 mm

Inspection Interval: 0.01 mm

OK    Cancel

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



## DIAL INDICATOR TESTER CODE 2396-25A

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

### Micrometer head

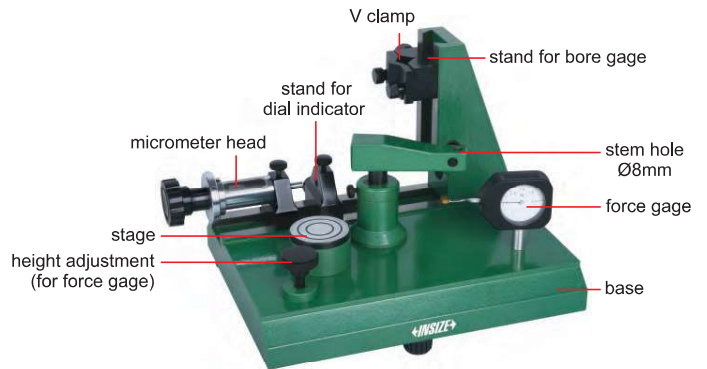
Range	Sampling interval	Accuracy	Hysteresis
0-25mm	0.1mm	4µm (0-25mm), 3µm (0-10mm), 2µm (0-1mm)	1µm

### Force gage

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

### Stage

Diameter	Flatness	Roughness
50mm	1µm	0.05µm



2396-25A



half round gage block  
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



check force of dial indicators



check repeatability of dial indicators



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



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

**ATTENTION: LOW LOCKING FORCE**

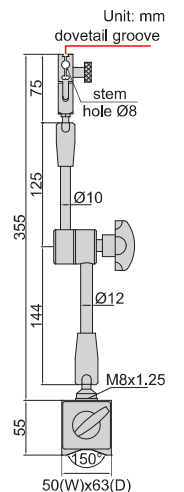
## UNIVERSAL MAGNETIC STAND (ECONOMIC TYPE)

- 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



## UNIVERSAL MAGNETIC STANDS

Unit: mm

6210-81

6210-80

6210-100

■ For digital/dial indicators and dial test indicators

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

## MAGNETIC STANDS

Unit: mm

6200-60

6201-60

6202-80

6202-100

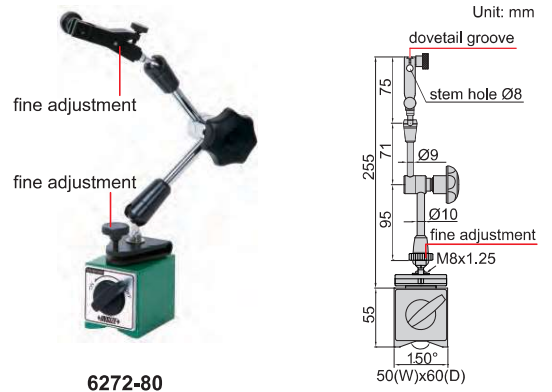
■ For digital/dial indicators and dial test indicators

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

## MAGNETIC STAND WITH TWO FINE ADJUSTMENTS

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

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



## MAGNETIC STAND

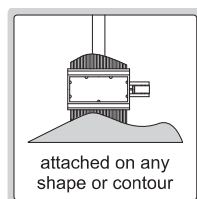
- For digital/dial indicators and dial test indicators

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

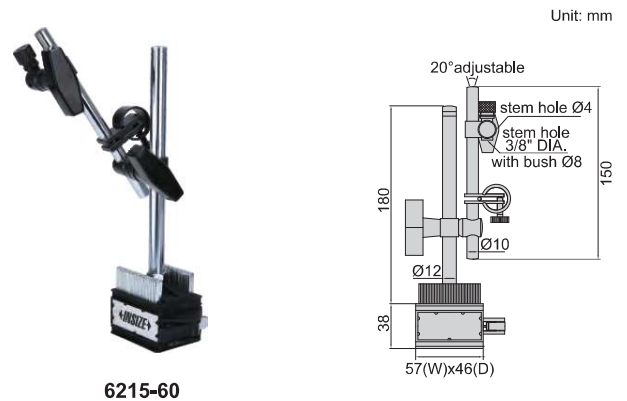


## MAGNETIC STAND FOR UNEVEN SURFACE

- 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.





## VACUUM STAND

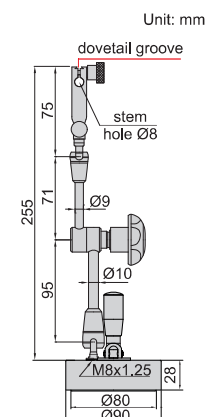
- Suitable for granite surface plates or cast iron surface plates
- For digital/dial indicators and dial test indicators

7

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



6217-B



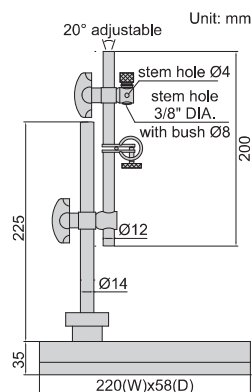
## UNIVERSAL STAND

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

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



6214-A



## FLEX ARM MAGNETIC STAND

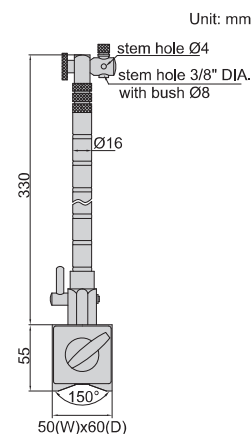
ATTENTION: FOR DIAL TEST INDICATORS ONLY

- For dial test indicators

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



6207-80A



ATTENTION: FOR DIAL TEST INDICATORS ONLY

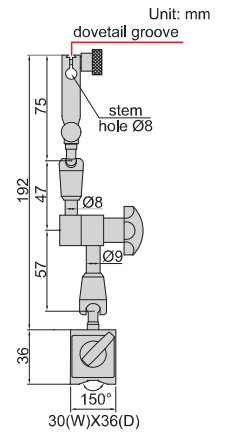
- For dial test indicators
- With fine adjustment and dovetail groove

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



6224-40

### MINI MAGNETIC STAND



7

ATTENTION: FOR DIAL TEST INDICATORS ONLY

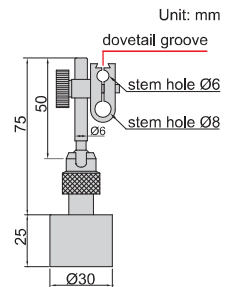
- For dial test indicators
- With dovetail groove

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



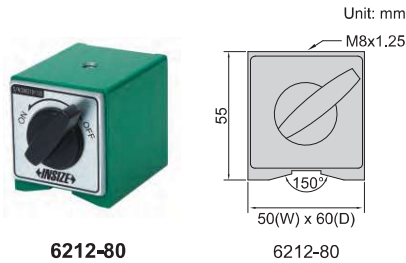
6211-10

### MINI MAGNETIC STAND

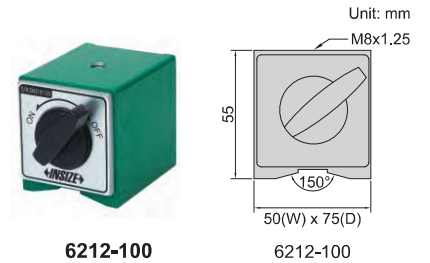


### MAGNETIC BASES

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



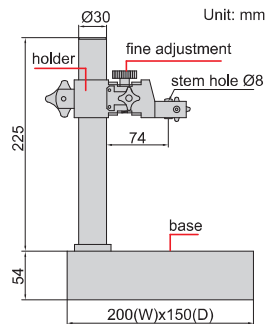
6212-80



6212-100

6212-100

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



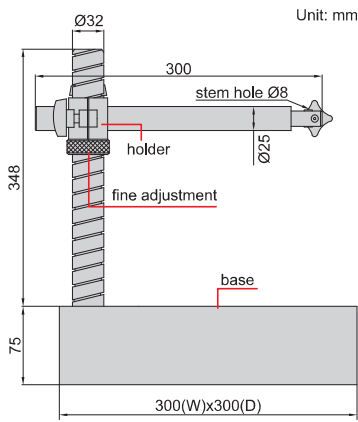
Code	Applicable holding stem	Base
6866-150	Ø8mm	flatness 2.5µm

### GRANITE DIAL INDICATOR STAND



6866-150

## GRANITE DIAL INDICATOR STAND



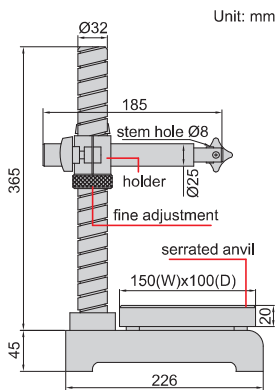
- Vertical travel of holder: 250mm
- Fine adjustment range: entire stroke
- Supplied with dust cover



6867-250

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

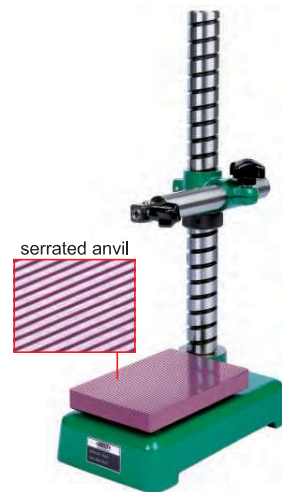
## DIAL INDICATOR STANDS



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



6864-250

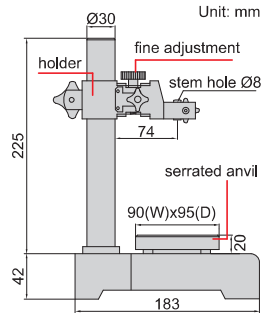


6864-250T

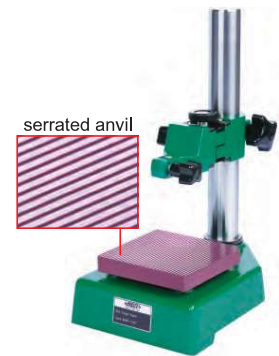
Code	Applicable holding stem	Anvil
6864-250	Ø8mm	steel (hardness HRC60±2), serrated, flatness 1.5µm
6864-250T	Ø8mm	ceramic, serrated, flatness 1.5µm

## DIAL INDICATOR STANDS

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



6863-150



6863-150T

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

## DIAL INDICATOR STANDS

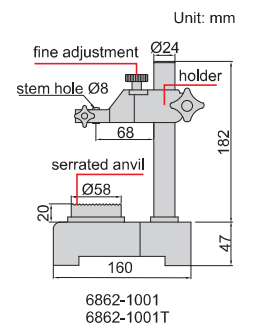
- Vertical travel of holder: 100mm
- Fine adjustment range: 2mm
- Supplied with dust cover



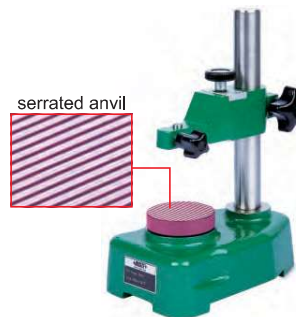
6862-1001



6862-1002



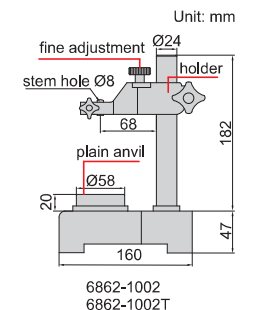
6862-1001  
6862-1001T



6862-1001T



6862-1002T



6862-1002  
6862-1002T

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

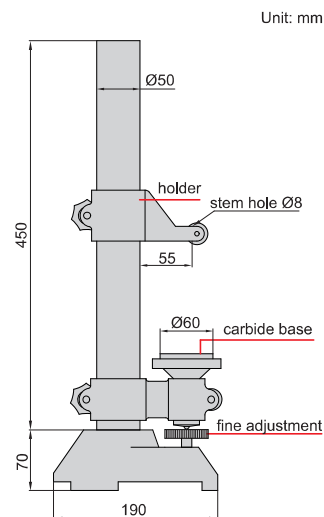
## HEAVY DUTY DIAL INDICATOR STAND

7

- Vertical travel of holder: 300mm
- Fine adjustment range: 5mm
- Carbide base
- Supplied with dust cover
- Optional accessory:  
holder with stem hole  $\varnothing 28$  (code **6869-D28**)



6869-300



Code	Applicable holding stem	Base
6869-300	$\varnothing 8$ mm	plain, flatness $1\mu\text{m}$ , carbide

## TRANSFER STANDS

### Application



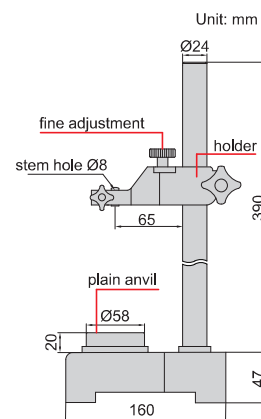
Rigid construction, designed to make comparison height measurement (set zero with gage block then measure height of workpiece) with dial indicators or digital indicators (variation of measuring force is high)



6865-300



6865-300T



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

Code	Applicable holding stem	Anvil
6865-300	$\varnothing 8$ mm	steel (hardness $\text{HRC}60\pm 2$ ), plain, flatness $1.5\mu\text{m}$
6865-300T	$\varnothing 8$ mm	ceramic, plain, flatness $1.5\mu\text{m}$

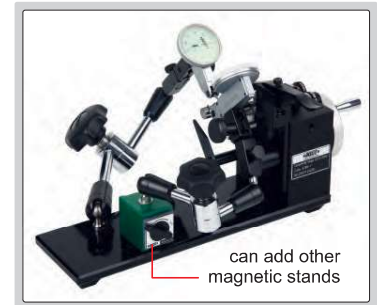
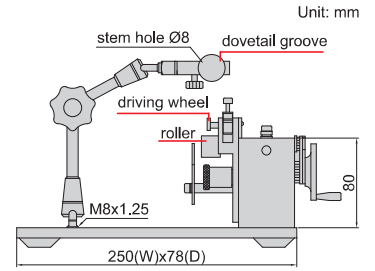
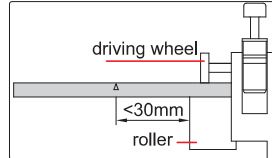
## CONCENTRICITY GAGES



- 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

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



HIGH STABILITY,  
LONG WORKING LIFE

## CONCENTRICITY GAGES

dial test indicator is optional



4725-45

dial test indicator is optional



4725-60

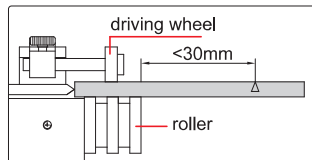
dial test indicator is optional



4725-80

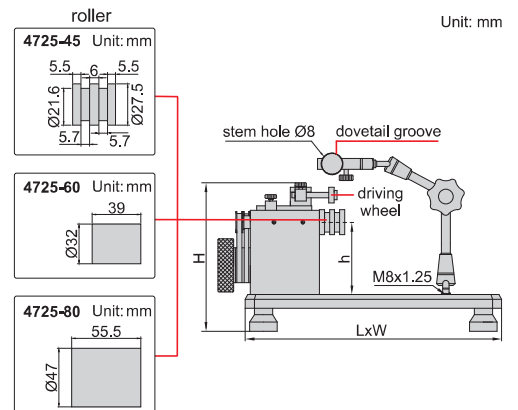


to ensure the accuracy 2µm, the distance between measuring point and roller should be <30mm



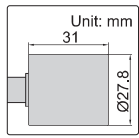
- With ball bearing, high stability, long working life
- Accuracy 2µm
- Optional accessory: dial test indicator

Code	Diameter range	Center height (h)	LxHxW	Weight
4725-45	3-45mm	80mm	280x130x170mm	6kg
4725-60	5-60mm	90mm	350x160x190mm	15.6kg
4725-80	8-80mm	130mm	400x200x250mm	25kg

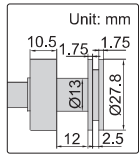


## CONCENTRICITY GAGES

QUICK-POSITIONING, SUITABLE FOR MASS MEASUREMENT



4726-1



4726-2

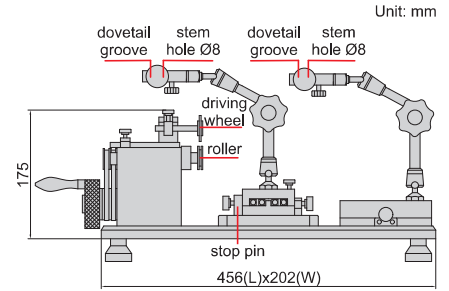
dial test indicator is optional



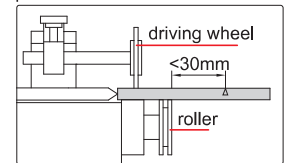
4726-2

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

Code	Applicable diameter
4726-1	Ø3-40mm
4726-2	Ø2-40mm

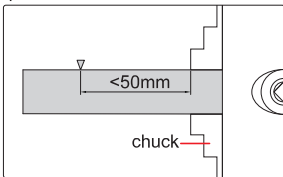


to ensure the accuracy 2µm, the distance between measuring point and roller should be <30mm



## CONCENTRICITY GAGE

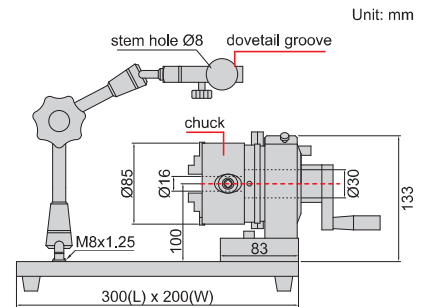
to ensure the accuracy 8µm, the distance between measuring point and roller should be <50mm



- Accuracy: 8µm
- Optional accessory: dial test indicator



4786-1



for cylinder

for tube

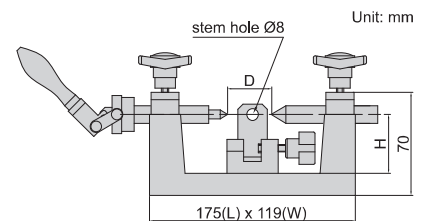


Code	Applicable inside diameter	Applicable outside diameter
4786-1	Ø24-64mm	Ø2-70mm

## MINI BENCH CENTER



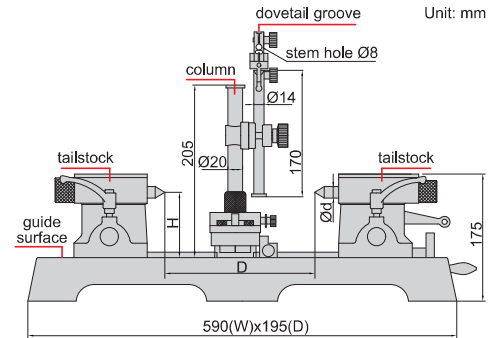
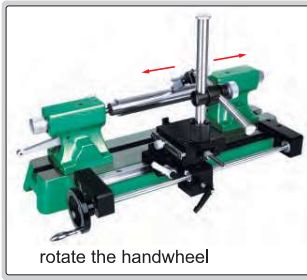
4721-75A



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

## BENCH CENTER WITH STRAIGHTNESS MEASUREMENT

straightness measurement



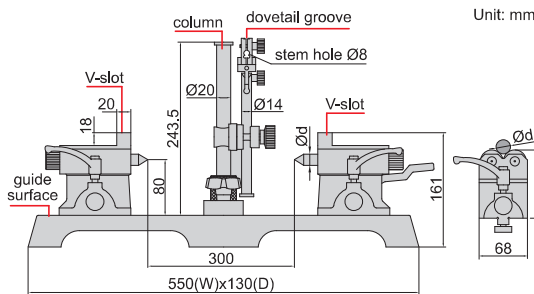
- Hardened cast-iron guide surface

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	0.02mm	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

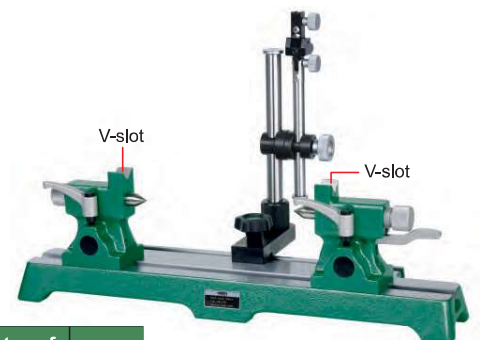
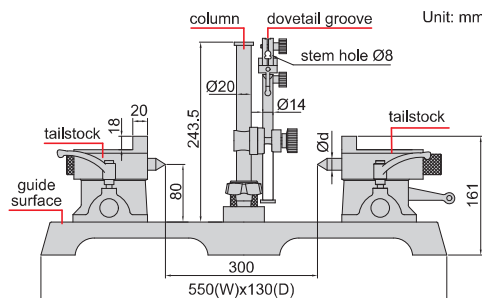
4720-300

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

\*Parallelism of two centers to the guide surface

## BENCH CENTER

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



4782-300

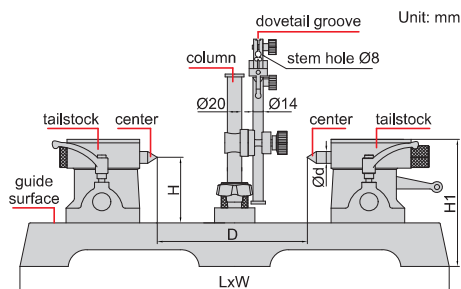
Code	Parallelism *	Runout accuracy	Center height	Distance between two centers	Taper of center	Diameter of center (Ød)	Load
4782-300	0.01mm	2µm	80mm	300mm	MT1	Ø16mm	25kg

\*Parallelism of two centers to the guide surface



## BENCH CENTERS

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



4788-300

rotary centers (optional)



umbrella centers (optional)



7

### High accuracy

(mm)

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

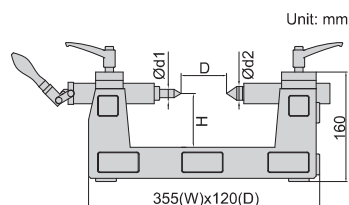
### Low accuracy

(mm)

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

\*Parallelism of two centers to the guide surface

## VERTICAL AND HORIZONTAL BENCH CENTER



Unit: mm



horizontal use



side use

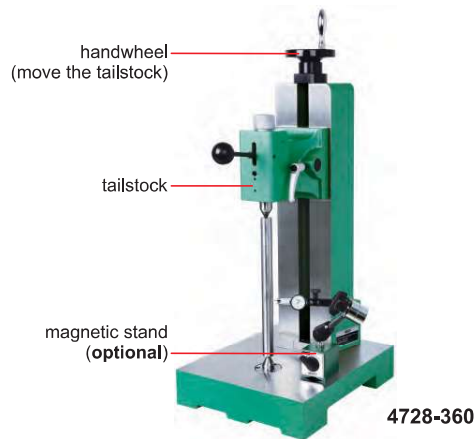


vertical use

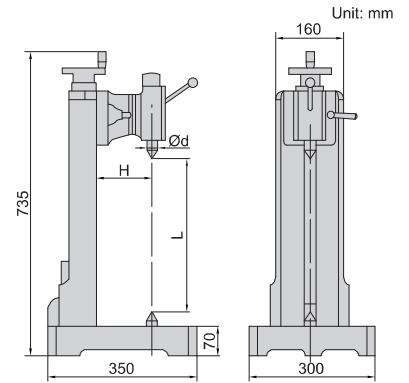
- For vertical, side and horizontal use

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

## VERTICAL BENCH CENTER



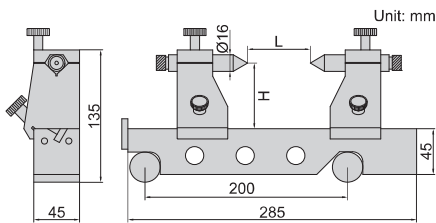
- Distance between two centers (L): 360mm
- Hardened cast-iron guide surface
- Use handwheel to move the tailstock
- Optional accessory: magnetic stands, dial test indicators



4728-360

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

\*Parallelism of two centers to the guide surface

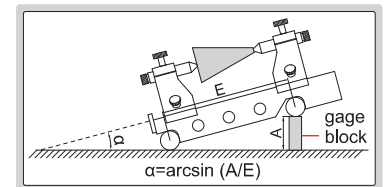


CAN BE CUSTOMIZED



4157-200

## TAPER INSPECTION INSTRUMENT



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

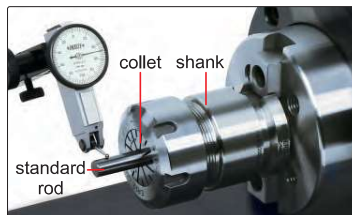
Code	Center height (H)	Center distance (L)
4157-200	65mm	200mm

## SHANK RUNOUT TESTERS

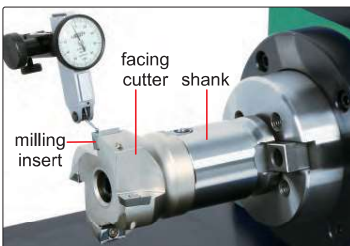
measure radial runout of shank



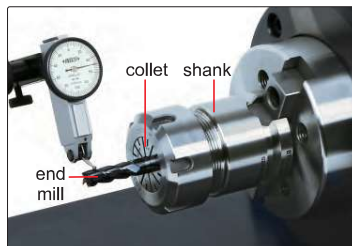
measure radial runout of collet



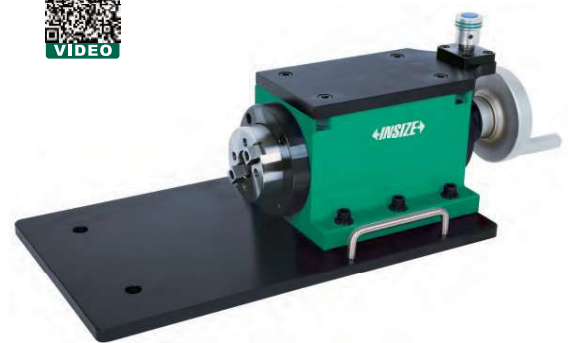
measure radial runout of cutter



measure radial runout of end mill



VIDEO



4771-30

standard shank (included)

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

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

