

2021  
2022

# MEASURING INSTRUMENTS

CATALOGUE NO. EU259



**BEST  
SELLER**

All products in this catalogue are usually stocked and available from INSIZE Europe in Spain (subject to our final confirmation)

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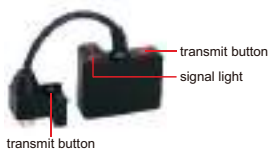
## WIRELESS DATA TRANSFER SYSTEM



receiver  
7315-2



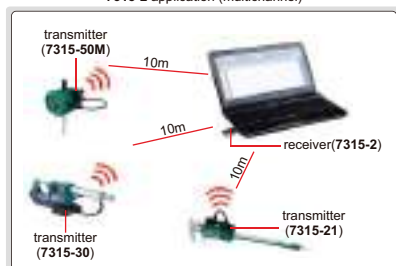
receiver  
7315-3



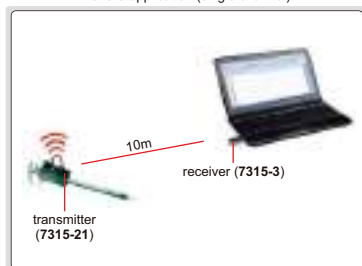
transmitter  
7315-21

- Transmission distance is 10 meter
- Press the button to transmit data
- 7315-2 is supplied with EXCEL directional input software, each measuring tool is only displayed in the specified area

7315-2 application (multichannel)



7315-3 application (single channel)



Excel directional input software (included in 7315-2), application example 1

Set the display area of caliper at B4-B9, the readings of caliper are displayed at B4, B5...B9.  
Set the display area of micrometer at C4-C9, the readings of micrometer are displayed at C4, C5... C9.  
Set the display area of height gage at D4-D9, the readings of height gage are displayed at D4, D5... D9.

Product	Length	Width	Height
Dimensional System	Block	Block	Block
Measuring Tool	Micrometer	Micrometer	Height gage
1	21.00	21.00	21.00
2	21.00	21.00	21.00
3	21.00	21.00	21.00
4	21.00	21.00	21.00
5	21.00	21.00	21.00
6	21.00	21.00	21.00

Serial of workpieces      The next data display area is indicated in green

Excel directional input software (included in 7315-2), application example 2

Set the display area of micrometer at B4-C9, data input is from the left to the right, the readings of micrometer are displayed at B4, C4, B5, C5... B9, C9.  
Set the display area of caliper at D4-D9, the readings of caliper are displayed at D4, D5... D9.  
Set the display area of depth gage at E4-E9, the readings of depth gage are displayed at E4, E5... E9.

Product	Length (mm)	Width (mm)	Length	Depth
Dimensional System	Block	Block	Block	Block
Measuring Tool	Micrometer	Micrometer	Caliper	Depth gage
1	21.00	21.00	21.00	21.00
2	21.00	21.00	21.00	21.00
3	21.00	21.00	21.00	21.00
4	21.00	21.00	21.00	21.00
5	21.00	21.00	21.00	21.00
6	21.00	21.00	21.00	21.00

Serial of workpieces      The next data display area is indicated in green

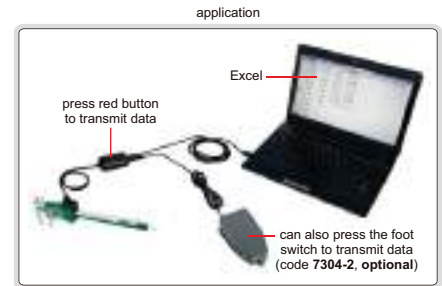
Code	Description	Plug to product	Remark
7315-2	multichannel receiver		<ul style="list-style-type: none"> <li>■ Connected with maximum 8 transmitters, each of them has unique identification code.</li> <li>■ Text format virtual com port, converted to keyboard format with supplied software (data can be transmitted to EXCEL, WORD etc. and any software which receives keyboard signal)</li> <li>■ Using EXCEL directional input software, the measurement data of different measuring tools can be transmitted to the specified area in the sheet.</li> </ul>
7315-3	single channel receiver		<ul style="list-style-type: none"> <li>■ Connected with 1 transmitter only, transmitter can be changed as needed.</li> <li>■ Recognized as HID keyboard device by computer, no need to install drivers and softwares</li> <li>■ Data can be transmitted to Excel, Word, txt and other files (press transmit button of transmitter, which is recognized by the computer as keyboard input data and press enter, such as 12.34)</li> <li>■ Suitable for any softwares which can receive keyboard signal</li> </ul>
7315-21	transmitter for digital calipers		
7315-22	transmitter for large digital calipers		
7315-30	transmitter for digital micrometers		
7315-50M	transmitter for digital indicators		
7315-60	transmitter for high precision digital indicators		<p>2140-6 and 2133 series high precision digital indicators 3350 series high precision digital snap gages</p>

## DATA OUTPUT CABLES (KEYBOARD FORMAT)



7302-40M

- Recognized as HID keyboard device by computer, no need to install drivers and softwares
- Data can be transmitted to Excel, Word, txt and other files (press transmit button, which is recognized by the computer as keyboard input data and press enter, such as 12.34 ✓)
- Suitable for any softwares which can receive keyboard signal
- Optional accessory: foot switch (code: 7304-2), hub (code: 7302-HUB, 7302-HUB7) extension cables (code: 7302-ADD5, 7302-ADD10)



Code	Description	Plug to product	Plug to computer	Applicable products
7302-21	cable for digital calipers (length 3m)	transmit button		 digital calipers and digital depth gages
7302-22	cable for large digital calipers (length 2.5m)			 large digital calipers (range ≤1000mm) and digital height gages
7302-30	cable for digital micrometers (length 2.5m)			 digital micrometers
7302-40M	cable for digital indicators (length 2.5m)			 digital indicators
7302-50M	cable for digital gages (length 2.5m)			 digital thickness gages and digital internal/external caliper gages
7302-60	cable for high precision digital indicators (length 2.5m)			 2140-6 and 2133 series high precision digital indicators 3350 series high precision digital snap gages

## FOOT SWITCH

- For data transmission

Code	Description	Applicable products
7304-2	data transmission foot switch with cable (length 2m)	7302 series data cables 7305 series data cables



7304-2



## ADAPTERS FOR DATA OUTPUT CABLE



7323-OTGM



7323-OTGC



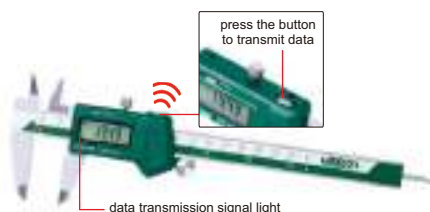
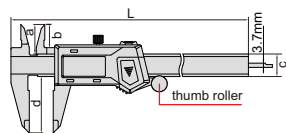
7323-OTGC4

- Connect data output cables or wireless receivers to mobile phones, tablet computers (Type-C or Micro-USB interface)
- Data can be transmitted to any app that can receive keyboard signal (such as Excel, WPS, memorandum and other data management softwares)

Code	Type	Applicable interface of mobile phones or tablet computers	Plug type	Applicable products
7323-OTGM	One to one	Micro-USB		7315-3
7323-OTGC	One to one	Type-C		2134-R1
7323-OTGC4	One to four	Type-C		



## WIRELESS DIGITAL CALIPERS

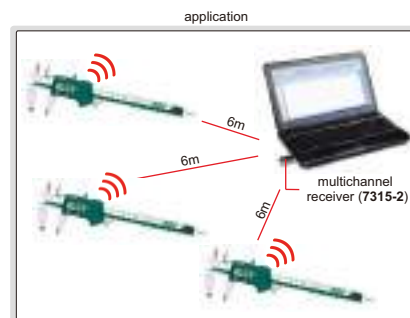
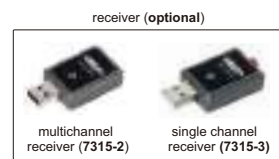


1113-150

- Built-in wireless data transmission module, Zigbee signal
- Transmission distance is 6 meter
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch, data transmission
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel
- Optional accessory: receiver (code 7315-2, 7315-3)

Code	Range	Accuracy	Thumb roller	L	a	b	c	d
1113-150*	0-150mm/0-6"	±0.03mm	with	236	21	16	16	40
1113-200*	0-200mm/0-8"	±0.03mm	with	286	24	19	16	50
1113-300*	0-300mm/0-12"	±0.03mm	with	400	25	20.5	16	60
1113-150W*	0-150mm/0-6"	±0.03mm	without	236	21	16	16	40
1113-200W*	0-200mm/0-8"	±0.03mm	without	286	24	19	16	50
1113-300W*	0-300mm/0-12"	±0.03mm	without	400	25	20.5	16	60

\*Supplied with manufacturer inspection certificate traceable to DKD Germany



**IP67 WATERPROOF DIGITAL CALIPERS**

ATTENTION: IT IS NECESSARY TO SET ZERO AFTER POWER ON EACH TIME

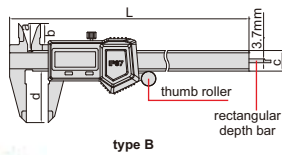
**INSPECTION CERTIFICATE**  
TRACEABLE TO DKD

ATTENTION: NO DATA OUTPUT

**IP67 WATERPROOF**



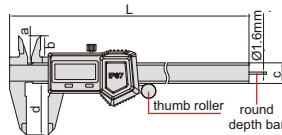
1118-150B



type B



1118-150R



type R

- Accuracy: ±0.03mm
- IP67 dust/waterproof
- Resolution: 0.01mm/0.0005"
- Button function: zero, on/off, mm/inch, ABS/REL, hold
- Battery CR2032, meet DIN862
- Made of stainless steel

(mm)

Code	Range	Thumb roller	Type	L	a	b	c	d
1118-150B*	0-150mm/0-6"	with	B	236	21	16	16	40
1118-200B*	0-200mm/0-8"	with	B	286	24	19	16	50
1118-300B*	0-300mm/0-12"	with	B	400	25	20.5	17	60
1118-150BW*	0-150mm/0-6"	without	B	236	21	16	16	40
1118-200BW*	0-200mm/0-8"	without	B	286	24	19	16	50
1118-300BW*	0-300mm/0-12"	without	B	400	25	20.5	17	60
1118-150R*	0-150mm/0-6"	with	R	236	21	16	16	40

\*Supplied with manufacturer inspection certificate traceable to DKD Germany

**IP67 WATERPROOF DIGITAL CALIPERS**

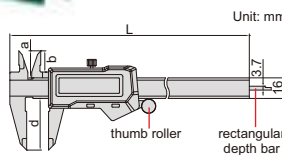
**IP67 WATERPROOF**

ATTENTION: NO DATA OUTPUT

**INSPECTION CERTIFICATE**  
TRACEABLE TO DKD



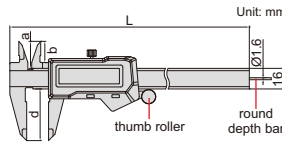
1126-150



type A



1126-150R



type R

- Accuracy: ±0.03mm
- IP67 dust/waterproof
- Resolution: 0.01mm/0.0005"
- Large display
- Button function: zero, on/off, mm/inch
- Battery CR2032, automatic power off
- Meet DIN862
- Made of stainless steel

(mm)

Code	Range	Thumb roller	Type	L	a	b	d
1126-150*	0-150mm/0-6"	with	A	234	20	15	40
1126-200*	0-200mm/0-8"	with	A	286	24	19	50
1126-300*	0-300mm/0-12"	with	A	390	26	21.5	60
1126-150W*	0-150mm/0-6"	without	A	234	20	15	40
1126-200W*	0-200mm/0-8"	without	A	286	24	19	50
1126-300W*	0-300mm/0-12"	without	A	390	26	21.5	60
1126-150R*	0-150mm/0-6"	with	R	234	20	15	40

\*Supplied with manufacturer inspection certificate traceable to DKD Germany

**BUILT-IN BLUETOOTH IP67 WATERPROOF DIGITAL CALIPERS**

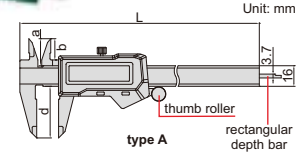
**BLUETOOTH**

**IP67 WATERPROOF**

**INSPECTION CERTIFICATE**  
TRACEABLE TO DKD



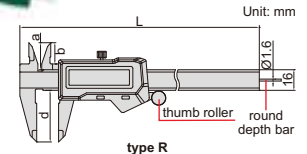
1127-150



type A



1127-150R



type R

- Accuracy: ±0.03mm
- IP67 dust/waterproof
- Resolution: 0.01mm/0.0005"
- Large display
- Built-in bluetooth 4.0 wireless transmission module, connect with computers (with bluetooth receiver), mobile phones, tablets, etc., and output keyboard signals. Transmission distance is 10 meters
- Button function: zero, on/off, mm/inch, data transmission
- Battery CR2032, automatic power off
- Meet DIN862
- Made of stainless steel

(mm)

Code	Range	Thumb roller	Type	L	a	b	d
1127-150*	0-150mm/0-6"	with	A	234	20	15	40
1127-200*	0-200mm/0-8"	with	A	286	24	19	50
1127-300*	0-300mm/0-12"	with	A	390	26	21.5	60
1127-150W*	0-150mm/0-6"	without	A	234	20	15	40
1127-200W*	0-200mm/0-8"	without	A	286	24	19	50
1127-300W*	0-300mm/0-12"	without	A	390	26	21.5	60
1127-150R*	0-150mm/0-6"	with	R	234	20	15	40

\*Supplied with manufacturer inspection certificate traceable to DKD Germany

**IP54 WATERPROOF DIGITAL CALIPERS**

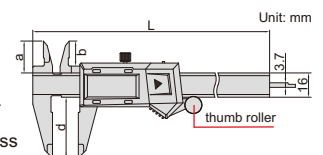
**IP54 WATERPROOF**

**INSPECTION CERTIFICATE**  
TRACEABLE TO DKD

**DATA OUTPUT**



1104-150



- Accuracy: ±0.03mm
- IP54 dust/waterproof
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch, ABS/REL
- Automatic power off after 10 minutes of no operation, move digital unit or press the on/off button to power on
- Automatic power off after 72 hours of no operation, move digital unit cannot power on, press the on/off button to power on
- Battery CR2032, data output, meet DIN862
- Made of stainless steel
- Optional accessory: wireless transmitter, code 7315-1104, data output cable (keyboard format), code 7302-1104

(mm)

Code	Range	Thumb roller	L	a	b	d
1104-150*	0-150mm/0-6"	with	234	20	15	40
1104-200*	0-200mm/0-8"	with	286	24	19	50
1104-300*	0-300mm/0-12"	with	390	26	21.5	60
1104-150W*	0-150mm/0-6"	without	234	20	15	40
1104-200W*	0-200mm/0-8"	without	286	24	19	50
1104-300W*	0-300mm/0-12"	without	390	26	21.5	60

\*Supplied with manufacturer inspection certificate traceable to DKD Germany



## DIGITAL CALIPERS (FRACTION READING)

**INSPECTION CERTIFICATE**  
TRACEABLE TO DKD

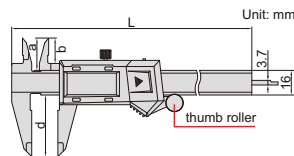


fraction reading



1102-150

- Accuracy:  $\pm 0.03\text{mm}$
- Resolution: 0.01mm, 0.0005", 1/128"
- Buttons: unit (mm/in/fraction), ABS, on/off, zero
- Absolute and incremental measurement
- Battery CR2032, automatic power off
- Meet DIN862
- Made of stainless steel



Unit: mm

thumb roller

**ATTENTION: NO DATA OUTPUT**

Code	Range	Thumb roller	L	a	b	d
1102-150*	0-150mm/0-6"	with	234	20	15	40
1102-200*	0-200mm/0-8"	with	286	24	19	50
1102-300*	0-300mm/0-12"	with	390	26	21.5	60
1102-150W*	0-150mm/0-6"	without	234	20	15	40
1102-200W*	0-200mm/0-8"	without	286	24	19	50
1102-300W*	0-300mm/0-12"	without	390	26	21.5	60

\*Supplied with manufacturer inspection certificate traceable to DKD Germany

## DIGITAL CALIPERS (ABSOLUTE SYSTEM)

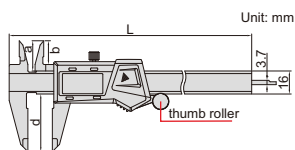
**INSPECTION CERTIFICATE**

**DATA OUTPUT**



1103-150

- Accuracy:  $\pm 0.03\text{mm}$
- Absolute system, low power consumption, long battery life
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, mm/inch, ORIGIN, ZERO/ABS
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, data output
- Meet DIN862
- Made of stainless steel
- Optional accessory: wireless transmitter, code 7315-1103, data output cable (keyboard format), code 7302-1103



Unit: mm

thumb roller

Code	Range	Thumb roller	L	a	b	d
1103-150*	0-150mm/0-6"	with	236	21	16.5	40
1103-200*	0-200mm/0-8"	with	286	24	19.5	50
1103-300*	0-300mm/0-12"	with	400	26	21.5	60
1103-150W*	0-150mm/0-6"	without	236	21	16.5	40
1103-200W*	0-200mm/0-8"	without	286	24	19.5	50
1103-300W*	0-300mm/0-12"	without	400	26	21.5	60

\*Supplied with manufacturer inspection certificate

## DIGITAL CALIPERS (STANDARD TYPE)

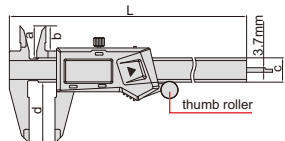
**INSPECTION CERTIFICATE**  
TRACEABLE TO DKD

**DATA OUTPUT**



1108-150

- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output, meet DIN862
- Made of stainless steel
- Optional accessory: data output cable (code 7315-21, 7302-21)



Unit: mm

thumb roller

With thumb roller		(mm)					
Code	Range	Accuracy	L	a	b	c	d
1108-150*	0-150mm/0-6"	$\pm 0.02\text{mm}$	236	21	16	16	40
1108-200*	0-200mm/0-8"	$\pm 0.03\text{mm}$	286	24	19	16	50
1108-300*	0-300mm/0-12"	$\pm 0.03\text{mm}$	400	25	20.5	16	60

Without thumb roller		(mm)					
Code	Range	Accuracy	L	a	b	c	d
1108-150W*	0-150mm/0-6"	$\pm 0.02\text{mm}$	236	21	16	16	40
1108-200W*	0-200mm/0-8"	$\pm 0.03\text{mm}$	286	24	19	16	50
1108-300W*	0-300mm/0-12"	$\pm 0.03\text{mm}$	400	25	20.5	16	60

\*Supplied with manufacturer inspection certificate traceable to DKD Germany

## DIGITAL CALIPERS

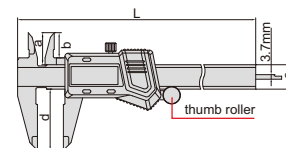
**INSPECTION CERTIFICATE**  
TRACEABLE TO DKD

**ATTENTION: NO DATA OUTPUT**



1114-150A

- Zinc alloy housing for digital unit
- Resolution: 0.01mm/0.0005"
- Buttons: zero, on/off, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, meet DIN862
- Made of stainless steel



Unit: mm

thumb roller

With thumb roller		(mm)					
Code	Range	Accuracy	L	a	b	c	d
1114-150A*	0-150mm/0-6"	$\pm 0.03\text{mm}$	236	21	16	16	40
1114-200A*	0-200mm/0-8"	$\pm 0.03\text{mm}$	286	24	19	16	50
1114-300A*	0-300mm/0-12"	$\pm 0.03\text{mm}$	400	25	20.5	17	60

Without thumb roller		(mm)					
Code	Range	Accuracy	L	a	b	c	d
1114-150AW*	0-150mm/0-6"	$\pm 0.03\text{mm}$	236	21	16	16	40
1114-200AW*	0-200mm/0-8"	$\pm 0.03\text{mm}$	286	24	19	16	50
1114-300AW*	0-300mm/0-12"	$\pm 0.03\text{mm}$	400	25	20.5	17	60

\*Supplied with manufacturer inspection certificate traceable to DKD Germany

### HEAVY DUTY 300mm DIGITAL CALIPERS

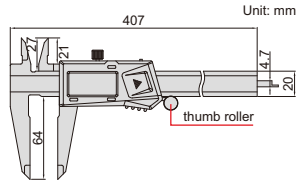


1196-300

**INSPECTION CERTIFICATE**  
TRACEABLE TO DKD

DATA OUTPUT

- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Meet DIN862
- Made of stainless steel
- Optional accessory: data output cable (code 7315-22, 7302-22)



Code	Range	Accuracy	Thumb roller
1196-300*	0-300mm/0-12"	±0.03mm	with
1196-300W*	0-300mm/0-12"	±0.03mm	without

\*Supplied with manufacturer inspection certificate traceable to DKD Germany

### DIGITAL CALIPERS WITH ROUND DEPTH BAR



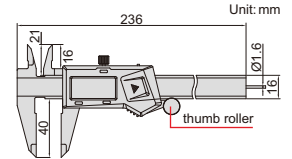
1119-150

DATA OUTPUT

**INSPECTION CERTIFICATE**  
TRACEABLE TO DKD



- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Meet DIN862
- Made of stainless steel
- Optional accessory: data output cable (code 7315-21, 7302-21)



Code	Range	Accuracy	Thumb roller
1119-150*	0-150mm/0-6"	±0.03mm	with
1119-150W*	0-150mm/0-6"	±0.03mm	without

\*Supplied with manufacturer inspection certificate traceable to DKD Germany

### METRIC DIGITAL CALIPERS



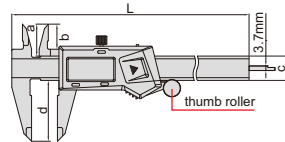
1109-150

DATA OUTPUT

LOCK READING WITH "HOLD" BUTTON

**INSPECTION CERTIFICATE**  
TRACEABLE TO DKD

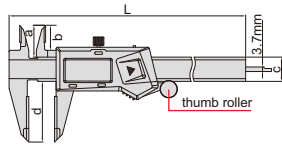
- Resolution: 0.01mm
- Buttons: on/off, zero, hold
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output, meet DIN862
- Made of stainless steel
- Optional accessory: data output cable (code 7315-21, 7302-21)



Code	Range	Accuracy	Thumb roller	L	a	b	c	d
1109-150*	0-150mm	±0.03mm	with	236	21	16	16	40
1109-200*	0-200mm	±0.03mm	with	286	24	19	16	50
1109-300*	0-300mm	±0.03mm	with	400	25	20.5	16	60
1109-150W*	0-150mm	±0.03mm	without	236	21	16	16	40
1109-200W*	0-200mm	±0.03mm	without	286	24	19	16	50
1109-300W*	0-300mm	±0.03mm	without	400	25	20.5	16	60

\*Supplied with manufacturer inspection certificate traceable to DKD Germany

### DIGITAL CALIPERS WITH CARBIDE TIPPED JAWS



- Accuracy: ±0.03mm
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, data output
- Meet DIN862
- Made of stainless steel
- Optional accessory: data output cable (code 7315-21, 7302-21)



1110-150A



1110-150B

DATA OUTPUT

**INSPECTION CERTIFICATE**  
TRACEABLE TO DKD

Carbide tipped upper and lower jaws				(mm)				
Code	Range	Thumb roller	L	a	b	c	d	
1110-150A*	0-150mm/0-6"	with	236	21	16	16	40	
1110-200A*	0-200mm/0-8"	with	286	24	19	16	50	
1110-300A*	0-300mm/0-12"	with	400	25	20.5	16	60	
1110-150AW*	0-150mm/0-6"	without	236	21	16	16	40	
1110-200AW*	0-200mm/0-8"	without	286	24	19	16	50	
1110-300AW*	0-300mm/0-12"	without	400	25	20.5	16	60	

\*Supplied with manufacturer inspection certificate traceable to DKD Germany

Carbide tipped lower jaws				(mm)				
Code	Range	Thumb roller	L	a	b	c	d	
1110-150B*	0-150mm/0-6"	with	236	21	16	16	40	
1110-200B*	0-200mm/0-8"	with	286	24	19	16	50	
1110-300B*	0-300mm/0-12"	with	400	25	20.5	16	60	
1110-150BW*	0-150mm/0-6"	without	236	21	16	16	40	
1110-200BW*	0-200mm/0-8"	without	286	24	19	16	50	
1110-300BW*	0-300mm/0-12"	without	400	25	20.5	16	60	

## DIGITAL CALIPER WITH CERAMIC TIPPED JAWS

DATA OUTPUT

INSPECTION CERTIFICATE TRACEABLE TO DKD

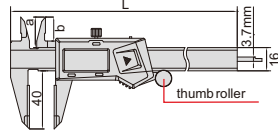


1193-150

ceramic tipped jaws



- Ceramic tipped jaws for outside measurement, extremely wear-resistant, non-magnetic and non electric conductive
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, data output
- Made of stainless steel
- Meet DIN862
- Optional accessory: data output cable (code 7315-21, 7302-21)



(mm)

Code	Range	Accuracy	Thumb roller	L	a	b
1193-150*	0-150mm/0-6"	±0.03mm	with	235	21	16.5
1193-150W*	0-150mm/0-6"	±0.03mm	without	235	21	16.5

\*Supplied with manufacturer inspection certificate traceable to DKD Germany

## LEFT HAND DIGITAL CALIPERS

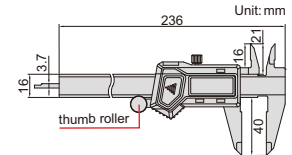
INSPECTION CERTIFICATE TRACEABLE TO DKD

DATA OUTPUT



1130-150

- Designed for left handed users
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, data output
- Meet DIN862
- Made of stainless steel
- Optional accessory: data output cable (code 7315-22, 7302-22)



Code	Range	Accuracy	Thumb roller
1130-150*	0-150mm/0-6"	±0.03mm	with
1130-150W*	0-150mm/0-6"	±0.03mm	without

\*Supplied with manufacturer inspection certificate traceable to DKD Germany

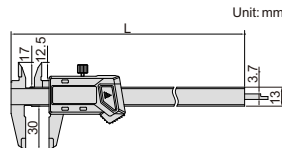
## MINI DIGITAL CALIPERS

ATTENTION: NO DATA OUTPUT



1111-100A

- Resolution: 0.01mm/0.0005"
- Buttons: zero, mm/inch, on/off
- Automatic power off, move the digital unit to turn on power
- Battery LR44
- Meet DIN862
- Made of stainless steel



Unit: mm

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

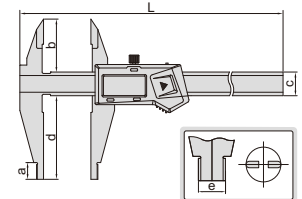
## DIGITAL CALIPERS

DATA OUTPUT



1171-300

- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code 7315-21, 7302-21)



(mm)

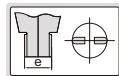
Code	Range	Accuracy	L	a	b	c	d	e
1171-200	0-200mm/0-8"	±0.03mm	320	12	38	17	60	10
1171-306	0-300mm/0-12"	±0.04mm	420	12	38	17	60	10
1171-300	0-300mm/0-12"	±0.04mm	420	12	38	17	90	10

## DIGITAL CALIPERS

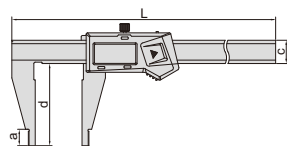
DATA OUTPUT



1170-300



- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code 7315-21, 7302-21)



(mm)

Code	Range	Accuracy	L	a	b	c	d	e
1170-200	0-200mm/0-8"	±0.03mm	320	12	17	60	10	
1170-306	0-300mm/0-12"	±0.04mm	420	12	17	60	10	
1170-300	0-300mm/0-12"	±0.04mm	420	12	17	90	10	

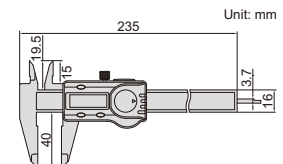
## PLASTIC DIGITAL CALIPER

ATTENTION: NO DATA OUTPUT



1139-150

- Made of hard plastic, non-magnetic and non electric conductive
- Prevent workpieces from scratching by calipers
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Battery CR2032, automatic power off



Unit: mm

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

DIAL CALIPERS

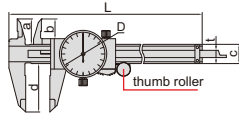
INSPECTION  
CERTIFICATE  
TRACEABLE TO DKD

SHOCK  
PROOF



1312-150A

- Shockproof dial indicator
- Made of stainless steel



Dial indicator graduation: 0.02mm

(mm)

Code	Range	Accuracy	Thumb roller	L	a	b	c	d	D	t
1312-150A*	0-150mm	±0.03mm	with	235	21	16.5	16	40	Ø39	6.5
1312-200A*	0-200mm	±0.03mm	with	288	24	19	16	48	Ø39	6.5
1312-300A*	0-300mm	±0.03mm	with	410	28	22	20	62	Ø44.5	7.5

Dial indicator graduation: 0.01mm

(mm)

Code	Range	Accuracy	Thumb roller	L	a	b	c	d	D	t
1311-150A*	0-150mm	±0.03mm	with	235	21	16.5	16	40	Ø39	6.5
1311-200A*	0-200mm	±0.03mm	with	288	24	19	16	48	Ø39	6.5
1311-300A*	0-300mm	±0.03mm	with	410	28	22	20	62	Ø44.5	7.5

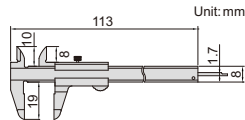
\*Supplied with manufacturer inspection certificate traceable to DKD Germany

MINI VERNIER CALIPERS

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



1204-70

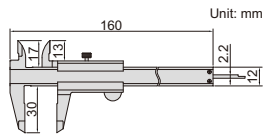


Unit: mm

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



1203-1003

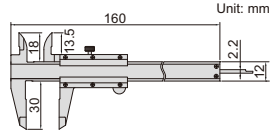


Unit: mm

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



1201-1003



Unit: mm

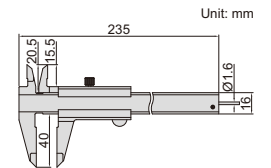
Code	Range	Graduation	Accuracy
1201-1003	0-100mm	0.05mm	±0.05mm

VERNIER CALIPER WITH ROUND DEPTH BAR



1202-150

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



Unit: mm

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

VERNIER CALIPERS (ANTI MAGNETIC)

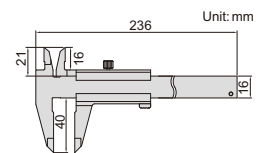
PURE  
COPPER

ATTENTION:  
NOT HARDENED



1224-150A

- Suitable for magnetic parts
- Made of pure copper



Unit: mm

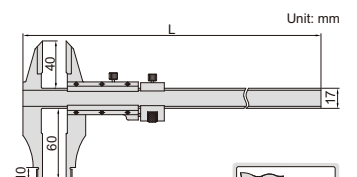
Code	Range	Graduation	Accuracy
1224-150A	0-150mm	0.02mm	±0.05mm
1224-1501	0-150mm	0.05mm	±0.05mm

VERNIER CALIPERS

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



1217-3001



Unit: mm



Code	Range	Graduation	Accuracy	L
1217-2503	0-250mm	0.05mm	±0.05mm	360mm
1217-3001	0-300mm	0.02mm	±0.03mm	410mm

## VERNIER CALIPERS

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



1205-1502S

Graduation 0.05mm/1/128" (mm)

Code	Range	Accuracy	L	a	b	c	d
1205-150S	0-150mm/0-6"	±0.05mm	235	20.5	15.5	16	40
1205-200S	0-200mm/0-8"	±0.05mm	290	23.5	19	17	50
1205-300S	0-300mm/0-12"	±0.05mm	414	27.5	22	20	64

Graduation 0.02mm/0.001" (mm)

Code	Range	Accuracy	L	a	b	c	d
1205-1502S	0-150mm/0-6"	±0.03mm	235	20.5	15.5	16	40
1205-2002S	0-200mm/0-8"	±0.03mm	290	23.5	19	17	50
1205-3002S	0-300mm/0-12"	±0.03mm	414	27.5	22	20	64

Graduation 0.05mm (mm)

Code	Range	Accuracy	L	a	b	c	d
1205-1503S	0-150mm	±0.05mm	235	20.5	15.5	16	40
1205-2003S	0-200mm	±0.05mm	290	23.5	19	17	50
1205-3003S	0-300mm	±0.05mm	414	27.5	22	20	64

Graduation 0.02mm (mm)

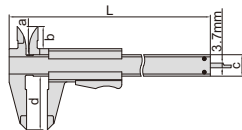
Code	Range	Accuracy	L	a	b	c	d
1205-1501S	0-150mm	±0.03mm	235	20.5	15.5	16	40
1205-2001S	0-200mm	±0.03mm	290	23.5	19	17	50
1205-3001S	0-300mm	±0.03mm	414	27.5	22	20	64

## VERNIER CALIPERS WITH THUMB CLAMP



1223-150

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



Graduation 0.05mm/1/128" (mm)

Code	Range	Accuracy	L	a	b	c	d
1223-150	0-150mm/0-6"	±0.05mm	230	20.5	16.5	16	40
1223-200	0-200mm/0-8"	±0.05mm	295	23.5	19	16	50

Graduation 0.02mm/0.001" (mm)

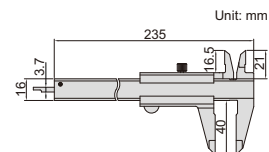
Code	Range	Accuracy	L	a	b	c	d
1223-1502	0-150mm/0-6"	±0.03mm	230	20.5	16.5	16	40
1223-2002	0-200mm/0-8"	±0.03mm	295	23.5	19	16	50

## LEFT HAND VERNIER CALIPERS



1239-1502

- Designed for left handed users
- Made of stainless steel
- Satin chrome plated reading surface



Code	Range	Graduation	Accuracy
1239-150	0-150mm/0-6"	0.05mm/1/128"	±0.05mm
1239-1502	0-150mm/0-6"	0.02mm/0.001"	±0.03mm

## DEPTH BASE ATTACHMENTS

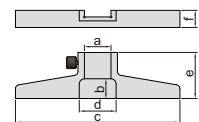
- To increase the stability of depth measurement
- Suitable for digital calipers and dial calipers
- Made of stainless steel



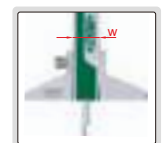
6140



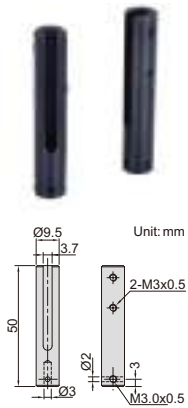
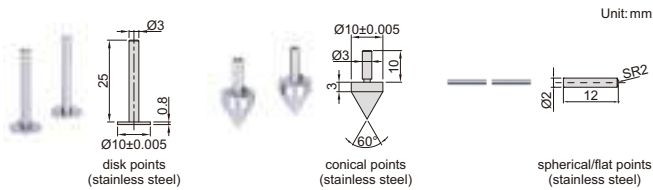
6140-16B



Code	a	b	c	d	e	f	Type	Application
6140	16.5	9	75	18	30	6	narrow base (f=6)	Suitable for calipers with beam width (w) 16mm
6140-300A	20	15	125	22	34	9	narrow base (f=9)	Suitable for calipers with beam width (w) 20mm
6140-16B	16	12.5	75	24.5	30	11	wide base (f=11), high stability	Suitable for calipers with beam width (w) 16mm

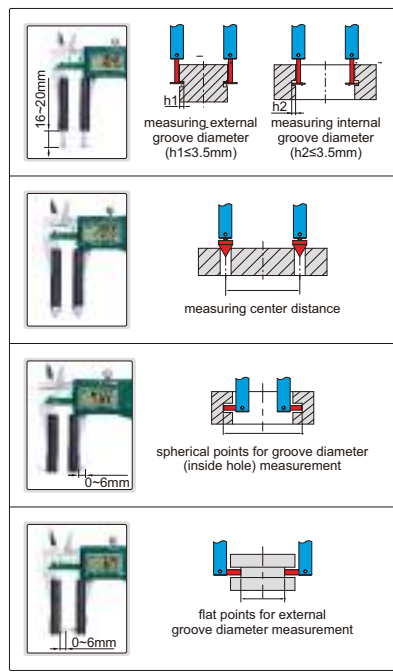


**ACCESSORY SET FOR DIGITAL CALIPERS  
CODE 6144**



- Suitable for 0-150mm/0-6" and 0-200mm/0-8" digital calipers (thickness of lower jaws ≤ 3.7mm)

**Code**  
**6144**



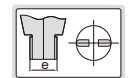
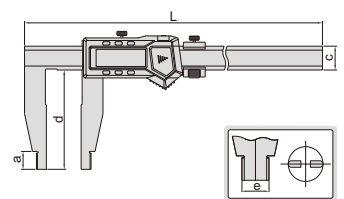
**DIGITAL CALIPERS**

**DATA  
OUTPUT**



**1106-501**

- Resolution: 0.01mm/0.0005"
- Button function: on/off, zero, mm/inch, ABS, data preset
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable for range ≤ 1000mm (code 7315-22, 7302-22)



Code	Range	Accuracy	a	c	d	e	L
1106-301	0-300mm/0-12"	±0.05mm	18	24	100	20	420
1106-302	0-300mm/0-12"	±0.05mm	18	24	150	20	420
1106-451	0-450mm/0-18"	±0.05mm	18	24	100	20	625
1106-501	0-500mm/0-20"	±0.05mm	18	24	100	20	675
1106-502	0-500mm/0-20"	±0.06mm	18	24	150	20	675
1106-503	0-500mm/0-20"	±0.06mm	24	31	200	20	675
1106-601	0-600mm/0-24"	±0.05mm	18	24	100	20	770
1106-802	0-800mm/0-32"	±0.07mm	24	31	150	20	1025
1106-1002	0-1000mm/0-40"	±0.08mm	24	31	150	20	1220
1106-1502	0-1500mm/0-60"	±0.11mm	24	42	150	20	1780
1106-2002	0-2000mm/0-80"	±0.14mm	24	42	150	20	2290

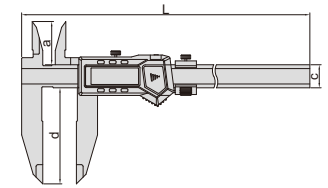
**DIGITAL CALIPERS**

**DATA  
OUTPUT**

- Resolution: 0.01mm/0.0005"
- Button function: on/off, zero, mm/inch, ABS, data preset
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code 7315-22, 7302-22)



**1135-601**



Code	Range	Accuracy	a	c	d	L
1135-451	0-450mm/0-18"	±0.05mm	45	24	100	625
1135-601	0-600mm/0-24"	±0.05mm	45	24	100	770
1135-1002	0-1000mm/0-40"	±0.08mm	60	31	150	1220

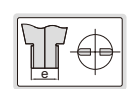
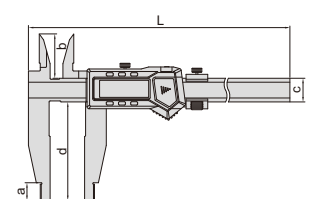
**DIGITAL CALIPERS**

**DATA  
OUTPUT**

- Resolution: 0.01mm/0.0005"
- Button function: on/off, zero, mm/inch, ABS, data preset
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code 7315-22, 7302-22)



**1136-501**

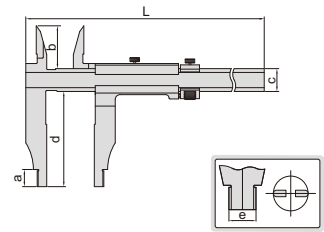


Code	Range	Accuracy	a	b	c	d	e	L
1136-301	0-300mm/0-12"	±0.05mm	18	45	24	100	20	420
1136-501	0-500mm/0-20"	±0.05mm	18	45	24	100	20	675
1136-502	0-500mm/0-20"	±0.06mm	18	45	24	150	20	675
1136-601	0-600mm/0-24"	±0.05mm	18	45	24	100	20	770
1136-1002	0-1000mm/0-40"	±0.08mm	24	60	31	150	20	1220

## VERNIER CALIPERS (SOLID TYPE)



1236-511



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

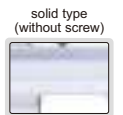
Graduation 0.05mm/1/128" (mm)

Code	Range	Accuracy	a	b	c	d	e	L
1236-524	0-500mm/0-20"	±0.08mm	18	45	24	150	20	670
1236-614	0-600mm/0-24"	±0.08mm	18	45	24	100	20	770
1236-1024	0-1000mm/0-40"	±0.12mm	24	60	31	150	20	1230

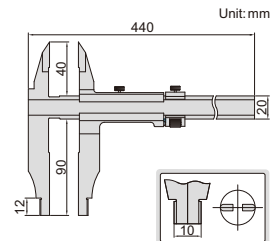
Graduation 0.02mm (mm)

Code	Range	Accuracy	a	b	c	d	e	L
1236-511	0-500mm	±0.05mm	18	45	24	100	20	670
1236-1021	0-1000mm	±0.08mm	24	60	31	150	20	1230

## VERNIER CALIPER (SOLID TYPE)



1207-394



- Graduation 0.05mm/1/128"
- With fine adjustment
- Made of stainless steel
- Satin chrome plated reading surface

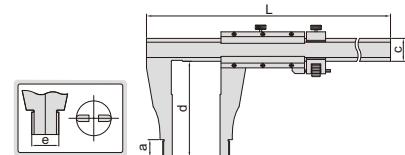
Code	Range	Accuracy
1207-394	0-300mm/0-12"	±0.07mm

## VERNIER CALIPERS (SEPARATE TYPE)

separate type (with screws)



1214-500



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

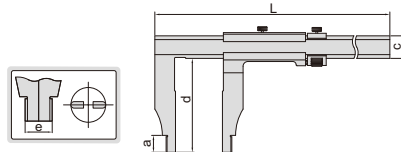
(mm)

Code	Range	Accuracy	a	c	d	e	L
1214-300	0-300mm/0-12"	±0.05mm	10	20	75	10	410
1214-450	0-450mm/0-18"	±0.05mm	18	24	100	20	620
1214-500	0-500mm/0-20"	±0.05mm	18	24	100	20	670
1214-600	0-600mm/0-24"	±0.05mm	18	24	100	20	770
1214-1000	0-1000mm/0-40"	±0.08mm	24	32	140	20	1216

## VERNIER CALIPERS (SOLID TYPE)



1208-521



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

Graduation 0.05mm/1/128" (mm)

Code	Range	Accuracy	a	c	d	e	L
1208-214	0-200mm/0-8"	±0.06mm	10	20	100	10	330
1208-394	0-300mm/0-12"	±0.07mm	10	20	90	10	410
1208-324	0-300mm/0-12"	±0.07mm	18	24	150	20	410
1208-524	0-500mm/0-20"	±0.08mm	18	24	150	20	670
1208-614	0-600mm/0-24"	±0.08mm	18	24	100	20	770
1208-824	0-800mm/0-32"	±0.09mm	24	31	150	20	1030
1208-1024	0-1000mm/0-40"	±0.12mm	24	31	150	20	1230

Graduation 0.02mm (mm)

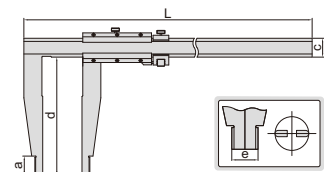
Code	Range	Accuracy	a	c	d	e	L
1208-521	0-500mm	±0.06mm	18	24	150	20	670
1208-1021	0-1000mm	±0.08mm	24	31	150	20	1230

## LONG JAW VERNIER CALIPERS (SEPARATE TYPE)



1215-1034

separate type (with screws)



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

Graduation 0.05mm/1/128" (mm)

Code	Range	Accuracy	a	c	d	e	L
1215-524	0-500mm/0-20"	±0.08mm	18	24	150	20	670
1215-1034	0-1000mm/0-40"	±0.12mm	24	32	200	20	1330

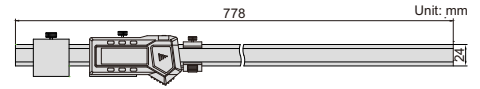
## UNIVERSAL CALIPER CODE 1125-600



DATA  
OUTPUT



1125-600



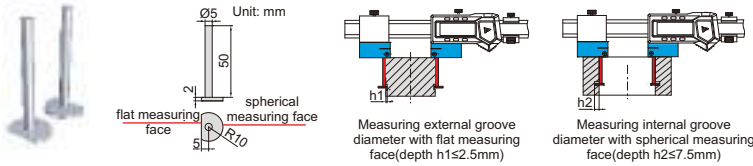
- Buttons: on/off, set, mm/inch, ABS, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code 7315-22, 7302-22)



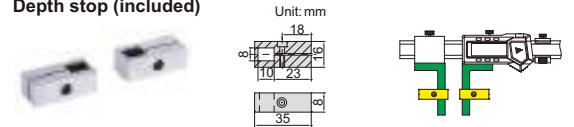
Code	Range*	Resolution	Accuracy
1125-600	0-600mm/0-24"	0.01mm/0.0005"	±0.05mm

\*The range changes according to different points

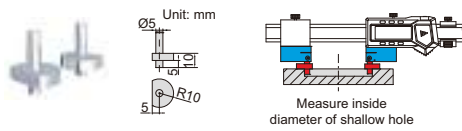
### Half disk points (included)



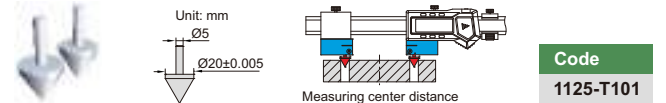
### Depth stop (included)



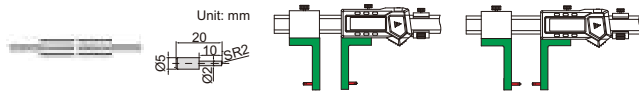
### Round shoulder points (optional)



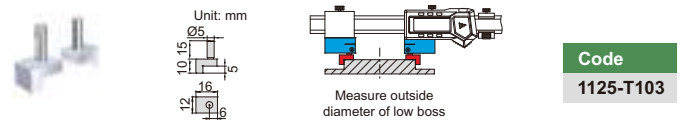
### Conical points (optional)



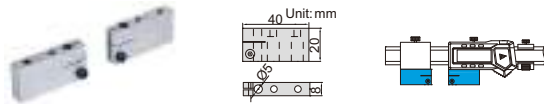
### Spherical points (included)



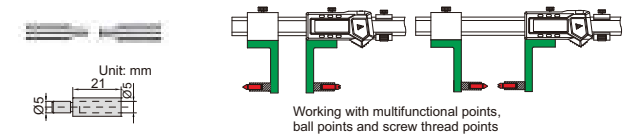
### Flat shoulder points (optional)



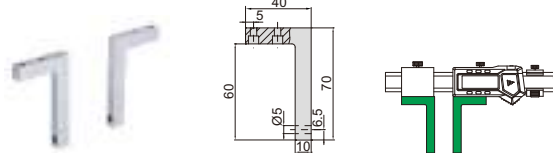
### Stands (included)



### Point sleeve (optional)



### Measuring jaws (included)



### Multifunctional points 7392 (optional)



### Ball points 7391 (optional)



### Screw thread points 7381, 7321 (optional)



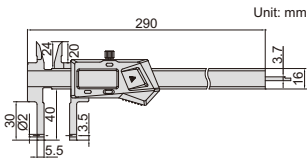
## DIGITAL CALIPER WITH INTERCHANGEABLE POINTS CODE 1526-200

DATA  
OUTPUT

preset buttons



1526-200



- Supplied with 3 pairs of points and zero setting block for external measurement
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, set, mm/inch, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: points (code 1526-T101, 7392, 7391, 7381, 7321), depth stop (code 6143), data output cable (code 7315-21, 7302-21)

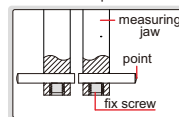
depth stop 6143 (optional)



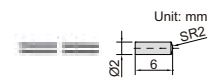
zero setting block for external measurement (included)



install points



### Short spherical points (included)



### Long spherical/flat points (included)



### Spherical blade points (included)



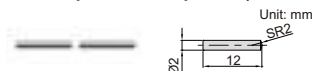
Point	Range	Accuracy	Application
short spherical points	12-212mm/0.5-8.5"(internal)	±0.03mm	for grooves inside small hole
long spherical/flat points	24-224mm/1-8.8"(internal) 0-187mm/0-7.5"(external)	±0.03mm	spherical points for grooves inside hole flat points for external grooves
spherical blade points	24-224mm/1-8.8"(internal) 0-187mm/0-7.5"(external)	±0.03mm	for narrow grooves inside hole



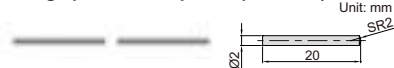
## DIGITAL CALIPER WITH INTERCHANGEABLE POINTS CODE 1124-300A

DATA  
OUTPUT

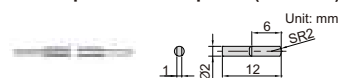
Short spherical/flat points (included)



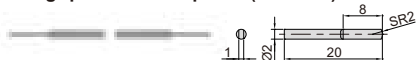
Long spherical/flat points (included)



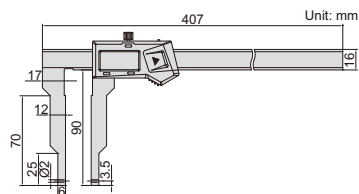
Short spherical blade points (included)



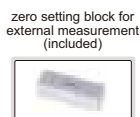
Long spherical blade points (included)



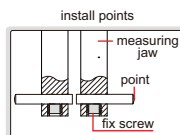
1124-300A



depth stop 6143 (optional)



zero setting block for external measurement (included)



install points

- Supplied with 4 pairs of points and zero setting block for external measurement
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, set, mm/inch, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: points (code 1526-T101, 7392, 7391, 7381, 7321), depth stop (code 6143), data output cable (code 7315-21, 7302-21)

Point	Range	Accuracy	Application
short spherical/flat points	24-324mm/1-12.7"(internal) 0-288mm/0-11.3"(external)	±0.04mm	spherical points for grooves inside hole (small hole) flat points for external grooves
long spherical/flat points	40-340mm/1.5-13.3"(internal) 0-272mm/0-10.7"(external)	±0.04mm	spherical points for grooves inside hole (large hole) flat points for external grooves
short spherical blade points	24-324mm/1-12.7"(internal) 0-288mm/0-11.3"(external)	±0.04mm	for narrow grooves inside hole (small hole)
long spherical blade points	40-340mm/1.5-13.3"(internal) 0-272mm/0-10.7"(external)	±0.04mm	for narrow grooves inside hole (large hole)

## DIGITAL CALIPER WITH INTERCHANGEABLE POINTS



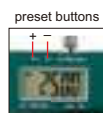
VARIOUS POINTS  
ARE AVAILABLE

DATA  
OUTPUT



1530-300

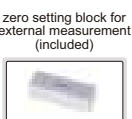
- Supplied with 4 pairs of points and zero setting block for external measurement
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, set, mm/inch, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: points, depth stop (code 6143), data output cable (code 7315-21, 7302-21)



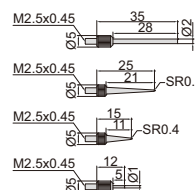
preset buttons



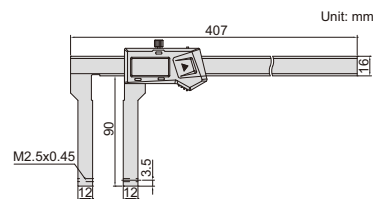
depth stop 6143 (optional)



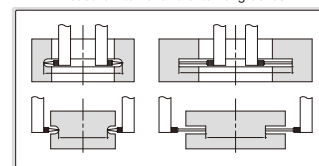
zero setting block for external measurement (included)



4 pairs of points (included)



measure internal and external grooves



Code	Range *	Accuracy
1530-300	0-300mm/0-12"	±0.04mm

\*For different points, the measuring range changes accordingly

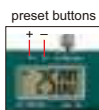
## DIGITAL DEEP HOLE INSIDE GROOVE CALIPER

DATA  
OUTPUT

- Measure diameter of grooves inside deep holes
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, set, mm/inch, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: depth stop (code 6143), data output cable (code 7315-21, 7302-21)



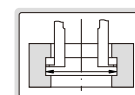
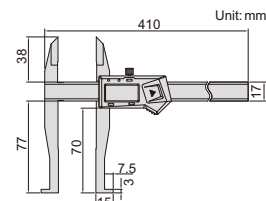
1129-300



preset buttons



depth stop 6143 (optional)



Code	Range of upper jaw	Range of lower jaw	Accuracy
1129-300	0-300mm/0-12"	30-300mm/1.2-12"	±0.04mm

## DIGITAL INSIDE GROOVE CALIPERS

- Measure diameter of grooves inside small bores
- Resolution: 0.01mm/0.0005"
- Buttons type A: on/off, set, mm/inch, preset (+, -), type B: on/off, zero, mm/inch, ABS/REL, hold
- Battery CR2032
- Made of stainless steel
- Optional accessory: depth stop (code 6143)

No dust/waterproof, with data interface  
(data output cable code 7315-21, 7302-21, optional)

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

IP67 dust/waterproof, without data interface, no automatic power off, set zero after power on each time

Code	Range	Type	Accuracy
1520-150P	8-150mm/0.31-6"	B	±0.04mm

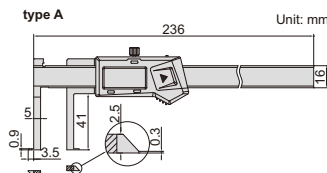
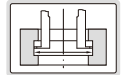


1520-150

depth stop 6143  
(optional)

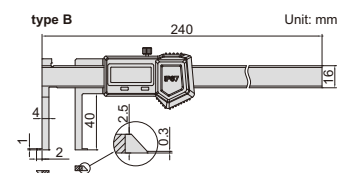


1520-150P



type A

Unit: mm



type B

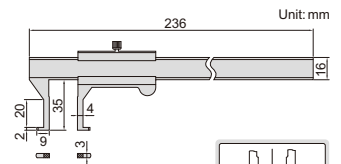
Unit: mm

## INSIDE GROOVE VERNIER CALIPER

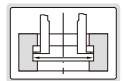
- Measure diameter of grooves inside bores
- Made of stainless steel
- Satin chrome plated reading surface



1262-150A



Unit: mm



Code	Range	Graduation	Accuracy
1262-150A	18-150mm	0.02mm	±0.04mm

## DIGITAL INSIDE GROOVE CALIPERS

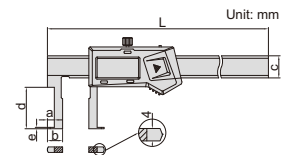
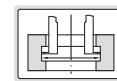
- Measure groove diameter
- Resolution: 0.01mm/0.0005"
- Buttons type A: on/off, set, mm/inch, preset (+, -), type C: on/off, zero, mm/inch, ABS/REL, hold
- Battery CR2032
- Made of stainless steel
- Optional accessory: depth stop (code 6143, for calipers with c=16mm)



1120-150A  
type A



1120-150P  
type C

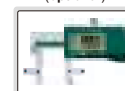


Unit: mm

No dust/waterproof, with data interface, preset (no need to add the width of the jaws on the reading) (mm)

Code	Range	Type	Accuracy	L	a	b	c	d	e	Data output cable (optional)
1120-150A	22-150mm/0.87-6"	A	±0.04mm	250	5	11	16	30	1	7315-21, 7302-21
1120-150I	35-150mm/1.38-6"	A	±0.06mm	250	6	17.5	16	60	1.5	7315-21, 7302-21
1120-200A	25-200mm/0.98-8"	A	±0.04mm	310	5	12.5	16	40	1	7315-21, 7302-21
1120-200I	40-200mm/1.57-8"	A	±0.06mm	310	7	20	16	70	2.5	7315-21, 7302-21
1120-300A	30-300mm/1.18-12"	A	±0.05mm	410	5	15	16	50	1.5	7315-21, 7302-21
1120-300I	50-300mm/1.97-12"	A	±0.07mm	410	8	25	16	80	2.5	7315-21, 7302-21
1120-500	40-500mm/1.57-20"	A	±0.07mm	680	5	20	24	90	2.2	7315-22, 7302-22

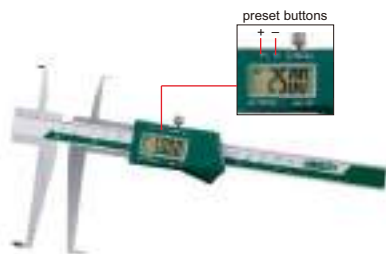
depth stop 6143  
(optional)



IP67 dust/waterproof, without data interface, no automatic power off, set zero after power on each time, no preset (need to add the width of the jaws on the reading) (mm)

Code	Range	Type	Accuracy	L	a	b	c	d	e
1120-150P	22-150mm/0.87-6"	C	±0.04mm	250	5	11	16	30	1

## DIGITAL INSIDE GROOVE CALIPERS

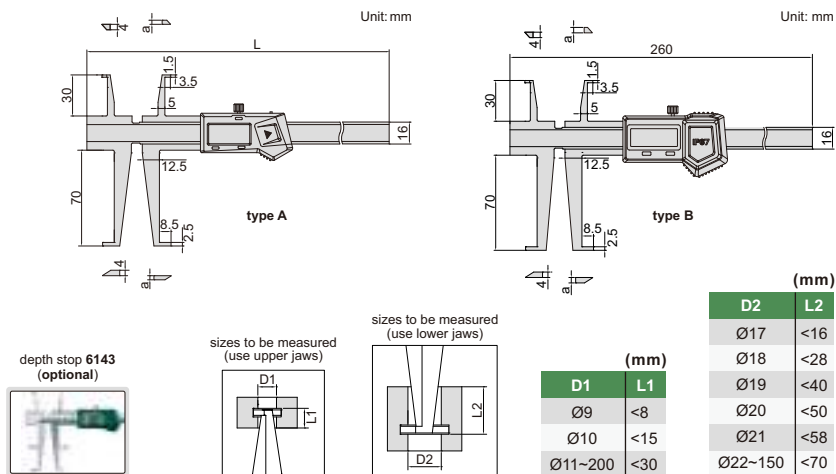


1176-150



1176-150P

- Measure diameter of grooves inside bores
- Resolution: 0.01mm/0.0005"
- Buttons type A: on/off, set, mm/inch, preset (+, -), type B: on/off, zero, mm/inch, ABS/REL, hold
- Battery CR2032
- Made of stainless steel
- Optional accessory: depth stop (code 6143)



No dust/waterproof, with data interface (data output cable code 7315-21, 7302-21, optional)

Code	Range of upper jaw	Range of lower jaw	Type	Accuracy	L	a
1176-150	9-150mm/0.35-6"	17-150mm/0.70-6"	A	±0.04mm	260mm	3mm
1176-200	9-200mm/0.35-8"	17-200mm/0.70-8"	A	±0.05mm	320mm	4mm

IP67 dust/waterproof, without data interface, no automatic power off, set zero after power on each time

Code	Range of upper jaw	Range of lower jaw	Type	Accuracy	a
1176-150P	9-150mm/0.35-6"	17-150mm/0.70-6"	B	±0.04mm	4mm

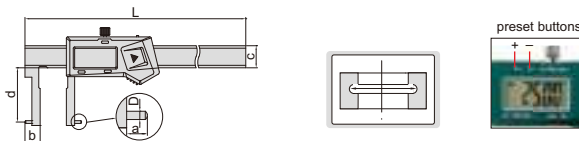
## DIGITAL INSIDE POINT CALIPERS



1121-150A

- Measure groove diameter
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, set, mm/inch, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, data output
- Made of stainless steel
- Optional accessory: depth stop (code 6143, for calipers with c=16mm)

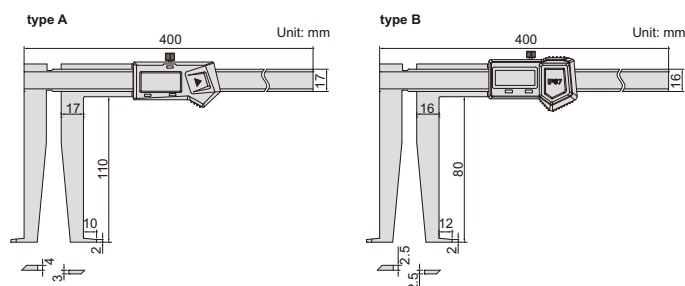
depth stop 6143 (optional)



With data interface, preset (no need to add the width of the jaws on the reading)

Code	Range	Accuracy	L	a	b	c	d	D	Data output cable (optional)
1121-150A	24-150mm/0.94-6"	±0.04mm	250	5	12	16	28	Ø2	7315-21, 7302-21
1121-1501	35-150mm/1.38-6"	±0.05mm	250	6	17.5	16	60	Ø2	7315-21, 7302-21
1121-200A	25-200mm/0.98-8"	±0.04mm	310	5	12.5	16	37	Ø2	7315-21, 7302-21
1121-2001	40-200mm/1.57-8"	±0.05mm	310	7	20	16	70	Ø3	7315-21, 7302-21
1121-300A	30-300mm/1.18-12"	±0.07mm	410	5	15	16	50	Ø2	7315-21, 7302-21
1121-3001A	50-300mm/1.97-12"	±0.07mm	410	8	25	16	80	Ø3	7315-21, 7302-21
1121-500A	40-500mm/1.57-20"	±0.07mm	680	5	20	24	90	Ø3	7315-22, 7302-22

## DIGITAL INSIDE GROOVE CALIPERS



No dust/waterproof, with data interface (data output cable code 7315-21, 7302-21, optional)

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

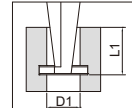
IP67 dust/waterproof, without data interface, no automatic power off, set zero after power on each time

Code	Range	Type	Accuracy
1178-300P	33-300mm/1.30-12"	B	±0.05mm

depth stop 6143 (optional)



sizes to be measured



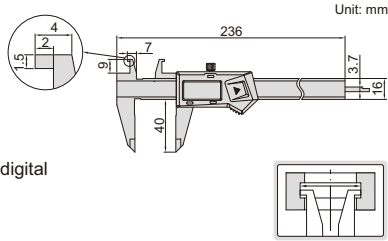
- Measure diameter of grooves inside bores
- Resolution: 0.01mm/0.0005"
- Buttons type A: on/off, set, mm/inch, preset (+, -), type B: on/off, zero, mm/inch, ABS/REL, hold
- Battery CR2032
- Made of stainless steel
- Optional accessory: depth stop (code 6143)

**DIGITAL INSIDE GROOVE CALIPER**

DATA OUTPUT



1191-150



- Upper jaws for measuring diameter of grooves
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code 7315-21, 7302-21)

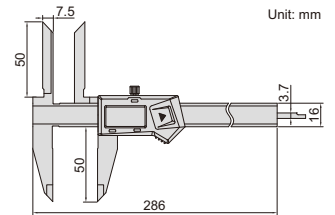
Code	Range of upper jaw	Range of lower jaw	Accuracy
1191-150	8-150mm/0.3-6"	0-150mm/0-6"	±0.03mm

**DIGITAL CALIPER WITH LONG UPPER JAWS**

DATA OUTPUT



1138-200



- Long upper jaws for measuring diameter of deep holes
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code 7315-21, 7302-21)

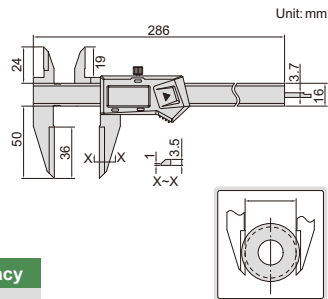
Code	Range	Accuracy
1138-200	0-200mm/0-8"	±0.04mm

**DIGITAL CALIPER WITH KNIFE EDGE LOWER JAWS**

DATA OUTPUT



1532-200



- Measure diameter of narrow grooves
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code 7315-21, 7302-21)

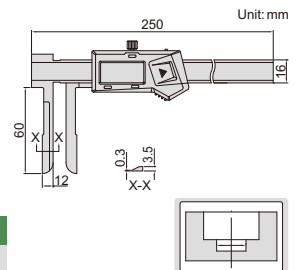
Code	Range	Accuracy
1532-200	0-200mm/0-8"	±0.03mm

**DIGITAL INSIDE KNIFE-EDGE CALIPER**

DATA OUTPUT



1123-150A



- Measure diameter of deep step holes
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, data output
- Made of stainless steel
- Optional accessory: data output cable (code 7315-21, 7302-21)

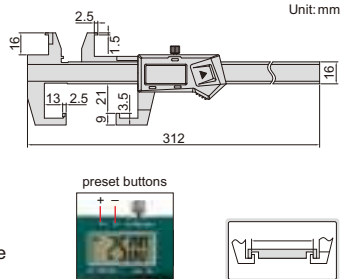
Code	Range	Accuracy
1123-150A	15-150mm/0.6-6"	±0.05mm

**DIGITAL INSIDE GROOVE CALIPER**

DATA OUTPUT



1128-200



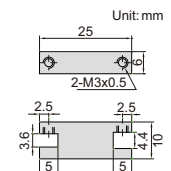
- Measure distance of grooves
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, set, mm/inch, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code 7315-21, 7302-21)

Code	Range of upper jaw	Range of lower jaw	Accuracy
1128-200	10-200mm/0.39-8"	3-200mm/0.12-8"	±0.03mm

**DEPTH STOP FOR CALIPERS**

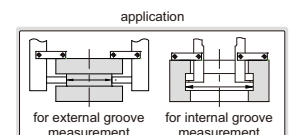


6143



- Supplied in pairs
- Made of stainless steel
- Suitable for caliper series 1124, 1526, 1530, 1520, 1176, 1178, 1120, 1121, 1187, 1129 and 1185

Code
6143



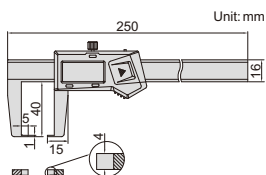
### DIGITAL OUTSIDE NECK CALIPER

DATA OUTPUT



1187-150A

- Measure grooves and recesses
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, data output
- Made of stainless steel
- Optional accessory: depth stop (code 6143), data output cable (code 7315-21, 7302-21)



depth stop 6143 (optional)



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

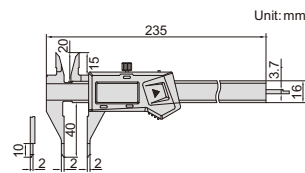
### DIGITAL SMALL POINT CALIPER

DATA OUTPUT

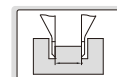


1169-150

- Small pointed jaws fit into small grooves and recesses
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, data output
- Made of stainless steel
- Optional accessory: data output cable (code 7315-21, 7302-21)



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



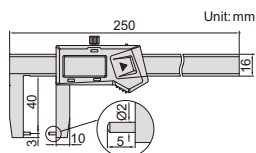
### DIGITAL OUTSIDE POINT CALIPER

DATA OUTPUT



1185-150A

- Measure wall thickness inside bores and recesses
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: depth stop (code 6143), data output cable (code 7315-21, 7302-21)



depth stop 6143 (optional)



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

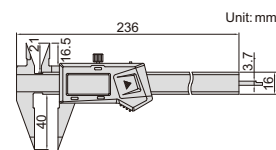
### DIGITAL POINT CALIPER

DATA OUTPUT

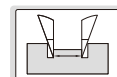


1183-150A

- Pointed jaws fit into small grooves and recesses
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, data output
- Made of stainless steel
- Optional accessory: data output cable (code 7315-21, 7302-21)



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



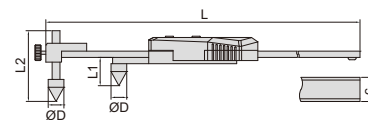
### DIGITAL BACK-JAW CENTERLINE CALIPERS

DATA OUTPUT

- Measure hole center distance in the same or offset planes
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, set, mm/inch, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel

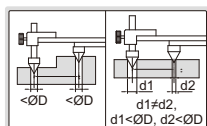


1177-200



(mm)

Code	Range	Accuracy	ØD	c	L1	L2	L	Data output cable (optional)
1177-200	10-200mm/0.4-8"	±0.10mm	10	16	18	45	310	7315-21, 7302-21
1177-300	10-300mm/0.4-12"	±0.10mm	10	16	18	45	410	7315-21, 7302-21
1177-500	20-500mm/0.8-20"	±0.10mm	20	24	26	70	692	7315-22, 7302-22
1177-1000	30-1000mm/1.2-40"	±0.12mm	30	31	39	70	1242	7315-22, 7302-22
1177-1500	30-1500mm/1.2-60"	±0.15mm	30	31	39	70	1745	7315-22, 7302-22



### DIGITAL CENTERLINE AND EDGE TO CENTER CALIPERS

DATA OUTPUT

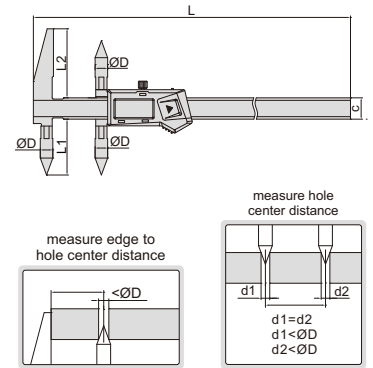
- Measure hole center distance or edge to hole center distance
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, set, mm/inch, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, data output
- Made of stainless steel



1525-300

(mm)

Code	Range of upper jaw (edge to center)	Range of lower jaw (center to center)	Accuracy	ØD	L1	L2	c	L	Data output cable (optional)
1525-300	5-300mm/0.2-12"	10-300mm/0.4-12"	±0.08mm	10	44.5	55	17	410	7315-21, 7302-21
1525-500	10-500mm/0.4-20"	20-50mm/0.8-20"	±0.09mm	20	40	50	24	690	7315-22, 7302-22
1525-1000	15-1000mm/0.6-40"	30-1000mm/1.2-40"	±0.12mm	30	60	70	31	1255	7315-22, 7302-22
1525-1500	15-1500mm/0.6-60"	30-1500mm/1.2-60"	±0.15mm	30	60	70	31	1760	7315-22, 7302-22



### DIGITAL BACK-JAW EDGE TO CENTER CALIPERS

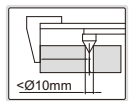
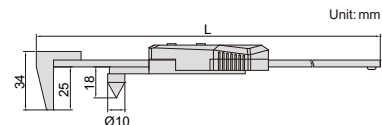
DATA OUTPUT

- Measure edge to hole center distance
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, set, mm/inch, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code 7315-21, 7302-21)



1524-200

Code	Range	Accuracy	L
1524-200	5-200mm/0.2-8"	±0.1mm	310mm
1524-300	5-300mm/0.2-12"	±0.1mm	410mm



### DIGITAL HOOK CALIPER

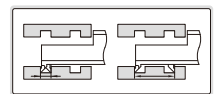
DATA OUTPUT

- Measure width and distance of grooves inside bores
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code 7315-21, 7302-21)



1122-300

Code	Range	Accuracy
1122-300	4-300mm/0.16-12"	±0.04mm



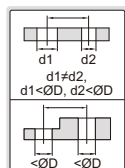
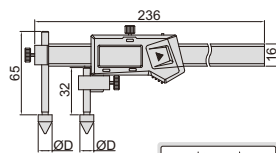
### DIGITAL OFFSET CENTERLINE CALIPER

DATA OUTPUT



1192-150A

- Measure hole center distance in the same or offset planes
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, set, mm/inch, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, data output
- Made of stainless steel
- Optional accessory: data output cable (code 7315-21, 7302-21)



Code	Range	Accuracy	ØD
1192-150A	10-150mm/0.4-6"	±0.05mm	10mm

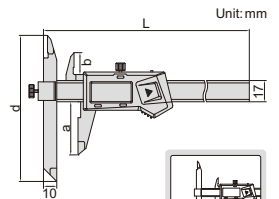
### DIGITAL OFFSET CALIPERS

DATA OUTPUT

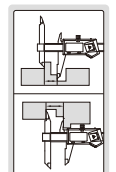


1186-150A

- The left jaw can slide up and down to facilitate measurement of stepped sections
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, data output
- Made of stainless steel
- Optional accessory: data output cable (code 7315-21, 7302-21)



Code	Range	Accuracy	L	a	b	d
1186-150A	0-150mm/0-6"	±0.04mm	249	40	16.5	110
1186-300A	0-300mm/0-12"	±0.05mm	399	60	20.5	130



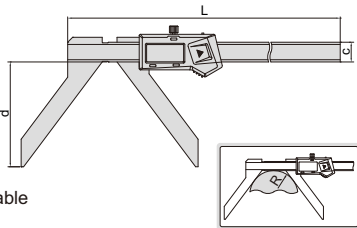
### DIGITAL ARC RADIUS CALIPERS

DATA OUTPUT



1189-150B

- Measure the radius of arc less than half round
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code 7315-21, 7302-21)

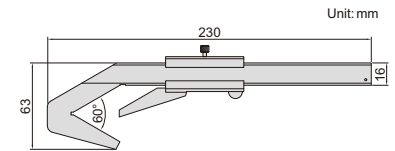


Code	Range (R)	Accuracy	L	c	d
1189-150B	5-150mm/0.2-6"	±0.05mm	263mm	16mm	65mm
1189-200B	5-200mm/0.2-8"	±0.07mm	313mm	16mm	85mm

### V SHAPE VERNIER CALIPER



1273-403



- Measure outside diameter of three number of flutes (such as taps, reamers, end mills and gears)
- Made of stainless steel
- Satin chrome plated reading surface

Code	Range	Graduation	Accuracy
1273-403	∅4-40mm	0.05mm	±0.05mm

### DIGITAL RTJ RING GROOVE CALIPERS

DATA OUTPUT



1179-300

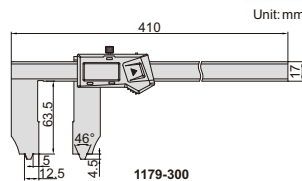
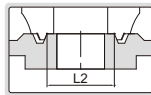
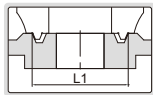


1179-600

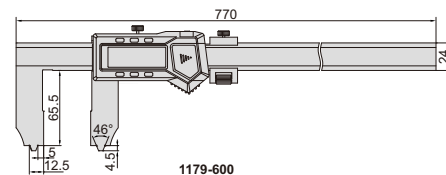
- Measure ring grooves of flange
- Resolution: 0.01mm/0.0005"
- Button function: on/off, set, zero, mm/inch, data preset
- Battery CR2032, data output
- Made of stainless steel

measure outside diameter of RTJ ring groove

measure inside diameter of RTJ ring groove



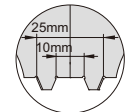
1179-300



1179-600

applicable for RTJ ring grooves with angle 23°

10mm and 25mm need to be added on the reading



Code	Range (inside diameter of RTJ ring groove)	Range (outside diameter of RTJ ring groove)	Angle of RTJ ring groove	Accuracy	Data output cable (optional)
1179-300	10-300mm/0.4-12"	25-300mm/1-12"	23°	±0.06mm	7315-21, 7302-21
1179-600	10-600mm/0.4-24"	25-600mm/1-24"	23°	±0.07mm	7315-22, 7302-22

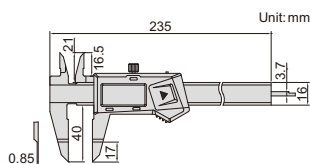
### DIGITAL BLADE CALIPER

DATA OUTPUT



1188-150A

- The blade jaws fit into small grooves
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, data output
- Made of stainless steel
- Optional accessory: data output cable (code 7315-21, 7302-21)



Code	Range	Accuracy
1188-150A	0-150mm/0-6"	±0.03mm

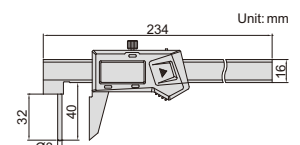
### DIGITAL TUBE THICKNESS CALIPER

DATA OUTPUT

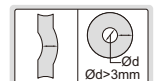


1161-150A

- Measure wall thickness of tubes
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, data output
- Made of stainless steel
- Optional accessory: data output cable (code 7315-21, 7302-21)



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



### DIGITAL CALIPER WITH INTERCHANGEABLE BALL TIPS

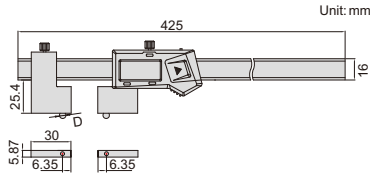
DATA OUTPUT



ball tips are optional

1528-3001

- Resolution 0.01mm/.0005"
- Buttons: on/off, set, mm/inch, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, data output
- Made of stainless steel
- Optional accessory: ball tips, data output cable (code 7315-21, 7302-21)



preset buttons

Code	Range	Accuracy
1528-3001	(12.7+D)~300mm*	±0.03mm

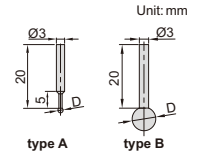
\*"D" is the diameter of ball tips.

Ball tips (optional, supplied in pair)



1527-T101

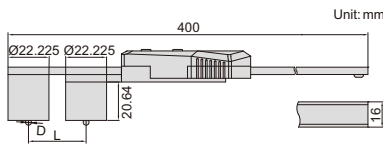
1527-T104



Code	Diameter (D)	Accuracy of diameter	Type	Material
1527-T101	1/16" (Ø1.5875mm)	±0.005mm	A	Ruby
1527-T102	1/8" (Ø3.175mm)	±0.005mm	B	Stainless steel
1527-T103	3/16" (Ø4.7625mm)	±0.005mm	B	Stainless steel
1527-T104	1/4" (Ø6.35mm)	±0.005mm	B	Stainless steel
1527-T105	3/8" (Ø9.525mm)	±0.005mm	B	Stainless steel
1527-T106	1/2" (Ø12.7mm)	±0.005mm	B	Stainless steel

### DIGITAL CALIPER WITH INTERCHANGEABLE BALL TIPS

DATA OUTPUT



1527-3001

- Resolution 0.01mm/.0005"
- Buttons: on/off, set, mm/inch, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, data output
- Made of stainless steel
- Optional accessory: ball tips, data output cable (code 7315-21, 7302-21)



back-jaw

ball tips are optional



preset buttons

Code	Range	Accuracy
1527-3001	(22.22+D)~300mm*	±0.03mm

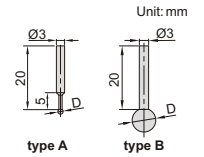
\*"D" is the diameter of ball tips.

Ball tips (optional, supplied in pair)



1527-T101

1527-T104



Code	Diameter (D)	Accuracy of diameter	Type	Material
1527-T101	1/16" (Ø1.5875mm)	±0.005mm	A	Ruby
1527-T102	1/8" (Ø3.175mm)	±0.005mm	B	Stainless steel
1527-T103	3/16" (Ø4.7625mm)	±0.005mm	B	Stainless steel
1527-T104	1/4" (Ø6.35mm)	±0.005mm	B	Stainless steel
1527-T105	3/8" (Ø9.525mm)	±0.005mm	B	Stainless steel
1527-T106	1/2" (Ø12.7mm)	±0.005mm	B	Stainless steel

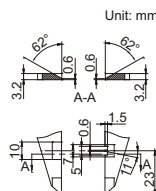
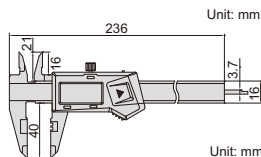
### DIGITAL CRIMP HEIGHT CALIPER

DATA OUTPUT



1165-150A

- Measure crimp height
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Meet DIN862
- Made of stainless steel
- Optional accessory: data output cable (code 7315-21, 7302-21)



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

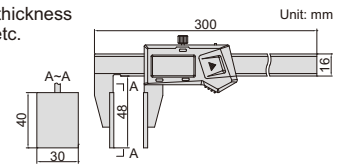
### DIGITAL CALIPER WITH LARGE MEASURING FACES

DATA OUTPUT



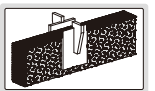
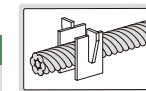
1172-200

- Measure diameter of wire ropes, and thickness of soft materials like rubber, sponge, etc.
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code 7315-21, 7302-21)



measure diameter of wire ropes

measure thickness of rubber, sponge, etc.

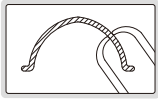


Code	Range	Accuracy
1172-200	0-200mm/0-8"	±0.07mm

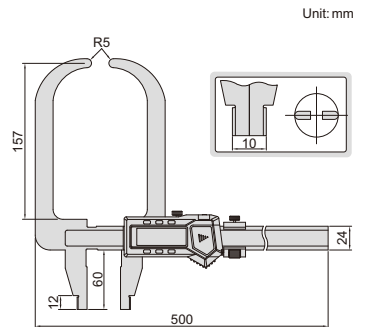


## DIGITAL WALL THICKNESS CALIPER

DATA OUTPUT



1536-300



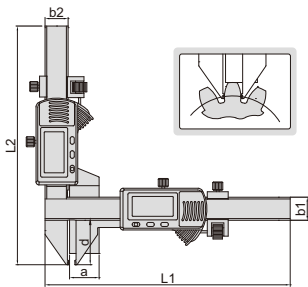
Unit: mm

- Measure wall thickness of helmets, domes and curved pots
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch, ABS, data preset
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code 7315-22, 7302-22)

Code	Range	Accuracy
1536-300	0-300mm/0-12"	±0.05mm

## DIGITAL GEAR TOOTH CALIPERS

ATTENTION:  
NO DATA OUTPUT



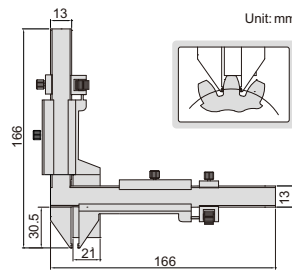
1181-M25A

- Resolution: 0.01mm/0.0005"
- Accuracy of height measurement: ±0.03mm
- Accuracy of thickness measurement: ±0.03mm
- Carbide tips
- Buttons: zero, on/off, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel

(mm)

Code	Range	Total accuracy	L1	L2	a	b1	b2	d
1181-M25A	M1-25mm	±0.04mm	170	165.5	21	16	16	30.5
1181-M50A	M5-50mm	±0.04mm	220	190	50.5	16	16	55

## GEAR TOOTH VERNIER CALIPER



Unit: mm



1281-M26A

- Graduation: 0.02mm
- Total accuracy: ±0.04mm
- Carbide tips
- Measure the tooth thickness by positioning the tooth height
- Made of stainless steel
- Satin chrome plated reading surface

Code	Range	Accuracy of height measurement	Accuracy of thickness measurement
1281-M26A	M1-26mm	±0.03mm	±0.03mm

## DIGITAL DISK BRAKE CALIPER

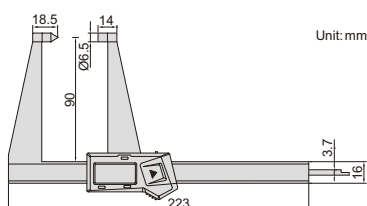
DATA OUTPUT



1162-125A



- Measure thickness of disk brakes
- Resolution 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, data output
- Made of stainless steel
- Optional accessory: data output cable (code 7315-21, 7302-21)



Unit: mm

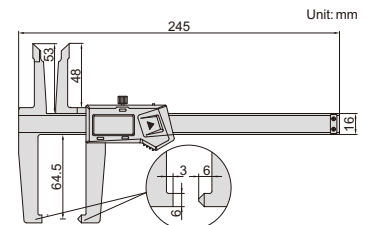
Code	Range	Accuracy
1162-125A	0-125mm/0-5"	±0.05mm

## DIGITAL DISK BRAKE AND PAD CALIPER

DATA OUTPUT



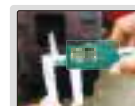
1167-150A



Unit: mm

- Measure thickness of disk brakes and pad wear
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, data output
- Made of stainless steel
- Optional accessory: data output cable (code 7315-21, 7302-21)

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

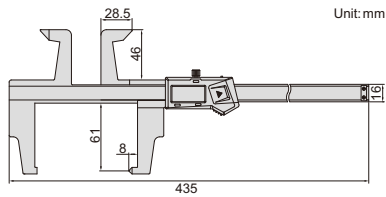


### DIGITAL DRUM BRAKE CALIPER

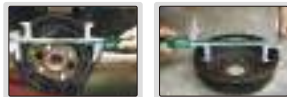
DATA OUTPUT



1168-300A



- Measure internal and external diameter of drum brakes
- Resolution 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, data output
- Made of stainless steel
- Optional accessory: data output cable (code 7315-21, 7302-21)



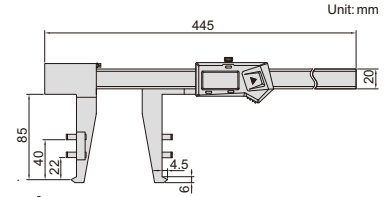
Code	Range	Accuracy
1168-300A	0-300mm/0-12"	±0.07mm

### DIGITAL DRUM BRAKE CALIPER

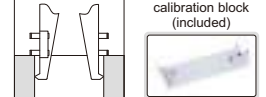
DATA OUTPUT



1538-300



- Measure internal diameter of drum brakes
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code 7315-22, 7302-22)



Code	Range	Accuracy
1538-300	30-300mm/1.2-12"	±0.05mm

### IP67 WATERPROOF DIGITAL DEPTH GAGES

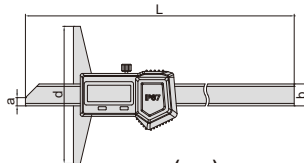
ATTENTION: IT IS NECESSARY TO SET ZERO AFTER POWER ON EACH TIME

ATTENTION: NO DATA OUTPUT

IP67 WATERPROOF



1149-150



- IP67 dust/waterproof
- Resolution: 0.01mm/0.0005"
- Button function: zero, on/off, mm/inch, ABS/REL, hold
- Meet DIN862
- Battery CR2032
- Made of stainless steel

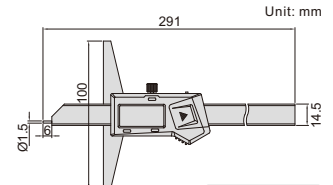
Code	Range	Accuracy	L	a	b	d
1149-150	0-150mm/0-6"	±0.03mm	240	6	16	100
1149-200	0-200mm/0-8"	±0.03mm	290	6	16	100
1149-300	0-300mm/0-12"	±0.03mm	390	6	16	150

### DIGITAL POINT DEPTH GAGE

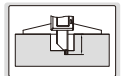
DATA OUTPUT



1143-200A



- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Meet DIN862
- Battery CR2032, data output
- Made of stainless steel
- Optional accessory: data output cable (code 7315-21, 7302-21)



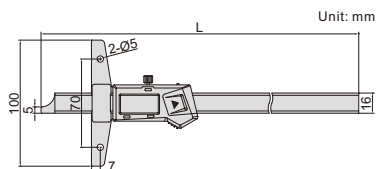
Code	Range	Accuracy
1143-200A	0-200mm/0-8"	±0.03mm

### DIGITAL DEPTH GAGES WITH MOUNTING HOLES FOR EXTENSION BASE

DATA OUTPUT



1147-300



- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Meet DIN862
- Battery CR2032, data output
- Made of stainless steel
- Optional accessory: data output cable (code 7315-21, 7302-21), extension base (code 6141)

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

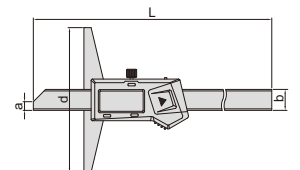


### DIGITAL DEPTH GAGES (STANDARD TYPE)

DATA OUTPUT



1141-150A



- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Meet DIN862 (except 1141-500A)
- Battery CR2032, data output
- Made of stainless steel
- Optional accessory: data output cable (code 7315-21, 7302-21)

Code	Range	Accuracy	L	a	b	d
1141-150A	0-150mm/0-6"	±0.03mm	230	6	14.5	100
1141-200A	0-200mm/0-8"	±0.03mm	280	6	14.5	100
1141-300A	0-300mm/0-12"	±0.03mm	380	6	14.5	150
1141-500A	0-500mm/0-20"	±0.05mm	585	7	15	150

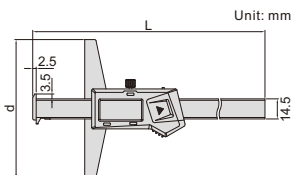
## DIGITAL DOUBLE HOOK DEPTH GAGES

DATA OUTPUT

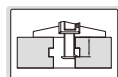
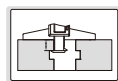


1144-150A

- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Meet DIN862
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code 7315-21, 7302-21)



(mm)



Code	Range	Accuracy	L	d
1144-150A	0-150mm/0-6"	±0.03mm	233	100
1144-200A	0-200mm/0-8"	±0.03mm	283	100
1144-300A	0-300mm/0-12"	±0.03mm	383	150

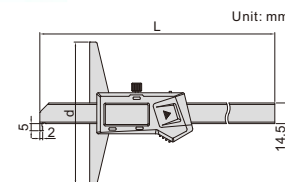
## DIGITAL HOOK DEPTH GAGES

DATA OUTPUT

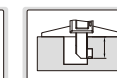
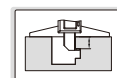
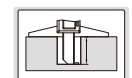


1142-150A

- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code 7315-21, 7302-21)



Unit: mm



Code	Range	Accuracy	L	d
1142-150A	0-150mm/0-6"	±0.03mm	230mm	100mm
1142-200A	0-200mm/0-8"	±0.03mm	280mm	100mm

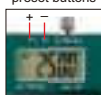
## DIGITAL DEPTH GAGES WITH ROUND DEPTH BAR

MEASURE WIDTH AND DEPTH OF GROOVES INSIDE BORE

MEASURE DEPTH OF SMALL HOLES (>Ø4mm)

DATA OUTPUT

preset buttons



one-hand use of 1148-120



extension base for 1148-200 (optional)



6141 series

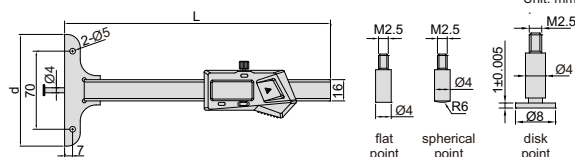
- Resolution: 0.01mm/0.0005"
- Supplied with three interchangeable points (flat, spherical, disk)
- Buttons: on/off, set, mm/inch, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, data output
- Made of stainless steel
- Optional accessory: data output cable (code 7315-21, 7302-21), extension base (code 6141, for 1148-200)



1148-100S

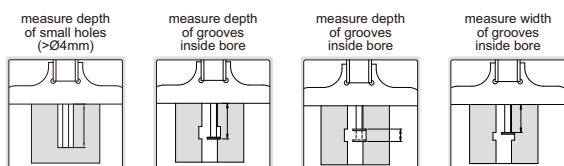


1148-200

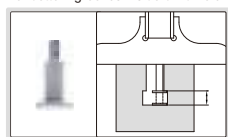


Unit: mm

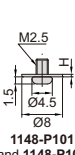
flat point spherical point disk point



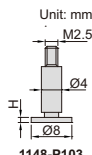
1148-P103 (optional), measure width of bottom grooves inside blind hole



1148-P101 (optional)



1148-P101 and 1148-P102



1148-P103

Code	Range*	Accuracy	L	d	Remark
1148-100S	0-100mm/0-4"	±0.02mm	200	45	
1148-100	0-100mm/0-4"	±0.02mm	200	85	
1148-200	0-200mm/0-8"	±0.03mm	300	101	with mounting holes for extension base

\*When disk points are used, the range is reduced by 10mm

### OPTIONAL DISK POINTS

Code	Description	H	Remark
1148-P101	0.5mm disk point	0.5±0.005mm	for narrow grooves
1148-P102	0.7mm disk point	0.7±0.005mm	for narrow grooves
1148-P103	1mm disk point	1±0.005mm	for grooves inside blind hole

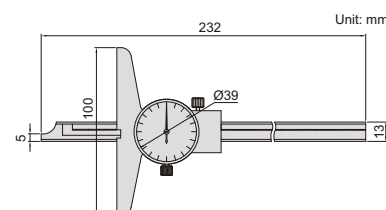
## DIAL DEPTH GAGE

SHOCK PROOF

- Shockproof dial indicator
- Made of stainless steel



1340-150



Unit: mm

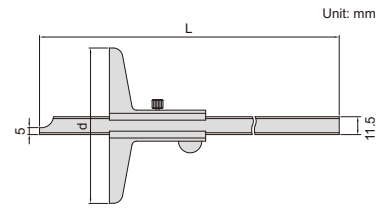
Code	Range	Graduation	Accuracy
1340-150	0-150mm	0.02mm	±0.03mm

### VERNIER DEPTH GAGES (STANDARD TYPE)

- Made of stainless steel
- Satin chrome plated reading surface



1240-2001

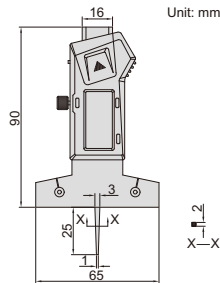
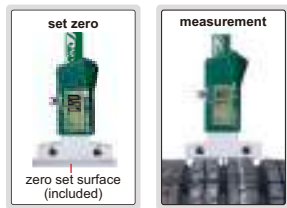


Graduation 0.05mm		(mm)		
Code	Range	Accuracy	L	d
1240-150	0-150mm	±0.05mm	245	100
1240-200	0-200mm	±0.05mm	282	100
1240-300	0-300mm	±0.08mm	382	100
1240-500	0-500mm	±0.09mm	585	150

Graduation 0.02mm		(mm)		
Code	Range	Accuracy	L	d
1240-1501	0-150mm	±0.03mm	245	100
1240-2001	0-200mm	±0.03mm	282	100
1240-3001	0-300mm	±0.04mm	382	100
1240-5001	0-500mm	±0.05mm	585	150

### MINI DIGITAL DEPTH GAGE

DATA OUTPUT



1145-25A

- Measure depth of small groove and hole, also measure depth of tire tread
- Buttons: on/off, zero, mm/inch
- Supplied with zero set surface
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code 7315-21, 7302-21)

Code	Range	Accuracy	Resolution
1145-25A	0-25mm/0-1"	±0.03mm	0.01mm/0.0005"

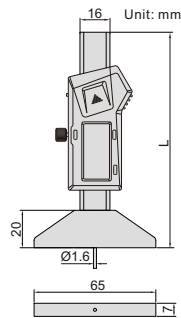
### MINI DIGITAL DEPTH GAGES WITH ROUND BAR

DATA OUTPUT

- Measure depth of small groove and hole
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, set, mm/inch, preset (+,-)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code 7315-21, 7302-21)



1140-25

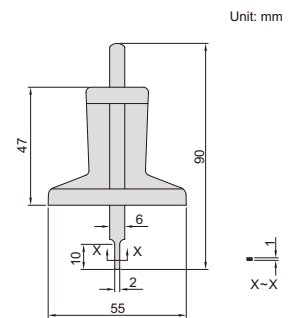


Code	Range	Accuracy	L
1140-25	0-25mm/0-1"	±0.02mm	114mm
1140-50	0-50mm/0-2"	±0.02mm	140mm

### VERNIER DEPTH GAGE (ECONOMIC TYPE)



1244-30



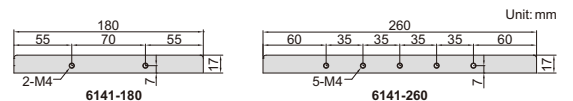
- Graduation: 0.1mm
- Made of stainless steel

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

### EXTENSION BASES

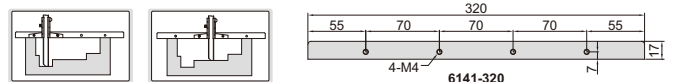


6141-260



- Supplied with two screws
- Made of stainless steel
- Suitable for depth gages series 1147, 1148, 1247, 1248 and 1249

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



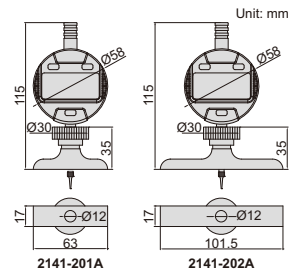
## DIGITAL DEPTH GAGES

DATA  
OUTPUT

- Accuracy:  $\pm 20\mu\text{m}$
- Button function: on/off, zero, mm/inch, ABS, data preset, change measuring direction
- CR2032 battery, automatic power off
- Data output
- Stainless steel base
- Extension rods: 12.5mm (1 pc), 25mm (1 pc), 50mm (1 pc), 75mm (1 pc), 100mm (2 pcs)
- Supplied with pointed tip and ball tip
- Optional accessory: data output cable (code **7315-50M**, **7302-50M**), granite extension holder (code **2141-10**)

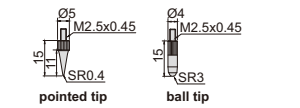


2141-202A



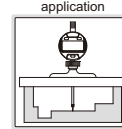
2141-201A

2141-202A

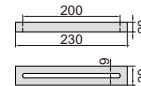


pointed tip

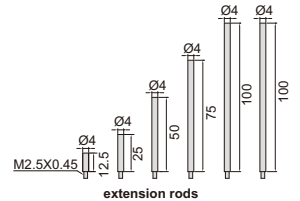
ball tip



Unit: mm



2141-10 (optional),  
can be customized  
according to workpieces



extension rods

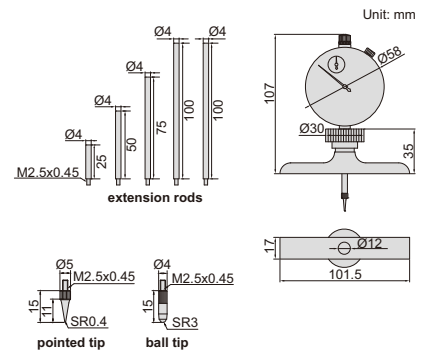
Code	Range	Digital indicator stroke	Digital indicator resolution	Base
2141-201A	0-300mm/0-12"	12.7mm/0.5"	0.01mm/0.0005"	63x17mm
2141-202A	0-300mm/0-12"	12.7mm/0.5"	0.01mm/0.0005"	101.5x17mm

## DIAL DEPTH GAGE

- Accuracy:  $\pm 0.03\text{mm}$
- Dial indicator stroke: 30mm
- Dial indicator graduation: 0.01mm
- Stainless steel base
- Extension rods: 25mm (1 pc), 50mm (1 pc), 75mm (1 pc), 100mm (2 pcs)
- Supplied with pointed tip and ball tip
- Optional accessory: granite extension holder (code **2141-10**)

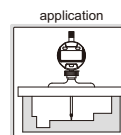


2342-202

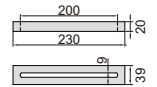


pointed tip

ball tip



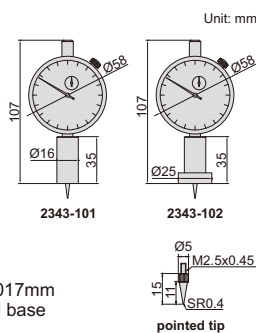
Unit: mm



2141-10 (optional),  
can be customized  
according to workpieces

Code	Range	Base
2342-202	0-300mm	101.5x17mm

## DIAL DEPTH GAGES



2343-101

2343-102

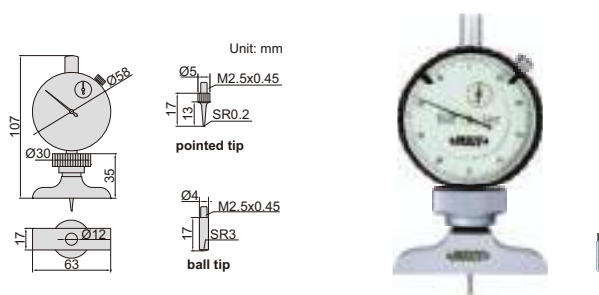


2343-102

- Accuracy:  $\pm 0.017\text{mm}$
- Stainless steel base
- Pointed tip

Code	Range	Dial indicator stroke	Dial indicator graduation	Base
2343-101	0-10mm	10mm	0.01mm	$\varnothing 16\text{mm}$
2343-102	0-10mm	10mm	0.01mm	$\varnothing 25\text{mm}$

## DIAL DEPTH GAGE



Unit: mm

pointed tip

ball tip

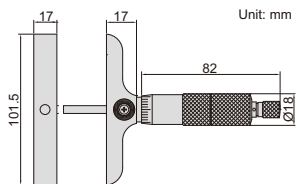


2341-101A

- Dial indicator graduation: 0.01mm
- Stainless steel base
- Supplied with pointed tip and ball tip

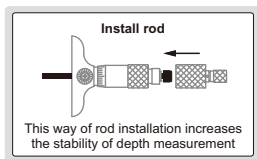
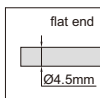
Code	Range	Dial indicator stroke	Accuracy
2341-101A	0-10mm	10mm	$\pm 0.017\text{mm}$

**DEPTH MICROMETERS**



**3241-100**

- Graduation: 0.01mm
- Meet DIN863-2
- Micrometer head accuracy: +/-3µm
- Rod accuracy: +/- (2+L/75)µm, L is the measuring range in mm
- Rods with flat end
- Ratchet stop

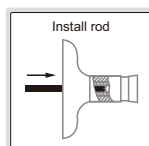


Code	Range	Rods
3241-25	0-25mm	1 pc
3241-50	0-50mm	2 pcs
3241-100	0-100mm	4 pcs
3241-150	0-150mm	6 pcs
3241-300	0-300mm	12 pcs

**DIGITAL DEPTH MICROMETERS**

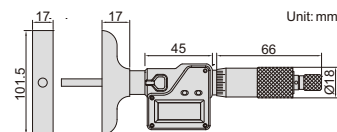
**DATA OUTPUT**

**IP65 WATERPROOF**

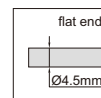


**3540-150**

- Micrometer head accuracy: +/-3µm
- Rod accuracy: +/- (2+L/75)µm, L is the measuring range in mm
- Button function: on/off, set, mm/inch, ABS/INC
- IP65 dust/waterproof
- Data output
- LR44 battery
- Automatic power off
- Rods with flat end
- Ratchet stop
- Optional accessory: data output cable (code 7315-30, 7302-30)



Code	Range	Resolution	Rods
3540-50	0-50mm/0-2"	0.001mm/0.00005"	2 pcs
3540-150	0-150mm/0-6"	0.001mm/0.00005"	6 pcs
3540-300	0-300mm/0-12"	0.001mm/0.00005"	12 pcs



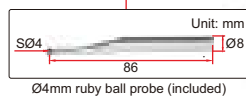
**1D MANUAL HEIGHT GAGE (WITHOUT AIR CUSHION) CODE DHG-C420**

**INSIZE PLUS**  
MADE IN EUROPE



- Set 9 reference points
- Probe can be moved quickly by hand
- Touch buttons
- LED display with backlight
- Built-in rechargeable battery, 40 hours working
- Measurement results can be sent to Excel/Word, equivalent to keyboard input

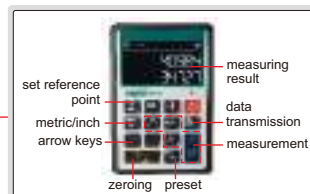
- measure height between measuring point and datum point
- calculate difference between two measured values
- calculate average value of two measured values
- maximum, minimum, TIR measurement
- measure diameter and center of shafts



**DHG-C420**

**DATA OUTPUT**

**INSPECTION CERTIFICATE**



software CD (included)

**SPECIFICATION**

Measuring range	0~406mm
Accuracy (at 20°C)	8µm
Repeatability	3µm
Resolution	0.1mm, 0.01mm, 0.001mm (selectable)
Data output	USB
Measuring force	0.75N, 1N, 1.25N, 1.5N (selectable)
Power supply	rechargeable battery
Working temperature	10°C~40°C
Weight	21kg

**STANDARD DELIVERY**

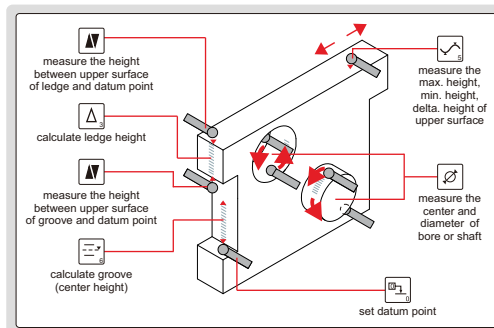
Main unit	1 pc
Ø4mm ruby ball probe	1 pc
Calibration block	1 pc
AC/DC adapter	1 pc
Software and USB cable	1 pc

**OPTIONAL ACCESSORY**

Transmitter	7306-100
Receiver	7306-2
Probe	DHG-C-C2A DHG-C-C4A DHG-C-R4 DHG-C-R5B DHG-C-R10 DHG-C-P1

**Probes (optional)**

<p>SØ2mm carbide ball probe, code DHG-C-C2A</p>	<p>SØ4mm carbide ball probe, code DHG-C-C4A</p>	<p>Ø1.5mm pin probe, code DHG-C-P1</p>
<p>SØ10mm ruby ball probe, code DHG-C-R10</p>	<p>SØ4mm ruby ball probe, code DHG-C-R4</p>	<p>SØ5mm ruby ball probe, code DHG-C-R5B</p>



## HIGH PRECISION DIGITAL HEIGHT GAGES

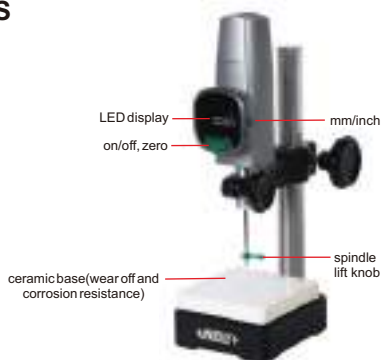
- Measuring force: 1.0~1.5N
- Power supply: 5V/1A (adapter or charge pal)
- High stability, high precision, high response speed (5000mm/s)
- High brightness LED display
- Ceramic base flatness: 1µm



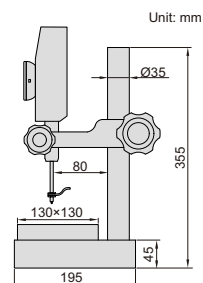
data transfer to Excel without software



power supplied by charge pal



1155-505



Code	Range	Resolution	Accuracy (20°C)	Output
1155-505	0~50mm	0.5µm/0.00002" (can switch to:1µm/0.00005")	1.5µm	USB
1155-510	0~50mm	0.1µm/0.000005" (can switch to:1µm/0.00005")	1µm	USB

### OPTIONAL ACCESSORY

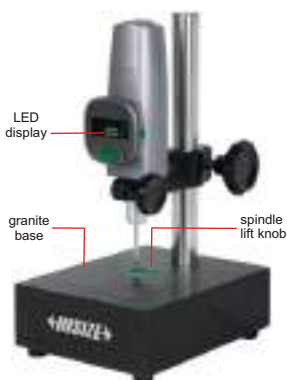
Contact point	code 6282
Charge pal	1155-5-POB
Data output cables (including foot switch)	1155-5-FOS

## DIGITAL HEIGHT GAGES

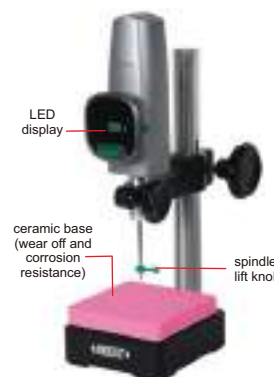
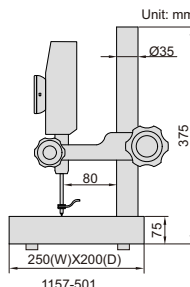
- Measuring force: 1.0~1.5N
- Power supply: 5V/1A (adapter or charge pal)
- Buttons: on/off, zero, mm/inch, mix/min/mix-min
- High response speed (5000mm/s)
- High brightness LED display



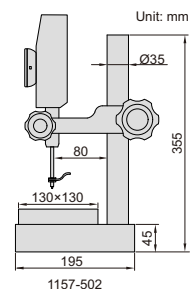
data transmitted to Excel without software



1157-501



1157-502



Code	Range	Resolution	Accuracy (20°C)	Output	Base
1157-501	0~50mm	1µm/0.00005"	3µm	USB	granite (flatness: 2µm)
1157-502	0~50mm	1µm/0.00005"	3µm	USB	ceramic (flatness: 1µm)

### OPTIONAL ACCESSORY

Contact point	code 6282
Charge pal	1155-5-POB
Data output cables (including foot switch)	1155-5-FOS



power supplied by charge pal

## DIGITAL HEIGHT GAGES WITH DRIVING WHEEL

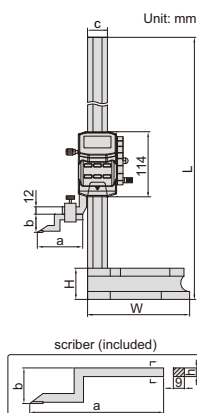
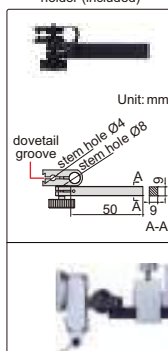


DATA OUTPUT

clamp for protractors (optional)



dial test indicator holder (included)



- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch, preset (+, -), hold
- Automatic power off, move the digital unit to turn on power
- Carbide tipped scriber
- Made of stainless steel
- Battery CR2032
- Data output
- Supplied with dust cover
- With dial test indicator holder
- Optional accessory: data output cable (code 7315-22, 7302-22), clamp for protractors (code 2372-CLAMP)

Code	Range	Accuracy	L	W	H	a	b	c	h
1156-300*	0-300mm/0-12"	±0.03mm	515	180	55	80	30	35	9
1156-600*	0-600mm/0-24"	±0.05mm	815	180	55	80	30	35	9
1156-1000*	0-1000mm/0-40"	±0.07mm	1220	265	70	92	48	40	12

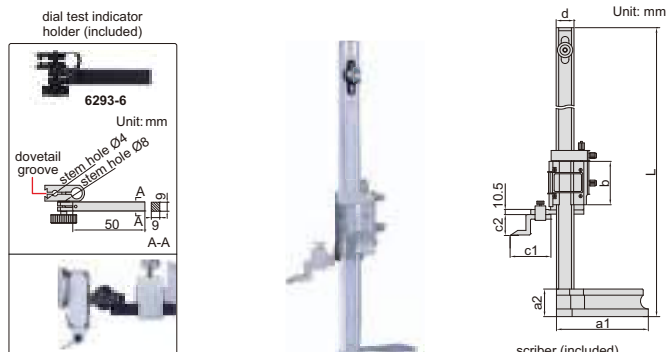
\*Supplied with manufacturer inspection certificate traceable to DKD Germany



1156-300

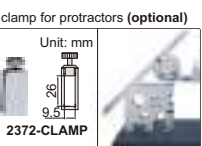
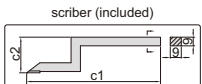
1156-1000

### VERNIER HEIGHT GAGES



- Graduation: 0.02mm/0.001"
- Adjustable main scale to set zero
- Carbide tipped scriber
- Made of stainless steel (except the base)
- Satin chrome plated scale
- Supplied with magnifier
- With fine adjustment
- Supplied with dust cover
- Optional accessory: dial test indicator holder (code 6293-6), clamp for protractors (code 2372-CLAMP)

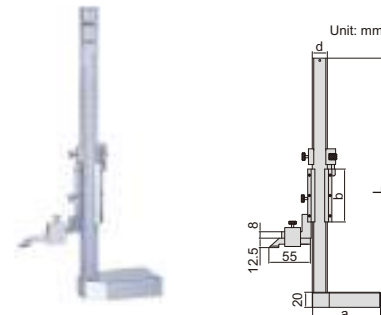
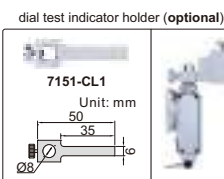
1250-300



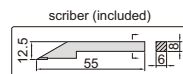
Code	Range	Accuracy	L	a1	a2	b	c1	c2	d
1250-300	0-300mm/0-12"	±0.04mm	545	135	43	75	80	30	28
1250-600	0-600mm/0-24"	±0.05mm	870	180	54	85	80	41	35

### VERNIER HEIGHT GAGES (BASIC TYPE)

**ATTENTION: CAN NOT USE CLAMP FOR PROTRACTORS (CODE 2372-CLAMP)**



1253-200



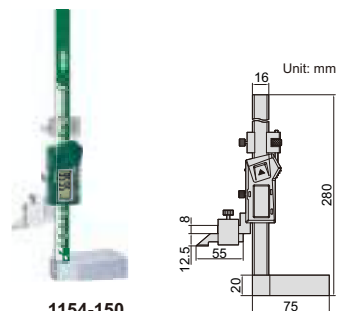
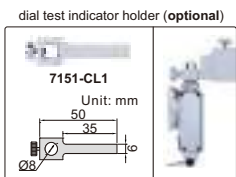
- Graduation 0.02mm/0.001"
- Carbide tipped scriber
- Made of stainless steel (except the base)
- Satin chrome plated scale
- Optional accessory: dial test indicator holder (code 7151-CL1)

Code	Range	Accuracy	L	a	b	d
1253-150	0-150mm/0-6"	±0.03mm	265mm	75mm	57mm	16mm
1253-200	0-200mm/0-8"	±0.03mm	325mm	90mm	70mm	20mm

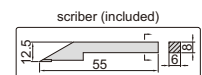
### DIGITAL HEIGHT GAGE

**DATA OUTPUT**

**ATTENTION: CAN NOT USE CLAMP FOR PROTRACTORS (CODE 2372-CLAMP)**



1154-150

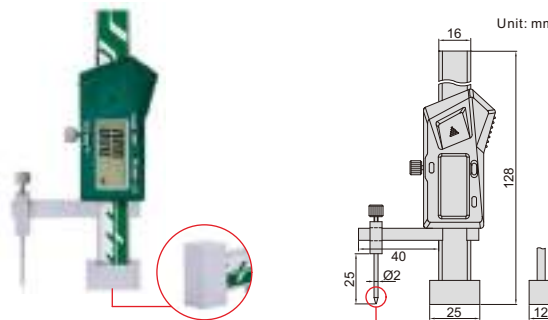


- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Carbide tipped scriber
- With fine adjustment
- Made of stainless steel
- Battery CR2032, data output
- Optional accessory: data output cable (code 7315-21, 7302-21), dial test indicator holder (code 7151-CL1)

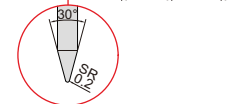
Code	Range	Resolution	Accuracy
1154-150	0-150mm/0-6"	0.01mm/0.0005"	±0.03mm

### MINI DIGITAL HEIGHT GAGE

**DATA OUTPUT**

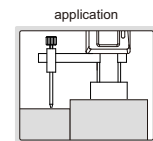


1146-20A



- Measure height difference of two surfaces
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, data output
- Made of stainless steel
- Optional accessory: data output cable (code 7315-21, 7302-21)

Code	Range	Accuracy
1146-20A	0-±20mm/0-±0.8"	±0.02mm



### DIGITAL OUTSIDE MICROMETERS (BASIC TYPE, WITHOUT DATA OUTPUT)

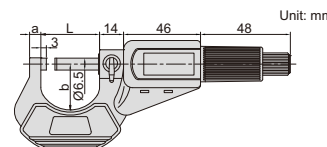
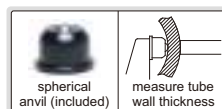
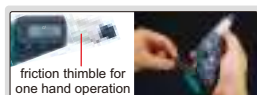
**INSPECTION CERTIFICATE TRACEABLE TO DKD**

**ATTENTION: NO DATA OUTPUT**

without data output on the back



3109-25A



- Resolution 0.001mm/0.00005"
- Button function: on/off, set, mm/inch, ABS/INC
- No data output
- LR44 battery, automatic power off
- Carbide measuring faces
- Friction thimble
- Supplied with spherical anvil
- Setting standards are included (except 0-25mm/0-1")

Code	Range	Accuracy	L	a	b
3109-25A*	0-25mm/0-1"	±2µm	32	6	27.5
3109-50A*	25-50mm/1-2"	±2µm	57	8	37
3109-75A*	50-75mm/2-3"	±3µm	82	8	50
3109-100A*	75-100mm/3-4"	±3µm	107	10	61
3109-125A	100-125mm/4-5"	±3µm	132	10	73
3109-150A	125-150mm/5-6"	±3µm	157	10	85

\*Supplied with manufacturer inspection certificate traceable to DKD Germany



## WATERPROOF DIGITAL OUTSIDE MICROMETERS (WITH DATA OUTPUT)

data output on the back



**INSPECTION  
CERTIFICATE**  
TRACEABLE TO DKD

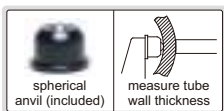
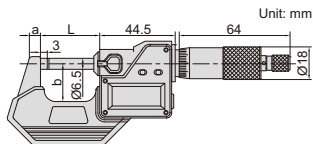
**IP65  
WATERPROOF**

**DATA  
OUTPUT**



**3101-25A**

- Resolution 0.001mm/0.00005"
- IP65 dust/waterproof
- Button function: on/off, set, mm/inch, ABS/INC
- Data output
- LR44 battery, automatic power off
- Carbide measuring faces
- Ratchet stop
- Supplied with spherical anvil
- Setting standards are included (except 0-25mm/0-1")
- Optional accessory: data output cable (code 7315-30, 7302-30)



(mm)

Code	Range	Accuracy	L	a	b
3101-25A*	0-25mm/0-1"	±2µm	34.5	6	25
3101-50A*	25-50mm/1-2"	±2µm	59.5	8	32
3101-75A*	50-75mm/2-3"	±3µm	84.5	8	44.5
3101-100A*	75-100mm/3-4"	±3µm	109.5	8	57
3101-125A	100-125mm/4-5"	±3µm	135	10	70
3101-150A	125-150mm/5-6"	±3µm	160.5	10	82

\*Supplied with manufacturer inspection certificate traceable to DKD Germany

## WATERPROOF DIGITAL OUTSIDE MICROMETERS (WITHOUT DATA OUTPUT)

without data output  
on the back



**INSPECTION  
CERTIFICATE**  
TRACEABLE TO DKD

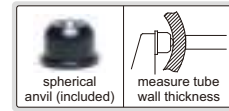
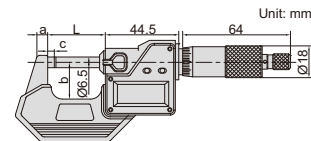
**ATTENTION: NO  
DATA OUTPUT**

**IP65  
WATERPROOF**



**3108-25A**

- Resolution 0.001mm/0.00005"
- IP65 dust/waterproof
- Button function: on/off, set, mm/inch, ABS/INC
- No data output
- LR44 battery, automatic power off
- Carbide measuring faces
- Ratchet stop
- Supplied with spherical anvil
- Setting standards are included (except 0-25mm/0-1")



(mm)

Code	Range	Accuracy	L	a	b	c
3108-25A*	0-25mm/0-1"	±2µm	34.5	6	25	3
3108-50A*	25-50mm/1-2"	±2µm	59.5	8	32	3
3108-75A*	50-75mm/2-3"	±3µm	84.5	8	44.5	3
3108-100A*	75-100mm/3-4"	±3µm	109.5	8	57	3
3101-125A	100-125mm/4-5"	±3µm	135	10	70	3
3101-150A	125-150mm/5-6"	±3µm	160.5	10	82	3

\*Supplied with manufacturer inspection certificate traceable to DKD Germany

## OUTSIDE MICROMETERS



**3203-50A**



**3203-25A**



**3203-1004A**



**3203-3006A**

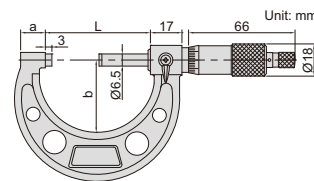
Metric (mm)

Code	Range	Accuracy	L	a	b
3203-25A*	0-25mm	±2µm	32	9	28
3203-50A*	25-50mm	±2µm	57	14	38
3203-75A*	50-75mm	±2µm	82	15	49
3203-100A*	75-100mm	±3µm	107	15	60
3203-125A	100-125mm	±3µm	133	16.5	73
3203-150A	125-150mm	±3µm	158	16.5	85
3203-175A	150-175mm	±4µm	183	19.4	104
3203-200A	175-200mm	±4µm	209	19.4	117
3203-225A	200-225mm	±4µm	234	19.4	130
3203-250A	225-250mm	±5µm	260	19.4	142
3203-275A	250-275mm	±5µm	285	19.4	155
3203-300A	275-300mm	±5µm	310	19.4	168

Inch

Code	Range	Accuracy	L	a	b
3203-1A*	0-1"	0.00016"	1.260"	0.354"	1.102"

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



Metric micrometer set

Code	Range	Micrometers included	Packaging
3203-1004A*	0-100mm	3203-25A, 3203-50A, 3203-75A, 3203-100A	blow mould case
3203-1506A	0-150mm	3203-25A, 3203-50A, 3203-75A, 3203-100A, 3203-125A, 3203-150A	blow mould case
3203-3006A	150-300mm	3203-175A, 3203-200A, 3203-225A, 3203-250A, 3203-275A, 3203-300A	aluminum box

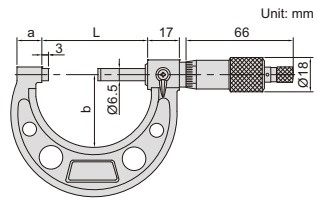
\*Supplied with manufacturer inspection certificate traceable to DKD Germany

### 1µm GRADUATION OUTSIDE MICROMETERS

- Graduation: 0.001mm
- Carbide measuring faces
- Meet DIN863-1
- Ratchet stop
- Supplied with setting standards (except 0-25mm)



3210-25A



Code	Range	Accuracy	L	a	b
3210-25A*	0-25mm	4µm	32	9	28
3210-50A*	25-50mm	4µm	57	14	38
3210-75A*	50-75mm	5µm	82	15	49
3210-100A*	75-100mm	5µm	107	15	60

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

\*Supplied with manufacturer inspection certificate traceable to DKD Germany

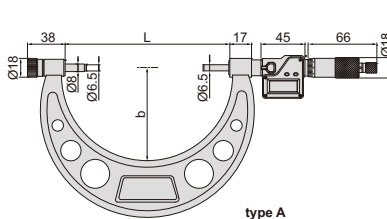
### DIGITAL OUTSIDE MICROMETERS WITH INTERCHANGEABLE ANVILS

IP65 WATERPROOF

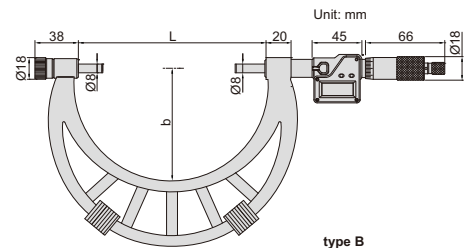
DATA OUTPUT



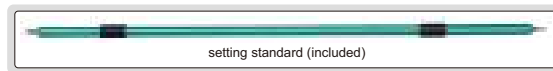
3506-400A



type A

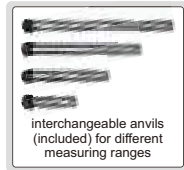


type B



setting standard (included)

- Resolution 0.001mm/0.0001"
- IP65 dust/waterproof
- Button function: on/off, set, mm/inch, ABS/INC
- Data output
- LR44 battery, automatic power off
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards
- Optional accessory: data output cable (code 7315-30, 7302-30)



interchangeable anvils (included) for different measuring ranges

Code	Range	Type	Accuracy	L	b	Setting standard (included)
3506-300A	150-300mm/6-12"	A	±8µm	305	165	150, 175, 200, 225, 250, 275
3506-400A	300-400mm/12-16"	B	±9µm	405	224	325, 375
3506-500A	400-500mm/16-20"	B	±11µm	505	275	425, 475

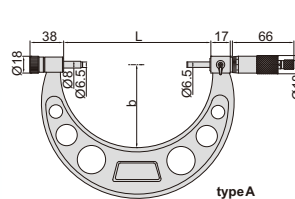
### OUTSIDE MICROMETERS WITH INTERCHANGEABLE ANVILS



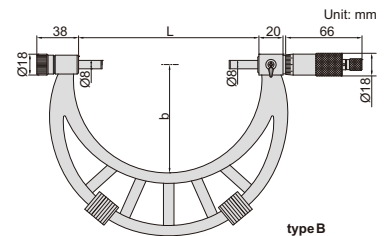
3206-400



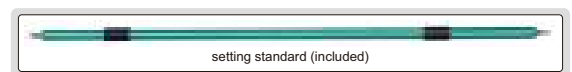
3206-150A



type A



type B



setting standard (included)

- Graduation 0.01mm
- Ratchet stop
- Meet DIN863-3
- Carbide measuring faces
- Supplied with setting standards



interchangeable anvils (included) for different measuring ranges

Code	Range	Type	Accuracy	L	b	Setting standard (included)
3206-150A	0-150mm	A	6µm	158	82	25, 50, 75, 100, 125
3206-200A	100-200mm	A	7µm	208	114	100, 125, 150, 175
3206-300A	150-300mm	A	9µm	308	165	150, 175, 200, 225, 250, 275
3206-301A	200-300mm	A	9µm	308	165	200, 225, 250, 275
3206-400	300-400mm	B	11µm	409	224	325, 375
3206-500	400-500mm	B	13µm	509	275	425, 475
3206-600	500-600mm	B	14µm	609	321	525, 575

## DIGITAL VERTICAL MICROMETER

DATA  
OUTPUT

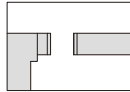
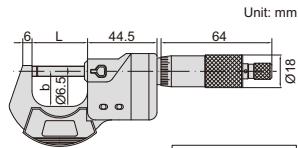
IP65  
WATERPROOF

INSPECTION  
CERTIFICATE  
TRACEABLE TO DKD



3565-25A

- Measure the thickness of plates for easy reading
- Resolution 0.001mm/0.00005"
- IP65 dust/waterproof
- Button function: on/off, set, mm/inch, ABS/INC
- Data output
- LR44 battery, automatic power off
- Carbide spindle tip
- Ratchet stop
- Supplied with setting standards (except 0-25mm/0-1")
- Optional accessory: data output cable (code 7315-30, 7302-30)



Code	Range	Accuracy	L	a	b
3565-25A*	0-25mm/0-1"	±2µm	34.5mm	25mm	

\*Supplied with manufacturer inspection certificate traceable to DKD Germany

## OUTSIDE MICROMETERS

INSPECTION  
CERTIFICATE  
TRACEABLE TO DKD

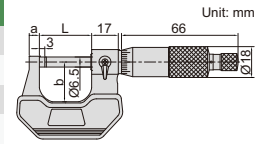


3202-25A

- Graduation 0.01mm
- Carbide measuring faces
- Meet DIN863-1
- Supplied with setting standards (except 0-25mm)

Individual (mm)

Code	Range	Accuracy	L	a	b
3202-25A*	0-25mm	4µm	32	6	24
3202-50A*	25-50mm	4µm	57	8	32
3202-75A*	50-75mm	5µm	82	8	45
3202-100A*	75-100mm	5µm	107	8	57

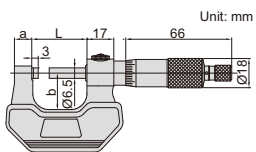


Set

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

\*Supplied with manufacturer inspection certificate traceable to DKD Germany

## OUTSIDE MICROMETER FOR LEFT OR RIGHT HANDERS



front



back

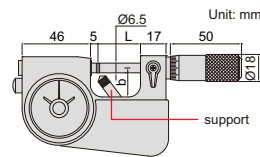
3236-25B

- Graduation 0.01mm
- Graduations on two sides
- Ratchet stop
- Carbide measuring faces
- Meet DIN863-1
- Supplied with setting standards (except 0-25mm)

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

## INDICATING MICROMETERS

ATTENTION: SETTING  
STANDARDS ARE NOT INCLUDED



3332-25

- Meet DIN863-3
- Dial indicator: range ±0.04mm, graduation 0.001mm, accuracy 0.001mm
- Carbide measuring faces

Code	Micrometer head range	Micrometer head accuracy	Micrometer head graduation	L	b
3332-25	0-25mm	4µm	0.002mm	28.5	19
3332-50	25-50mm	4µm	0.002mm	53.5	30

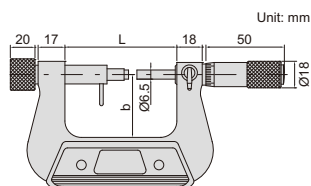
## MICROMETER WITH DIAL INDICATOR

ATTENTION: NOT SUITABLE  
FOR 0.001MM INDICATORS



dial indicator  
is optional

3331-25A



- Meet DIN863-3
- Micrometer head graduation 0.01mm
- Anvil retracting range: 8mm
- Carbide measuring faces
- Optional accessory: dial indicators (graduation 0.01mm), digital indicators (resolution 0.01mm/0.0005")

Code	Micrometer head range	Micrometer head accuracy	L	b
3331-25A	0-25mm	4µm	67	38

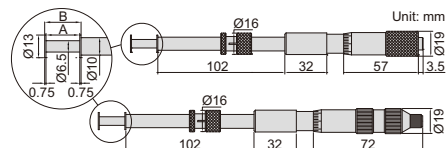
## GROOVE MICROMETERS



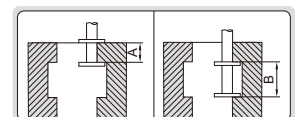
3287-25A



3287-25B



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



No ratchet stop

Code	Range (outside A)	Range (inside B)	Accuracy
3287-25A	0-25mm	1.6-26.5mm	10µm

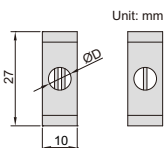
Two-directional ratchet stop

Code	Range (outside A)	Range (inside B)	Accuracy
3287-25B	0-25mm	1.6-26.5mm	10µm

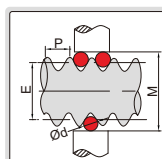
3-WIRES



7382-19



- Used with standard outside micrometers to measure pitch diameter of screw threads
- Diameter accuracy:  $\pm 0.5\mu\text{m}$
- Cylindricity:  $1\mu\text{m}$
- Hardness: HRC60
- Supplied with manufacturer inspection certificate



**Formula of pitch diameter E**  
 $E = M - 3d + 0.866025P$   
 M=measured value of the micrometer  
 d=diameter of the pin gage (choose diameter of pin gage according to pitch:  $d = 0.577P$ )  
 P=screw thread pitch  
 The formula is suitable for 60° screw



For outside micrometers with spindle  $\text{Ø}6.50\text{mm}$  ( $\text{Ø}d$ )

Code	Pin gage diameter ( $\text{Ø}d$ )	Applicable pitch
7382-21	0.170mm	0.2mm, 0.25mm, 0.3mm
7382-22	0.195mm	0.35mm
7382-23	0.220mm	0.4mm
7382-24	0.250mm	0.45mm
7382-25	0.290mm	0.5mm
7382-26	0.335mm	0.6mm
7382-27	0.390mm	0.7mm
7382-28	0.455mm	0.75mm, 0.8mm
7382-29	0.530mm	0.9mm
7382-210	0.620mm	1.0mm
7382-211	0.725mm	1.25mm
7382-212	0.895mm	1.5mm
7382-213	1.100mm	1.75mm, 2.0mm
7382-214	1.350mm	2.5mm
7382-215	1.650mm	3.0mm
7382-216	2.050mm	3.5mm
7382-217	2.550mm	4mm, 4.5mm
7382-218	3.200mm	5mm, 5.5mm, 6mm
7382-2S	18 pairs/set, including all above 3-wires	

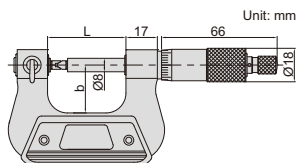
SCREW THREAD MICROMETERS

NON-ROTATING SPINDLE

measuring tips are optional



3281-25A



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



accuracy of micrometers with tips (mm)

Pitch	Range					
	0-25	25-50	50-75	75-100	100-125	125-150
0.4-0.5	$\pm 0.01$	-	-	-	-	-
0.6-0.8	$\pm 0.01$	$\pm 0.013$	-	-	-	-
1-1.25	$\pm 0.012$	$\pm 0.015$	$\pm 0.017$	$\pm 0.017$	-	-
1.5-2.0	$\pm 0.014$	$\pm 0.017$	$\pm 0.019$	$\pm 0.019$	$\pm 0.020$	$\pm 0.023$
2.5-3.5	$\pm 0.016$	$\pm 0.019$	$\pm 0.021$	$\pm 0.021$	$\pm 0.023$	$\pm 0.025$
4.0-7.0	-	$\pm 0.021$	$\pm 0.023$	$\pm 0.023$	$\pm 0.025$	$\pm 0.028$

Code	Range	L	b	55° setting standard (optional)
3281-25A	0-25mm	42	26	-
3281-50A	25-50mm	67	38	3281-SP1
3281-75A	50-75mm	92	50	3281-SP2
3281-100A	75-100mm	117.6	62	3281-SP3
3281-125A	100-125mm	143	70	3281-SP4
3281-150A	125-150mm	168.2	82	3281-SP5

DIGITAL SCREW THREAD MICROMETERS

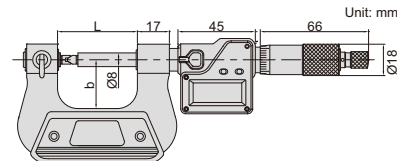
NON-ROTATING SPINDLE

DATA OUTPUT

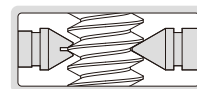
measuring tips are optional



3581-25A



- Measure pitch diameter of screw threads
- Resolution 0.001mm/0.00005"
- Button function: on/off, set, mm/inch, ABS/INC
- Data output
- LR44 battery, automatic power off
- Non-rotating spindle
- Ratchet stop
- Supplied with 60° setting standards
- Optional accessory: 55° setting standards, measuring tips (code 7381), data output cable (code 7315-30, 7302-30)



accuracy of micrometers with tips (mm)

Pitch	Range			
	0-25	25-50	50-75	75-100
0.4-0.5	$\pm 0.01$	-	-	-
0.6-0.8	$\pm 0.01$	$\pm 0.013$	-	-
1-1.25	$\pm 0.012$	$\pm 0.015$	$\pm 0.017$	$\pm 0.017$
1.5-2.0	$\pm 0.014$	$\pm 0.017$	$\pm 0.019$	$\pm 0.019$
2.5-3.5	$\pm 0.016$	$\pm 0.019$	$\pm 0.021$	$\pm 0.021$
4.0-7.0	-	$\pm 0.021$	$\pm 0.023$	$\pm 0.023$



Code	Range	L	b	55° setting standard (optional)
3581-25A	0-25mm/0-1"	42	26	-
3581-50A	25-50mm/1-2"	67	38	3281-SP1
3581-75A	50-75mm/2-3"	92	50	3281-SP2
3581-100A	75-100mm/3-4"	117.6	62	3281-SP3

## MEASURING TIPS FOR SCREW THREAD MICROMETERS



7381-T13

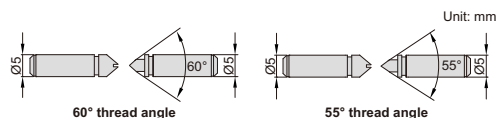
- Supplied in pairs
- Suitable for 3281, 3581 series micrometers

### Metric and unified thread (60° thread angle)

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

### Whitworth thread (55° thread angle)

Code	Pitch
7381-T2S	10 pairs/set: 60-48TPI, 48-40TPI, 40-32TPI, 32-24TPI, 24-18TPI, 18-14TPI, 14-10TPI, 10-7TPI, 7-4.5TPI, 4.5-3.5TPI, including all above tips

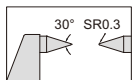
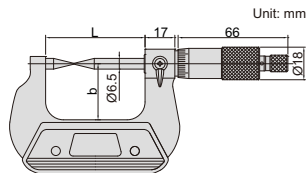


## POINT MICROMETERS



3230-25A

- Measure the web thickness of drills, small grooves and keyways
- Ratchet stop
- Carbide tips
- Supplied with setting standards (except 0-25mm)



Code	Range	Accuracy	L	b
3230-25A	0-25mm	4μm	57	32
3230-50A	25-50mm	4μm	82	44.5
3230-75A	50-75mm	5μm	107	57
3230-100A	75-100mm	5μm	132.6	69.5

## DIGITAL POINT MICROMETERS

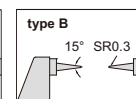
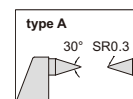
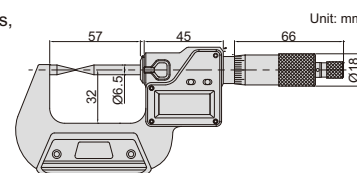
**IP65**  
WATERPROOF

**DATA**  
OUTPUT



3530-25A

- Measure the web thickness of drills, small grooves and keyways
- Resolution 0.001mm/0.00005"
- IP65 dust/waterproof
- Button function: on/off, set, mm/inch, ABS/INC
- Data output
- LR44 battery, automatic power off
- Ratchet stop
- Carbide tips
- Supplied with setting standards (except 0-25mm/0-1")
- Optional accessory: data output cable (code 7315-30, 7302-30)



Code	Range	Type	Accuracy	L	b
3530-25A	0-25mm/0-1"	A	±4μm	57mm	32mm
3530-50A	25-50mm/1-2"	A	±4μm	82mm	44.5mm
3530-25BA	0-25mm/0-1"	B	±4μm	57mm	32mm
3530-50BA	25-50mm/1-2"	B	±4μm	82mm	44.5mm

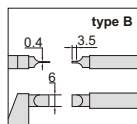
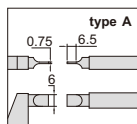
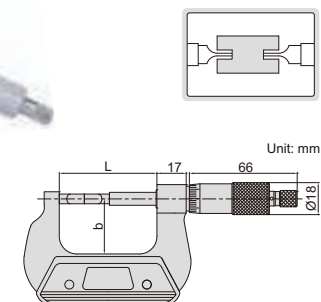
## BLADE MICROMETERS

**NON-ROTATING**  
SPINDLE



3232-25A

- Meet DIN863-3
- Measure the groove diameter of shafts and keyways
- Graduation: 0.01mm
- Non-rotating spindle
- Ratchet stop
- Supplied with setting standards (except 0-25mm)



Code	Range	Type	Accuracy	L	b
3232-25A	0-25mm	A	4μm	57mm	32mm
3232-50A	25-50mm	A	4μm	82mm	44.5mm
3232-75A	50-75mm	A	5μm	107mm	57mm
3232-100A	75-100mm	A	5μm	132.6mm	69.5mm
3232-25BA	0-25mm	B	4μm	57mm	32mm

## DIGITAL BLADE MICROMETERS

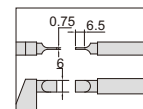
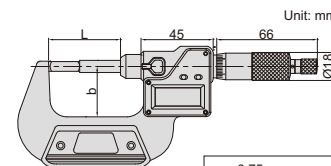
**NON-ROTATING**  
SPINDLE

**DATA**  
OUTPUT



3532-25A

- Measure the groove diameter of shafts and keyways
- Resolution 0.001mm/0.00005"
- Non-rotating spindle
- Button function: on/off, set, mm/inch, ABS/INC
- Data output
- LR44 battery, automatic power off
- Ratchet stop
- Supplied with setting standards (except 0-25mm/0-1")
- Optional accessory: data output cable (code 7315-30, 7302-30)



Code	Range	Accuracy	L	b
3532-25A	0-25mm/0-1"	±4μm	57	32
3532-50A	25-50mm/1-2"	±4μm	82	44.5

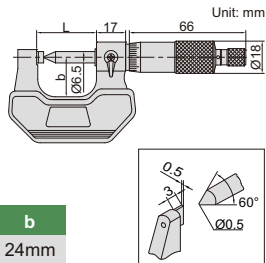
### CRIMP HEIGHT MICROMETER



3266-25BA

- Measure the height of crimp contact
- Graduation 0.01mm
- Ratchet stop
- Supplied with setting standards (except 0-25mm)

Code	Range	Accuracy	L	b
3266-25BA	0-25mm	4µm	34mm	24mm



### DIGITAL CRIMP HEIGHT MICROMETER

IP65 WATERPROOF

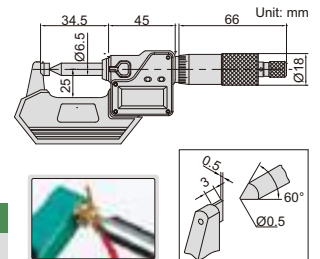
DATA OUTPUT



3566-25BA

- Measure the height of crimp contact
- Resolution 0.001mm/0.00005"
- IP65 dust/waterproof
- Button function: on/off, set, mm/inch, ABS/INC
- Data output
- LR44 battery, automatic power off
- Ratchet stop
- Optional accessory: data output cable (code 7315-30, 7302-30)

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



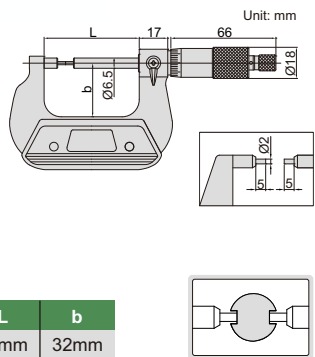
### SPLINE MICROMETER



3233-25A

- Meet DIN863-3
- Measure splined shafts, slots and keyways
- Graduation 0.01mm
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards (except 0-25mm)

Code	Range	Accuracy	L	b
3233-25A	0-25mm	4µm	57mm	32mm



### DIGITAL SPLINE MICROMETER

DATA OUTPUT

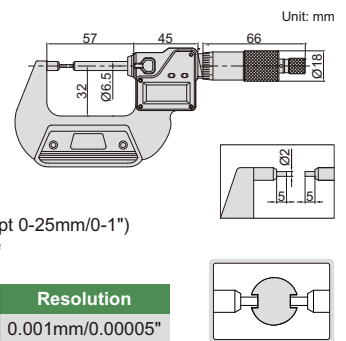
IP65 WATERPROOF



3533-25A

- Measure splined shafts, slots and keyways
- IP65 dust/waterproof
- Button function: on/off, set, mm/inch, ABS/INC
- Data output
- LR44 battery, automatic power off
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards (except 0-25mm/0-1")
- Optional accessory: data output cable (code 7315-30, 7302-30)

Code	Range	Accuracy	Resolution
3533-25A	0-25mm/0-1"	±4µm	0.001mm/0.00005"



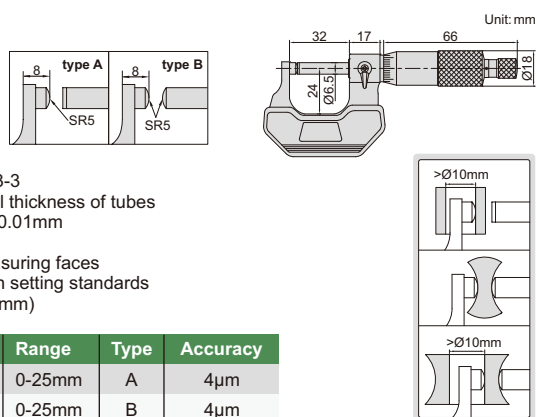
### SPHERICAL ANVIL TUBE MICROMETERS



3260-25A

- Meet DIN863-3
- Measure wall thickness of tubes
- Graduation: 0.01mm
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards (except 0-25mm)

Code	Range	Type	Accuracy
3260-25A	0-25mm	A	4µm
3260-25SA	0-25mm	B	4µm



### DIGITAL SPHERICAL ANVIL TUBE MICROMETERS

IP65 WATERPROOF

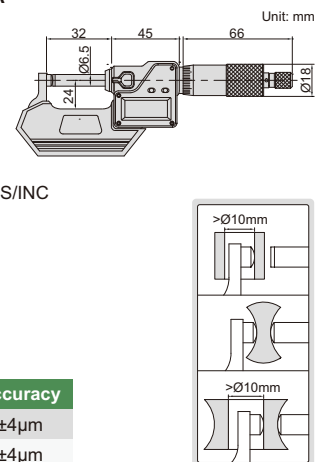
DATA OUTPUT



3560-25A

- Measure wall thickness of tubes
- Resolution 0.001mm/0.00005"
- IP65 dust/waterproof
- Button function: on/off, set, mm/inch, ABS/INC
- Data output
- LR44 battery, automatic power off
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards (except 0-25mm/0-1")
- Optional accessory: data output cable (code 7315-30, 7302-30)

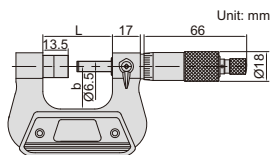
Code	Range	Type	Accuracy
3560-25A	0-25mm/0-1"	A	±4µm
3560-25SA	0-25mm/0-1"	B	±4µm



## LARGE ANVIL MICROMETER

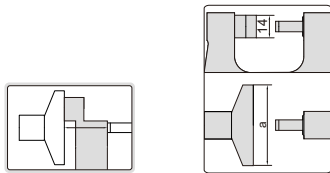


3234-25A



Unit: mm

- Graduation 0.01mm
- Ratchet stop
- Supplied with setting standards (except 0-25mm)



(mm)

Code	Range	Accuracy	L	a	b
3234-25A	0-25mm	4µm	42	50	26

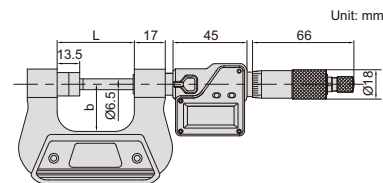
## DIGITAL LARGE ANVIL MICROMETER

DATA OUTPUT

IP65 WATERPROOF

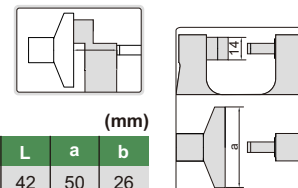


3534-25A



Unit: mm

- Resolution 0.001mm/0.00005"
- IP65 dust/waterproof
- Button function: on/off, set, mm/inch, ABS/INC
- Data output
- LR44 battery, automatic power off
- Ratchet stop
- Supplied with setting standards (except 0-25mm/0-1")
- Optional accessory: data output cable (code 7315-30, 7302-30)



(mm)

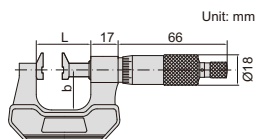
Code	Range	Accuracy	L	a	b
3534-25A	0-25mm/0-1"	±4µm	42	50	26

## JAW TYPE MICROMETER

NON-ROTATING SPINDLE



3283-25A



Unit: mm

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



(mm)

Code	Range	Accuracy	L	a	b	R	D
3283-25A	0-25mm	4µm	34	6	24	10	8

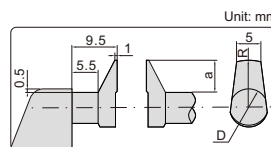
## DIGITAL JAW TYPE MICROMETER

NON-ROTATING SPINDLE

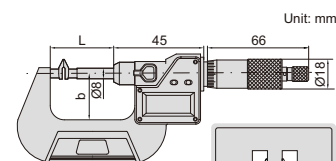
DATA OUTPUT



3583-25A

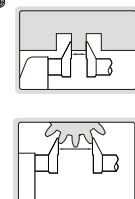


Unit: mm



Unit: mm

- Resolution 0.001mm/0.00005"
- Non-rotating spindle
- Button function: on/off, set, mm/inch, ABS/INC
- Data output
- LR44 battery, automatic power off
- Ratchet stop
- Supplied with setting standards (except 0-25mm/0-1")
- Optional accessory: data output cable (code 7315-30, 7302-30)



(mm)

Code	Range	Accuracy	L	a	b	R	D
3583-25A	0-25mm/0-1"	±4µm	43	6.5	32	10	8

## DIGITAL NON-ROTATING SPINDLE DISK MICROMETERS (ECONOMIC TYPE)

ATTENTION: LOW PARALLELISM OF TWO MEASURING FACES

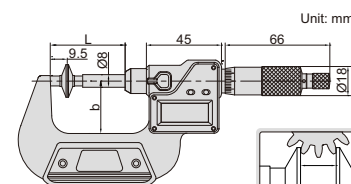
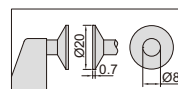
DATA OUTPUT

NON-ROTATING SPINDLE

- Measure root tangent length of gear
- Resolution 0.001mm/0.00005"
- Non-rotating spindle
- Button function: on/off, set, mm/inch, ABS/INC
- Data output
- LR44 battery, automatic power off
- Ratchet stop
- Supplied with setting standards
- Optional accessory: data output cable (code 7315-30, 7302-30)



3594-25A



Unit: mm

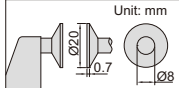
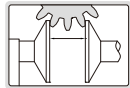
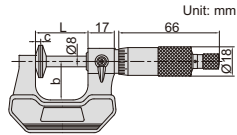
Code	Range	Accuracy	Parallelism	L	b
3594-25A	0-25mm/0-1"	±4µm	5µm	43mm	32mm
3594-50A	25-50mm/1-2"	±4µm	5µm	68mm	44.5mm
3594-75A	50-75mm/2-3"	±5µm	5µm	93mm	57mm
3594-100A	75-100mm/3-4"	±5µm	5µm	118.5mm	70mm

### DISK MICROMETERS (ECONOMIC TYPE)

**ATTENTION: LOW PARALLELISM OF TWO MEASURING FACES**



**3282-25**



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

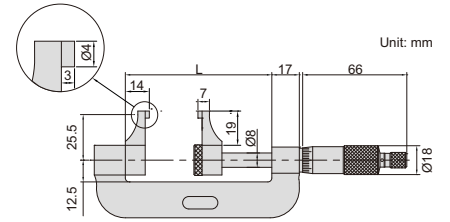
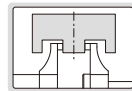
(mm)

Code	Range	Accuracy	Parallelism	L	b	c
3282-25	0-25mm	4µm	5µm	34	24	3.3
3282-50	25-50mm	4µm	5µm	59	32	3.3
3282-75	50-75mm	5µm	5µm	85	45	3.3
3282-100	75-100mm	5µm	5µm	110	57	3.3

### CALIPER TYPE MICROMETER



**3238-25**



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

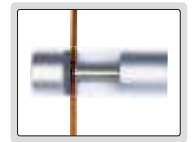
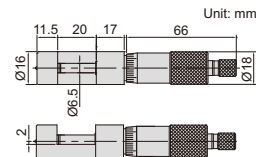
Code	Range	Accuracy	L
3238-25	0-25mm	10µm	56mm

### WIRE MICROMETER

- Meet DIN863-3
- Measure diameter of wires and small balls
- Graduation 0.01mm
- Ratchet stop
- Carbide measuring faces



**3285-10**



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

### CAN SEAM MICROMETERS



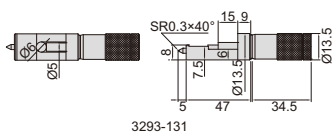
**3293-131**



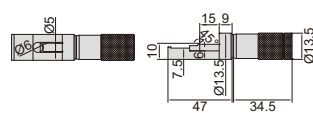
**3293-132**



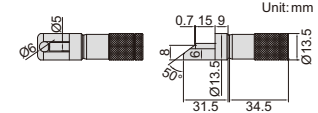
**3293-133**



3293-131



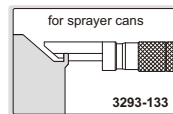
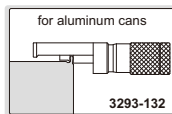
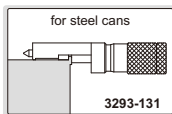
3293-132



3293-133

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

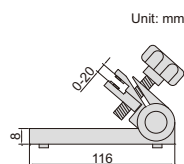
Code	Range	Accuracy
3293-131	0-13mm	4µm
3293-132	0-13mm	4µm
3293-133	0-13mm	4µm



### MICROMETER STAND



**6300**



- Suitable for outside micrometers up to 100mm

**Code**  
**6300**

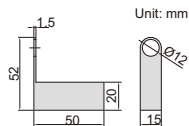


## MICROMETER STAND



6301

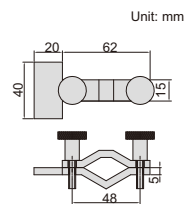
- Suitable for outside micrometers up to 100mm



6301-1



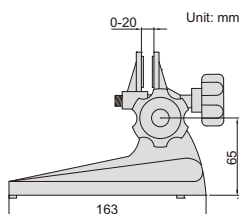
- Suitable for inside micrometers



6301-2



- Suitable for three points internal micrometers



Code
6301

Code	Description	Applicable products
6301-1	clamp for inside micrometers	all sizes of 3220 series

Code	Description	Applicable products
6301-2	clamp for three points internal micrometers	up to 100mm of 3127 and 3227 series

## MICROMETER SETTING STANDARDS



6310-100



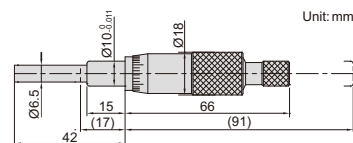
Code	Length	Accuracy	D
6310-25	25	±1.5µm	Ø7
6310-50	50	±2µm	Ø7
6310-75	75	±2.5µm	Ø7
6310-100	100	±3µm	Ø8

## MICROMETER HEAD



6381-25W

- Meet DIN863-2
- Ratchet stop



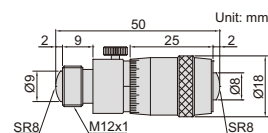
Code	Range	Stem	Spindle tip	Accuracy	Graduation
6381-25W	0-25mm	plain	flat (carbide)	3µm	0.01mm

## TUBULAR INSIDE MICROMETERS

- Micrometer head: 50-63mm
- Graduation: 0.01mm
- Accuracy: (3+n+L/50)µm  
n=number of rods,  
L=maximum measuring length (mm)
- Supplied with setting standards
- Carbide measuring faces



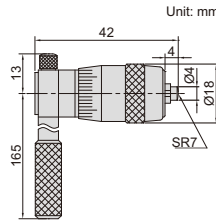
3222-150



Code	Range	Travel of micrometer head	Extension rods
3222-150	50-150mm	13mm	13mm, 25mm, 50mm
3222-300	50-300mm	13mm	13mm, 25mm, 50mm (2 pcs), 100mm
3222-500	50-500mm	13mm	13mm, 25mm, 50mm (2 pcs), 100mm, 200mm
3222-600	50-600mm	13mm	13mm, 25mm, 50mm, 100mm, 150mm, 200mm
3222-1000	50-1000mm	13mm	13mm, 25mm, 50mm (2 pcs), 100mm, 200mm (2 pcs), 300mm
3222-1500	50-1500mm	13mm	13mm, 25mm, 50mm (2 pcs), 100mm, 200mm (3 pcs), 300mm (2 pcs)

**TUBULAR INSIDE MICROMETERS**

- Graduation: 0.01mm
- Accuracy: (6+L/50)µm  
L=maximum measuring length (mm)
- Optional accessory: setting ring (code **6312**),  
gage block accessory (code **6881**),  
cylinder gage block (code **4001**),  
caliper/height gage checker (code **6884**)

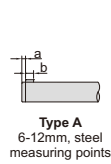
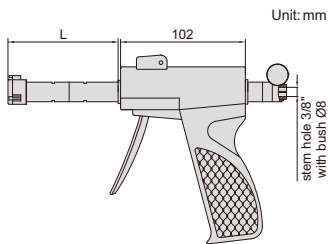


**3221-50**



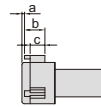
Code	Range	Travel of micrometer head	Extension rods
<b>3221-50</b>	25-50mm	7mm	2 pcs
<b>3221-300</b>	50-300mm	13mm	10 pcs

**PISTOL GRIP THREE POINTS BORE GAGES**



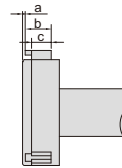
**2124-8**

digital indicator is optional



**2124-25**

digital indicator is optional



**2124-100**

digital indicator is optional

- Optional accessory: digital indicators (code **2108-101F**, resolution 0.001mm/0.00005"),  
setting rings (code **6312**)

**Individual**

Code	Range	Type	Accuracy (without digital indicator)	Setting ring (included)	Extension rod (included)	L	a	b	c
<b>2124-8 *</b>	6-8mm	A	4µm	Ø6mm	100mm	50	1.5	2.5	—
<b>2124-10 *</b>	8-10mm	A	4µm	Ø8mm	100mm	50	1.5	2.5	—
<b>2124-12 *</b>	10-12mm	A	4µm	Ø10mm	100mm	50	1.5	2.5	—
<b>2124-16 *</b>	12-16mm	B	4µm	Ø16mm	150mm	65	0.5	6	4.5
<b>2124-20 *</b>	16-20mm	B	4µm	Ø16mm	150mm	65	0.5	6	4.5
<b>2124-25 *</b>	20-25mm	B	4µm	Ø25mm	150mm	91	0.5	8	6
<b>2124-30 *</b>	25-30mm	B	4µm	Ø25mm	150mm	91	0.5	8	6
<b>2124-40 *</b>	30-40mm	B	4µm	Ø40mm	150mm	97	0.5	14	12
<b>2124-50 *</b>	40-50mm	B	5µm	Ø40mm	150mm	97	0.5	14	12
<b>2124-63 *</b>	50-63mm	C	5µm	Ø62mm	150mm	112	0.5	17.5	14.5
<b>2124-75 *</b>	62-75mm	C	5µm	Ø62mm	150mm	112	0.5	17.5	14.5
<b>2124-88 *</b>	75-88mm	C	5µm	Ø87mm	150mm	112	0.5	17.5	14.5
<b>2124-100 *</b>	87-100mm	C	5µm	Ø87mm	150mm	112	0.5	17.5	14.5

setting ring (included)



extension rod (included)



**Set**

Code	Range	Probes included	Setting ring (included)	Extension rod (included)
<b>2124-S123 *</b>	6-12mm	6-8mm, 8-10mm, 10-12mm	Ø6mm, Ø8mm, Ø10mm	100mm
<b>2124-S202 *</b>	12-20mm	12-16mm, 16-20mm	Ø16mm	150mm
<b>2124-S504 *</b>	20-50mm	20-25mm, 25-30mm, 30-40mm, 40-50mm	Ø25mm, Ø40mm	150mm
<b>2124-S1004 *</b>	50-100mm	50-63mm, 62-75mm, 75-88mm, 87-100mm	Ø62mm, Ø87mm	150mm



**2124-S504**

\*Supplied with manufacturer inspection certificate

## DIGITAL THREE POINTS INTERNAL MICROMETERS

INSPECTION  
CERTIFICATE

micrometer stand  
with clamp (optional)



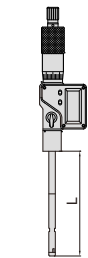
IP65  
WATERPROOF

DATA  
OUTPUT

- Resolution 0.001mm/0.00005"
- IP65 dust/waterproof
- Buttons: on/off, set, mm/inch, ABS/INC
- Data output
- LR44 battery, automatic power off
- Ratchet stop
- Optional accessory: data output cable (code 7315-30, 7302-30), setting ring (code 6312), micrometer stand and clamp (code 6301 and 6301-2)



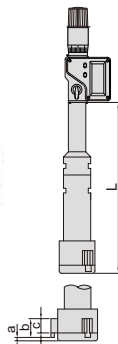
3127-12



Type A  
6-12mm, steel  
measuring points  
three points



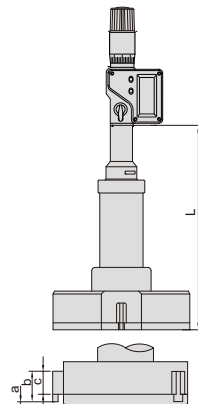
3127-40



Type B  
12-50mm, carbide  
measuring points  
three points



3127-125



Type C  
50-150mm, carbide  
measuring points  
three points

### Individual

Code	Range	Type	Accuracy	Setting ring	Extension rod (included)	L	a	b	c
3127-8 *	6-8mm/0.24-0.31"	A	4µm	Ø6mm (included)	100mm	54.5	1.5	2.5	—
3127-10 *	8-10mm/0.31-0.39"	A	4µm	Ø8mm (included)	100mm	54.5	1.5	2.5	—
3127-12 *	10-12mm/0.39-0.47"	A	4µm	Ø10mm (included)	100mm	54.5	1.5	2.5	—
3127-16 *	12-16mm/0.47-0.63"	B	4µm	Ø16mm (included)	150mm	80	0.5	6	4.5
3127-20 *	16-20mm/0.63-0.79"	B	4µm	Ø16mm (included)	150mm	80	0.5	6	4.5
3127-25 *	20-25mm/0.79-0.98"	B	4µm	Ø25mm (included)	150mm	90	0.5	8	6
3127-30 *	25-30mm/0.98-1.18"	B	4µm	Ø25mm (included)	150mm	90	0.5	8	6
3127-40 *	30-40mm/1.18-1.57"	B	4µm	Ø40mm (included)	150mm	97	0.5	14	12
3127-50 *	40-50mm/1.57-1.97"	B	5µm	Ø40mm (included)	150mm	97	0.5	14	12
3127-63 *	50-63mm/1.97-2.48"	C	5µm	Ø62mm (included)	150mm	114	0.5	17.5	14.5
3127-75 *	62-75mm/2.44-2.95"	C	5µm	Ø62mm (included)	150mm	114	0.5	17.5	14.5
3127-88 *	75-88mm/2.95-3.46"	C	5µm	Ø87mm (included)	150mm	114	0.5	17.5	14.5
3127-100 *	87-100mm/3.43-3.94"	C	5µm	Ø87mm (included)	150mm	114	0.5	17.5	14.5
3127-125 *	100-125mm/3.94-4.92"	C	5µm	optional	150mm	150	0.5	19.5	14.5
3127-150 *	125-150mm/4.92-5.91"	C	5µm	optional	150mm	150	0.5	19.5	14.5

(mm)

setting ring



6-100mm: included  
100-150mm: optional

extension rod



included



3127-202

### Set

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

\* Supplied with manufacturer inspection certificate

## DIGITAL WIDE RANGE THREE POINTS INTERNAL MICROMETERS

- Meet DIN863-4
- Resolution 0.001mm/0.00005" (resolution of 3128-300 is 0.001mm/0.0001")
- IP54 dust/waterproof
- Buttons: on/off, set, mm/inch, ABS/INC
- Data output, LR44 battery, automatic power off
- Carbide measuring faces
- Ratchet stop
- Supplied with extension rods
- Setting rings are included (except 200-300mm)
- Optional accessory: data output cable (code 7315-30, 7302-30)



setting ring



extension rod  
(included)



3128-70

Unit: mm

INSPECTION  
CERTIFICATE

IP54  
WATERPROOF

DATA  
OUTPUT

Code	Range	Accuracy	Setting ring	Extension rod (included)
3128-70 *	50-70mm/1.97-2.76"	5µm	Ø50mm (included)	150mm
3128-100 *	70-100mm/2.76-3.94"	5µm	Ø70mm (included)	150mm
3128-150 *	100-150mm/3.94-5.91"	6µm	Ø100mm (included)	150mm
3128-250 *	150-250mm/5.91-9.84"	8µm	Ø150mm (included)	150mm
3128-300 *	200-300mm/7.87-11.81"	9µm	Ø200mm (optional)	150mm

\* Supplied with manufacturer inspection certificate

### THREE POINTS INTERNAL MICROMETERS

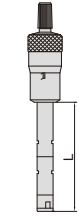


- Meet DIN863-4
- 6-12mm: graduation 0.001mm, 12-100mm: graduation 0.005mm
- Ratchet stop
- Optional accessory: setting rings (code 6312), micrometer stand and clamp (code 6301 and 6301-2)

micrometer stand with clamp (optional)



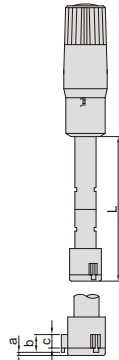
3227-8



Type A  
6-12mm, steel measuring points three points



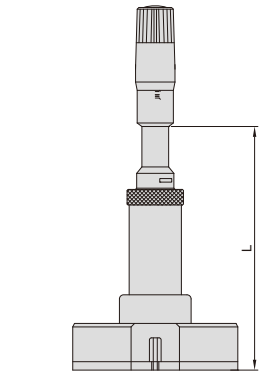
3227-16



Type B  
12-50mm, carbide measuring points three points



3227-125



Type C  
50-150mm, carbide measuring points three points

#### Individual

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

#### Set

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

\* Supplied with manufacturer inspection certificate

setting ring



6-100mm: included  
100-200mm: optional

extension rod



included



3227-504

### WIDE RANGE THREE POINTS INTERNAL MICROMETERS

- Meet DIN863-4
- Graduation 0.001mm
- Carbide measuring faces
- Ratchet stop
- Setting rings are included (except 200-300mm)

Code	Range	Accuracy	Setting ring
3228-70 *	50-70mm	5µm	Ø50mm (included)
3228-100 *	70-100mm	5µm	Ø70mm (included)
3228-150 *	100-150mm	6µm	Ø100mm (included)
3228-250 *	150-250mm	8µm	Ø150mm (included)

\* Supplied with manufacturer inspection certificate



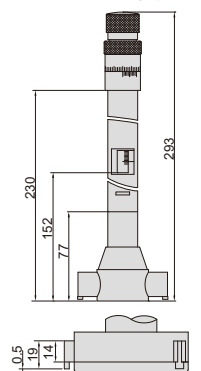
setting ring



3228-70



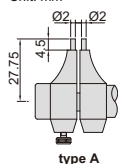
Unit: mm



## INSIDE MICROMETERS (ECONOMIC TYPE)

ATTENTION: LOW PARALLELISM OF TWO MEASURING FACES

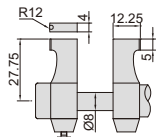
Unit: mm



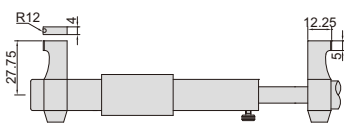
type A



3220-50



type B



type C

micrometer stand with clamp (optional)



- Graduation 0.01mm
- Ratchet stop
- Carbide measuring faces
- Optional accessory: setting ring (code 6312), micrometer stand and clamp (code 6301 and 6301-1)

Code	Range	Type	Setting ring	Accuracy
3220-30	5-30mm	A	5mm (included)	7µm
3220-50	25-50mm	B	25mm (included)	8µm
3220-75	50-75mm	B	50mm (optional)	9µm
3220-100	75-100mm	C	75mm (optional)	10µm

## DIGITAL INSIDE MICROMETERS (ECONOMIC TYPE)

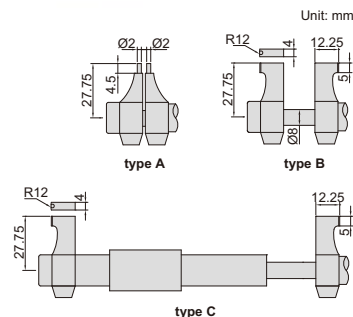
ATTENTION: LOW PARALLELISM OF TWO MEASURING FACES

DATA OUTPUT



3520-30

- Resolution 0.001mm/0.00005"
- Button function: on/off, set, mm/inch, ABS/INC
- Data output
- LR44 battery
- Automatic power off
- Ratchet stop
- Carbide measuring faces
- Optional accessory: data output cable (code 7315-30, 7302-30), setting ring (code 6312)



Code	Range	Type	Setting ring	Accuracy
3520-30	5-30mm/0.2-1.2"	A	5mm (included)	±5µm
3520-50	25-50mm/1-2"	B	25mm (included)	±6µm
3520-75	50-75mm/2-3"	B	50mm (optional)	±7µm
3520-100	75-100mm/3-4"	C	75mm (optional)	±8µm

## DIGITAL TUBULAR INSIDE MICROMETERS

IP65 WATERPROOF

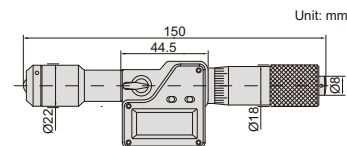
DATA OUTPUT

- Micrometer head: 150-175mm
- Graduation: 0.001mm/0.00005"
- Accuracy:  $(3+n+L/50)\mu\text{m}$   
n= number of rods  
L=maximum measuring length (mm)
- Carbide measuring faces
- The diameter of extension rods is 22mm
- IP65 dust/waterproof
- Button function: on/off, set, mm/inch, ABS/INC
- Data output
- LR44 battery, automatic power off
- Supplied with setting standards
- Optional accessory: data output cable (code 7315-30, 7302-30)



3521-1000

Code	Range	Travel of micrometer head	Extension rods
3521-175	150-175mm	25mm	—
3521-1000	150-1000mm	25mm	25mm, 50mm (2 pcs), 100mm, 200mm, 400mm



## BORE GAGE SETS

ATTENTION: NOT SUITABLE FOR 0.001MM DIAL INDICATORS

packaging (code 2824-S3)



- Repeatability: 0.003mm
- Optional accessory: setting ring (code 6312) long handle (code 7351)

Code	Range	Indicator	Bore gages included	Accuracy
2824-S160	35-160mm	dial indicator, code 2308-10FA, range 10mm, graduation 0.01mm	① 35-50mm (dial indicator and handle are not included) ② 50-160mm	35-50mm ±0.018mm 50-160mm ±0.018mm
2824-S3	18-160mm	dial indicator, code 2308-10FA, range 10mm, graduation 0.01mm	① 18-35mm ② 35-60mm (dial indicator is not included) ③ 50-160mm (dial indicator is not included)	18-35mm ±0.015mm 35-60mm ±0.018mm 50-160mm ±0.018mm



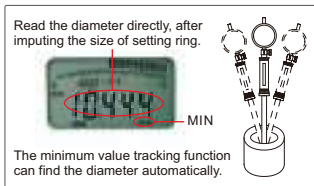
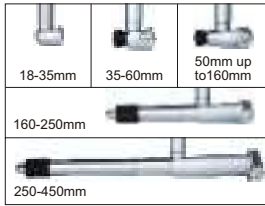
2824-S160

2824-S3

## BORE GAGES

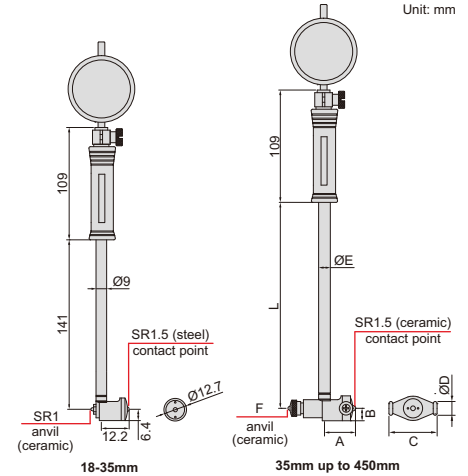
DATA OUTPUT

ATTENTION: NOT SUITABLE FOR 0.001MM DIAL INDICATORS



2322-160A

2122-35A



Range	A	B	C	ØD	ØE	F	L
35-60mm	22	9	27	13	12.8	SR2	141
50-100mm	26	9	35	13	12.8	SR2	141
50-160mm	26	9	35	13	12.8	SR2	141
100-160mm	26	9	35	13	12.8	SR2	141
160-250mm	56.5	13	74.5	15	12.8	SR2	241
250-450mm	86.5	15	101.5	15	14.5	SR2.5	241

- Repeatability: 0.003mm
- Optional accessory: setting ring (code 6312), long handle (code 7351), bore gage setter

### With dial indicator

Code	Range	Indicator	Accuracy
2322-35A	18-35mm	dial indicator, range 10mm, graduation 0.01mm (code 2308-10FA)	±0.015mm
2322-60A	35-60mm		±0.018mm
2322-100A	50-100mm		±0.018mm
2322-160A	50-160mm		±0.018mm
2322-161A	100-160mm		±0.018mm
2322-250A	160-250mm		±0.018mm
2322-450A	250-450mm	±0.018mm	

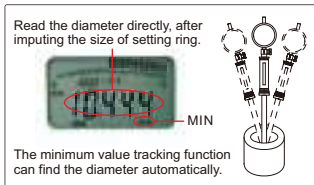
### With digital indicator

Code	Range	Indicator	Accuracy
2122-35A	18-35mm	digital indicator, code 2108-10F, range 12.7mm/0.5", resolution 0.002mm/0.0001" (can switch to: 0.01mm/0.0005")	±0.015mm
2122-60A	35-60mm		±0.018mm
2122-160A	50-160mm		±0.018mm
2122-250A	160-250mm		±0.018mm
2122-450A	250-450mm		±0.018mm

## BORE GAGES FOR SMALL HOLES

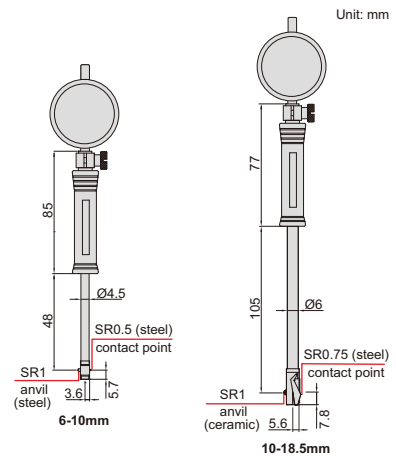
DATA OUTPUT

ATTENTION: NOT SUITABLE FOR 0.001MM DIAL INDICATORS



2852-10

2152-18



- Repeatability: 0.003mm
- Optional accessory: setting ring (code 6312), bore gage setter

### With digital indicator

Code	Range	Indicator	Accuracy
2152-10	6-10mm	digital indicator, code 2108-10F, range 12.7mm/0.5", resolution 0.002mm/0.0001" (can switch to: 0.01mm/0.0005")	±0.012mm
2152-18	10-18.5mm		±0.012mm

### With dial indicator

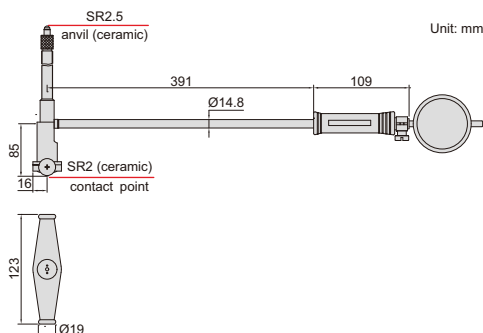
Code	Range	Indicator	Accuracy
2852-10	6-10mm	dial indicator, range 3mm, graduation 0.01mm (code 2311-3F)	±0.012mm
2852-18	10-18.5mm		±0.012mm

## BORE GAGE

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



2828-800A



Unit: mm

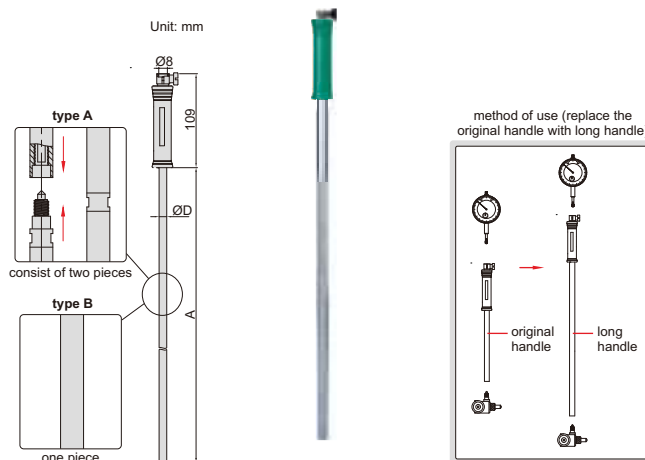
(mm)

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

## LONG HANDLES

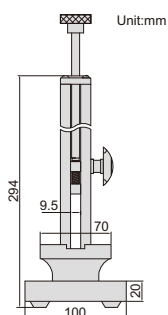
- To assist deep-hole measurement
- Can be used for bore gages 2322, 2122, 2824 and 2827

Code	Applicable bore gages	A	ØD	Type
7351-EX11	35-60mm, 50-100mm, 50-160mm, 100-160mm	475mm	13mm	B
7351-EX12		980mm	13mm	
7351-EX13		1480mm	14.5mm	A
7351-EX14		1980mm	14.5mm	
7351-EX21	160-250mm, 250-450mm	480mm	14.5mm	B
7351-EX22		980mm	14.5mm	
7351-EX23		1480mm	14.5mm	A
7351-EX24		1980mm	14.5mm	



7351-EX11

## BORE GAGE SETTERS



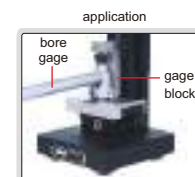
Unit: mm



7353-160

- Vertical and horizontal use
- To be used with gage blocks

Code	Range	Repeatability	Remark
7353-160	0-160mm	1.2µm	with gage block set
7353-160W	0-160mm	1.2µm	without gage block set



application

bore gage  
gage block



gage blocks for 7353-160



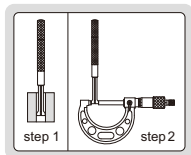
horizontal use

Gage block set for 7353-160

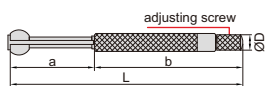
Blocks per set	Size (mm)	Step (mm)	Quantity (pcs)	Remark
33	1.005		1	grade 2 (ISO3650)
	1.01-1.09	0.01	9	
	1.1-1.9	0.1	9	
	1-9	1	9	
	10-30	10	3	
	50		1	
	100		1	

### SMALL HOLE GAGE SET

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



4208-1



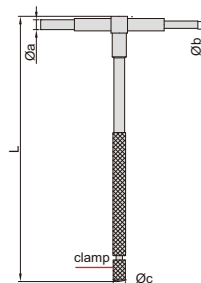
(mm)				
Range	L	a	b	ØD
3-5mm	76	24	52	5
5-7.5mm	79	27	52	5
7.5-10mm	88	30	58	6
10-13mm	91	34	58	6

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

### TELESCOPING GAGE SET

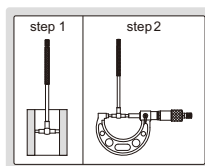


4206-1



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

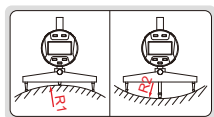
(mm)				
Range	L	Øa	Øb	Øc
8-12.7mm	115	3.9	2.9	6.2
12.7-19mm	115	5.3	3.8	6.2
19-32mm	115	5.3	3.8	6.2
32-54mm	137	7.6	6.1	7.2
54-90mm	137	7.6	6.1	7.2
90-150mm	137	7.6	6.1	7.2



Code	Total range	Gages included (mm)
4206-1	8-150mm	8-12.7, 12.7-19, 19-32, 32-54, 54-90, 90-150

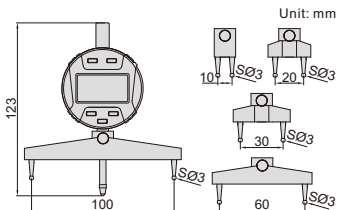
### DIGITAL RADIUS GAGE

ATTENTION: NO DATA OUTPUT



2183

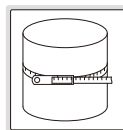
- Resolution: 0.005mm/0.00005"
- Buttons: on/off, hold, mm/inch, s (select jaws), zero
- Measure radius of internal or external arcs
- Display can be rotated by 320°
- Supplied with 5 jaws for different sizes of arc
- Battery CR2032
- Automatic power off



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

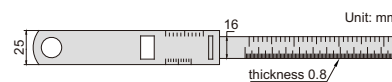
\* R is the radius to be measured

### CIRCUMFERENCE TAPES



7114-950

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

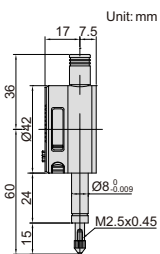


Code	Circumference range	Diameter range	Accuracy	
			Circumference	Diameter
7114-950	150-950mm	Ø50-300mm	±3mm	±1mm
7114-2200	940-2200mm	Ø300-700mm	±3mm	±1mm
7114-3460	2190-3460mm	Ø700-1100mm	±3mm	±1mm

### COMPACT DIGITAL INDICATOR

DATA OUTPUT

INSPECTION CERTIFICATE TRACEABLE TO NIST



2114-5F

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

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

\*Supplied with manufacturer inspection certificate traceable to NIST USA



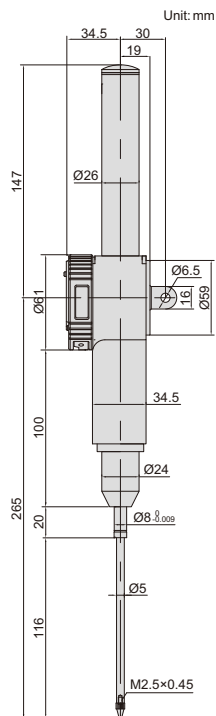
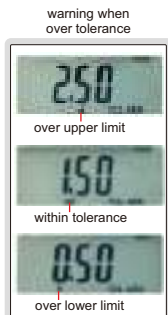
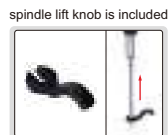
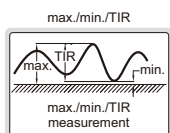






## LARGE STROKE DIGITAL INDICATORS

### DATA OUTPUT



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

Resolution 0.01mm/0.0005"

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

Resolution 0.001mm/0.00005"

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

2117-100

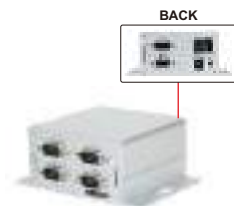
## MULTI LINEAR GAGE SYSTEM



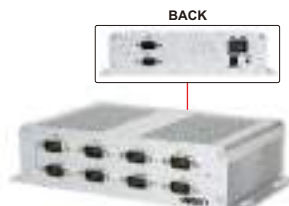
LINEAR GAGE  
**IP65**  
WATERPROOF



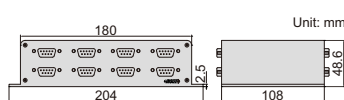
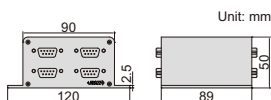
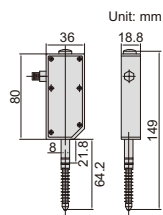
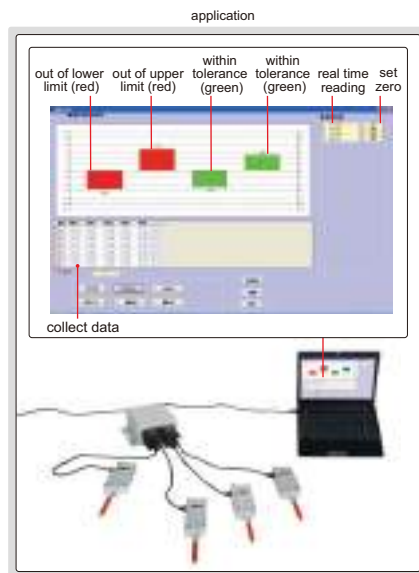
linear gage



4-channel interface box  
7107-1



8-channel interface box  
7107-2



### 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 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.

software CD (included)



### INTERFACE BOX SPECIFICATION

Code	7107-1	7107-2
Quantity of linear gages to be connected	4 pcs	8 pcs
Data port	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

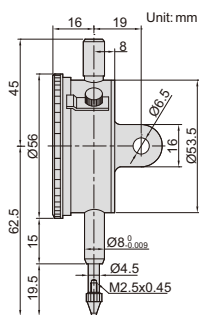
## PRECISION DIAL INDICATORS

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

**JEWELLED BEARING**



2313-1A



- Graduation: 0.001mm
- Dial reading: 0-100-0
- Jeweled bearing
- Supplied with limit pointers and bezel clamp
- Optional accessory: backs, contact points

Code	Range	Accuracy	Hysteresis	Range/rev	Remark
2313-1FA*	1mm	5μm	2μm	0.2mm	flat back
2313-2FA*	2mm	6μm	2.5μm	0.2mm	flat back
2313-1A*	1mm	5μm	2μm	0.2mm	lug back

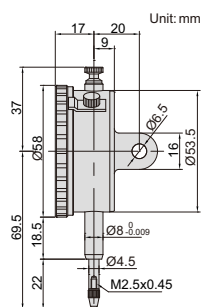
\*Supplied with manufacturer inspection certificate traceable to NIST USA

## DIAL INDICATORS (BASIC TYPE)

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST



2301-10



- Graduation: 0.01mm
- Dial reading: 0-100
- Meet DIN878
- Jeweled bearing
- Supplied with limit hands and bezel clamp
- Packed in carton box
- Optional accessory: backs, contact points



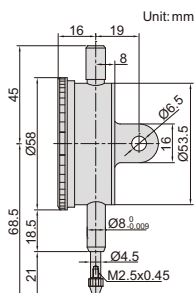
Code	Range	Accuracy	Hysteresis	Range/rev	Remark
2301-10F*	10mm	17μm	3μm	1mm	flat back
2301-10*	10mm	17μm	3μm	1mm	lug back with spare flat back

\*Supplied with manufacturer inspection certificate traceable to NIST USA

## SHOCKPROOF DIAL INDICATORS

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

- Graduation: 0.01mm
- Dial reading: 0-100
- Meet DIN878
- Shockproof
- Jeweled bearing
- Supplied with limit pointers and bezel clamp
- Optional accessory: backs, contact points



2314-10A

**JEWELLED BEARING**

**SHOCK PROOF**

Code	Range	Accuracy	Hysteresis	Range/rev	Remark
2314-10FA*	10mm	17μm	3μm	1mm	flat back
2314-10A*	10mm	17μm	3μm	1mm	lug back

\*Supplied with manufacturer inspection certificate traceable to NIST USA

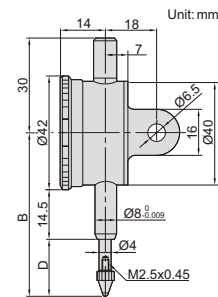
## COMPACT DIAL INDICATORS

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

**JEWELLED BEARING**



2311-5



- Range/rev: 0.5mm
- Dial reading: 0-50
- Meet DIN878
- Jeweled bearing
- Supplied with limit pointers and bezel clamp
- Optional accessory: backs, contact points

Code	Range	Graduation	Accuracy	Hysteresis	Remark	B	D
2311-3F*	3mm	0.01mm	12μm	3μm	flat back	46	10.5
2311-5F*	5mm	0.01mm	14μm	3μm	flat back	48	12.5
2311-3*	3mm	0.01mm	12μm	3μm	lug back	46	10.5
2311-5*	5mm	0.01mm	14μm	3μm	lug back	48	12.5

\*Supplied with manufacturer inspection certificate traceable to NIST USA

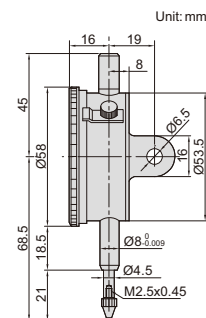
## DIAL INDICATORS (STANDARD TYPE)

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

**JEWELLED BEARING**



2308-10A



- Graduation: 0.01mm
- Dial reading: 0-100
- Meet DIN878
- Jeweled bearing
- Supplied with limit pointers and bezel clamp
- Optional accessory: backs, contact points

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

\*Supplied with manufacturer inspection certificate traceable to NIST USA

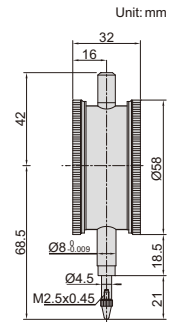
## DOUBLE FACE DIAL INDICATOR



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



2328-10



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

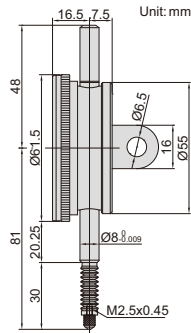
\*Supplied with manufacturer inspection certificate traceable to NIST USA

## WATERPROOF DIAL INDICATORS

**IP54**  
WATERPROOF



2324-10A



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

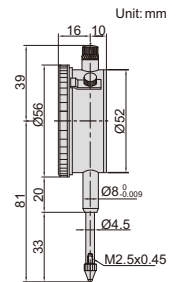
Code	Range	Graduation	Accuracy	Range/rev	Remark
2324-10FA*	10mm	0.01mm	17µm	1mm	flat back
2324-10A*	10mm	0.01mm	17µm	1mm	lug back

\*Supplied with manufacturer inspection certificate traceable to NIST USA

## DIAL INDICATOR (BASIC TYPE)



2302-25F



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



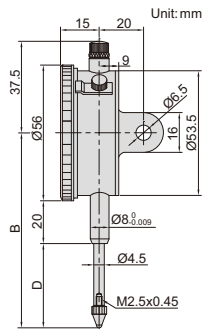
Code	Range	Accuracy	Hysteresis	Range/rev	Remark
2302-25F*	25mm	35µm	7µm	1mm	flat back

\*Supplied with manufacturer inspection certificate traceable to NIST USA

## DIAL INDICATORS (LONG STROKE)



2310-30A



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

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

\*Supplied with manufacturer inspection certificate traceable to NIST USA

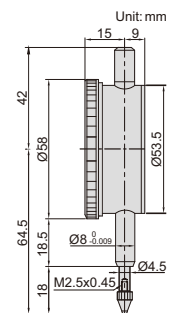
## ONE REVOLUTION DIAL INDICATORS



**SHOCK PROOF**



2316-05F



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

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

\*Supplied with manufacturer inspection certificate traceable to NIST USA

## DIAL INDICATORS (LONG STROKE)

JEWELLED BEARING

SHOCK PROOF

INSPECTION CERTIFICATE  
TRACEABLE TO NIST

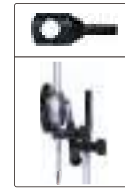


2309-50

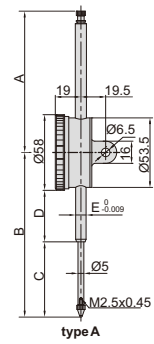
- Range/rev: 1mm
- Dial reading: 0-100
- Shockproof
- Jeweled bearing
- Supplied with limit pointers
- Optional accessory: backs, contact points



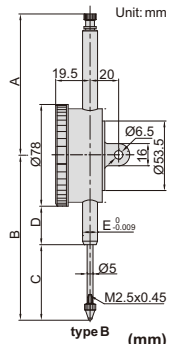
back of type B



stem clamp Ø10mm of 2309-100D



type A



type B (mm)

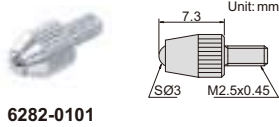
Code	Range	Type	Graduation	Accuracy	Hysteresis	Remark
2309-30F *	30mm	A	0.01mm	35µm	7µm	flat back
2309-50 *	50mm	A	0.01mm	40µm	8µm	flat back with spare lug back
2309-50D *	50mm	B	0.01mm	40µm	8µm	flat back with spare lug back
2309-100D	100mm	B	0.01mm	50µm	9µm	flat back with spare lug back

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

Note: 1) 2309-100D can only be used vertically  
 2) 2309-100D is supplied with stem clamp Ø10mm for magnetic stands (code 6200-60, 6201-60, 6202-80, 6202-100)  
 3) 2309-30F can not accept optional backs

\* Supplied with manufacturer inspection certificate traceable to NIST USA

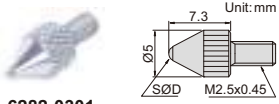
## CONTACT POINTS



6282-0101

### BALL POINT

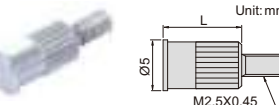
Code	Material of measuring face	L (mm)
6282-0101	carbide	7.3
6282-0103	ceramic	7.3
6282-0104	carbide	8.3



6282-0301

### BALL POINT

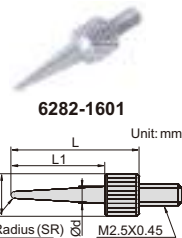
Code	Material of measuring face	SØD
6282-0301	steel	1mm
6282-0302	carbide	1.5mm
6282-0303	carbide	1.8mm
6282-0304	carbide	2.5mm
6282-0305	carbide	4mm



6282-1101

### FLAT POINT

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



6282-1601

### NEEDLE POINT (mm)

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



6282-1706

### NEEDLE POINT

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



6282-0205

### SHELL TYPE POINT

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



6282-0401

### SPHERICAL POINT

Code	Material of measuring face
6282-0401	steel



6282-0601

### CONICAL POINT

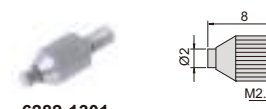
Code	Material of measuring face
6282-0601	steel



6282-1001

### KNIFE EDGE POINT

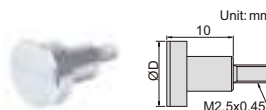
Code	Material of measuring face
6282-1001	steel



6282-1301

### FLAT POINT

Code	Material of measuring face
6282-1301	carbide



6282-1201

### FLAT POINT

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



6282-1901

### ROLLER POINT

Code	Material of measuring face
6282-1901	steel

**EXTENSION RODS**



6282-2011

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

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

**SPINDLE LIFT KNOB**



7332



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

Code
7332

**MAGNETIC BACKS**



front

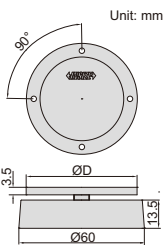


back

7331-M2



(mm)

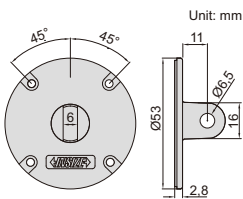


Code	ØD	For digital/dial indicators		
7331-M1	51.5	2103		
		2104		
		2108		
		2109		
		2112		
		2113		
		2115		
		2116		
		2117		
		2118		
		2301		
		2302		
		2308		
		7331-M2	54	2309 (except 2309-30, 2309-30F)
				2313
2314				
2316				
2801				
7331-M2	54	2318		

**LUG BACKS**



7330-L2



7330-L2 and 7330-L10

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

**DIAL TEST INDICATORS**

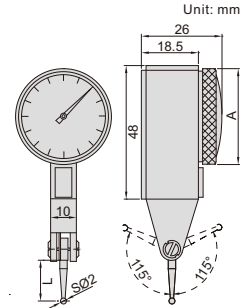
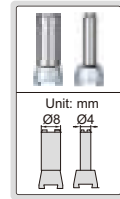


**JEWELLED BEARING**



2380-08

clamps (included)



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

**Graduation: 0.01mm**

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

**Graduation: 0.002mm**

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

\*Supplied with manufacturer inspection certificate traceable to NIST USA

**TILTED FACE TYPE DIAL TEST INDICATOR**

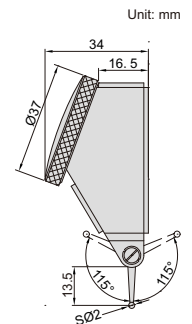
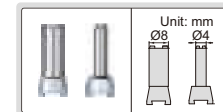


**JEWELLED BEARING**



2399-08

clamps (included)



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

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

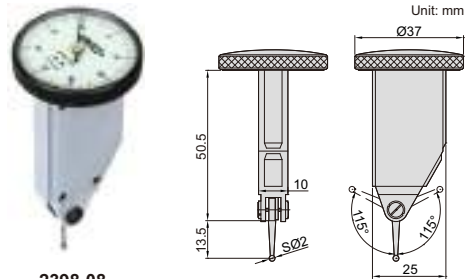
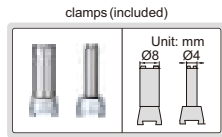
\*Supplied with manufacturer inspection certificate traceable to NIST USA



## BACK PLUNGER TYPE DIAL TEST INDICATOR

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

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



2398-08

**JEWELLED BEARING**

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

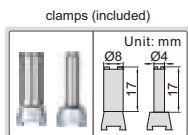
## LONG STYLI DIAL TEST INDICATOR

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

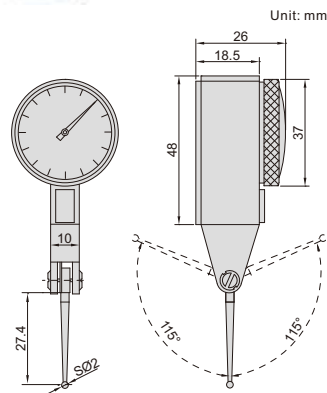
**JEWELLED BEARING**



2383-08A



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



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

\*Supplied with manufacturer inspection certificate traceable to NIST USA

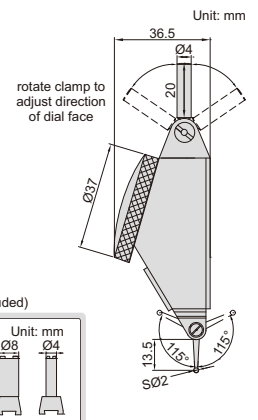
## LARGE RANGE DIAL TEST INDICATOR

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

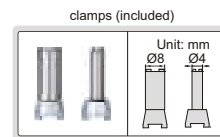
**JEWELLED BEARING**



2386-16A



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



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

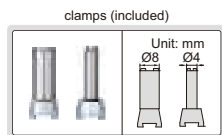
\*Supplied with manufacturer inspection certificate traceable to NIST USA

## LARGE RANGE BACK PLUNGER TYPE DIAL TEST INDICATOR

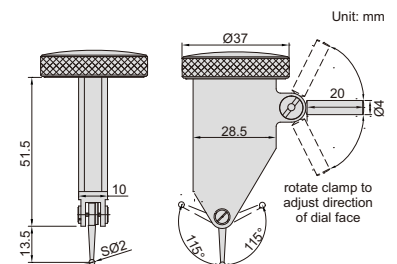
**JEWELLED BEARING**

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

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



2480-16



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

\*Supplied with manufacturer inspection certificate traceable to NIST USA

## CLAMPS FOR DIAL TEST INDICATORS

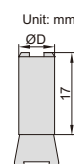
Code	ØD
6298-1	Ø4mm
6298-2	Ø8mm



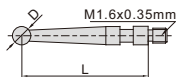
6298-1



6298-2



### STYLI FOR DIAL TEST INDICATORS



6284-3

(mm)				
Code	For dial test indicator	Material of contact point	L	D
6284-1	2380-08 2398-08 2381-08 2399-08	steel	13.5	SØ1
6284-3		carbide	13.5	SØ2
6284-4		ruby	13.5	SØ2
6284-8		carbide	13.5	SØ3
6284-21	2380-02	steel	12.5	SØ1
6284-22	2381-02	carbide	12.5	SØ2
6284-71	2391-08	carbide	10.8	SØ2

### DIAL INDICATOR TESTER CODE 2396-25A

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

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

#### Micrometer head

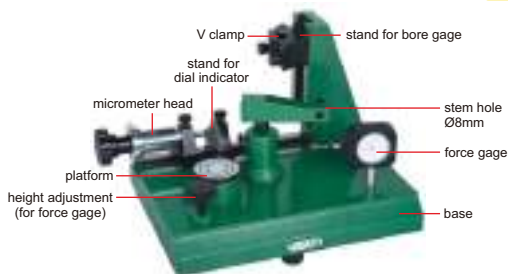
Range	Sampling interval	Accuracy	Hysteresis
0-25mm	0.1mm	4µm (0-25mm), 3µm (0-10mm), 2µm (0-1mm)	1µm

#### Force gage

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

#### Platform

Diameter	Flatness	Roughness
50mm	1µm	0.05µm



2396-25A



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



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



Inspect accuracy of test indicators



half round gage block  
code 2396-block (optional)

#### Half round gage block (optional)

Code	Parallelism
2396-block	1µm



Test force of dial indicators



Test repeatability of dial indicators



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



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

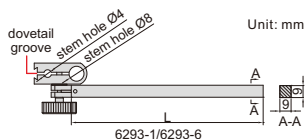
### DIAL TEST INDICATOR HOLDERS



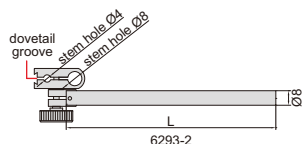
6293-1



6293-2



6293-1/6293-6



6293-2

Unit: mm

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

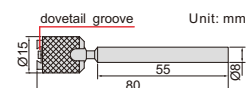


### DIAL TEST INDICATOR UNIVERSAL HOLDER



6297-1

- Set the indicators at the desired attitude to the workpiece



Unit: mm

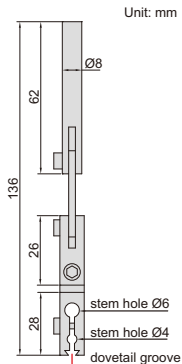
Code
6297-1

### DIAL TEST INDICATOR HOLDER



6296-1

- Supplied with hex key



Unit: mm

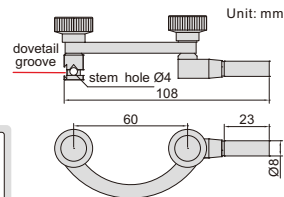
**Code**  
6296-1

### DIAL TEST INDICATOR CENTERING HOLDER



6291-1

- Center cylinders or holes on machine tools

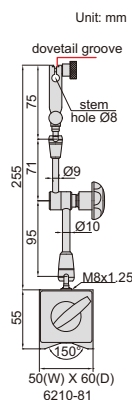


Unit: mm

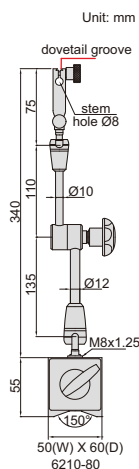
**Code**  
6291-1

### UNIVERSAL MAGNETIC STANDS

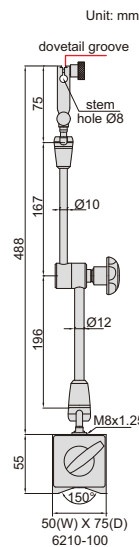
- For digital/dial indicators and dial test indicators



6210-81



6210-80

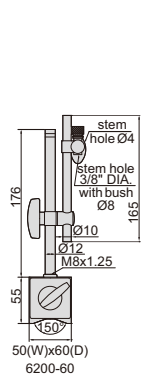


6210-100

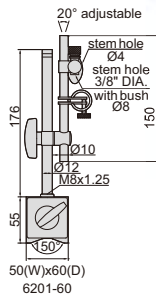
Code	Magnetic force	Applicable holding stem	Remark
6210-81	80kgf	Ø8mm	with fine adjustment and dovetail groove
6210-80	80kgf	Ø8mm	with fine adjustment and dovetail groove
6210-100	100kgf	Ø8mm	with fine adjustment and dovetail groove

### MAGNETIC STANDS

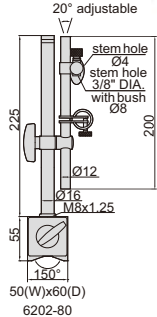
- For digital/dial indicators and dial test indicators



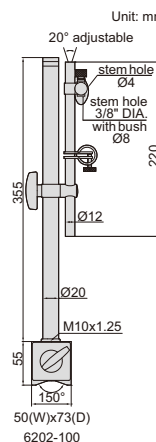
6200-60



6201-60



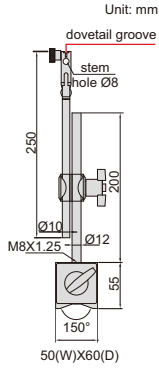
6202-80



6202-100

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

### MAGNETIC STAND



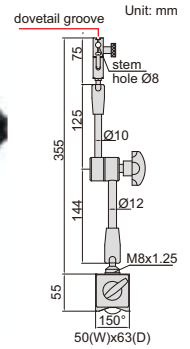
- For digital/dial indicators and dial test indicators

6216-80

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

### UNIVERSAL MAGNETIC STAND (ECONOMIC TYPE)

ATTENTION: LOW LOCKING FORCE

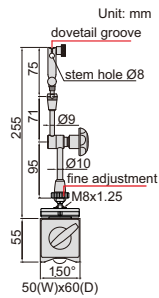
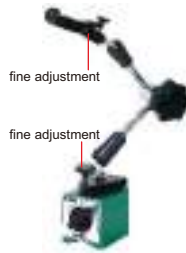


- Applicable holding stem: Ø8mm
- For digital/dial indicators and dial test indicators

6208-80A

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

### MAGNETIC STAND WITH DOUBLE FINE ADJUSTMENT

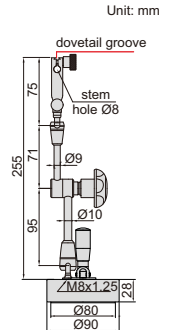


- Magnetic force: 80kgf
- With double fine adjustments on the head and on the base
- For digital/dial indicators and dial test indicators

6272-80

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

### VACUUM STAND

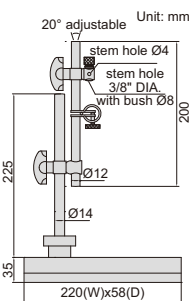


- Diameter of vacuum disc: Ø80mm
- Suitable for granite surface plates or cast iron surface plates
- For digital/dial indicators and dial test indicators

6217-B

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

### UNIVERSAL STAND



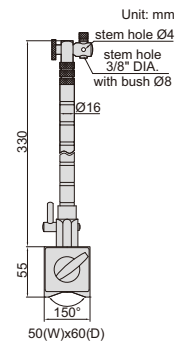
6214-A

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

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

### FLEX ARM MAGNETIC STAND

ATTENTION: FOR DIAL TEST INDICATORS ONLY



- For dial test indicators

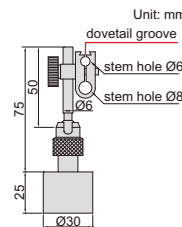
6207-80A

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

### MINI MAGNETIC STAND

- For dial test indicators
- With dovetail groove

6211-10

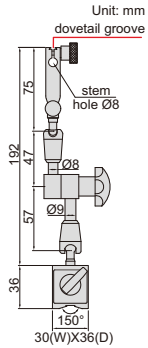


ATTENTION: FOR DIAL TEST INDICATORS ONLY

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

### MINI MAGNETIC STAND

**ATTENTION: FOR DIAL TEST INDICATORS ONLY**

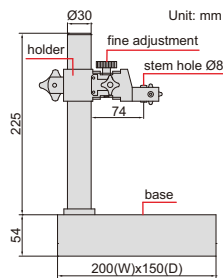


6224-40

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

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

### GRANITE DIAL INDICATOR STAND

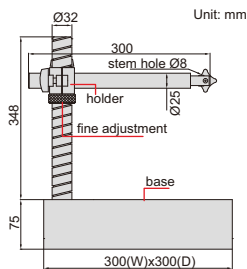


6866-150

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

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

### GRANITE DIAL INDICATOR STAND

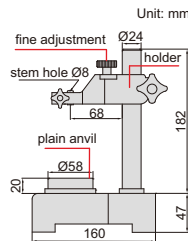


6867-250

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

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

### DIAL INDICATOR STANDS



6862-1002

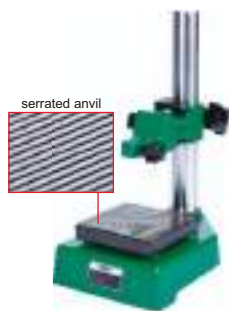


6862-1002T

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

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

### DIAL INDICATOR STANDS

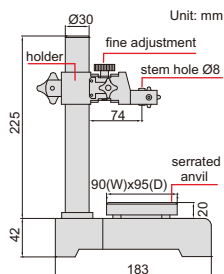


6863-150



6863-150T

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

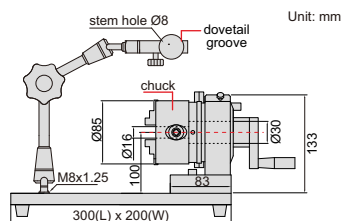


Code	Anvil
6863-150	steel (hardness HRC60±2), serrated, flatness 1.5µm
6863-150T	ceramic, serrated, flatness 1.5µm

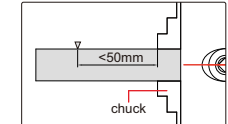
### CONCENTRICITY GAGE



4786-1



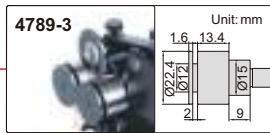
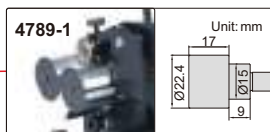
To ensure the accuracy, the distance between measuring point and chuck should be less than 50mm



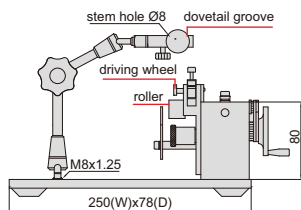
- Accuracy: 8µm
- Optional accessory: dial test indicator

Code	Applicable inside diameter	Applicable outside diameter
4786-1	Ø24-64mm	±0.03mm

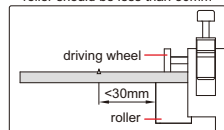
### CONCENTRICITY GAGES



Unit: mm



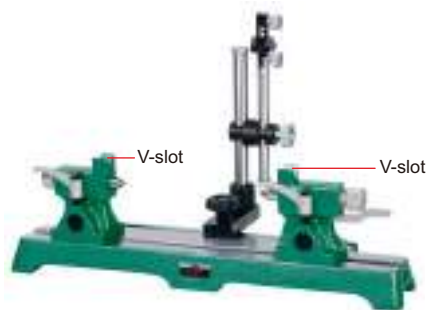
To ensure the accuracy, the distance between measuring point and roller should be less than 30mm



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

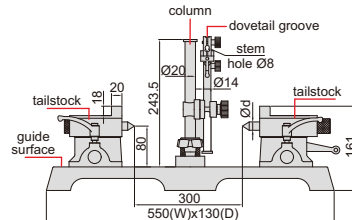
Code	Accuracy	Applicable diameter
4789-1	2 $\mu$ m	Ø3.5mm-25mm
4789-3	2 $\mu$ m	Ø1mm-25mm

### BENCH CENTER



Unit: mm

4782-300



- Runout accuracy: 2 $\mu$ m
- Distance between two centers: 300mm
- Hardened cast-iron guide surface
- Movable column
- V-slot for cylinder Ø4~Ø22mm

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

\*Parallelism of two centers to the guide surface

### SHANK RUNOUT TESTERS

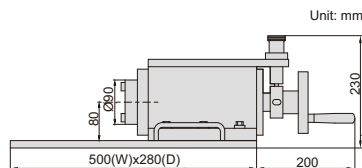
standard shank (included)



4771-30

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

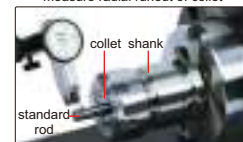
Code	Taper	Accuracy
4771-30	BT30	1 $\mu$ m
4771-40	BT40	1 $\mu$ m
4771-50	BT50	1 $\mu$ m



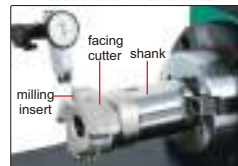
measure radial runout of shank



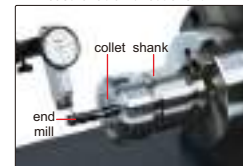
measure radial runout of collet



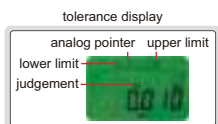
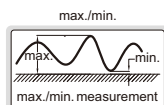
measure radial runout of cutter



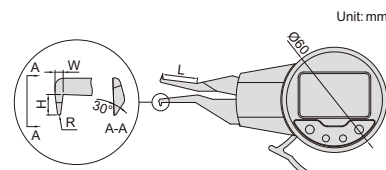
measure radial runout of end mill



### DIGITAL INTERNAL CALIPER GAGES



2121-15



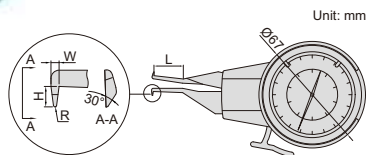
- Resolution: 0.005mm/0.0002"
- Repeatability: 0.01mm
- Reading in digit and analog
- Display can be rotated by 170°
- Button function: tolerance Go and No-Go display, data preset, max./min. measurement, data holding, inch/metric conversion, absolute/incremental measurement
- CR2032 battery, automatic power off
- Data output

Code	Range	Accuracy	Repeatability	L	H	W	R
2121-15	5-15mm/0.2-0.6"	±0.03mm	0.01mm	20	2	1.5	R0.3
2121-25	5-25mm/0.2-1.0"	±0.03mm	0.01mm	35	1.5	1.0	R0.3
2121-31	10-30mm/0.4-1.2"	±0.03mm	0.01mm	55	5.5	2.5	R0.5
2121-41	20-40mm/0.8-1.6"	±0.03mm	0.01mm	80	6.0	3.0	R0.5

### INTERNAL DIAL CALIPER GAGES



2222-15



Unit: mm

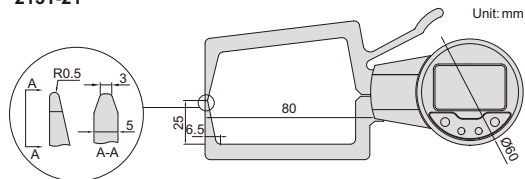
(mm)

Code	Range	Graduation	Accuracy	L	H	W	R
2222-15	5-15mm	0.01mm	±0.02mm	20	2	1.5	R0.3
2222-25	5-25mm	0.01mm	±0.03mm	35	1.5	1.0	R0.3
2222-301	10-30mm	0.01mm	±0.03mm	55	5.5	2.5	R0.5
2222-401	20-40mm	0.01mm	±0.03mm	80	6.0	3.0	R0.5

### DIGITAL EXTERNAL CALIPER GAGE

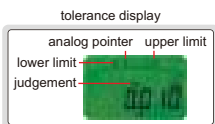
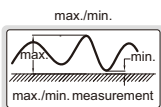


2131-21



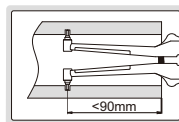
Unit: mm

- Resolution: 0.005mm/0.0002"
- Repeatability: 0.01mm
- Reading in digit and analog
- Display can be rotated by 170°
- Button function: tolerance Go and No-Go display, data preset, max./min. measurement, data holding, inch/metric conversion, absolute/incremental measurement
- CR2032 battery, automatic power off
- Data output



Code	Range	Accuracy
2131-21	0-20mm/0-0.8"	±0.03mm

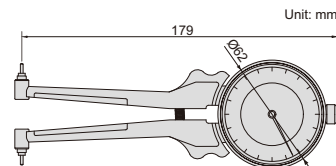
### INTERNAL DIAL CALIPER GAGE WITH INTERCHANGEABLE POINTS



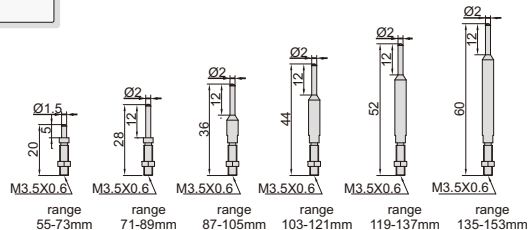
2223-153



6 pair of points (included)



Unit: mm



- Supplied with 6 pairs of points

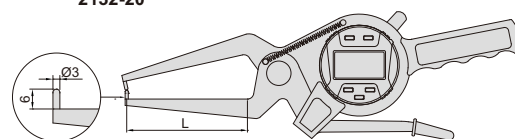
Code	Range	Dial indicator range	Graduation	Accuracy
2223-153	55-153mm	2mm	0.01mm	±0.02mm

### DIGITAL EXTERNAL CALIPER GAGE

DATA OUTPUT

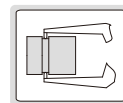


2132-20



Unit: mm

- Carbide measuring tips
- Reading in digit and analog
- Display can be rotated by 320°
- Button function: tolerance Go and No-Go display, data preset, measuring direction change, max./min./TIR measurement, inch/metric conversion, absolute/incremental measurement
- CR2032 battery, automatic power off
- Data output
- Optional accessory: data output cable (code 7315-50M, 7302-50M)

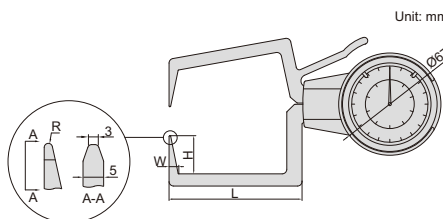


Code	Range	Resolution	Accuracy	L (mm)
2132-20	0-20mm/0-0.8"	0.01mm/0.0005"	±0.04mm	60

### EXTERNAL DIAL CALIPER GAGE



2333-201



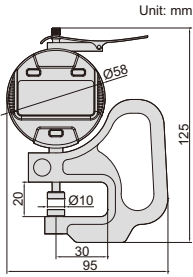
Unit: mm

(mm)

Code	Range	Graduation	Accuracy	L	H	W	R
2333-201	0-20mm	0.01mm	±0.03mm	80	25	6.5	R0.5

### DIGITAL THICKNESS GAGES

DATA OUTPUT



2871-101

- Ceramic spindle tip and anvil
- Buttons: on/off, zero, mm/inch
- Battery CR2032, automatic power off
- Data output
- Optional accessory: data output cable (code 7315-50M, 7302-50M)

Code	Range	Resolution	Accuracy
2871-10	0-10mm/0-0.4"	0.01mm/0.0005"	±0.02mm
2871-101	0-10mm/0-0.4"	0.001mm/0.00005"	±0.005mm

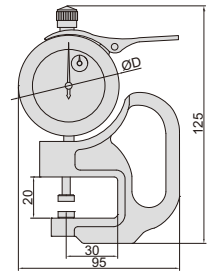
### THICKNESS GAGES

Unit: mm

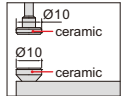


2364-10

2364-1



Code	Range	Graduation	Accuracy	ØD
2364-10	0-10mm	0.01mm	±0.02mm	58mm
2364-1	0-1mm	0.001mm	±0.005mm	56mm

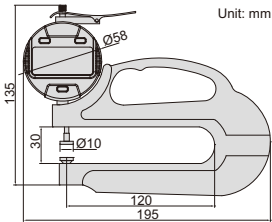


### DIGITAL THICKNESS GAGE

DATA OUTPUT



2872-10



measuring tips and anvils can be custom-made



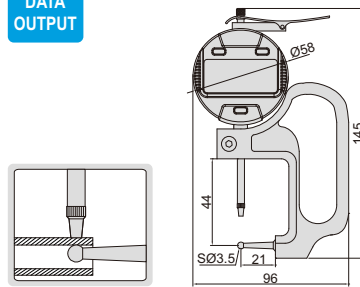
- Ceramic spindle tip and anvil
- Buttons: on/off, zero, mm/inch
- Battery CR2032, automatic power off
- Data output
- Optional accessory: data output cable (code 7315-50M, 7302-50M)

Code	Range	Resolution	Accuracy
2872-10	0-10mm/0-0.4"	0.01mm/0.0005"	±0.02mm

### DIGITAL TUBE THICKNESS GAGE

DATA OUTPUT

Unit: mm



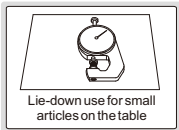
2876-10

- Buttons: on/off, zero, mm/inch
- Battery CR2032, automatic power off
- Data output
- Optional accessory: data output cable (code 7315-50M, 7302-50M)

Code	Range	Resolution	Accuracy
2876-10	0-10mm/0-0.4"	0.01mm/0.0005"	±0.02mm

### THICKNESS GAGE

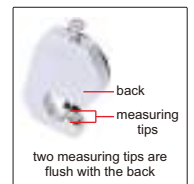
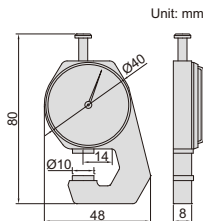
SUITABLE FOR JEWELLERY



Lie-down use for small articles on the table



2361-10

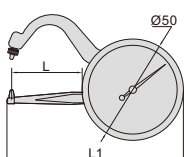


two measuring tips are flush with the back

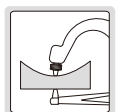
Code	Range	Graduation	Accuracy
2361-10	0-10mm	0.1mm	±0.05mm

### THICKNESS GAGE

Unit: mm



2862-101



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



## DIAL SNAP GAGES

QUICK AND ACCURATE MEASUREMENT OF CYLINDRICAL WORKPIECES

INSPECTION CERTIFICATE TRACEABLE TO DKD



application



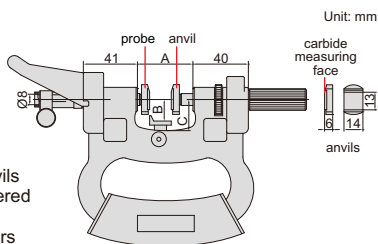
dial indicator is optional

2186-25

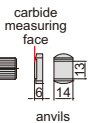


VIDEO

- Left anvil retracting stroke: 2mm
- Measuring force: 6-8N
- Flatness of anvil: 1.5µm
- Repeatability: 1µm
- Carbide measuring faces for anvils
- Front edges of anvils are chamfered for easy workpiece insertion
- Optional accessory: dial indicators and digital indicators (reading 0.001mm or 0.01mm)



Unit: mm



(mm)

Code	Range	Parallelism of measuring faces	A	B	C
2186-25*	0-25mm	4µm	42	11-18	20
2186-50*	25-50mm	4µm	69	11-32	41
2186-75*	50-75mm	5µm	94	17-41	51
2186-100*	75-100mm	6µm	119	31-55	65

\*Supplied with manufacturer inspection certificate traceable to DKD Germany

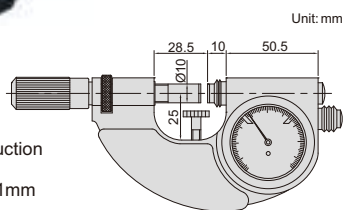
## DIAL SNAP GAGE (ECONOMIC TYPE)

ATTENTION: SETTING STANDARDS ARE NOT INCLUDED

IP54 WATERPROOF



3334-25



Unit: mm

- Go/No-Go judgement for mass production
- Dial indicator: range ±0.04mm, graduation 0.001mm, accuracy 0.001mm
- IP54 dust/waterproof
- Measuring force: 5-10N
- Carbide measuring faces
- Optional accessory: gage blocks grade 0 (4101-A series), for zero setting

Code	Range
3334-25	0-25mm

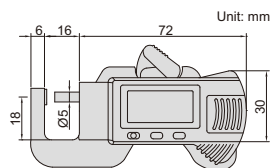
## DIGITAL SNAP GAGE

ATTENTION: NO DATA OUTPUT

DATA OUTPUT



2166-12

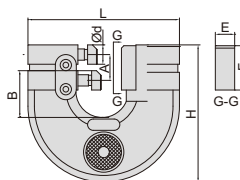


Unit: mm

Code	Range	Resolution	Accuracy
2166-12	0-12mm/0-0.5"	0.01mm/0.0005"	±0.03mm

## ADJUSTABLE SNAP GAGES

FAST AND ACCURATE MEASUREMENT FOR CYLINDERS



2187-19

- Used as Go/No-Go gage by setting upper and lower limits
- Flatness of anvil: 1.5µm
- Parallelism of measuring faces: range 0-32mm: 3µm range 32-89mm: 4µm range 89-300mm: 5µm

(mm)

Code	Range	L	A	B	E	F	H	Ød
2187-6	0-6mm	74	15	17.5	12.2	27.2	71.5	7
2187-13	6-13mm	85	15	26	12.2	27.2	79.5	12.3
2187-19	13-19mm	93	15	27	12.2	27.2	83	12.3
2187-25	19-25mm	100	15	33.5	12.2	27.2	89.5	12.3
2187-32	25-32mm	111	18	38.5	15.2	35.2	104	15.3
2187-38	32-38mm	117	18	41.5	15.2	35.2	105	15.3
2187-44	38-44mm	123	18	44.5	15.2	35.2	109	15.3
2187-51	44-51mm	130	18	48	15.2	35.2	117	15.3

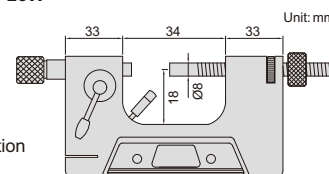
## DIAL SNAP GAGE

ATTENTION: NOT SUITABLE FOR 0.001MM DIAL INDICATORS



dial indicator is optional

2184-25W



Unit: mm

- Quick measurement for mass production
- Anvil retracting stroke: 3mm
- Measuring force: 6-9N
- Carbide measuring faces
- Optional accessory: dial indicators (graduation 0.01mm), digital indicators (resolution 0.01mm/0.0005")

Code	Range
2184-25W	0-25mm

## DIGITAL 3-PURPOSE SNAP GAGE

ATTENTION: NO DATA OUTPUT

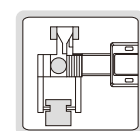
SUITABLE FOR JEWELLERY



2164-25A

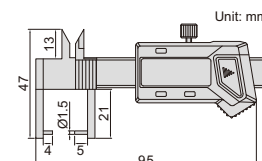


VIDEO



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

Code	Range	Accuracy
2164-25A	0-25mm/0-1"	±0.03mm



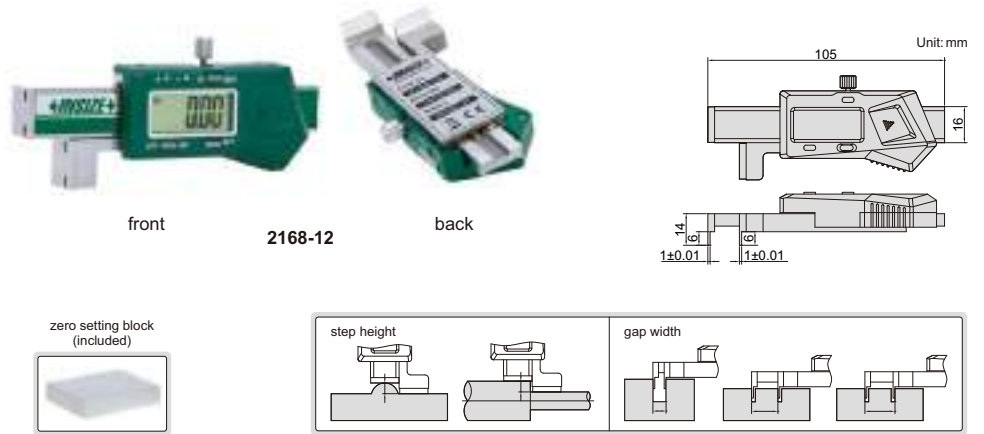
Unit: mm

## STEP AND GAP GAGE

### DATA OUTPUT

- Resolution: 0.01mm/0.0005"
- Measure step height and gap width
- Buttons: on/off, set, mm/inch, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Supplied with zero setting block
- Optional accessory: data output cable (code 7315-21, 7302-21)

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



## HIGH PRECISION DIGITAL SNAP GAGES



NON-ROTATING SPINDLE

ABSOLUTE ENCODER, THE ORIGINAL DATA REMAINS AFTER POWER OFF

IP65 WATERPROOF

DATA OUTPUT

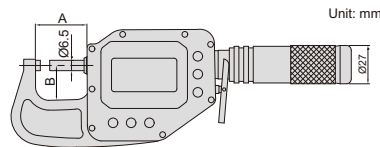
ONE TURN OF SLEEVE MAKES 5MM SPINDLE FEED, PRESS THE FORK, THE SPINDLE RETRACTS 3MM

ATTENTION: RECHARGEABLE BATTERY, FOR 24 HOURS CONTINUOUS WORKING

- Absolute encoder, the original data remains after power off
- One turn of sleeve makes 5mm spindle feed
- Press the fork, the spindle retracts 3mm
- Linear ball bearings for ten million times use
- Carbide spindle and anvil
- Measuring force 7-10N.
- Customizable measuring force range 2-12N.
- Attention: small measuring force will reduce the dustproof and waterproof level
- Data output (for gages without built-in wireless)
- Button function: data output, tolerance, data preset, data hold, measuring direction change, max./min./TIR, power off time, on/off, zero, mm/inch, adjust resolution
- Power: rechargeable battery, for 24 hours continuous working
- Optional accessory: data output cable (code 7315-60, 7302-60)



3350-25



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

Code	Range	Accuracy	Repeatability	Measuring faces		A	B
				Flatness	Parallelism		
3350-25*	0-25mm/0-1"	1.4µm	0.6µm	0.5µm	1µm	38mm	24mm
3350-50*	25-50mm/1-2"	1.6µm	1µm	0.5µm	1µm	63mm	28mm
3350-75*	50-75mm/2-3"	1.8µm	1µm	0.5µm	1µm	88mm	45mm
3350-100*	75-100mm/3-4"	2µm	1µm	0.5µm	1µm	113mm	57mm

warning when over tolerance



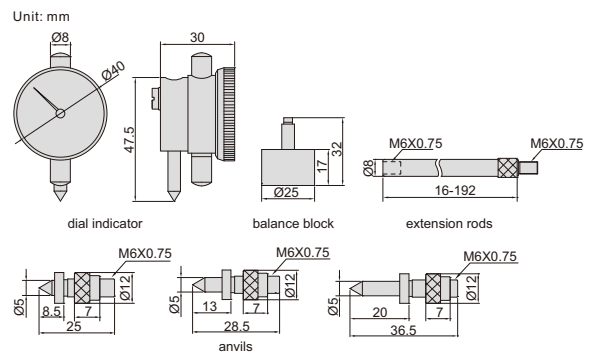
\* Supplied with manufacturer inspection certificate

## CRANKSHAFT TESTERS

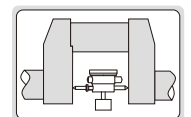


2841-500

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



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

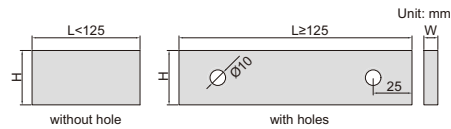


## STEEL GAGE BLOCK SETS



4100-87

- Made of alloy steel
- Meet ISO3650
- Gage blocks  $\geq 125$ mm have clamping holes
- Supplied with manufacturer inspection certificate



Dimension: (mm)

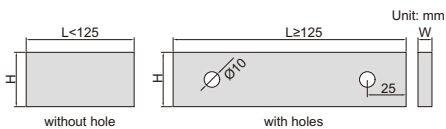
Size (L)	W	H
$0.5 \leq L \leq 10$ mm	9	30
$L > 10$ mm	9	35

Blocks per set	Gage blocks included in set			Code	
	Size (mm)	Step (mm)	Quantity	Grade 1	Grade 2
122	1.0005	0.001	1	4100-1122	4100-2122
	1.001-1.009	0.01	9		
	1.01-1.49	0.1	49		
	1.6-1.9	0.5	4		
	0.5-24.5	10	49		
	30-100	25	8		
112	1.0005	0.001	1	4100-1112	4100-2112
	1.001-1.009	0.01	9		
	1.01-1.49	0.1	49		
	0.5-24.5	25	49		
	25-100	25	4		
103	1.005	0.01	1	4100-1103	4100-2103
	1.01-1.49	0.5	49		
	0.5-24.5	25	49		
	25-100	25	4		

Blocks per set	Gage blocks included in set			Code		
	Size (mm)	Step (mm)	Quantity	Grade 0	Grade 1	Grade 2
87	1.001-1.009	0.001	9	4100-87	4100-187	4100-287
	1.01-1.49	0.01	49			
	0.5-9.5	0.5	19			
	10-100	10	10			
47	1.005	0.01	1	4100-47	4100-147	4100-247
	1.01-1.19	0.1	19			
	1.2-1.9	1	8			
	1-9	10	9			
	10-100	10	10			
	10-100	10	10			
32	1.005	0.01	1	4100-32	4100-132	4100-232
	1.01-1.09	0.1	9			
	1.1-1.9	0.1	9			
	1-9	1	9			
	10-30	10	3			
	50	10	1			
8	125-175	25	3	4100-8	4100-18	4100-28
	200-250	50	2			
	300-500	100	3			

## INDIVIDUAL STEEL GAGE BLOCKS

**CUSTOM-MADE**  
CAN SUPPLY ANY SIZES FROM 0.5 TO 1000MM,  
SUCH AS 72.672MM



4101-A70



4101-A200

- Grade 0, 1 and 2 gage blocks are available
- Made of alloy steel
- Meet ISO3650
- Gage blocks  $\geq 125$ mm have clamping holes
- Supplied with manufacturer inspection certificate

Dimension: (mm)

Size (L)	W	H
$0.5 \leq L \leq 10$ mm	9	30
$L > 10$ mm	9	35

Grade 0 (mm)

Code	Size
4101-A1	1
4101-A10	10
4101-A100	100

Grade 2 (mm)

Code	Size
4101-C1	1
4101-C10	10
4101-C100	100
4101-C200	200
4101-C250	250
4101-C300	300

Grade 1 (mm)		Grade 1 (mm)		Grade 1 (mm)		Grade 1 (mm)		Grade 1 (mm)	
Code	Size	Code	Size	Code	Size	Code	Size	Code	Size
4101-BD5	0.5	4101-B1D12	1.12	4101-B1D4	1.4	4101-B5	5	4101-B22	22
4101-B1	1	4101-B1D15	1.15	4101-B1D42	1.42	4101-B5D5	5.5	4101-B23	23
4101-B1D001	1.001	4101-B1D16	1.16	4101-B1D43	1.43	4101-B6	6	4101-B25	25
4101-B1D002	1.002	4101-B1D18	1.18	4101-B1D45	1.45	4101-B7	7	4101-B30	30
4101-B1D003	1.003	4101-B1D19	1.19	4101-B1D46	1.46	4101-B7D5	7.5	4101-B35	35
4101-B1D004	1.004	4101-B1D2	1.2	4101-B1D47	1.47	4101-B8	8	4101-B40	40
4101-B1D005	1.005	4101-B1D21	1.21	4101-B1D48	1.48	4101-B8D5	8.5	4101-B45	45
4101-B1D006	1.006	4101-B1D22	1.22	4101-B1D49	1.49	4101-B9	9	4101-B50	50
4101-B1D009	1.009	4101-B1D24	1.24	4101-B1D5	1.5	4101-B9D5	9.5	4101-B60	60
4101-B1D01	1.01	4101-B1D25	1.25	4101-B1D6	1.6	4101-B10	10	4101-B70	70
4101-B1D02	1.02	4101-B1D26	1.26	4101-B1D7	1.7	4101-B11	11	4101-B75	75
4101-B1D03	1.03	4101-B1D27	1.27	4101-B1D8	1.8	4101-B12	12	4101-B80	80
4101-B1D04	1.04	4101-B1D3	1.3	4101-B1D9	1.9	4101-B13	13	4101-B90	90
4101-B1D05	1.05	4101-B1D32	1.32	4101-B2	2	4101-B14	14	4101-B100	100
4101-B1D06	1.06	4101-B1D33	1.33	4101-B2D5	2.5	4101-B15	15	4101-B125	125
4101-B1D07	1.07	4101-B1D34	1.34	4101-B3	3	4101-B16	16	4101-B131D4	131.4
4101-B1D08	1.08	4101-B1D35	1.35	4101-B3D5	3.5	4101-B18	18	4101-B150	150
4101-B1D09	1.09	4101-B1D36	1.36	4101-B4	4	4101-B20	20		
4101-B1D1	1.1	4101-B1D37	1.37	4101-B4D5	4.5	4101-B21	21		

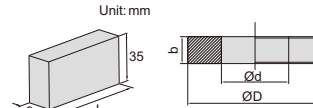
**CALIPER INSPECTION GAGE BLOCK AND RING GAGE SET**



- Gage blocks meet ISO3650/grade 2
- Ring gages meet DIN2250-1:2008
- Supplied with manufacturer inspection certificate



4176-30



Ring gage sizes:

diameter (Ød)*	b	ØD
Ø4mm	5mm	22mm
Ø25mm	14mm	53mm

\* The size of the ring gage when supplied may have deviation. For example, the size Ø25mm may be 24.996mm

(mm)

Code	Material	Gage blocks included in set (L)	Ring gages included in set (Ød)	Applicable calipers
4176-30	alloy steel	30, 41.3, 131.4	4, 25	0-150

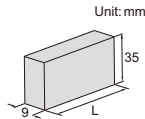
**CALIPER INSPECTION GAGE BLOCK SET**



- Meet ISO3650/grade 2
- Supplied with manufacturer inspection certificate



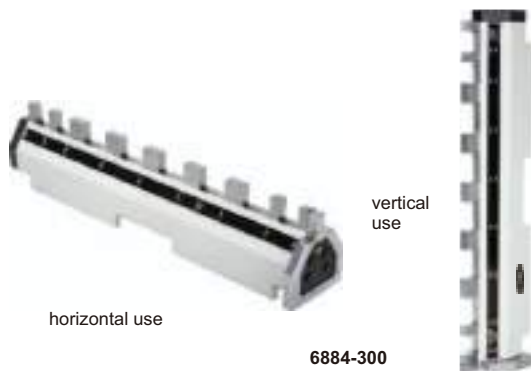
4108-3005



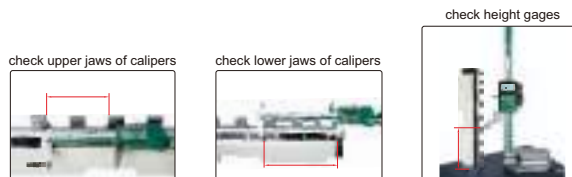
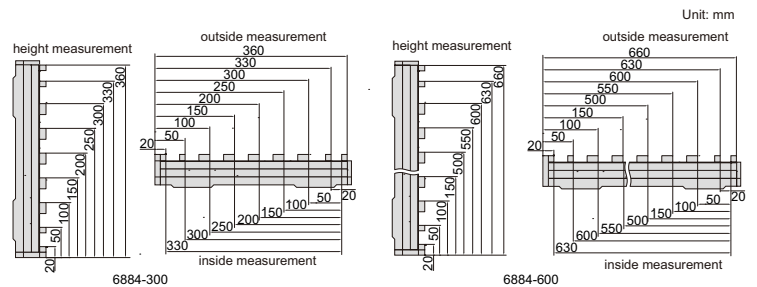
(mm)

Code	Material	Gage blocks included in set (L)	Applicable calipers
4108-3005	alloy steel	30, 41.3, 131.4, 243.5, 281.2	0-150, 0-200, 0-300

**CALIPER/HEIGHT GAGE CHECKERS**



6884-300



- To check calipers and height gages
- Constructed with steel gage blocks

(mm)

Code	Size	Range of inside measurement	Range of outside measurement	Range of height measurement	Accuracy
6884-300*	0-300mm	20, 50, 100, 150, 200, 250, 300, 330	20, 50, 100, 150, 200, 250, 300, 330, 360	20, 50, 100, 150, 200, 250, 300, 330, 360	±3µm
6884-600*	0-600mm	20, 50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 630	20, 50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 630, 660	20, 50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 630, 660	±5µm

\*Supplied with manufacturer inspection certificate

**INSIDE MICROMETER ACCESSORIES**

Code	Applicable caliper/height gage checker
6884-A3*	0-300mm/0-600mm
6884-A10*	0-1000mm



6884-A3

- Supplied with a pair of 5mm carbide gage blocks



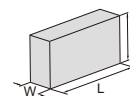
\*Supplied with manufacturer inspection certificate

## MICROMETER INSPECTION GAGE BLOCK SET



- Meet ISO3650/grade 0
- One piece of optical flat is included (size Ø30x12mm)
- Supplied with manufacturer inspection certificate

optical flat (included)



Dimension:

Size (L)	W	H
0.5 ≤ L ≤ 10mm	9mm	30mm
L > 10mm	9mm	35mm



4160-10

application



Code	Material	Gage blocks included in set	Applicable micrometer
4160-10	alloy steel	2.5mm, 5.1mm, 7.7mm, 10.3mm, 12.9mm, 15mm, 17.6mm, 20.2mm, 22.8mm, 25mm	0-25mm

## PIN GAGE HANDLES



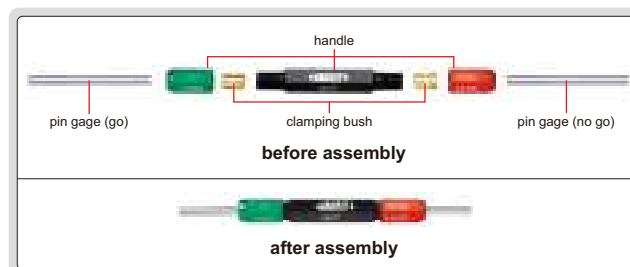
handle



brass clamping bush (0.2~7.14mm)



aluminum clamping bush (7.14~25.65mm)



- Wrench is needed to install pins
- Clamping bushes (0.2~7.14mm) are made of brass, clamping bushes (7.14~25.65mm) are made of aluminum

Code	Applicable pin gage diameter	Including	
		Handle	Clamping bush (mm)
7341-0S	0.2-1.02mm	1 pc	6 pairs (the clamping range are 0.2-0.38, 0.38-0.51, 0.51-0.64, 0.64-0.76, 0.76-0.89, 0.89-1.02)
7341-1S	1.02-1.91mm	1 pc	7 pairs (the clamping range are 1.02-1.14, 1.14-1.27, 1.27-1.40, 1.40-1.52, 1.52-1.65, 1.65-1.78, 1.78-1.91)
7341-2S	1.91-3.33mm	1 pc	8 pairs (the clamping range are 1.91-2.08, 2.08-2.26, 2.26-2.44, 2.44-2.62, 2.62-2.79, 2.79-2.97, 2.97-3.15, 3.15-3.33)
7341-3S	3.33-4.57mm	1 pc	7 pairs (the clamping range are 3.33-3.51, 3.51-3.68, 3.68-3.86, 3.86-4.04, 4.04-4.22, 4.22-4.39, 4.39-4.57)
7341-4S	4.57-5.79mm	1 pc	6 pairs (the clamping range are 4.57-4.78, 4.78-4.98, 4.98-5.18, 5.18-5.38, 5.38-5.59, 5.59-5.79)
7341-5S	5.79-7.14mm	1 pc	6 pairs (the clamping range are 5.79-5.99, 5.99-6.20, 6.20-6.40, 6.40-6.63, 6.63-6.88, 6.88-7.14)
7341-6S	7.14-8.66mm	1 pc	6 pairs (the clamping range are 7.14-7.39, 7.39-7.65, 7.65-7.90, 7.90-8.15, 8.15-8.41, 8.41-8.66)

Code	Applicable pin gage diameter	Handle	Including
			Clamping bush (mm)
7341-7S	8.66-10.31mm	1 pc	6 pairs (the clamping range are 8.66-8.92, 8.9-9.17, 9.17-9.42, 9.42-9.70, 9.70-10.01, 10.01-10.31)
7341-8S	10.31-11.81mm	1 pc	4 pairs (the clamping range are 10.31-10.67, 10.67-11.05, 11.05-11.43, 11.43-11.81)
7341-9S	11.81-12.95mm	1 pc	3 pairs (the clamping range are 11.81-12.19, 12.19-12.57, 12.57-12.95)
7341-10S	12.95-14.71mm	1 pc	4 pairs (the clamping range are 12.95-13.51, 13.51-13.89, 13.89-14.30, 14.30-14.71)
7341-11S	14.71-16.13mm	1 pc	4 pairs (the clamping range are 14.71-15.09, 15.09-15.49, 15.49-15.88, 15.88-16.13)
7341-12S	16.13-17.88mm	1 pc	4 pairs (the clamping range are 16.13-16.66, 16.66-17.07, 17.07-17.48, 17.48-17.88)
7341-13S	17.88-19.30mm	1 pc	4 pairs (the clamping range are 17.88-18.26, 18.26-18.67, 18.67-19.05, 19.05-19.30)
7341-15S	19.30-25.65mm	1 pc	8 pairs (the clamping range are 19.30-19.84, 19.84-20.62, 20.62-21.41, 21.41-22.23, 22.23-23.03, 23.03-23.80, 23.80-24.59, 24.59-25.65)

## PIN GAGE SETS

Code	Diameter Ød	Step	Pin gages per set
4166-411	1.0mm, 1.1mm, 1.2mm, ..., 5.0mm	0.1mm	41
4166-511	5.0mm, 5.1mm, 5.2mm, ..., 10.0mm	0.1mm	51
4166-512	10.0mm, 10.1mm, 10.2mm, ..., 15.0mm	0.1mm	51
4166-513	15.0mm, 15.1mm, 15.2mm, ..., 20.0mm	0.1mm	51

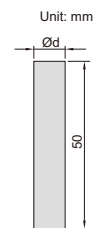
Code	Diameter Ød	Step	Pin gages per set
4166-2S	1.00mm, 1.01mm, 1.02mm, ..., 2.00mm	0.01mm	101
4166-3S	2.00mm, 2.01mm, 2.02mm, ..., 3.00mm	0.01mm	101
4166-4S	3.00mm, 3.01mm, 3.02mm, ..., 4.00mm	0.01mm	101
4166-5S	4.00mm, 4.01mm, 4.02mm, ..., 5.00mm	0.01mm	101
4166-6S	5.00mm, 5.01mm, 5.02mm, ..., 6.00mm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

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

Code	Diameter Ød	Step	Pin gages per set
4166-10D	10.00mm, 10.01mm, 10.02mm, ..., 10.50mm	0.01mm	51
4166-11	10.50mm, 10.51mm, 10.52mm, ..., 11.00mm	0.01mm	51
4166-11D	11.00mm, 11.01mm, 11.02mm, ..., 11.50mm	0.01mm	51
4166-12	11.50mm, 11.51mm, 11.52mm, ..., 12.00mm	0.01mm	51
4166-12D	12.00mm, 12.01mm, 12.02mm, ..., 12.50mm	0.01mm	51
4166-13	12.50mm, 12.51mm, 12.52mm, ..., 13.00mm	0.01mm	51
4166-13D	13.00mm, 13.01mm, 13.02mm, ..., 13.50mm	0.01mm	51
4166-14	13.50mm, 13.51mm, 13.52mm, ..., 14.00mm	0.01mm	51
4166-14D	14.00mm, 14.01mm, 14.02mm, ..., 14.50mm	0.01mm	51
4166-15	14.50mm, 14.51mm, 14.52mm, ..., 15.00mm	0.01mm	51
4166-15D	15.00mm, 15.01mm, 15.02mm, ..., 15.50mm	0.01mm	51
4166-16	15.50mm, 15.51mm, 15.52mm, ..., 16.00mm	0.01mm	51
4166-16D	16.00mm, 16.01mm, 16.02mm, ..., 16.50mm	0.01mm	51
4166-17	16.50mm, 16.51mm, 16.52mm, ..., 17.00mm	0.01mm	51
4166-17D	17.00mm, 17.01mm, 17.02mm, ..., 17.50mm	0.01mm	51
4166-18	17.50mm, 17.51mm, 17.52mm, ..., 18.00mm	0.01mm	51
4166-18D	18.00mm, 18.01mm, 18.02mm, ..., 18.50mm	0.01mm	51
4166-19	18.50mm, 18.51mm, 18.52mm, ..., 19.00mm	0.01mm	51
4166-19D	19.00mm, 19.01mm, 19.02mm, ..., 19.50mm	0.01mm	51
4166-20	19.50mm, 19.51mm, 19.52mm, ..., 20.00mm	0.01mm	51



4166-6D



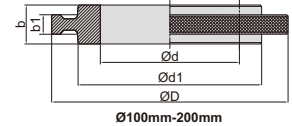
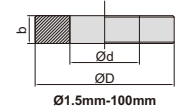
- Meet DIN2269, grade 1
- Made of alloy steel
- Hardness HRC62-65
- Diameter accuracy:  $\pm 1\mu\text{m}$

## SETTING RINGS

CAN SUPPLY CUSTOM SETTING RINGS FROM Ø1.500MM TO Ø200.000MM, FOR EXAMPLE, Ø17.085MM



6312-20



- For zero setting of inside micrometers, three points internal micrometers and bore gages
- Deviation (difference between the ordered size and the size marked on the setting ring when supplied):  
For example, the ordered size is Ø10.125mm, the size marked on the setting ring when supplied may be Ø10.127mm
- Meet DIN2250-1:2008

(mm)

Diameter d**	b	D	Deviation	Roundness and cylindricity
Ø1.5-2.5	4mm	22mm	±10.0µm	0.3µm
Ø2.5-3	5mm	22mm	±10.0µm	0.3µm
Ø3-5	5mm	22mm	±10.0µm	0.4µm
Ø5-10	8mm	32mm	±10.0µm	0.4µm
Ø10-15	10mm	38mm	±10.0µm	0.5µm
Ø15-18	12mm	45mm	±10.0µm	0.5µm
Ø18-20	12mm	45mm	±10.0µm	0.6µm
Ø20-25	14mm	53mm	±10.0µm	0.6µm
Ø25-30	16mm	63mm	±10.0µm	0.6µm
Ø30-32	16mm	63mm	±10.0µm	0.7µm
Ø32-40	18mm	71mm	±10.0µm	0.7µm
Ø40-50	20mm	85mm	±10.0µm	0.7µm
Ø50-60	20mm	100mm	±10.0µm	0.8µm
Ø60-70	24mm	112mm	±10.0µm	0.8µm
Ø70-80	24mm	125mm	±10.0µm	0.8µm
Ø80-90	24mm	140mm	±10.0µm	1.0µm
Ø90-100	24mm	160mm	±10.0µm	1.0µm

(mm)

Diameter d**	b	b1	d1	D	Deviation	Roundness and cylindricity
Ø100-110	28	14	132	170	±10.0µm	1.0µm
Ø110-120	28	16	140	180	±10.0µm	1.0µm
Ø120-130	28	16	150	190	±10.0µm	1.2µm
Ø130-140	28	18	160	200	±10.0µm	1.2µm
Ø140-150	28	18	170	212	±10.0µm	1.2µm
Ø150-160	28	20	180	224	±10.0µm	1.2µm
Ø160-170	32	20	190	236	±10.0µm	1.2µm
Ø170-180	32	20	200	250	±10.0µm	1.2µm
Ø180-190	32	22	212	265	±10.0µm	1.4µm
Ø190-200	32	22	224	280	±10.0µm	1.4µm
Ø200-212	32	22	236	300	±10.0µm	1.4µm
Ø212-224	32	25	250	315	±10.0µm	1.4µm
Ø224-236	36	25	265	335	±10.0µm	1.4µm
Ø236-250	36	28	280	355	±10.0µm	1.4µm
Ø250-265	36	28	300	375	±10.0µm	1.6µm
Ø265-280	36	28	315	400	±10.0µm	1.6µm
Ø280-300	36	32	335	425	±10.0µm	1.6µm
Ø300-315	36	32	355	450	±10.0µm	1.6µm

\*\*For example Ø3-5mm means Ø3mm< diameter d ≤ Ø5mm

Code	Size
6312-1D5*	Ø1.5mm
6312-2*	Ø2mm
6312-2D5*	Ø2.5mm
6312-3*	Ø3mm
6312-3D5*	Ø3.5mm
6312-4*	Ø4mm
6312-4D5*	Ø4.5mm
6312-5*	Ø5mm
6312-5D5*	Ø5.5mm
6312-6*	Ø6mm
6312-6D5*	Ø6.5mm
6312-7*	Ø7mm
6312-7D5*	Ø7.5mm
6312-8*	Ø8mm
6312-8D5*	Ø8.5mm
6312-9*	Ø9mm
6312-9D5*	Ø9.5mm
6312-10*	Ø10mm
6312-10D5*	Ø10.5mm
6312-11*	Ø11mm
6312-11D5*	Ø11.5mm
6312-12*	Ø12mm
6312-12D5*	Ø12.5mm
6312-13*	Ø13mm
6312-13D5*	Ø13.5mm
6312-14*	Ø14mm
6312-14D5*	Ø14.5mm

Code	Size
6312-15*	Ø15mm
6312-15D5*	Ø15.5mm
6312-16*	Ø16mm
6312-16D5*	Ø16.5mm
6312-17*	Ø17mm
6312-17D5*	Ø17.5mm
6312-18*	Ø18mm
6312-18D5*	Ø18.5mm
6312-19*	Ø19mm
6312-19D5*	Ø19.5mm
6312-20*	Ø20mm
6312-20D5*	Ø20.5mm
6312-21*	Ø21mm
6312-21D5*	Ø21.5mm
6312-22*	Ø22mm
6312-22D5*	Ø22.5mm
6312-23*	Ø23mm
6312-23D5*	Ø23.5mm
6312-24*	Ø24mm
6312-24D5*	Ø24.5mm
6312-25*	Ø25mm
6312-25D5*	Ø25.5mm
6312-26*	Ø26mm
6312-26D5*	Ø26.5mm
6312-27*	Ø27mm
6312-27D5*	Ø27.5mm
6312-28*	Ø28mm

Code	Size
6312-28D5*	Ø28.5mm
6312-29*	Ø29mm
6312-29D5*	Ø29.5mm
6312-30*	Ø30mm
6312-31*	Ø31mm
6312-32*	Ø32mm
6312-33*	Ø33mm
6312-34*	Ø34mm
6312-35*	Ø35mm
6312-36*	Ø36mm
6312-37*	Ø37mm
6312-38*	Ø38mm
6312-39*	Ø39mm
6312-40*	Ø40mm
6312-41*	Ø41mm
6312-42*	Ø42mm
6312-43*	Ø43mm
6312-44*	Ø44mm
6312-45*	Ø45mm
6312-46*	Ø46mm
6312-47*	Ø47mm
6312-48*	Ø48mm
6312-49*	Ø49mm
6312-50*	Ø50mm
6312-55*	Ø55mm
6312-60*	Ø60mm
6312-62*	Ø62mm

Code	Size
6312-65*	Ø65mm
6312-70*	Ø70mm
6312-75*	Ø75mm
6312-80*	Ø80mm
6312-85*	Ø85mm
6312-87*	Ø87mm
6312-90*	Ø90mm
6312-95*	Ø95mm
6312-100*	Ø100mm
6312-112D5*	Ø112.5mm
6312-125*	Ø125mm
6312-137D5*	Ø137.5mm
6312-150*	Ø150mm
6312-162D5*	Ø162.5mm
6312-175*	Ø175mm
6312-187D5*	Ø187.5mm
6312-200*	Ø200mm
6312-212D5*	Ø212.5mm
6312-225*	Ø225mm
6312-237D5*	Ø237.5mm
6312-250*	Ø250mm
6312-262D5*	Ø262.5mm
6312-275*	Ø275mm
6312-287D5*	Ø287.5mm
6312-300*	Ø300mm

\*Supplied with manufacturer inspection certificate

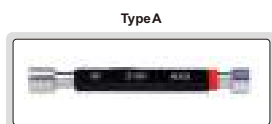
## PLAIN PLUG GAGES

**CUSTOM-MADE**  
OTHER CLASSES ARE AVAILABLE, SUCH AS H8, H9  
OTHER DIAMETERS ARE AVAILABLE, SUCH AS 19.003mm  
OTHER LENGTHS ARE AVAILABLE, SUCH AS 70mm

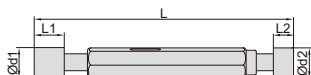
- Supplied with Go and No-Go gages together
- Class H7
- Hardness HRC 60±2
- Standard DIN7150-2



4124-12



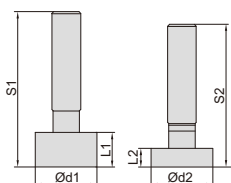
Type A



Type A



Type B



Type B

Size tolerance of H7

(mm)

Diameter Ød	Type	Size tolerance of Go gage (µm)	Size tolerance of No-Go gage (µm)	L1	L2	L	S1, S2
≥2, ≤3	A	+0.5 / +2.5	+9 / +11	6.5	4.5	62	–
>3, ≤6	A	+0.75 / +3.25	+10.75 / +13.25	8	6	74	–
>6, ≤10	A	+0.75 / +3.25	+13.75 / +16.25	10	7	87	–
>10, ≤14	A	+1 / +4	+16.5 / +19.5	12	8	99	–
>14, ≤18	A	+1 / +4	+16.5 / +19.5	14	10	114	–
>18, ≤24	A	+1 / +5	+19 / +23	16	12	132	–
>24, ≤30	A	+1 / +5	+19 / +23	18	14	136	–
>30, ≤40	A	+1.5 / +5.5	+23 / +27	20	15	155	–
>40, ≤50	A	+1.5 / +5.5	+23 / +27	25	18	169	–
>50, ≤65	B	+1.5 / +6.5	+27.5 / +32.5	30	18	–	164, 152
>65, ≤80	B	+1.5 / +6.5	+27.5 / +32.5	35	25	–	169, 159
>80, ≤100	B	+2 / +8	+32 / +38	35	25	–	169, 159

Code	Diameter	Type	Code	Diameter	Type	Code	Diameter	Type	Code	Diameter	Type	Code	Diameter	Type
4124-2	2mm	A	4124-13	13mm	A	4124-24	24mm	A	4124-38	38mm	A	4124-52	52mm	B
4124-3	3mm	A	4124-14	14mm	A	4124-25	25mm	A	4124-39	39mm	A	4124-55	55mm	B
4124-4	4mm	A	4124-15	15mm	A	4124-26	26mm	A	4124-40	40mm	A	4124-60	60mm	B
4124-5	5mm	A	4124-16	16mm	A	4124-28	28mm	A	4124-41	41mm	A	4124-65	65mm	B
4124-6	6mm	A	4124-17	17mm	A	4124-29	29mm	A	4124-42	42mm	A	4124-70	70mm	B
4124-7	7mm	A	4124-18	18mm	A	4124-30	30mm	A	4124-44	44mm	A	4124-75	75mm	B
4124-8	8mm	A	4124-19	19mm	A	4124-31	31mm	A	4124-45	45mm	A	4124-80	80mm	B
4124-9	9mm	A	4124-20	20mm	A	4124-32	32mm	A	4124-46	46mm	A	4124-85	85mm	B
4124-10	10mm	A	4124-21	21mm	A	4124-34	34mm	A	4124-47	47mm	A	4124-100	100mm	B
4124-11	11mm	A	4124-22	22mm	A	4124-35	35mm	A	4124-49	49mm	A			
4124-12	12mm	A	4124-23	23mm	A	4124-36	36mm	A	4124-50	50mm	A			

## METRIC THREAD PLUG GAGES



ATTENTION: LIFE TIME IS LIMITED

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



4130-10

### Individual

Code	Size (mm)	Code	Size (mm)	Code	Size (mm)	Code	Size (mm)
4130-2*	M2x0.4	4130-8*	M8x1.25	4130-20*	M20x2.5	4130-42*	M42x4.5
4130-2D5*	M2.5x0.45	4130-9*	M9x1.25	4130-22*	M22x2.5	4130-45*	M45x4.5
4130-3*	M3x0.5	4130-10*	M10x1.5	4130-24*	M24x3	4130-48*	M48x5
4130-3D5*	M3.5x0.6	4130-11*	M11x1.5	4130-27*	M27x3	4130-52*	M52x5
4130-4*	M4x0.7	4130-12*	M12x1.75	4130-30*	M30x3.5	4130-56*	M56x5.5
4130-5*	M5x0.8	4130-14*	M14x2	4130-33*	M33x3.5	4130-60*	M60x5.5
4130-6*	M6x1	4130-16*	M16x2	4130-36*	M36x4		
4130-7*	M7x1	4130-18*	M18x2.5	4130-39*	M39x4		

### Set

Code	Thread plug gages included
4130-S7*	M3x0.5 (4130-3), M4x0.7 (4130-4), M5x0.8 (4130-5), M6x1 (4130-6), M8x1.25 (4130-8), M10x1.5 (4130-10), M12x1.75 (4130-12)

\*Supplied with manufacturer inspection certificate



## METRIC FINE THREAD PLUG GAGES

**INSPECTION  
CERTIFICATE**

**ATTENTION: LIFE  
TIME IS LIMITED**

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



4139-20P

Code	Size (mm)	Code	Size (mm)	Code	Size (mm)	Code	Size (mm)	Code	Size (mm)	Code	Size (mm)
4139-3D*	M3x0.35	4139-9P*	M9x1	4139-14L*	M14x0.75	4139-20R*	M20x1.5	4139-30P*	M30x1	4139-42P*	M42x1
4139-4G*	M4x0.5	4139-10G*	M10x0.5	4139-14P*	M14x1	4139-20T*	M20x2	4139-30R*	M30x1.5	4139-42R*	M42x1.5
4139-5G*	M5x0.5	4139-10L*	M10x0.75	4139-14Q*	M14x1.25	4139-22L*	M22x0.75	4139-30T*	M30x2	4139-42T*	M42x2
4139-6G*	M6x0.5	4139-10P*	M10x1	4139-14R*	M14x1.5	4139-22P*	M22x1	4139-33P*	M33x1	4139-42V*	M42x3
4139-6L*	M6x0.75	4139-10Q*	M10x1.25	4139-16L*	M16x0.75	4139-22R*	M22x1.5	4139-33R*	M33x1.5	4139-45P*	M45x1
4139-7G*	M7x0.5	4139-11P*	M11x1	4139-16P*	M16x1	4139-22T*	M22x2	4139-33T*	M33x2	4139-45R*	M45x1.5
4139-7L*	M7x0.75	4139-12G*	M12x0.5	4139-16R*	M16x1.5	4139-24P*	M24x1	4139-36R*	M36x1.5	4139-45T*	M45x2
4139-8G*	M8x0.5	4139-12L*	M12x0.75	4139-18G*	M18x0.5	4139-24R*	M24x1.5	4139-36T*	M36x2	4139-45V*	M45x3
4139-8L*	M8x0.75	4139-12P*	M12x1	4139-18L*	M18x0.75	4139-24T*	M24x2	4139-36V*	M36x3		
4139-8P*	M8x1	4139-12Q*	M12x1.25	4139-18P*	M18x1	4139-27P*	M27x1	4139-39R*	M39x1.5		
4139-9G*	M9x0.5	4139-12R*	M12x1.5	4139-18R*	M18x1.5	4139-27R*	M27x1.5	4139-39T*	M39x2		
4139-9L*	M9x0.75	4139-14G*	M14x0.5	4139-20P*	M20x1	4139-27T*	M27x2	4139-39V*	M39x3		

\*Supplied with manufacturer inspection certificate

## METRIC THREAD RING GAGES

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



4120-16

4120-16N

**ATTENTION: LIFE  
TIME IS LIMITED**

**INSPECTION  
CERTIFICATE**

### Individual

Code (GO)	Code (NOGO)	Size (mm)	Code (GO)	Code (NOGO)	Size (mm)
4120-2*	4120-2N*	M2x0.4	4120-11*	4120-11N*	M11x1.5
4120-2D2*	4120-2D2N*	M2.2x0.45	4120-12*	4120-12N*	M12x1.75
4120-2D5*	4120-2D5N*	M2.5x0.45	4120-14*	4120-14N*	M14x2
4120-3*	4120-3N*	M3x0.5	4120-16*	4120-16N*	M16x2
4120-3D5*	4120-3D5N*	M3.5x0.6	4120-18*	4120-18N*	M18x2.5
4120-4*	4120-4N*	M4x0.7	4120-20*	4120-20N*	M20x2.5
4120-5*	4120-5N*	M5x0.8	4120-22*	4120-22N*	M22x2.5
4120-6*	4120-6N*	M6x1	4120-24*	4120-24N*	M24x3
4120-7*	4120-7N*	M7x1	4120-27*	4120-27N*	M27x3
4120-8*	4120-8N*	M8x1.25	4120-30*	4120-30N*	M30x3.5
4120-9*	4120-9N*	M9x1.25	4120-33*	4120-33N*	M33x3.5
4120-10*	4120-10N*	M10x1.5			

### Go ring gage set

Code	Thread ring gages included
4120-S7*	M3x0.5 (4120-3), M4x0.7 (4120-4), M5x0.8 (4120-5), M6x1 (4120-6), M8x1.25 (4120-8), M10x1.5 (4120-10), M12x1.75 (4120-12)

### No Go ring gage set

Code	Thread ring gages included
4120-S7N*	M3x0.5 (4120-3N), M4x0.7 (4120-4N), M5x0.8 (4120-5N), M6x1 (4120-6N), M8x1.25 (4120-8N), M10x1.5 (4120-10N), M12x1.75 (4120-12N)

\*Supplied with manufacturer inspection certificate

## AMERICAN STANDARD THREAD PLUG GAGES

**INSPECTION  
CERTIFICATE**

**ATTENTION: LIFE  
TIME IS LIMITED**

- Supplied with Go and No-Go gages together
- Class 2B
- Standard ANSI/ASME B1.2



4131-102

Code	Size
4131-41*	4-40UNC
4131-61*	6-32UNC
4131-81*	8-32UNC
4131-102*	10-32UNF
4131-1B1*	1/4-20UNC
4131-1B2*	1/4-28UNF

Code	Size
4131-5D1*	5/16-18UNC
4131-5D2*	5/16-24UNF
4131-3C1*	3/8-16UNC
4131-3C2*	3/8-24UNF
4131-7D2*	7/16-20UNF
4131-1A1*	1/2-13UNC

Code	Size
4131-1A2*	1/2-20UNF
4131-9D2*	9/16-18UNF
4131-5C1*	5/8-11UNC
4131-5C2*	5/8-18UNF
4131-3B1*	3/4-10UNC
4131-3B2*	3/4-16UNF

\*Supplied with manufacturer inspection certificate

## AMERICAN STANDARD THREAD RING GAGES

ATTENTION: LIFE TIME IS LIMITED



4121-1B1

4121-1B1N

- Class 2A
- Standard ANSI/ASME B1.2

Code (GO)	Code (NOGO)	Size
4121-41 *	4121-41N *	4-40UNC
4121-61 *	4121-61N *	6-32UNC
4121-81 *	4121-81N *	8-32UNC
4121-102 *	4121-102N *	10-32UNF
4121-1B1 *	4121-1B1N *	1/4-20UNC
4121-1B2 *	4121-1B2N *	1/4-28UNF

Code (GO)	Code (NOGO)	Size
4121-5D1 *	4121-5D1N *	5/16-18UNC
4121-5D2 *	4121-5D2N *	5/16-24UNF
4121-3C1 *	4121-3C1N *	3/8-16UNC
4121-3C2 *	4121-3C2N *	3/8-24UNF
4121-7D2 *	4121-7D2N *	7/16-20UNF
4121-1A1 *	4121-1A1N *	1/2-13UNC

Code (GO)	Code (NOGO)	Size
4121-1A2 *	4121-1A2N *	1/2-20UNF
4121-9D2 *	4121-9D2N *	9/16-18UNF
4121-5C1 *	4121-5C1N *	5/8-11UNC
4121-5C2 *	4121-5C2N *	5/8-18UNF
4121-3B1 *	4121-3B1N *	3/4-10UNC
4121-3B2 *	4121-3B2N *	3/4-16UNF

\*Supplied with manufacturer inspection certificate

## METRIC FINE THREAD RING GAGES

ATTENTION: LIFE TIME IS LIMITED



4129-10P

4129-10PN

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

Code (GO)	Code (NOGO)	Size (mm)
4129-4G *	4129-4GN *	M4x0.5
4129-5G *	4129-5GN *	M5x0.5
4129-6G *	4129-6GN *	M6x0.5
4129-6L *	4129-6LN *	M6x0.75
4129-7L *	4129-7LN *	M7x0.75
4129-8G *	4129-8GN *	M8x0.5
4129-8L *	4129-8LN *	M8x0.75
4129-8P *	4129-8PN *	M8x1
4129-9G *	4129-9GN *	M9x0.5
4129-9L *	4129-9LN *	M9x0.75
4129-9P *	4129-9PN *	M9x1
4129-10G *	4129-10GN *	M10x0.5
4129-10L *	4129-10LN *	M10x0.75
4129-10P *	4129-10PN *	M10x1
4129-10Q *	4129-10QN *	M10x1.25
4129-11G *	4129-11GN *	M11x0.5
4129-11L *	4129-11LN *	M11x0.75
4129-11P *	4129-11PN *	M11x1
4129-12G *	4129-12GN *	M12x0.5
4129-12L *	4129-12LN *	M12x0.75
4129-12P *	4129-12PN *	M12x1
4129-12Q *	4129-12QN *	M12x1.25

Code (GO)	Code (NOGO)	Size (mm)
4129-12R *	4129-12RN *	M12x1.5
4129-14L *	4129-14LN *	M14x0.75
4129-14P *	4129-14PN *	M14x1
4129-14Q *	4129-14QN *	M14x1.25
4129-14R *	4129-14RN *	M14x1.5
4129-16L *	4129-16LN *	M16x0.75
4129-16P *	4129-16PN *	M16x1
4129-16R *	4129-16RN *	M16x1.5
4129-18P *	4129-18PN *	M18x1
4129-18R *	4129-18RN *	M18x1.5
4129-18T *	4129-18TN *	M18x2
4129-20G *	4129-20GN *	M20x0.5
4129-20P *	4129-20PN *	M20x1
4129-20R *	4129-20RN *	M20x1.5
4129-20T *	4129-20TN *	M20x2
4129-22P *	4129-22PN *	M22x1
4129-22R *	4129-22RN *	M22x1.5
4129-22T *	4129-22TN *	M22x2
4129-24P *	4129-24PN *	M24x1
4129-24R *	4129-24RN *	M24x1.5
4129-24T *	4129-24TN *	M24x2
4129-27P *	4129-27PN *	M27x1

Code (GO)	Code (NOGO)	Size (mm)
4129-27R *	4129-27RN *	M27x1.5
4129-27T *	4129-27TN *	M27x2
4129-30P *	4129-30PN *	M30x1
4129-30R *	4129-30RN *	M30x1.5
4129-30T *	4129-30TN *	M30x2
4129-33P *	4129-33PN *	M33x1
4129-33T *	4129-33TN *	M33x2
4129-36P *	4129-36PN *	M36x1
4129-36R *	4129-36RN *	M36x1.5
4129-36T *	4129-36TN *	M36x2
4129-36V *	4129-36VN *	M36x3
4129-39P *	4129-39PN *	M39x1
4129-39T *	4129-39TN *	M39x2
4129-39V *	4129-39VN *	M39x3
4129-42P *	4129-42PN *	M42x1
4129-42R *	4129-42RN *	M42x1.5
4129-42T *	4129-42TN *	M42x2
4129-42V *	4129-42VN *	M42x3
4129-45R *	4129-45RN *	M45x1.5
4129-45T *	4129-45TN *	M45x2
4129-45V *	4129-45VN *	M45x3

\*Supplied with manufacturer inspection certificate

## WATERPROOF DIGITAL PROTRACTOR (HEAVY DUTY)

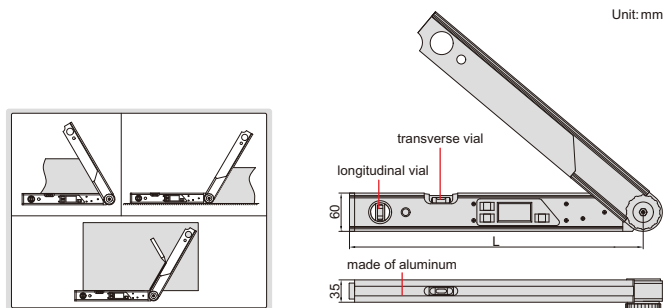
ABSOLUTE LEVEL

AUTOMATIC BACKLIGHT

IP54 WATERPROOF



2174-225



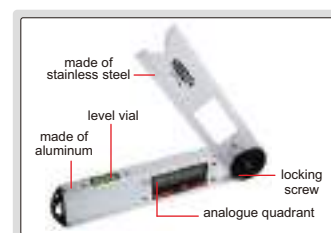
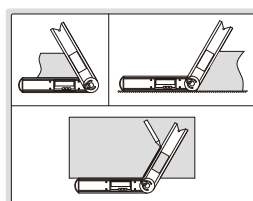
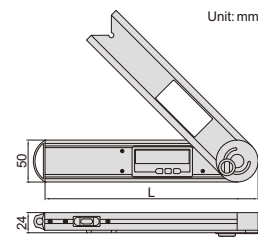
- Suitable for setting horizontal and vertical mitre angles of cutting machine
- Buttons: ON/OFF, HOLD/SUP, SPR/CNR/MTR/BVL
- IP54 dust/waterproof
- With transverse and longitudinal vials
- 2xAAA batteries
- Absolute level, zero setting is not needed when batteries are replaced
- Backlight turns off in one minute after no data changing, automatic power off in 5 minutes

Code	Size (L)	Range	Resolution	Accuracy
2174-225	460mm	0-225°	0.05°	±0.10°

## DIGITAL PROTRACTOR



2171-250



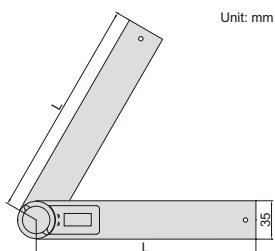
- Buttons: on/off, hold (keep the reading), zero, ABS (absolute and incremental measurement)
- Fix the locking screw at 4 positions for different measuring ranges: 0°~225°, -225°~0°, -45°~180°, -180°~45°
- Remove the locking screw for 360° range
- With level vial
- Battery CR2032
- Automatic power off

Code	Size (L)	Range	Resolution	Accuracy
2171-250	250mm	0-360°	0.05°	±0.15°

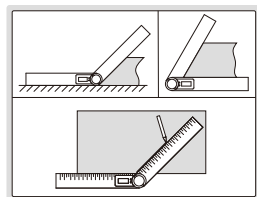
## DIGITAL PROTRACTORS



2176-200



- Resolution: 0.1°
- Buttons: on/off, zero
- With clamping screw to lock the blades
- Graduation of blade: 1mm and 1/32"
- Made of stainless steel
- CR2032 battery
- Automatic power off

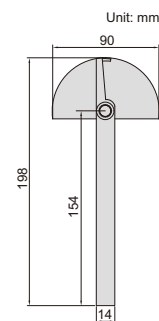


Code	Size (L)	Range	Accuracy
2176-200	200mm	0-360°	±0.3°
2176-300	300mm	0-360°	±0.3°

## PROTRACTOR (ECONOMIC TYPE)



4780-85A



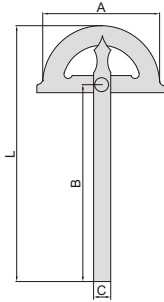
- Made of stainless steel
- With clamping screw

Code	Size	Range	Graduation	Accuracy
4780-85A	90x154mm	0-180°	1°	±0.5°

**PROTRACTORS**



4799-180



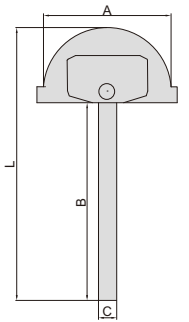
- Made of stainless steel (4799-1300 is made of carbon steel)
- Satin chrome plated scale
- With clamping screw

Code	Size (AxB)	Range	Accuracy	Graduation	L	C
4799-180	80x120mm	0-180°	±0.3°	1°	168mm	11mm
4799-1120	120x150mm	0-180°	±0.3°	1°	220mm	14mm
4799-1150	150x200mm	0-180°	±0.3°	1°	285mm	16mm
4799-1200	200x300mm	0-180°	±0.3°	1°	413mm	20mm
4799-1300	300x500mm	0-180°	±0.3°	1°	675mm	30mm

**DIGITAL PROTRACTORS**



4779-120



the reading can turn over



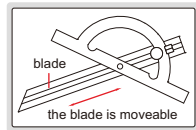
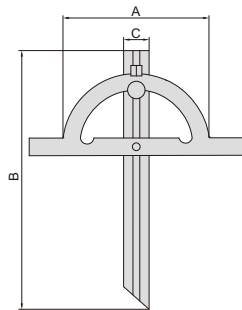
- Range: 0-180°
- Buttons: on/off, zero, hold/turn
- Made of stainless steel
- With clamping screw

Code	Size (AxB)	Resolution	Accuracy	L	C
4779-120	120x150mm	0.05°	±0.3°	220mm	22mm
4779-150	150x200mm	0.05°	±0.3°	285mm	22mm
4779-200	200x300mm	0.05°	±0.3°	410mm	22mm

**PROTRACTORS**



4797-100



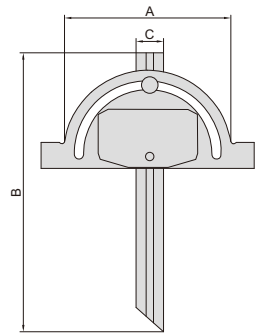
- Graduation: 1°
- Made of carbon steel
- Satin chrome plated
- With clamping screw
- The blade is moveable

Code	Size (AxB)	Range	Accuracy	C
4797-100	100x150mm	10-170°	±0.3°	18mm
4797-150	150x300mm	10-170°	±0.3°	22mm
4797-200	200x400mm	10-170°	±0.3°	24mm
4797-250	250x500mm	10-170°	±0.3°	28mm
4797-300	300x600mm	10-170°	±0.3°	32mm

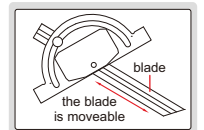
**DIGITAL PROTRACTORS**



4778-100



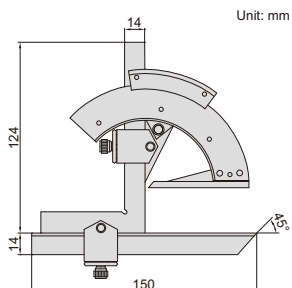
the reading can turn over



- Range: 0-180°
- Buttons: on/off, zero, hold/turn
- Made of stainless steel
- With clamping screw
- The blade is moveable

Code	Size (AxB)	Resolution	Accuracy	C
4778-100	100x150mm	0.05°	±0.3°	22mm
4778-150	150x300mm	0.05°	±0.3°	22mm
4778-200	200x400mm	0.05°	±0.3°	24mm
4778-250	250x500mm	0.05°	±0.3°	28mm
4778-300	300x600mm	0.05°	±0.3°	32mm

**PROTRACTOR**



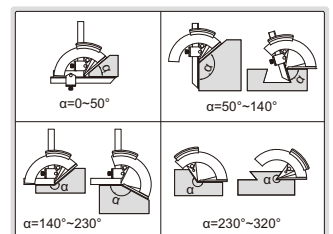
Unit: mm



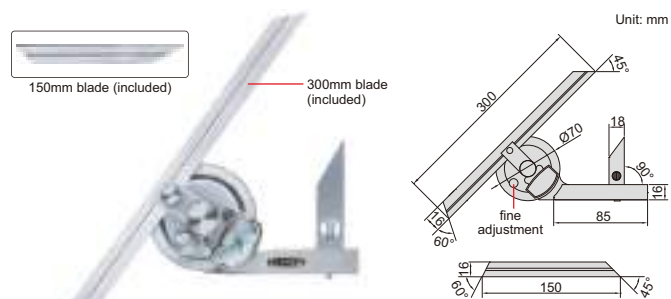
2374-320

- Made of stainless steel
- Satin chrome plated scale

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

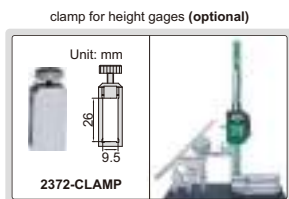


## UNIVERSAL PROTRACTOR



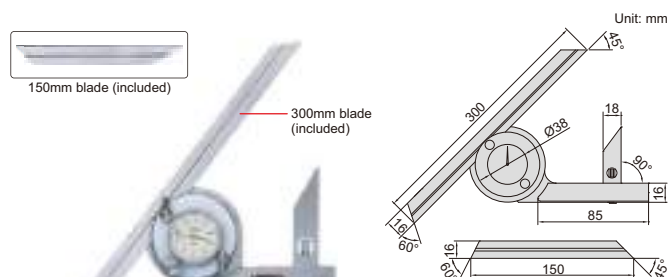
2372-360

- Parallax-free reading
- Made of stainless steel
- Optional accessory: clamp (code 2372-CLAMP), suitable for height gages 1156, 1351 and 1250



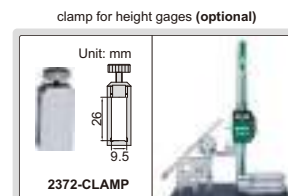
Code	Range	Graduation	Accuracy
2372-360	0-360°	5'	±5'

## DIAL PROTRACTOR



2373-360

- Made of stainless steel
- Optional accessory: clamp (code 2372-CLAMP), suitable for height gages 1156, 1351 and 1250



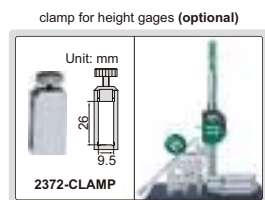
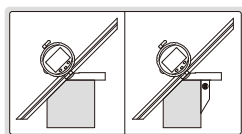
Code	Range	Graduation	Accuracy
2373-360	0-360°	5'	±5'

## DIGITAL PROTRACTOR



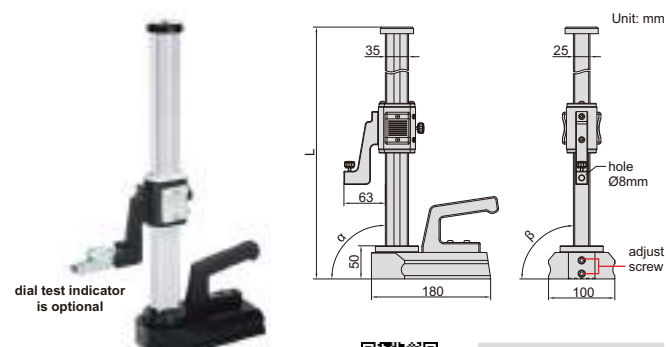
2172-360A

- Display in degree (for example 32.655°) and degree/minute/second (for example 32°39'30")
- SET button: preset the reading, change measuring direction
- MODE button: choose 0~90°, 0~180° or 0~360° display
- ZERO/ON/OFF button: zero and power on/off
- Battery CR2032, automatic power off
- Data output
- Supplied with square to set 90°
- Made of stainless steel
- Optional accessory: data output cable (code 7315-50M, 7302-50M), clamp (code 2372-CLAMP), suitable for height gages 1156, 1351 and 1250



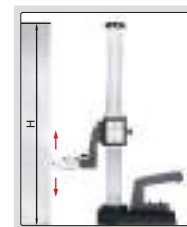
Code	Range	Graduation	Accuracy
2172-360A	0-360°	10"/0.005°	±5'

## PERPENDICULARITY TESTERS



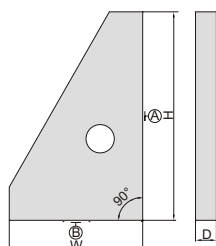
4770-300

- Optional accessory: dial test indicators (graduation: 1µm or 2µm)



Code	Range (H)	Perpendicularity (α)	Side perpendicularity (β)	L
4770-300	0-300mm	3µm	10µm	460
4770-600	0-600mm	5µm	20µm	760

## GRANITE SQUARES



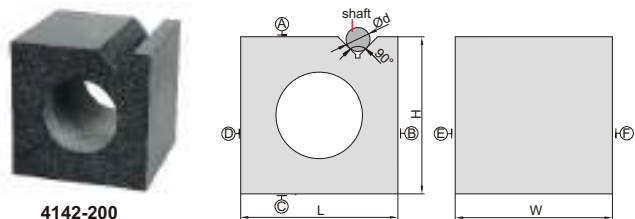
4141-250



CUSTOM-MADE  
SUPPLY SPECIAL SIZES ACCORDING  
TO CUSTOMER'S REQUEST

Code	Size (HxW)	Flatness of A	Flatness of B	Squareness of A to B	D
4141-250	250x160mm	1µm	1µm	2µm	25mm
4141-400	400x250mm	1.5µm	1µm	3µm	40mm
4141-630	630x400mm	2µm	1.5µm	4µm	63mm

### GRANITE SQUARE WITH V GROOVE

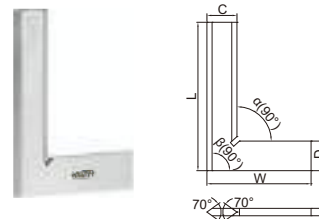


4142-200

- Parallelism and squareness of A, B, C, D, E and F: 6µm
- Parallelism and squareness of V groove to A, B, C, D, E and F: 6µm

Code	Size (LxWxH)	Range of shaft (Ød)
4142-200	200x200x200mm	9-70mm

### 90° BEVELED EDGE SQUARES



4790-0100

- DIN875 grade 00
- Satin chrome plating
- Beveled edges for inside and outside measurement
- Made of hardened stainless steel

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

### MACHINIST SQUARES WITH WIDE BASE AND SCALE (ECONOMIC TYPE)

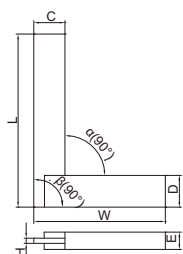
- DIN875 grade 2
- Made of carbon steel, no anti-rust treatment, not hardend

ATTENTION:  
LOW ACCURACY

ATTENTION: NO ANTI-RUST  
TREATMENT, NOT HARDEND



4711-125



Code	Size (LxW)	Squareness		C	D	H	E
		Inside (α)	Outside (β)				
4711-50	50x30mm	24µm	25µm	16	12	2.5	9
4711-75	75x50mm	26µm	28µm	16	16	2.5	9
4711-100	100x70mm	28µm	30µm	19	19	3	12
4711-150	150x100mm	33µm	35µm	25	25	3	16
4711-200	200x130mm	37µm	40µm	30	32	3	16
4711-250	250x165mm	42µm	45µm	30	32	3	19
4711-300	300x200mm	47µm	50µm	32	32	3	19
4711-400	400x200mm	56µm	60µm	38	38	4.5	22
4711-500	500x300mm	65µm	70µm	44	50	6	25
4711-600	600x350mm	75µm	80µm	50	50	6	30
4711-750	750x400mm	90µm	95µm	55	55	6	50

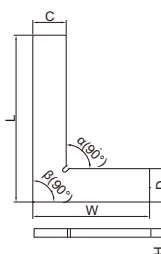
### MACHINIST SQUARES (ECONOMIC TYPE)

ATTENTION:  
LOW ACCURACY

ATTENTION: NO ANTI-RUST  
TREATMENT, NOT HARDEND



4796-150



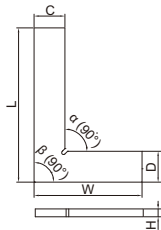
Code	Size (LxW)	Squareness		C	D	H
		Inside (α)	Outside (β)			
4796-50	50x30mm	24µm	25µm	12	12	3
4796-75	75x50mm	26µm	28µm	16	16	3
4796-100	100x70mm	28µm	30µm	19	19	5
4796-125	125x80mm	30µm	33µm	22	22	5
4796-150	150x100mm	33µm	35µm	25	25	6
4796-200	200x130mm	38µm	40µm	25	25	6
4796-250	250x165mm	43µm	45µm	25	25	6
4796-300	300x200mm	47µm	50µm	30	30	6
4796-350	350x200mm	51µm	55µm	38	38	6
4796-400	400x200mm	56µm	60µm	38	38	9
4796-450	450x250mm	58µm	65µm	38	38	9
4796-500	500x300mm	69µm	70µm	38	38	9

### 90° FLAT EDGE SQUARES

- DIN875 grade 0
- Made of hardened stainless steel



4791-100



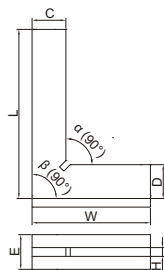
Code	Size (LxW)	Squareness		C	D	H
		Inside (α)	Outside (β)			
4791-50	50x40mm	6µm	6µm	15	15	4
4791-75	75x50mm	6µm	7µm	15	15	4
4791-100	100x70mm	7µm	7µm	20	20	5
4791-150	150x100mm	7µm	8µm	30	30	6
4791-200	200x130mm	8µm	9µm	30	30	7
4791-250	250x165mm	9µm	10µm	35	35	7
4791-300	300x200mm	10µm	11µm	40	40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

### 90° FLAT EDGE SQUARES WITH WIDE BASE

- DIN875 grade 0
- Made of hardened stainless steel



4793-100



(mm)

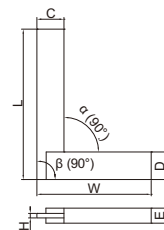
Code	Size (LxW)	Squareness		C	D	H	E
		Inside (α)	Outside (β)				
4793-50	50x40mm	6μm	6μm	13	13	4	13
4793-75	75x50mm	6μm	7μm	15	15	4	15
4793-100	100x70mm	7μm	7μm	20	20	5	20
4793-150	150x100mm	7μm	8μm	30	30	6	30
4793-200	200x130mm	8μm	9μm	30	30	7	30
4793-250	250x165mm	9μm	10μm	35	35	7	35
4793-300	300x200mm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

### 90° FLAT EDGE SQUARES WITH WIDE BASE

- DIN875 grade 0
- Made of hardened stainless steel



4792-100



(mm)

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

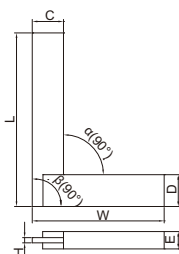
### MAGNALIUM 90° FLAT EDGE SQUARES WITH WIDE BASE

ATTENTION:  
LOW ACCURACY

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



4705-630



(mm)

Code	Size (LxW)	Squareness		C	D	H	E	Weight
		Inside (α)	Outside (β)					
4705-630	630x400mm	107μm	113μm	40	60	18	40	5kg
4705-800	800x500mm	123μm	130μm	50	70	25	50	7kg

### MACHINIST SQUARES WITH WIDE BASE (ECONOMIC TYPE)

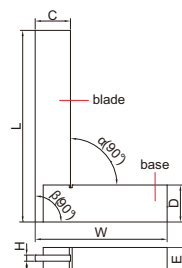
ATTENTION:  
LOW ACCURACY

ATTENTION: NO ANTI-RUST TREATMENT, NOT HARDEND

- DIN875 grade 2
- Made of carbon steel, no anti-rust treatment, not hardend



4707-100



(mm)

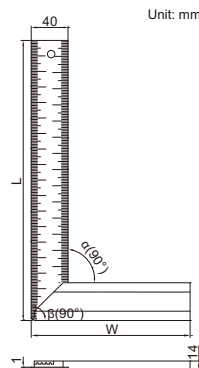
Code	Size (LxW)	Squareness		C	D	H	E
		Inside (α)	Outside (β)				
4707-50	50x40mm	24μm	25μm	16	12	3	9
4707-75	75x50mm	26μm	28μm	16	16	3	9
4707-100	100x70mm	28μm	30μm	19	19	3	12
4707-150	150x100mm	33μm	35μm	25	25	3	16
4707-200	200x130mm	37μm	40μm	30	32	4	16
4707-250	250x165mm	42μm	45μm	30	32	4	19
4707-300	300x200mm	47μm	50μm	32	32	4	19
4707-400	400x250mm	56μm	60μm	38	38	5	22
4707-500	500x300mm	65μm	70μm	45	50	6	25
4707-600	600x350mm	75μm	80μm	50	50	6	30
4707-750	750x400mm	90μm	95μm	55	55	6	50
4707-900	900x500mm	103μm	110μm	65	75	9	50
4707-1000	1000x550mm	113μm	120μm	65	75	9	50

### TRY SQUARE

- Graduation: 1mm
- Stainless steel blade, aluminum base



2275-300



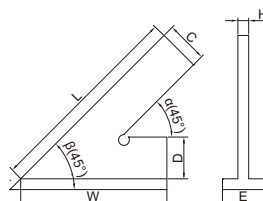
Unit: mm

Code	Size (LxW)	Squareness	
		Inside (α)	Outside (β)
2275-300	300x170mm	0.5mm	0.5mm

### 45° SQUARES WITH WIDE BASE

- Made of hardened stainless steel

4747-150



(mm)

Code	Size (LxW)	Accuracy		C	D	H	E
		Inside (α)	Outside (β)				
4747-150	150x100mm	32μm	36μm	20	20	5	20
4747-200	200x130mm	36μm	41μm	25	25	5	25

### STRAIGHT EDGES

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



4700-100

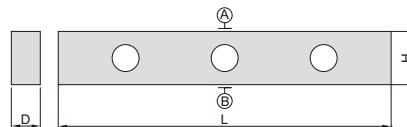


(mm)					
Code	Size (L)	Straightness	W	H	
4700-100	100mm	2.4µm	5	25	
4700-150	150mm	2.6µm	6	30	
4700-200	200mm	2.8µm	6	30	
4700-300	300mm	3.2µm	8	40	

### GRANITE STRAIGHT EDGES



4147-500A

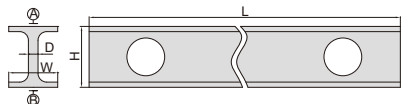


Code	Length (L)	Flatness of A and B	Parallelism between A and B	D	H
4147-500A	500mm	2.1µm	3.2µm	50mm	80mm
4147-1000A	1000mm	3.0µm	4.5µm	60mm	120mm

### MAGNALIUM STRAIGHT EDGES



4180-1500



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

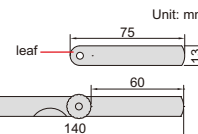
(mm)

Code	Length (L)	Flatness of A and B	Parallelism between A and B	H	W	D	Weight
4180-500	500mm	3µm	4µm	60	30	5	0.8kg
4180-1000	1000mm	5µm	8µm	60	30	5	1.5kg
4180-1500	1500mm	15µm	22µm	100	40	5	2.3kg
4180-2000	2000mm	18µm	27µm	100	40	7	6kg
4180-3000	3000mm	48µm	72µm	150	80	8	21kg

### FEELER GAGE



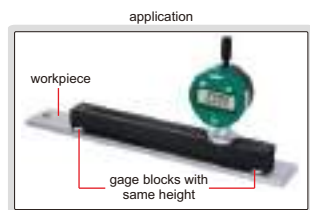
4601-25



- Range: 0.04-1.00mm
- Made of hardened alloy steel
- Meet DIN2275
- Accuracy:  $\pm(3+T/80)$  µm, 'T' is the thickness of leaves in µm

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

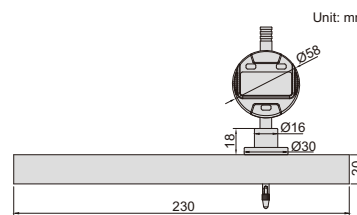
### STRAIGHTNESS/FLATNESS GAGE



2144-200



GRANITE HODLER CAN BE CUSTOMIZED ACCORDING TO WORKPIECES

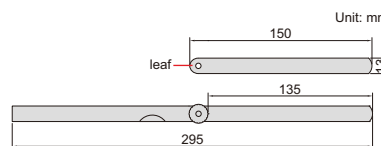


Code	Range	Digital indicator resolution	Straightness measurement accuracy	Parallelism of top and bottom surfaces of granite holder	Flatness of top and bottom surfaces of granite holder
2144-200	200mm	0.001mm/0.00005"	3µm	2µm	1.5µm

### LONG FEELER GAGE



4605-20



- Range: 0.05-1.00mm
- Made of hardened alloy steel
- Meet DIN2275
- Accuracy:  $\pm(3+T/80)$  µm, 'T' is the thickness of leaves in µm

Code	Thickness of leaves included (mm)	Quantity of leaves
4605-20	0.05, 0.10, 0.15, 0.20, 0.25, 0.30, 0.35, 0.40, 0.45, 0.50, 0.55, 0.60, 0.65, 0.70, 0.75, 0.80, 0.85, 0.90, 0.95, 1.00	20

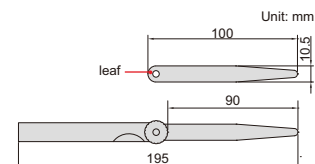


## FEELER GAGES

- Made of hardened alloy steel
- Meet DIN2275
- Accuracy:  $\pm(3+T/80) \mu\text{m}$ ,  
"T" is the thickness of leaves in  $\mu\text{m}$



4602-20



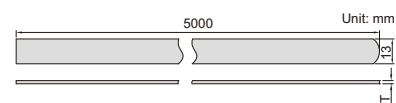
Code	Range	Thickness of leaves included (mm)	Quantity of leaves
4602-13A	0.03-0.50mm	0.03, 0.04, 0.05, 0.06, 0.07, 0.08, 0.09, 0.10, 0.15, 0.20, 0.30, 0.40, 0.50	13
4602-13	0.05-1.00mm	0.05, 0.10, 0.15, 0.20, 0.25, 0.30, 0.40, 0.50, 0.60, 0.70, 0.80, 0.90, 1.00	13
4602-17	0.02-1.00mm	0.02, 0.03, 0.04,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

## FEELER GAGE TAPES

- Used as shims to accurately set spacing
- Made of hardened alloy steel
- Length 5m
- Width 13mm

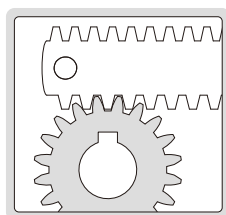


4621-30



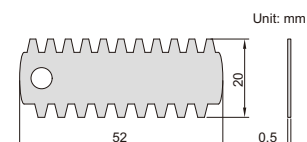
Code	Thickness (T)	Accuracy	Code	Thickness (T)	Accuracy	Code	Thickness (T)	Accuracy
4621-02	0.02mm	$\pm 4\mu\text{m}$	4621-12	0.12mm	$\pm 5\mu\text{m}$	4621-50	0.50mm	$\pm 14\mu\text{m}$
4621-03	0.03mm	$\pm 4\mu\text{m}$	4621-15	0.15mm	$\pm 6\mu\text{m}$	4621-55	0.55mm	$\pm 14\mu\text{m}$
4621-04	0.04mm	$\pm 4\mu\text{m}$	4621-18	0.18mm	$\pm 7\mu\text{m}$	4621-60	0.60mm	$\pm 14\mu\text{m}$
4621-05	0.05mm	$\pm 4\mu\text{m}$	4621-20	0.20mm	$\pm 8\mu\text{m}$	4621-65	0.65mm	$\pm 14\mu\text{m}$
4621-06	0.06mm	$\pm 4\mu\text{m}$	4621-25	0.25mm	$\pm 9\mu\text{m}$	4621-70	0.70mm	$\pm 17\mu\text{m}$
4621-07	0.07mm	$\pm 5\mu\text{m}$	4621-30	0.30mm	$\pm 9\mu\text{m}$	4621-75	0.75mm	$\pm 17\mu\text{m}$
4621-08	0.08mm	$\pm 5\mu\text{m}$	4621-35	0.35mm	$\pm 11\mu\text{m}$	4621-80	0.80mm	$\pm 19\mu\text{m}$
4621-09	0.09mm	$\pm 5\mu\text{m}$	4621-40	0.40mm	$\pm 12\mu\text{m}$	4621-90	0.90mm	$\pm 22\mu\text{m}$
4621-10	0.10mm	$\pm 5\mu\text{m}$	4621-45	0.45mm	$\pm 12\mu\text{m}$			

## GEAR TOOTH PITCH GAGES



4860-245

- Accuracy:  $\pm 0.05\text{mm}$
- Check the module pitch of gear tooth
- Made of hardened stainless steel



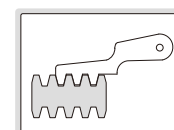
Code	Range	Pressure angle	Quantity of leaves
4860-145	0.35-4.5mm	14.5°	15
4860-245	0.35-4.5mm	20°	15
4860-112	5-12mm	14.5°	8
4860-212	5-12mm	20°	8

## PITCH GAGE



4824-12

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



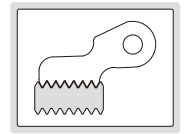
Code	Range	Thread type	Pitch of leaves included	Quantity of leaves
4824-12	2-20mm	Tr30°	2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 16, 20mm	12

## PITCH GAGES

- Identify the pitch of screw thread
- Made of carbon steel



4820-124



### Metric 60° screw

Code	Range	Pitch of leaves included	Quantity of leaves
4820-124	0.25-7mm	0.25, 0.3, 0.35, 0.4, 0.5, 0.7, 0.75, 0.8, 0.9, 1, 1.25, 1.5, 1.75, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7mm	24

### Unified 60° screw

Code	Range	Pitch of leaves included	Quantity of leaves
4820-230	4-42TPI	4, 4-1/2, 5, 5-1/2, 6, 7, 8, 9, 10, 11, 11-1/2, 12, 13, 14, 15, 16, 18, 20, 22, 24, 26, 27, 28, 30, 32, 34, 36, 38, 40, 42TPI	30

### Metric 60° and Whitworth 55° screw

Code	Range	Pitch of leaves included	Quantity of leaves
4820-452	0.25-6mm	0.25, 0.3, 0.35, 0.4, 0.45, 0.5, 0.6, 0.7, 0.75, 0.8, 0.9, 1, 1.25, 1.5, 1.75, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6mm	52
	4-62TPI	4, 4-1/2, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16, 18, 19, 20, 22, 24, 25, 26, 28, 30, 32, 36, 40, 48, 60, 62TPI	

### Metric 60° and Unified 60° screw

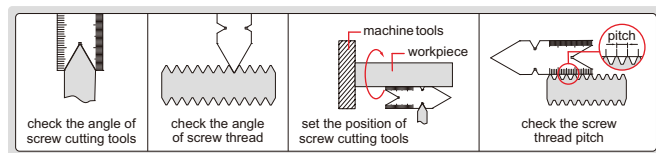
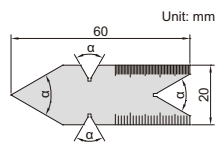
Code	Range	Pitch of leaves included	Quantity of leaves
4820-552	0.4-7mm	0.4, 0.5, 0.6, 0.7, 0.75, 0.8, 0.9, 1, 1.25, 1.5, 1.75, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7mm	52
	4-42TPI	4, 4-1/2, 5, 5-1/2, 6, 7, 8, 9, 10, 11, 11-1/2, 12, 13, 14, 15, 16, 18, 20, 22, 24, 26, 27, 28, 30, 32, 34, 36, 38, 40, 42TPI	

## CENTER GAGES



4810-601

- To check and set screw cutting tools, and check the angle and pitch of screw thread
- Angle accuracy:  $\pm 30$ min.
- Made of stainless steel



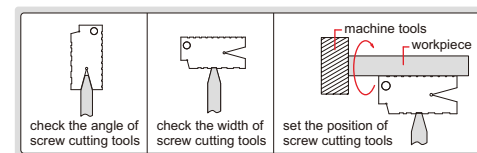
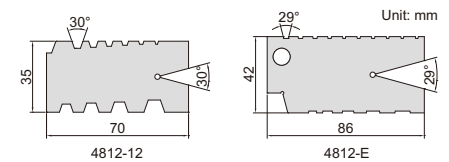
Code	Thread type	Angle ( $\alpha$ )	Graduation
4810-601	METRIC 60°	60°	0.5mm and 1mm
4810-55	WHITWORTH 55°	55°	14ths and 20ths on front side, 24ths and 32ths on back side

## THREAD GAGES



4812-E

- To check and set screw cutting tools
- Made of medium carbon steel



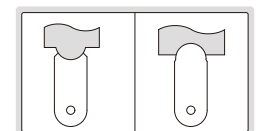
Code	Range	Thread type	Pitch
4812-12	2-12mm	Tr 30°	2, 3, 4, 5, 6, 7, 8, 9, 10, 12mm
4812-E	1-10TPI	ACME 29°	1, 1-1/3, 1-1/2, 1-3/4, 2, 2-1/2, 3, 4, 5, 6, 7, 8, 9, 10TPI

## RADIUS GAGES

- Made of carbon steel

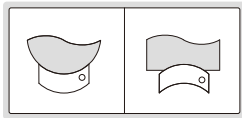


4801-17



Code	Range	Radius of leaves included (mm)	Quantity of leaves (internal+external)
4801-17	1-7mm	1, 1.25, 1.5, 1.75, 2, 2.25, 2.5, 2.75, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7	17+17
4801-16	7.5-15mm	7.5, 8, 8.5, 9, 9.5, 10, 10.5, 11, 11.5, 12, 12.5, 13, 13.5, 14, 14.5, 15	16+16
4801-15	15.5-25mm	15.5, 16, 16.5, 17, 17.5, 18, 18.5, 19, 19.5, 20, 21, 22, 23, 24, 25	15+15

## RADIUS GAGE

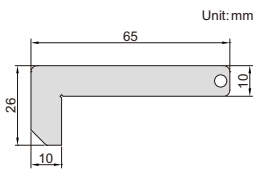


4802-31

- Made of stainless steel

Code	Range	Radius of leaves included (mm)	Quantity of leaves
4802-31	25-40mm	25, 25.5, 26, 26.5, 27, 27.5, 28, 28.5, 29, 29.5, 30, 30.5, 31, 31.5, 32, 32.5, 33, 33.5, 34, 34.5, 35, 35.5, 36, 36.5, 37, 37.5, 38, 38.5, 39, 39.5, 40	31 pcs

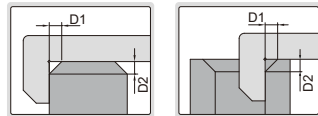
## CHAMFER GAGE



4844-1

- To measure internal and external chamfers
- Made of stainless steel

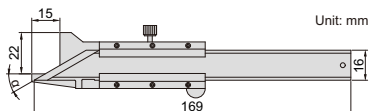
Code	Graduation	Accuracy
4844-1	0.5mm	±0.25mm



## CHAMFER GAGES

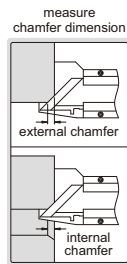


1267-6



- Measure 30°/45°/60° chamfer dimension
- Made of stainless steel
- Satin chrome plated reading surface

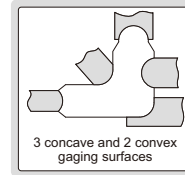
Code	Range	Accuracy	Graduation	Chamfer (α)
1267-6	0-10mm	±0.06mm	0.02mm	45°
1267-63	0-10mm	±0.06mm	0.02mm	30°
1267-66	0-10mm	±0.06mm	0.02mm	60°



## RADIUS GAGE SET



use of handle



3 concave and 2 convex gaging surfaces



4804-26

- Each piece has 3 concave and 2 convex gaging surfaces
- Supplied with handle
- Made of medium carbon steel

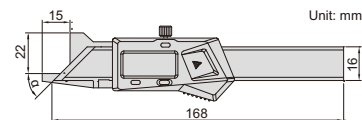
Code	Range	Radius of leaves included (mm)	Quantity of leaves
4804-26	0.5-13mm	0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10, 10.5, 11, 11.5, 12, 12.5, 13	26

## DIGITAL CHAMFER GAGES

DATA OUTPUT

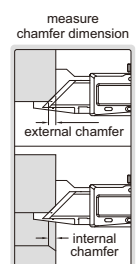


1180-6



- Measure 30°/45°/60° chamfer dimension
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, data output
- Made of stainless steel
- Optional accessory: data output cable (code 7315-21, 7302-21)

Code	Range	Accuracy	Chamfer (α)
1180-6	0-10mm/0-0.39"	±0.06mm	45°
1180-63	0-10mm/0-0.39"	±0.06mm	30°
1180-66	0-10mm/0-0.39"	±0.06mm	60°



## DIGITAL TAPER SLOT GAGE

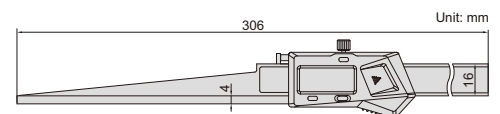
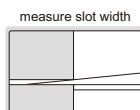
ATTENTION: ACTUAL SLOT WIDTH IS 1/10 OF THE READING

DATA OUTPUT



1160-10

- Measuring opening, slot width
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, data output
- Made of stainless steel
- Optional accessory: data output cable (code 7315-21, 7302-21)

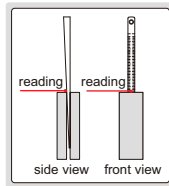


Code	Range	Accuracy
1160-10	0.2-10mm/0.008-0.394"	±0.03mm

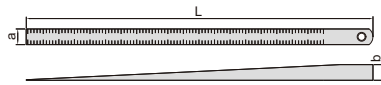
### TAPER SLOT GAGES



4630-1

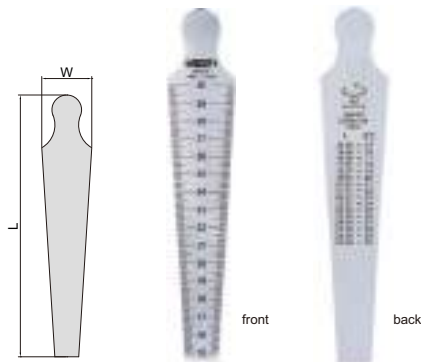


- For quick measurement of slot width
- Satin chrome plated reading surface
- Made of stainless steel

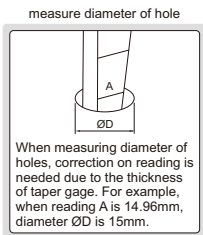
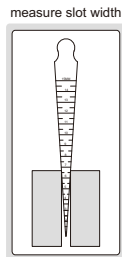


(mm)						
Code	Range	Graduation	Accuracy	L	a	b
4630-3	0.4-6mm	0.05mm	±0.04mm	164	12.5	6.5
4630-1	0.5-10mm	0.05mm	±0.07mm	220	10	10.5
4630-2	0.5-15mm	0.1mm	±0.08mm	184	12.5	16.5

### TAPER GAGES



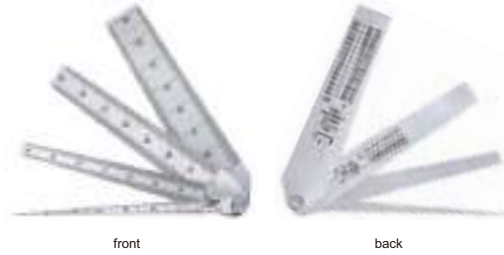
4833-2



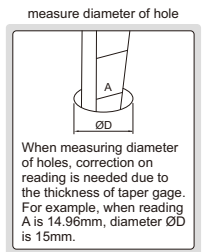
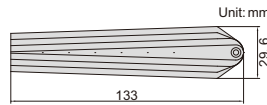
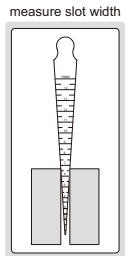
- Measure opening, slot width, hole diameter, etc.
- Diameter correction table on the back (only for 4833-1, 4833-2)
- Made of stainless steel

Code	Range	Graduation	Accuracy	L	W
4833-1	0.8-15mm	0.1mm	±0.1mm	146mm	17mm
4833-2	15-30mm	0.1mm	±0.1mm	159mm	30.4mm
4833-3	30-45mm	0.1mm	±0.1mm	166mm	45.4mm
4833-4	45-60mm	0.1mm	±0.1mm	170mm	60.5mm

### TAPER GAGE SET



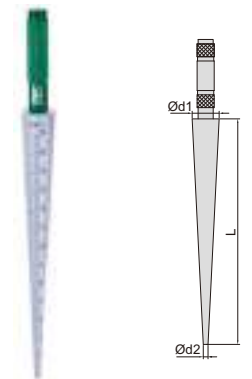
4837-1



- Include 4pcs (1-8mm, 8-15mm, 15-22mm, 22-29mm)
- Measure opening, slot width, hole diameter, etc.
- Diameter correction table on the back
- Made of stainless steel

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

### CONE BORE GAGES



4852-3

- Graduation: 0.1mm
- Accuracy: ±0.05mm
- Quick measurement of bore diameter
- Hardened steel, HRC50-58
- Satin chrome plated surface
- Aluminium oxidized handle

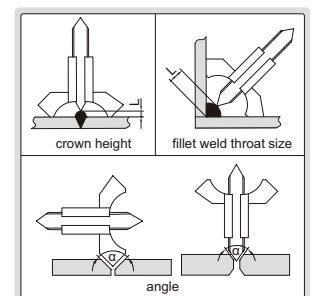
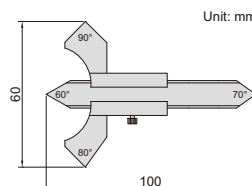
(mm)					
Code	Range	L	Ød1	Ød2	
4852-1	1-6.5mm	62.5	7	0.8	
4852-3	3-16mm	143	17	2.8	
4852-15	15-30mm	165	31	14.7	
4852-30	30-45mm	165	46	29.6	

### WELDING GAGE



4830

- Made of stainless steel
- Satin chrome plated reading surface



Code	Measurement	Range	Graduation	Accuracy
4830	crown height	0-8mm	0.1mm	±0.1mm
	fillet weld throat size	0-20mm	0.1mm	±0.3mm
	angle	60°, 70°, 80°, 90°	—	±1°

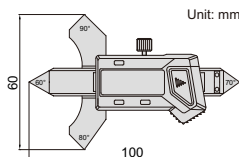
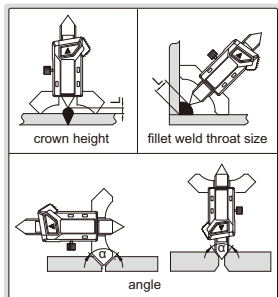
### DIGITAL WELDING GAGE

**ATTENTION:**  
NO DATA OUTPUT



4831-20A

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



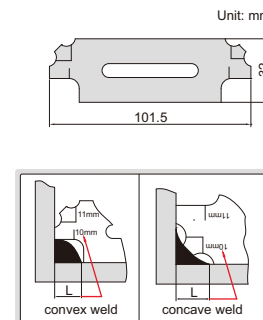
Unit: mm

Code	Measurement	Range	Resolution	Accuracy
4831-20A	crown height	0-7mm	0.01mm/0.0005"	±0.03mm
	fillet weld throat size	0-20mm	0.01mm/0.0005"	±0.1mm
	angle	60°, 70°, 80°, 90°	—	±1°

### FILLET WELDING GAGE



4836-1



Unit: mm

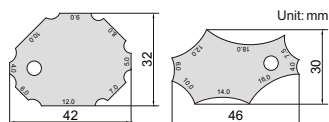
- Measure concave and convex weld sizes
- 7 blades are included
- Made of stainless steel

Code	Size (mm)	Accuracy
4836-1	3, 4, 5, 6, 8, 9, 10, 11, 12, 14, 16, 19, 22, 25	±0.5mm

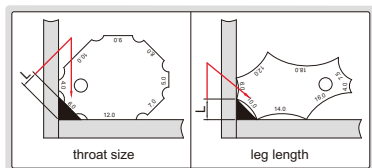
### FILLET WELDING GAGE



4832-1



Unit: mm



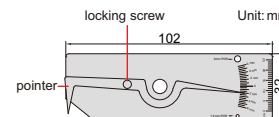
- Made of stainless steel
- Sizes marked on both faces

Code	Throat size (mm)	Leg length (mm)	Accuracy
4832-1	4, 5, 6, 7, 8, 9, 10, 12	4, 6, 7.5, 10, 12, 14, 16, 18	±0.5mm

### WELDING GAGE

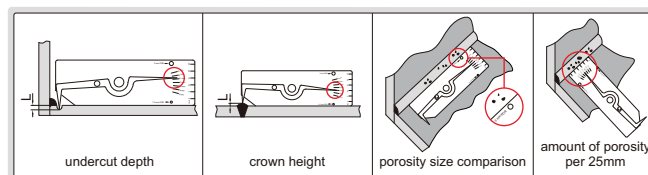


4834-1



Unit: mm

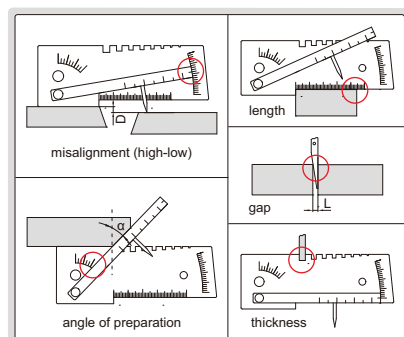
- Pointer can be locked for later reference
- Made of stainless steel



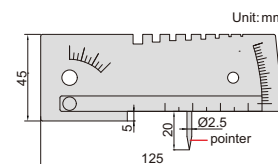
Code	Measurement	Range	Graduation	Accuracy
4834-1	undercut depth	0-6mm	0.5mm	±0.5mm
	crown height	0-6mm	0.5mm	±0.5mm
	porosity size comparison	1.5mm, 3mm	—	±0.2mm
	amount of porosity per 25mm	25mm	1mm	—

### WELDING GAGE

- Made of stainless steel



4848-1



Unit: mm

Code	Measurement	Range	Graduation	Accuracy
4848-1	misalignment (high-low)	-5mm~+15mm	1mm	±0.5mm
	angle of preparation	0°-45°	5°	±2.5°
	length	0-50mm	1mm	±0.5mm
	gap	1-4mm	0.5mm	±0.25mm
	thickness	1, 1.2, 2.0, 2.5, 3.0, 3.25, 4.0, 5.0mm	—	±0.1mm

**WELDING GAGE**

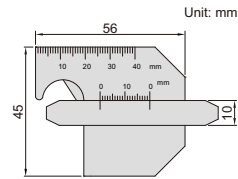


front

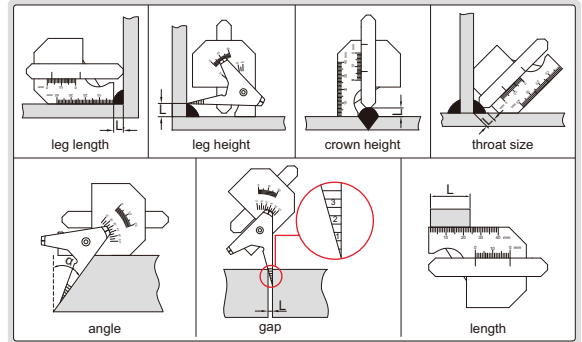
back

6832-1

- Made of stainless steel
- Satin chrome plated surface



Code	Measurement	Range	Graduation	Accuracy
6832-1	leg length	0-20mm	1mm	±0.3mm
	leg height	0-20mm	1mm	±0.3mm
	crown height	0-20mm	1mm	±0.3mm
	throat size	0-10mm	1mm	±0.3mm
	angle	0°-60°	5°	±1°
	gap	1-3.5mm	0.5mm	±0.2mm
	length	0-40mm	1mm	±0.3mm



**WELDING GAGE**

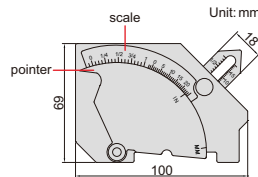


front

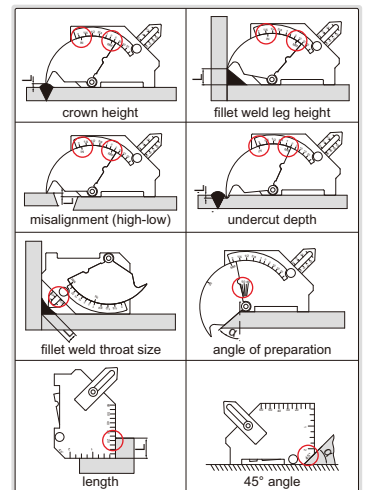
back

4835-1

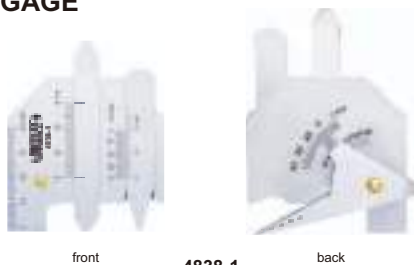
- Adjustable scale to compensate pointer wear
- Made of stainless steel



Code	Measurement	Range	Graduation	Accuracy
4835-1	crown height	0-25mm (0-1")	1mm (1/16")	±0.5mm
	fillet weld leg height	0-25mm (0-1")	1mm (1/16")	±0.5mm
	misalignment (high-low)	0-25mm (0-1")	1mm (1/16")	±0.5mm
	undercut depth	0-2mm (0-1/8")	1mm (1/16")	±0.5mm
	fillet weld throat size	0-20mm (0-3/4")	1mm (1/16")	±0.5mm
	angle of preparation	0-60°	5°	±1°
	length	0-60mm (0-2")	1mm (1/16")	±0.5mm
	45° angle	—	—	±1°



**WELDING GAGE**

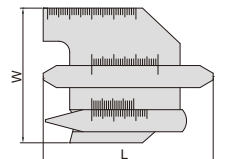


front

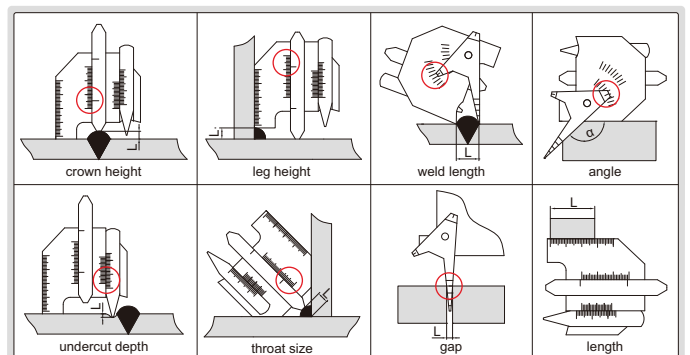
back

4838-1

- Made of stainless steel

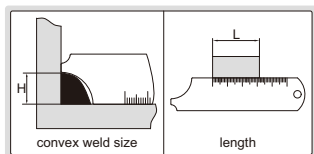
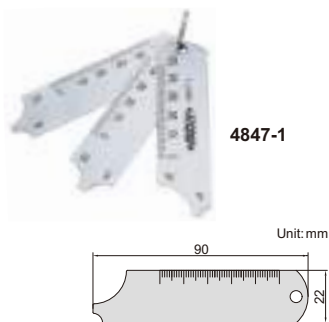


Code	Measurement	Range	Graduation	Accuracy
4838-1	crown height	0-10mm	1mm	±0.5mm
	leg height	0-14mm	1mm	±0.5mm
	undercut depth	0-5mm	0.05mm	±0.05mm
	throat size	0-13mm	1mm	±0.5mm
	weld length	0-40mm	1mm	±1mm
	angle	90°-150°	5°	±1°
	gap	0.5-5mm	1mm	±0.5mm
	length	0-40mm	1mm	±0.5mm



### FILLET WELDING GAGE

- Measure convex weld sizes
- 3 blades are included
- Made of stainless steel



Code	Measurement	Range	Graduation	Accuracy
4847-1	convex weld size	4, 6, 8, 10, 12, 14mm	—	±0.5mm
	length	0-50mm	1mm	±0.5mm

### WELDING UNDERCUT GAGE

calibration block (included)

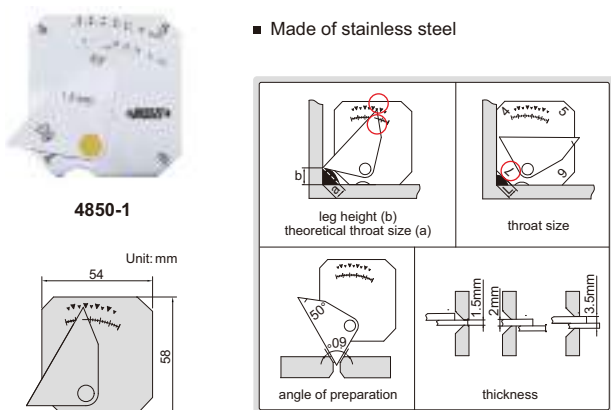
application

When there is a light gap,  $h < 0.25\text{mm}$ ;  
When there is no light gap,  $h \geq 0.25\text{mm}$

Code	Measurement	Range	Graduation	Accuracy
4849-1	undercut	0-50mm	1mm	±0.5mm
	length	0-100mm	1mm	±0.5mm

### WELDING GAGE

- Made of stainless steel

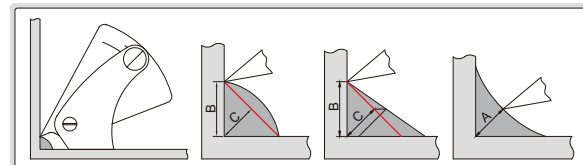


Code	Measurement	Range	Graduation	Accuracy
4850-1	leg height (b)	0-18mm	1mm	±0.5mm
	theoretical throat size (a)	2-12mm	1mm	±0.5mm
	throat size	4, 5, 6, 7mm	—	±0.5mm
	angle of preparation	50°, 60°	—	±1°
	thickness	1.5, 2, 3.5mm	—	±0.2mm

### WELDING GAGE

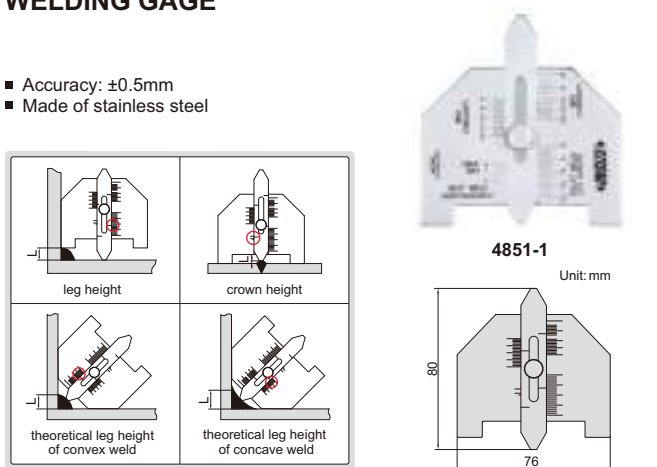
scale B  
scale C  
scale A  
reading line (on transparent plastic plate)  
scale A  
scale B  
scale C

Code	Graduation	Accuracy
4840-1	0.2mm	±0.3mm



### WELDING GAGE

- Accuracy: ±0.5mm
- Made of stainless steel



Code	Measurement	Range	Graduation
4851-1	leg height	0-20mm	1mm
	crown height	0-3mm	—
	theoretical leg height of convex weld	0-20mm	1mm
	theoretical leg height of concave weld	0-20mm	1mm

### FILLET WELDING GAGE

calculating card (included)

calculating card (included)

measure weld seam height W and angle  $\theta$ , calculate theoretical throat size  $t_e$  and leg height  $L_2$  according to W and  $\theta$ .

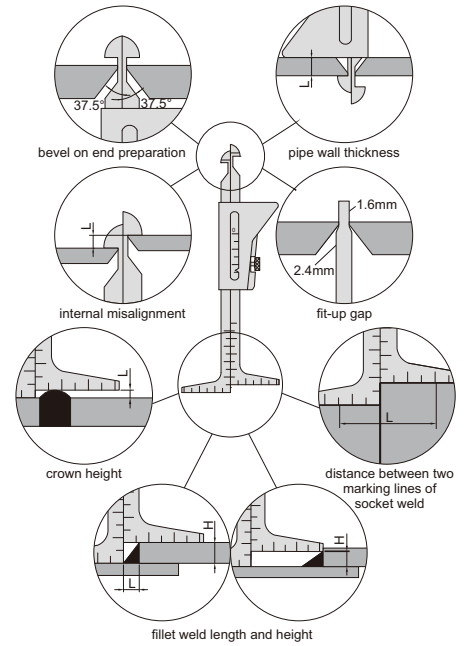
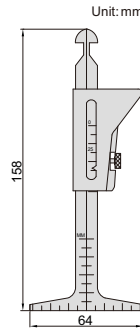
Code	Measurement	Range	Graduation	Accuracy
4846-1	weld seam height W	0-50mm/0-2"	2mm/.050"	±1mm
	angle $\theta$	30°~90°	2.5°	±1°
	60° angle	—	—	±0.5°

**PIPE WELDING GAGE**

■ Made of stainless steel

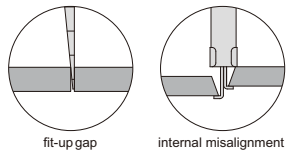


4839-1

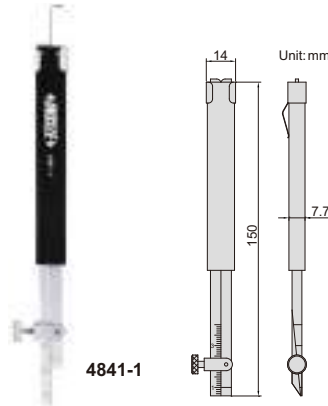


Code	Measurement	Range	Graduation	Accuracy
4839-1	bevel on end preparation	37.5°	—	±1°
	pipe wall thickness	0-45mm (0~1-3/4")	1mm (1/16")	±0.5mm
	internal misalignment	0-35mm (0~1-3/8")	1mm (1/32")	±0.5mm
	fit-up gap	1.6mm, 2.4mm	—	±0.1mm
	crown height	0-35mm (0~1-3/8")	1mm (1/32")	±0.5mm
	distance between two marking lines of socket weld	0-60mm (0~2-3/8")	1mm (1/16")	±0.5mm
	fillet weld length	0-30mm (0~1-1/4")	1mm (1/16")	±0.5mm
	fillet weld height	0-35mm (0~1-3/8")	1mm (1/32")	±0.5mm

**PIPE WELDING GAGE**



■ Made of stainless steel



4841-1

Code	Measurement	Range	Graduation	Accuracy
4841-1	internal misalignment	0-30mm	1mm	±0.5mm
	fit-up gap	0.7-4mm	0.1mm	±0.1mm

**6-PIECE WELDING GAGE SET**

- Includes:
  - 1) Welding gage (code 4834-1)
  - 2) Fillet welding gage, size 3-25mm, 7 blades (code 4836-1)
  - 3) Pipe welding gage (code 4841-1)
  - 4) Telescoping inspection mirror, size of mirror Ø32mm, length 178-505mm (code 7160-1)
  - 5) Pocket rule with sliding clip, range 150mm/6", graduation 1mm, 1/64" (code 7119-150)
  - 6) LED flashlight (code ISGF-0501)



5064

Code  
5064

**7-PIECE WELDING GAGE SET**

- Includes:
  - 1) Welding gage (code 4834-1)
  - 2) Welding gage (code 4851-1)
  - 3) Fillet welding gage, size 3-25mm, 7 blades (code 4836-1)
  - 4) Outside micrometer, range 0-25mm, graduation 0.01mm (code 3203-25A)
  - 5) Digital caliper, range 0-150mm/0-6", resolution 0.01mm/0.005" (code 1108-150)
  - 6) Pocket rule with sliding clip, range 150mm/6", graduation 1mm, 1/64" (code 7119-150)
  - 7) Magnifier with illumination, magnification 4X (code 7513-4)



5072

Code  
5072

**7-PIECE WELDING GAGE SET**

- Includes:
  - 1) Welding gage (code 4834-1)
  - 2) Welding gage (code 4851-1)
  - 3) Pipe welding gage (code 4839-1)
  - 4) Outside micrometer, range 0-25mm, graduation 0.01mm (code 3203-25A)
  - 5) Telescoping inspection mirror, size of mirror Ø32mm, length 178-505mm (code 7160-1)
  - 6) Magnifier with illumination, magnification 4X (code 7513-4)
  - 7) Steel rule, range 150mm/6", graduation 0.5mm, 1mm, 1/64", 1/32", 1/16" (code 7110-150)



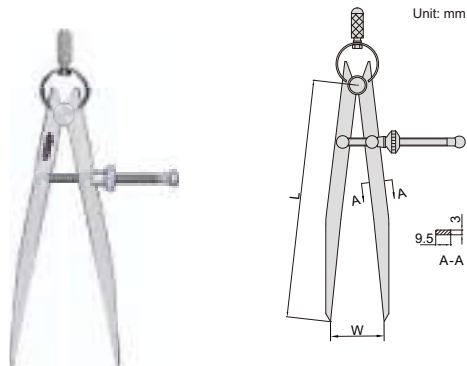
5071

Code  
5071





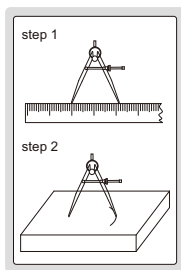
### SPRING DIVIDERS



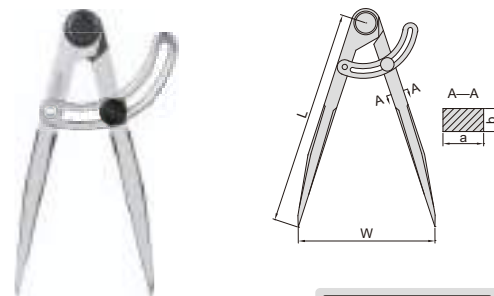
7260-150

- Made of carbon steel
- Hardened points

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



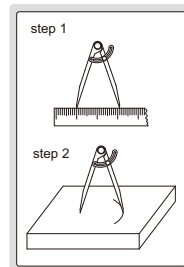
### DIVIDERS



7247-150

- Made of carbon steel
- Hardened points

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



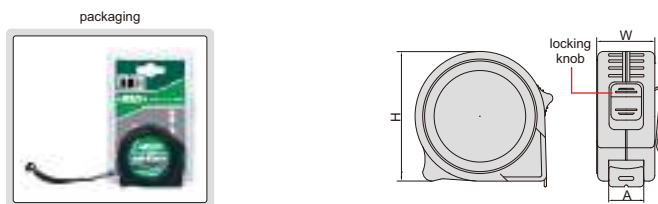
### MEASURING TAPES

EG II



7140-5

- Non-glare nylon surface for wear resistance



Code	Range	Graduation	Width of tape A	W	H
7140-3	0-3m	1mm	16mm	28mm	62mm
7140-5	0-5m	1mm	19mm	30mm	68mm
7140-8	0-8m	1mm	25mm	38mm	78mm

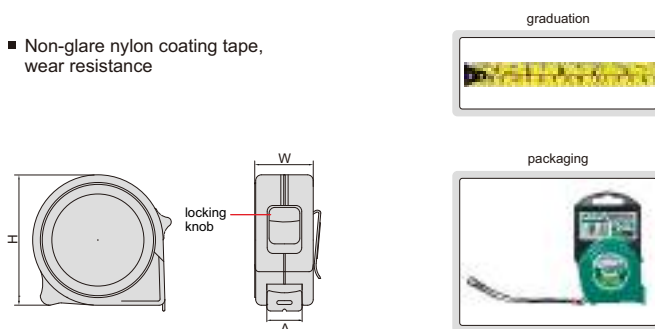
### MEASURING TAPE (BASIC TYPE)

EG II



7142-5

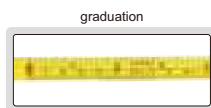
- Non-glare nylon coating tape, wear resistance



Code	Range	Graduation	Width of tape A	W	H
7142-5	0-5m/0-16ft	1mm, 1/16"	19mm	31mm	64mm

### LONG MEASURING TAPE

EG II

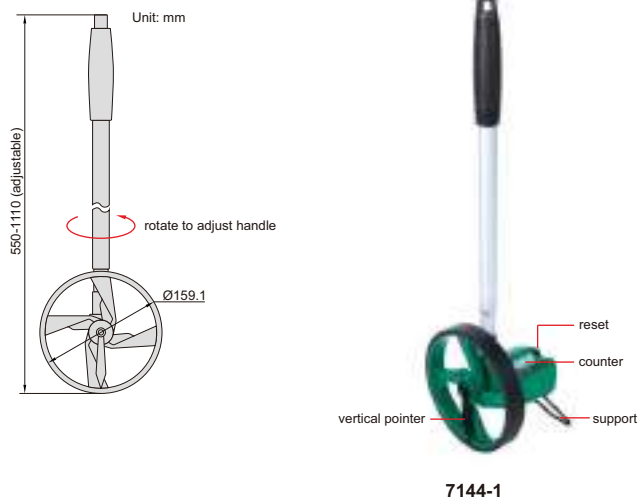


7143-50

- High tensile strength fibreglass tape
- Nylon coating tape, wear resistance

Code	Range	Graduation	Width of tape	W	H
7143-50	0-50m/0-165ft	1mm, 1/8"	13mm	220mm	320mm

### MEASURING WHEEL (BASIC TYPE)



- ABS plastic frame, wear-resistant PU tire
- Three-section adjustable handle

Code	Range	Resolution
7144-1	0.1-9999.9m	0.1m

### MEASURING WHEEL



Code	Range	Resolution
7145-1	0.1-9999.9m	0.1m

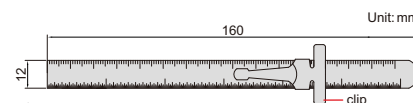
- ABS plastic frame, wear-resistant PU tire
- Two-section foldable handle

### POCKET RULE WITH SLIDING CLIP

- With sliding clip, clip also can be used as depth gage base
- Inch/metric conversion table on the back
- Made of stainless steel



7119-150



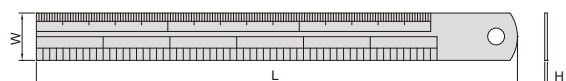
Code	Range	Graduation	Accuracy
7119-150	150mm/6"	1mm, 1/64"	±0.15mm

### STEEL RULES (ECONOMIC TYPE)

**ATTENTION:**  
LOW ACCURACY



7110-300

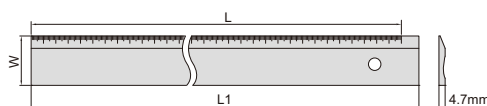


- Graduation: 0.5mm, 1mm, 1/64", 1/32", 1/16"
- Rigid rules
- Made of stainless steel
- Non-glare surface

Code	Range	Accuracy	L	W	H	Remark
7110-150	150mm/6"	±0.15mm	170	18	1.0	graduation on front and back
7110-200	200mm/8"	±0.15mm	220	18	1.0	graduation on front and back
7110-300	300mm/12"	±0.15mm	330	25	1.0	graduation on front and back
7110-3001	300mm/12"	±0.15mm	325	30	1.0	graduation on front and back
7110-500	500mm/20"	±0.15mm	530	30	1.2	graduation on front and back
7110-600	600mm/24"	±0.20mm	630	30	1.2	graduation on front and back
7110-1000	1000mm/40"	±0.20mm	1040	32	1.5	graduation on front and back
7110-1500	1500mm/60"	±0.25mm	1550	38	1.8	graduation on front
7110-2000	2000mm/80"	±0.30mm	2065	40	2.0	graduation on front

### ALUMINUM RULES

- Graduation: 1mm
- Made of aluminum, oxidized surface



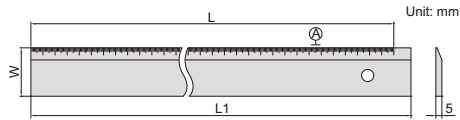
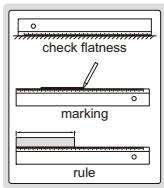
7123-300

Code	Range (L)	Accuracy	L1	W
7123-300	300mm	±0.5mm	321mm	50mm
7123-600	600mm	±0.9mm	624mm	50mm
7123-1000	1000mm	±0.9mm	1024mm	50mm

### STRAIGHT EDGES



7111-300A



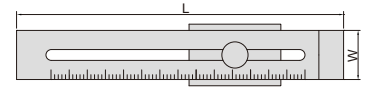
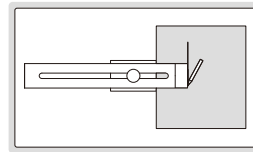
- Check flatness and straightness, as well as for marking
- Graduation on the beveled edge
- Made of hardened tool steel
- Chrome plated

Code	Range (L)	Straightness of A	L1	W
7111-300A	300mm	0.02mm	310mm	40mm
7111-500A	500mm	0.03mm	510mm	40mm

### MARKING GAGES



7120-200A



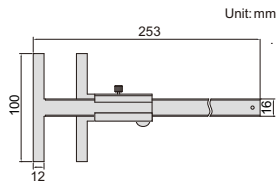
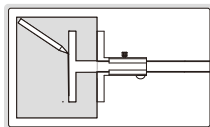
- Made of carbon steel
- Satin chrome plated

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

### T-SHAPE MARKING GAGE



1275-150B

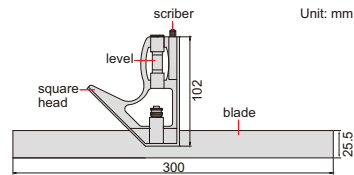
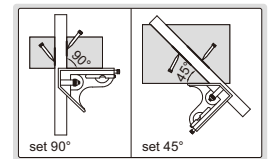


- Made of stainless steel
- Satin chrome plated reading surface

Code	Range	Graduation	Accuracy
1275-150B	0-150mm	0.02mm	±0.04mm

### COMBINATION SQUARE (ECONOMIC TYPE)

- Square head (made of zinc): to set the blade at 90° or 45° to an edge of a workpiece accuracy: ±0.5°
- Blade (made of stainless steel): range: 300mm/12", graduation: 1mm and 1/32" on front face, 1mm and 1/16" on back face



Code  
2276-300

2276-300

### COMBINATION SQUARE SETS

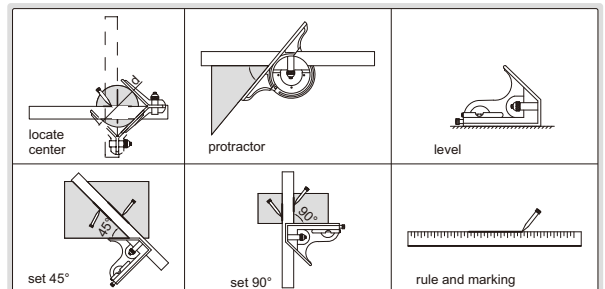
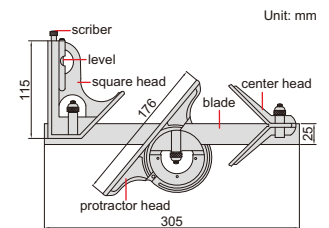
- Center head (made of cast iron): to locate center of cylinder with diameter (Ød): 30-100mm Accuracy: ±0.15mm
- Protractor head (made of cast iron): to set the blade at desired angle to an edge of a workpiece, and can be used to measure angles Range: 0-180°, accuracy: ±20min.
- Square head (made of cast iron): to set the blade at 90° or 45° to an edge of a workpiece accuracy: ±8min for 90° square, ±10min for 45° square
- Blade (made of stainless steel): range: 300mm/12", graduation: 0.5mm and 1/32" on front face, 1mm and 1/64" on back face
- Optional accessory: rigid rule (code 7113)



2278-2



2278-180

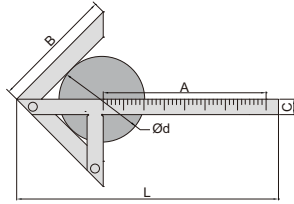


Code	Remark
2278-2	2-piece set
2278-180	4-piece set

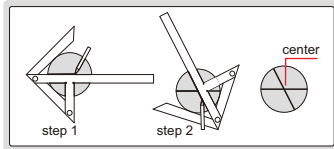
## CENTER MARKING GAGES



7205-100



- Accuracy:  $\pm 0.15\text{mm}$
- Marking the center of round plates and shafts
- Made of stainless steel
- Satin chrome plated

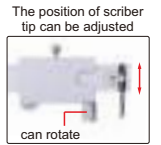


Code	Size (AxB)	Diameter of shafts ( $\varnothing d$ )	C	L
7205-100	100x70mm	4-90mm	12mm	153mm
7205-150	150x130mm	4-190mm	15mm	245mm
7205-200	200x150mm	6-220mm	15mm	310mm

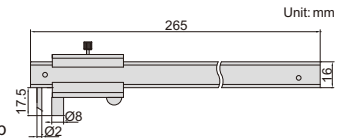
## SCRIBER CALIPER



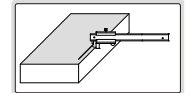
7202-200A



- Graduation: 0.1mm, 1/128"
- Made of stainless steel
- Satin chrome plated reading surface
- Carbide scriber tip
- Optional accessory: carbide scriber tip (code SP-SCRIBER-7202)



Code	Range	Accuracy
7202-200A	0-200mm/0-8"	$\pm 0.1\text{mm}$

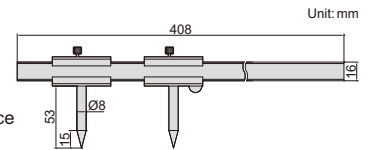


## SCRIBING CALIPER

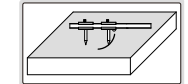


7203-300A

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



Code	Range	Accuracy	Graduation
7203-300A	51-300mm	$\pm 0.1\text{mm}$	0.1mm



## DIGITAL SCRIBING CALIPER

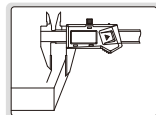
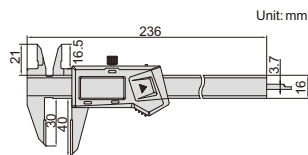


1166-150A

carbide measuring faces

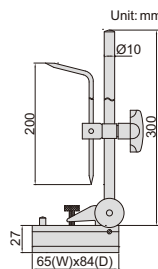
DATA OUTPUT

- The carbide-tipped jaws facilitate scribing on workpieces
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, data output
- Made of stainless steel
- Optional accessory: data output cable (code 7315-21, 7302-21)

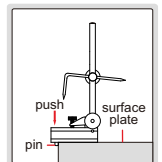
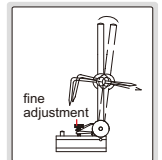


Code	Range	Accuracy
1166-150A	0-150mm/0-6"	$\pm 0.03\text{mm}$

## HEIGHT SCRIBER



6990-300A



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

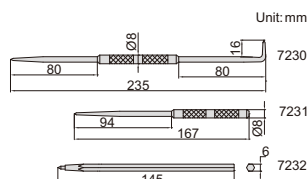
Code
6990-300A

## SCRIBERS



- Nickel plated

Code	Tip
7230	hardened tips
7231	hardened tip
7232	carbide tip



## 2-PIECE MEASURING TOOL SET

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



5022-W

Code
5022-W

**2-PIECE MEASURING TOOL SET**

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



5023

Code

5023

**2-PIECE MEASURING TOOL SET**

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



5024

Code

5024

**4-PIECE MEASURING TOOL SETS**

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



5041

Code	Remark
5041	Vernier caliper, graduation 0.05mm/1/128" (code <b>1205-150S</b> )
5041-2	Vernier caliper, graduation 0.02mm/0.001" (code <b>1205-1502S</b> )

**4-PIECE MEASURING TOOL SET**

- Includes:
  - Digital caliper, range 0-150mm/0-6", resolution 0.01mm/0.0005" (code **1108-150W**)
  - Outside micrometer, range 0-25mm, graduation 0.01mm, (code **3202-25A**)
  - 90° beveled edge square, 100x70mm, grade 0 (code **4790-1000**)
  - Steel rule, 150mm/6" (code **7110-150**)



5042-W

Code

5042-W

**5-PIECE MEASURING TOOL SET**

- Includes:
  - Digital caliper, range 0-150mm/0-6", resolution 0.01mm/0.0005" (code **1108-150W**)
  - Digital outside micrometer, range 0-25mm/0-1", resolution 0.001mm/0.00005" (code **3109-25A**)
  - Digital indicator, range 12.7mm/0.5", resolution 0.01mm/0.0005" (code **2112-10**)
  - Magnetic stand (code **6201-60**)
  - Micrometer stand (code **6300**)



5052-W

Code

5052-W

**6-PIECE MEASURING TOOL SETS**

- Includes:
  - Vernier caliper, range 0-150mm/0-6"
  - Outside micrometer, range 0-25mm graduation 0.01mm (code **3202-25A**)
  - 90° beveled edge square, 100x70mm grade 00 (code **4790-0100**)
  - Straight edge, 100mm (code **4700-100**)
  - Spring divider, 150mm (code **7260-150**)
  - Steel rule, 200mm/8" (code **7110-200**)



5063

Code	Remark
5063	Vernier caliper, graduation 0.05mm/1/128" (code <b>1205-150S</b> )
5063-2	Vernier caliper, graduation 0.02mm/0.001" (code <b>1205-1502S</b> )

**9-PIECE MEASURING TOOL SET**

- Includes:
  - Digital caliper, range 0-150mm/0-6", resolution 0.01mm/0.0005" (code **1108-150W**)
  - Outside micrometer, range 0-25mm, graduation 0.01mm (code **3202-25A**)
  - Protractor, range 0-180°, graduation 1° (code **4799-180**)
  - Pitch gauge, range 0.25-7mm, 24pcs, metric 60° thread (code **4820-124**)
  - Radius gauge, range 1-7mm (code **4801-17**)
  - Feeler gauge, range 0.05-1.00mm, 20 pcs (code **4602-20**)
  - 90° beveled edge square, 100x70mm, grade 0 (code **4790-1000**)
  - Scriber (code **7230**)
  - Steel rule, 150mm/6" (code **7110-150**)



5091-W

Code

5091-W

**13-PIECE MEASURING TOOL SETS**

- Includes:
  - Digital caliper, range 0-150mm/0-6", resolution 0.01mm/0.0005" (code **1108-150W**)
  - Outside micrometer, range 0-25mm, graduation 0.01mm (code **3202-25A**)
  - Dial indicator, range 10mm, graduation 0.01mm (code **2308-10A**)
  - Magnetic stand (code **6201-60**)
  - Protractor, range 0-180°, graduation 1° (code **4799-180**)
  - Pitch gauge, range 0.25-7mm, 24 pcs, metric 60° thread (code **4820-124**)
  - Radius gauge, range 1-7mm (code **4801-17**)
  - Feeler gauge, range 0.05-1.00mm, 20pcs (code **4602-20**)
  - 90° beveled edge square, 100x70mm, grade 0 (code **4790-1000**)
  - Scriber (code **7230**)
  - Steel rule, 150mm/6" (code **7110-150**)
  - Depth base attachment (code **6140**)
  - Zero setting bar for depth base attachment



5013-W

Code	Remark
5013-W	Digital caliper, without thumb roller code <b>1108-150W</b>
5013	Digital caliper, with thumb roller code <b>1108-150</b>

## GRANITE SURFACE PLATES



- Made of granite, free from deterioration or dimensional change over time, minimal changes in dimension due to temperature changes
- Meet DIN876, grade 00 is for inspection room or lab, grade 0 is for workshop
- Optional accessory: stand for granite surface plate (code **6902**), jack for granite surface plate (code **6903**)



6900-132

CUSTOM-MADE  
SUPPLY SPECIAL SIZES ACCORDING  
TO CUSTOMER'S REQUEST



### Grade 00

Code	Size (LxWxH)	Flatness	Weight (Kg)	Max. load (Kg)
6900-132 *	300x200x60mm	2.7µm	11	30
6900-142 *	400x250x60mm	2.9µm	18	50
6900-144 *	400x400x60mm	3.1µm	29	60
6900-153 *	500x315x70mm	3.2µm	33	60
6900-164 *	630x400x80mm	3.5µm	60	65
6900-166 *	630x630x100mm	3.8µm	119	75
6900-185 *	800x500x100mm	3.9µm	120	100
6900-1106 *	1000x630x140mm	4.4µm	265	200
6900-1128 *	1200x800x160mm	4.9µm	461	500

### Grade 0

Code	Size (LxWxH)	Flatness	Weight (Kg)	Max. load (Kg)
6900-032 *	300x200x60mm	5.4µm	11	60
6900-042 *	400x250x60mm	5.9µm	18	100
6900-044 *	400x400x60mm	6.3µm	29	120
6900-053 *	500x315x70mm	6.4µm	33	120
6900-064 *	630x400x80mm	7.0µm	60	130
6900-066 *	630x630x100mm	7.6µm	119	150
6900-085 *	800x500x100mm	7.8µm	120	200
6900-0106 *	1000x630x140mm	8.7µm	265	400
6900-0128 *	1200x800x160mm	9.8µm	461	1000

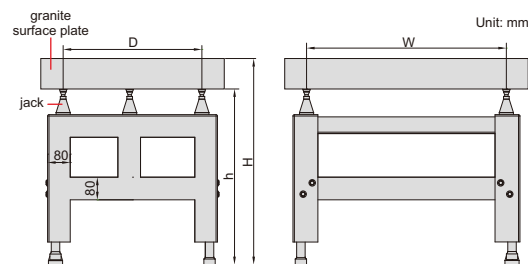
\*Supplied with manufacturer inspection certificate

## STANDS FOR GRANITE SURFACE PLATES

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



6902-64A



### Low stands

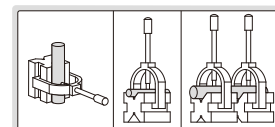
Code	For granite surface plate	W	D	H (with granite surface plate)	h (without granite surface plate)
6902-64A	630x400x80mm (code <b>6900-064</b> and <b>6900-164</b> )	352	224	775-800	695-720
6902-66A	630x630x100mm (code <b>6900-066</b> and <b>6900-166</b> )	352	352	775-800	675-700
6902-85A	800x500x100mm (code <b>6900-085</b> and <b>6900-185</b> )	448	280	775-800	675-700
6902-106A	1000x630x140mm (code <b>6900-0106</b> and <b>6900-1106</b> )	560	352	755-780	615-640
6902-128A	1200x800x160mm (code <b>6900-0128</b> and <b>6900-1128</b> )	672	448	755-780	595-620

### High stands

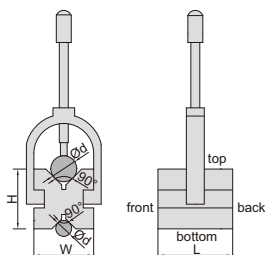
Code	For granite surface plate	W	D	H (with granite surface plate)	h (without granite surface plate)
6902-64H	630x400x80mm (code <b>6900-064</b> and <b>6900-164</b> )	352	224	1000-1025	920-945
6902-66H	630x630x100mm (code <b>6900-066</b> and <b>6900-166</b> )	352	352	1000-1025	900-925
6902-85H	800x500x100mm (code <b>6900-085</b> and <b>6900-185</b> )	448	280	1000-1025	900-925
6902-106H	1000x630x140mm (code <b>6900-0106</b> and <b>6900-1106</b> )	560	352	1000-1025	860-885
6902-128H	1200x800x160mm (code <b>6900-0128</b> and <b>6900-1128</b> )	672	448	1000-1025	840-865

## V-BLOCK SETS

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



6896-11



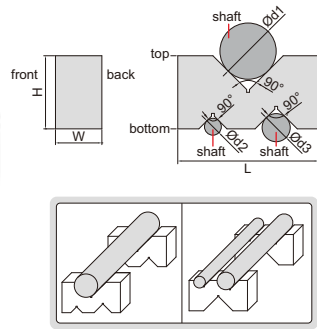
Code	Size (LxWxH)	Range of shafts (Ød)	Parallelism of both V grooves to top and bottom sides	Squareness of both V grooves to front and back sides	Height difference of a matched pair
6896-10	25x20x20mm	3-20mm	3µm	3µm	3µm
6896-11	50x40x40mm	5-30mm	5µm	5µm	5µm
6896-12	80x63x63mm	7-63mm	5µm	5µm	5µm
6896-13	100x80x80mm	7-80mm	5µm	5µm	5µm
6896-14	70x140x140mm	9-140mm	5µm	5µm	5µm

**V-BLOCK SETS**



6887-3

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



Code	Size (LxWxH)	Range of shafts (Ød1)	Range of shafts (Ød2)	Range of shafts (Ød3)
6887-1	50x19x24mm	3-32mm	3-16mm	3-22mm
6887-2	75x24x35mm	3-50mm	3-20mm	3-32mm
6887-3	100x33x52mm	3-68mm	3-26mm	3-40mm
6887-4	125x44x69mm	3-87mm	3-34mm	3-50mm

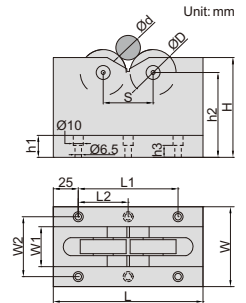
Code	Parallelism of three V grooves to top and bottom sides	Height difference of a matched pair
6887-1	5µm	5µm
6887-2	5µm	5µm
6887-3	5µm	5µm
6887-4	5µm	5µm

**ROLLER BEARING V-BLOCK SETS**



6888-1

- Runout accuracy: 5µm
- Parallelism of bearings to bottom: 12µm
- Two V-blocks per set
- Workpieces don't get damaged due to bearings
- Suitable for heavy workpieces



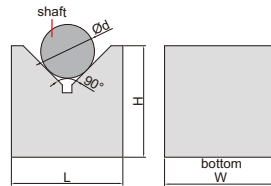
Code	W1	W2	h1	h2	h3	L1	L2	S
6888-1	22	44	20	85	12	100	-	60
6888-2	40	60	22	85	12	100	-	50
6888-3	60	80	30	124	20	180	90	120

Code	Size (LxWxH)	Code of bearings	Diameter of bearings (ØD)	Range of shafts (Ød)	Load capacity
6888-1	150x60x100mm	16004 ZZ	42mm	25-70mm	500kg
6888-2	150x80x100mm	6303 ZZ	47mm	5-55mm	1000kg
6888-3	230x100x150mm	6306 ZZ	72mm	70-200mm	1000kg

**GRANITE V-BLOCK SET**



6897-1



- Two V-blocks per set

Code	Size (LxWxH)	Range of shafts (Ød)	Parallelism of V groove to bottom	Height difference of a matchet pair
6897-1	70x50x70mm	6-75mm	4µm	5µm

**MAGNETIC V-BLOCKS (ADVANCED TYPE)**

**HARDENED SURFACES**

**HIGH PRECISION**

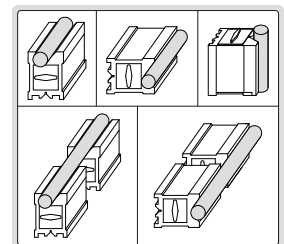
**STRONG MAGNETIC FORCE**



6889-11

6889-1

- Hardened, high accuracy, strong magnetic force, for grinding, light milling, drilling and inspection of round and square workpieces
- All working surfaces are hardened to HRC60±2
- Magnetic force on top, bottom and two V grooves
- V groove on the top for large shafts
- V groove on the bottom for small shafts
- Suitable for cast iron surface plates and granite surface plates



**Individual**

Code	Size (LxWxH)	Range of shafts (Ød)	Magnetic force	Parallelism of V grooves to top, bottom, left, right sides	Squareness of V grooves to back side
6889-11	75x56x75mm	5-40mm	85kgf	5µm	5µm
6889-22	100x70x95mm	5-65mm	150kgf	5µm	5µm
6889-33	150x75x100mm	5-70mm	190kgf	6µm	6µm
6889-55	160x125x130mm	5-140mm	220kgf	12µm	12µm
6889-44	200x125x150mm	10-140mm	400kgf	12µm	12µm

**Matched pair**

Code	Size (LxWxH)	Range of shafts (Ød)	Magnetic force	Parallelism of V grooves to top, bottom, left, right sides	Squareness of V grooves to back side	Height difference of a matched pair
6889-1	75x56x75mm	5-40mm	85kgf	5µm	5µm	5µm
6889-2	100x70x95mm	5-65mm	150kgf	5µm	5µm	5µm
6889-3	150x75x100mm	5-70mm	190kgf	6µm	6µm	6µm
6889-5	160x125x130mm	5-140mm	220kgf	12µm	12µm	12µm
6889-4	200x125x150mm	10-140mm	400kgf	12µm	12µm	12µm



## MAGNETIC V-BLOCK (ECONOMIC TYPE)

ATTENTION: NOT SUITABLE FOR STEEL OR IRON SURFACES, OTHERWISE THE MAGNETIC FORCE WILL BE REDUCED

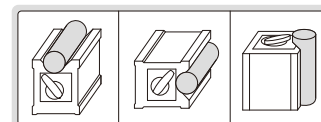
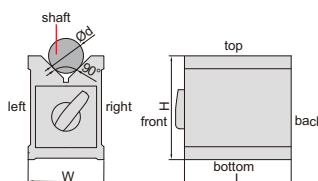
- Parallelism of V groove to top, bottom, left and right sides: 10µm
- Hold cylindrical workpieces for inspection and machining
- Supplied in single piece
- Not hardened
- Not suitable for steel or iron surface, otherwise the magnetic force will be reduced



6890-702

ATTENTION: NOT HARDENED

Code	Size (LxWxH)	Range of shafts (Ød)	Magnetic force	Squareness of V groove to back side
6890-702	70x60x73mm	6-44mm	56kgf	10µm



## MAGNETIC V-BLOCKS (ECONOMIC TYPE)

ATTENTION: NOT SUITABLE FOR STEEL OR IRON SURFACES, OTHERWISE THE MAGNETIC FORCE WILL BE REDUCED

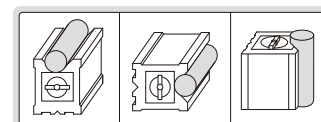
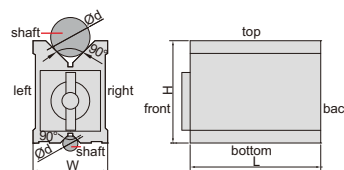
- Hold cylindrical workpieces for inspection and machining
- Supplied in single piece
- Not hardened
- V groove on the top for large shafts
- V groove on the bottom for small shafts
- Not suitable for steel or iron surface, otherwise the magnetic force will be reduced



6801-1202

ATTENTION: NOT HARDENED

Code	Size (LxWxH)	Range of shafts (Ød)	Magnetic force	Parallelism of V grooves to top, bottom, left, right side	Squareness of V grooves to back side
6801-1201	80x70x95mm	6-67mm	64kgf	10µm	10µm
6801-1202	100x70x95mm	6-67mm	80kgf	10µm	10µm
6801-1203	120x70x95mm	6-67mm	96kgf	10µm	10µm



## MAGNETIC V-BLOCK SETS

ATTENTION: NOT HARDENED, DO NOT ROTATE WORKPIECES ON V-BLOCKS

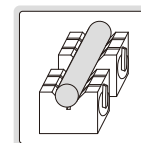
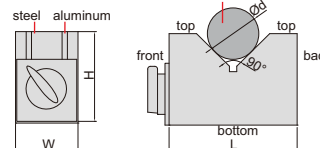
- Hold cylindrical workpieces for inspection, not suitable for machining due to low magnetic force
- Two V-blocks per set
- Hardness HRB70



6891-1

ATTENTION: LOW MAGNETIC FORCE

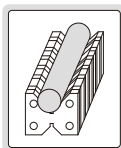
Code	Size (LxWxH)	Range of shafts (Ød)	Magnetic force	Parallelism of V groove to bottom and back sides	Height difference of a matched pair
6891-1	70x40x50mm	6-46mm	8kgf	10µm	10µm
6891-3	150x50x100mm	6-125mm	14kgf	10µm	10µm



## MAGNETIC INDUCTION V-BLOCK

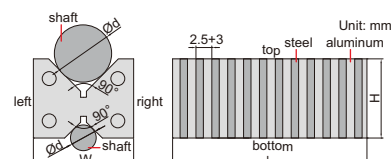
ATTENTION: NOT HARDENED, DO NOT ROTATE WORKPIECES ON V-BLOCKS

- Hold cylindrical workpieces for inspection and machining
- To be used on magnetic chucks
- Supplied in single piece
- V groove on the top for large shafts
- V groove on the bottom for small shafts
- Hardness HRB70



6892-1

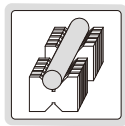
Code	Size (LxWxH)	Range of shafts (Ød)	Pole pitch	Parallelism of both V grooves to top and bottom sides
6892-1	110x60x48mm	6-50mm	2.5+3mm	10µm



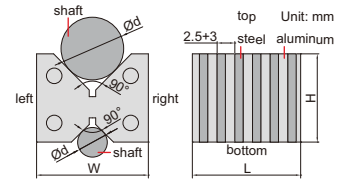
**MAGNETIC INDUCTION V-BLOCK SET (ECONOMIC TYPE)**

**ATTENTION: NOT HARDENED, DO NOT ROTATE WORKPIECES ON V-BLOCKS**

- Hold cylindrical workpieces for inspection and machining
- To be used on magnetic chucks
- Two V-blocks per set
- V groove on the top for large shafts
- V groove on the bottom for small shafts
- Hardness HRB70



6899-1



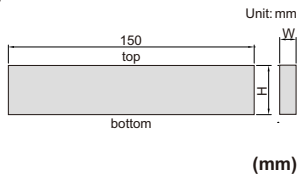
Code	Size (LxWxH)	Range of shafts (Ød)	Pole pitch	Parallelism of both V grooves to top and bottom sides	Height difference of a matched pair
6899-1	55x60x48mm	6-50mm	2.5+3mm	10µm	10µm

**PARALLEL SETS**



6533-144

- Parallelism between top and bottom: 5µm
- Height difference of a matched pair: 5µm
- Hardened to HRC55-60
- Made of alloy tool steel

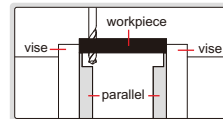


Code	Parallels per set	Thickness (W)	Height (H)
6533-10	10 pairs	3	13, 16, 19, 22, 25, 28, 31, 35, 38, 41
6533-144	14 pairs	10	14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 35, 40, 45, 50

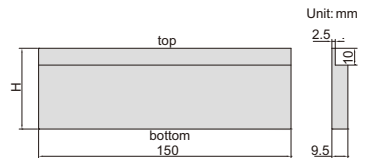
**PARALLEL SET**



6534-6



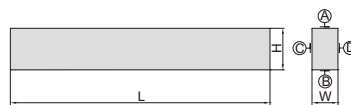
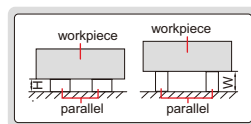
- Height difference of a matched pair: 5µm
- Hardened to HRC55-60
- Made of alloy tool steel



Code	Parallels per set	Parallelism between top and bottom	Height (H)
6534-6	6 pairs	5µm	25, 30, 35, 40, 45, 48mm

**GRANITE PARALLEL SET**

- Made of granite, hard and no rusty, no dimensional change over time or temperature change
- Two parallels per set

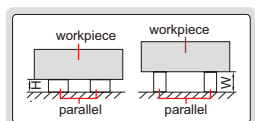


4143-250

Code	Size (LxWxH)	Parallelism between A and B	Parallelism between C and D	Height difference of a matched pair
4143-250	250x25x40mm	3µm	3µm	3µm

**MAGNETIC INDUCTION PARALLEL SETS (ECONOMIC TYPE)**

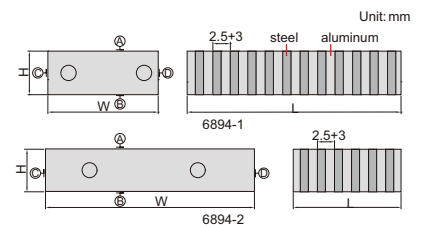
**ATTENTION: NOT HARDENED**



6894-1



6894-2



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

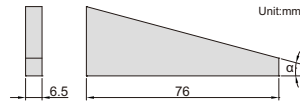
- To be used on magnetic chucks
- Two parallels per set
- Hardness HRB70

## ANGLE PLATE SETS



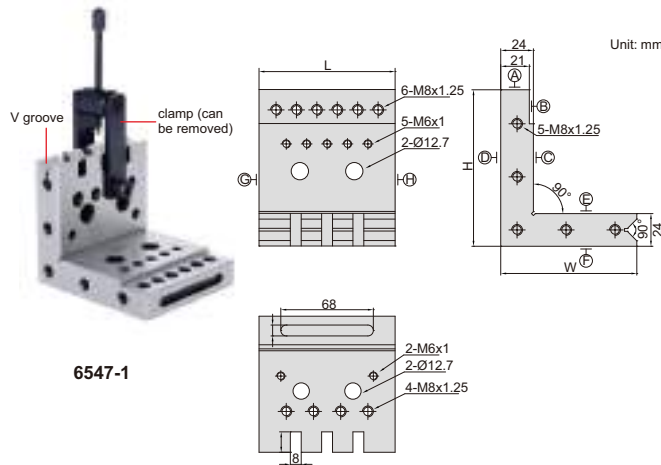
4003-12

- Accuracy:  $\pm 9$  seconds
- For angle set-up in tooling, production and inspection
- Hardness HRC55
- Made of tool steel



Code	Angle plates included	Angle $\alpha$
4003-10	10 pcs	1°, 2°, 3°, 4°, 5°, 10°, 15°, 20°, 25°, 30°
4003-12	12 pcs	1/4°, 1/2°, 1°, 2°, 3°, 4°, 5°, 10°, 15°, 20°, 25°, 30°

## RIGHT ANGLE PLATE

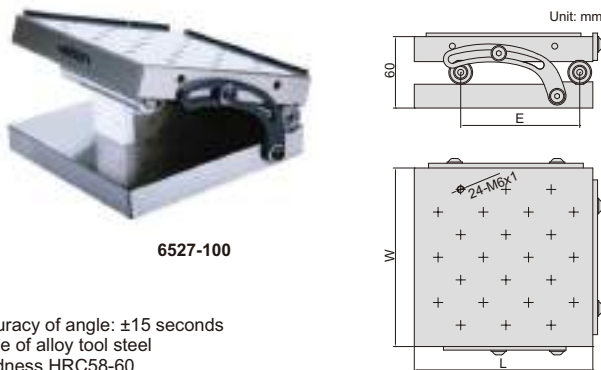


6547-1

- Made of alloy steel
- Hardened to HRC60 $\pm$ 2
- V groove for cylinders
- Parallelism and squareness between A, B, C, D, E, F, G and H: 6 $\mu$ m
- Parallelism and squareness of V groove to A, B, C, D, E, F, G and H: 6 $\mu$ m

Code	Size (LxWxH)
6547-1	100x100x115mm

## SINE TABLE

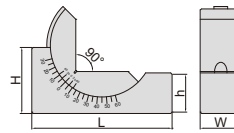


6527-100

- Accuracy of angle:  $\pm 15$  seconds
- Made of alloy tool steel
- Hardness HRC58-60

Code	Roller distance (E)	Table size (LxW)	Adjustable angle
6527-100	100mm	150x150mm	0-60°

## ADJUSTABLE ANGLE BLOCK



6535-30

- Graduation of angle: 10 minutes
- Made of hardened tool steel
- With locking screw

Code	Size (LxWxH)	h	Adjustable angle	Accuracy of angle
6535-30	102x30x49mm	30mm	30°~0°~60°	10 minutes

## SINE BARS

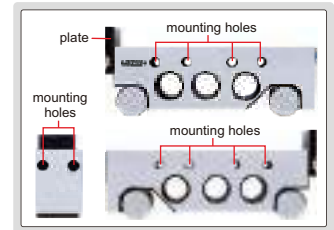
CAN BE CUSTOMIZED

HIGH PRECISION

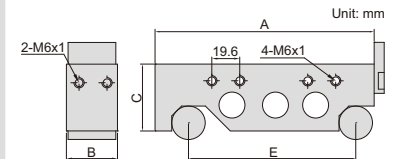
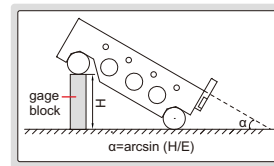


4155-100

the front and back ends and two sides have mounting holes to install plate



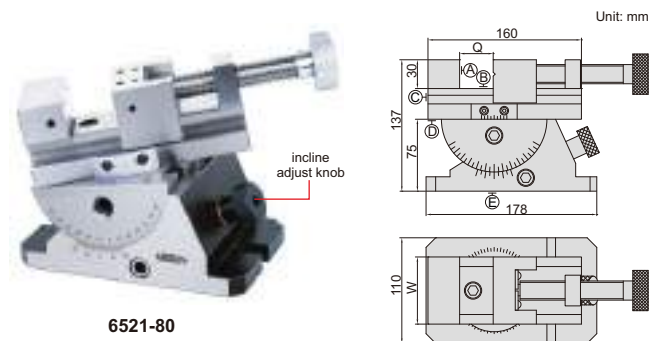
- Made of alloy tool steel



(mm)

Code	Roller distance (E)	Table size (AxB)	C	Accuracy of $\alpha$ at 30°
4155-100	100mm	130x30mm	40	$\pm 5$ seconds
4155-200	200mm	230x30mm	40	$\pm 5$ seconds
4155-300	300mm	345x40mm	50	$\pm 8$ seconds

## PRECISION UNIVERSAL VISE



6521-80

- Horizontal rotary: range 360°, graduation 0.05°
- Vertical incline: range 45°, graduation 0.05°
- With incline adjust knob
- Parallelism and squareness between A, B, C and D: 5 $\mu$ m/100mm, parallelism between D and E at 0°: 10 $\mu$ m/100mm
- Made of tool steel
- Hardness HRC56-58

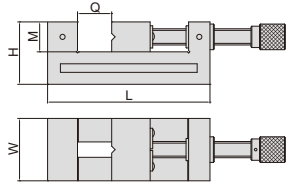
Code	Jaw opening (Q)	Jaw width (W)
6521-80	0-80mm	70mm

### PRECISION VISES



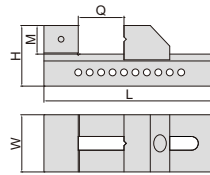
6520-73A

- Parallelism: 8µm/100mm
- Squareness: 10µm/100mm
- Made of alloy steel
- Hardness HRC56-58



Code	Jaw opening (Q)	Jaw width (W)	L	H	M
6520-73A	0-73mm	63mm	176mm	63mm	30mm
6520-76A	0-76mm	73mm	190mm	73mm	35mm
6520-120A	0-120mm	98mm	255mm	82mm	40mm

### PRECISION VISES



6526-80

- Parallelism: 3µm/100mm
- Squareness: 5µm/100mm
- Made of alloy steel
- Hardness HRC56-58

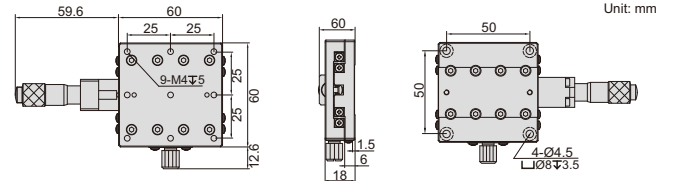
Code	Jaw opening (Q)	Jaw width (W)	Overall length (L)	H	M
6526-80	0-80mm	50mm	150mm	53	25
6526-100	0-100mm	73mm	190mm	70	35

### X-AXIS STAGE

- Cross roller guides, achieve high precision and smooth movement
- Stages made of aluminum alloy



6582-602



#### SPECIFICATION (micrometer in the middle)

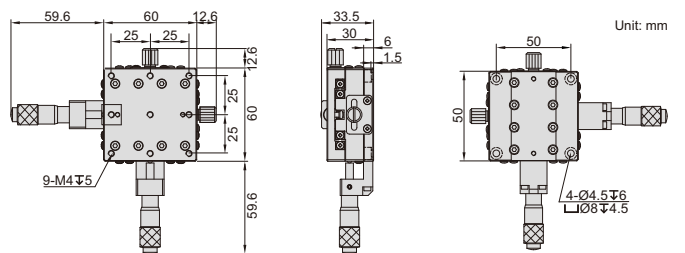
Code	X-axis displacement	Parallelism of top to bottom surface	Micrometer graduation	Micrometer accuracy	Maximum load	Micrometer location	Stage size	Weight
6582-602	±6.5mm	0.03mm	0.01mm	0.01mm	49N (5kgf)	middle	60x60mm	0.24kg

### XY-AXIS STAGE

- Cross roller guides, achieve high precision and smooth movement
- Stages made of aluminum alloy



6584-602



#### SPECIFICATION (micrometer in the middle)

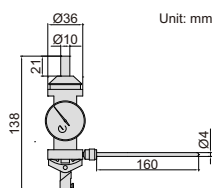
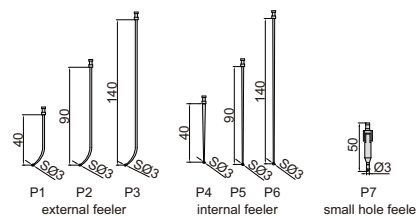
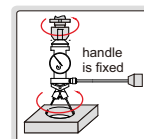
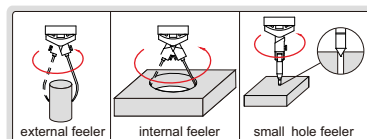
Code	XY-axis displacement	Parallelism of top to bottom surface	Micrometer graduation	Micrometer accuracy	Maximum load	Micrometer location	Stage size	Weight
6584-602	±6.5mm	0.06mm	0.01mm	0.01mm	49N (5kgf)	middle	60x60mm	0.48kg

### CENTERING INDICATOR



2385-3

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



Unit: mm



Feeler	Measuring diameter	Accuracy
P1	Ø0-60mm	0.015mm
P2	Ø0-160mm	0.02mm
P3	Ø0-250mm	0.03mm
P4	Ø3.2-80mm	0.015mm
P5	Ø3.2-180mm	0.02mm
P6	Ø3.2-280mm	0.03mm
P7	Ø0-2.8mm	0.015mm

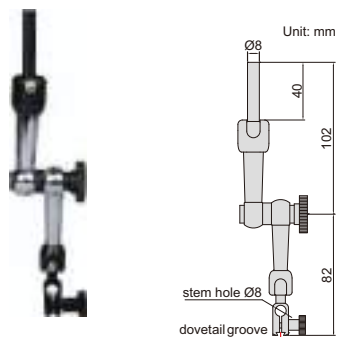
Code  
2385-3

### DIAL TEST INDICATOR CENTERING HOLDER



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

**Code**  
6295-1A



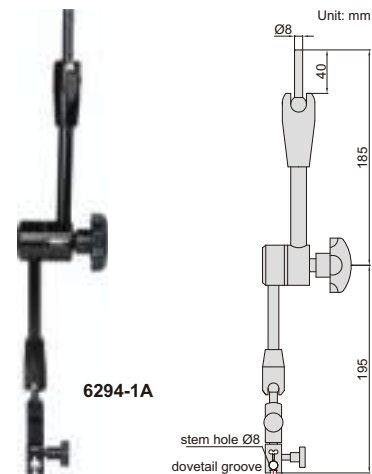
6295-1A

### INDICATOR CENTERING HOLDER



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

**Code**  
6294-1A



6294-1A

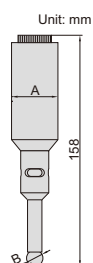
### LARGE SHANK ELECTRONIC EDGE FINDERS



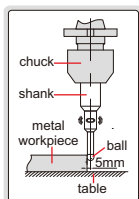
6572-1



6572-2



- The shank is electrically conducted to the metal workpiece through the chuck and table. The LED lights up and the beeper sounds (only for 6572-2), when the ball touches the workpiece
- Not suitable for rotary use
- Hardened shank and contact ball



Code	Shank (A)	Contact ball (B)	Accuracy	Beeper	Battery
6572-1	Ø32mm	SØ10mm	5µm	without	23A, 12V×1 pc
6572-2	Ø32mm	SØ10mm	5µm	with	23A, 12V×1 pc

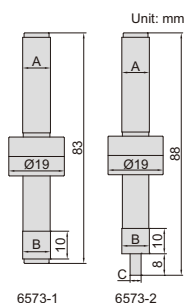
### NON-MAGNETIC EDGE FINDERS



6573-1



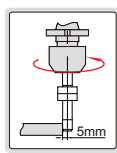
6573-2



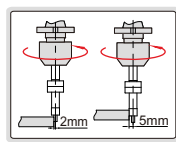
6573-1

6573-2

- TiAlN coating, non-magnetic, hardness HV2500, extremely wear resistance
- Suitable for machine speed 400~600rpm



6573-1



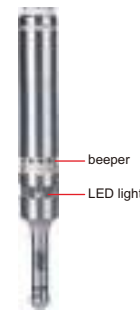
6573-2

Code	Shank (A)	Contact point (B)	Contact point (C)	Accuracy
6573-1	Ø10mm	Ø10mm	—	5µm
6573-2	Ø10mm	Ø10mm	Ø4mm	5µm

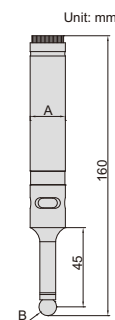
### ELECTRONIC EDGE FINDERS



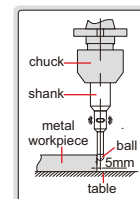
6566-2



6566-3



- The shank is electrically conducted to the metal workpiece through the chuck and table. The LED lights up and the beeper sounds (only for 6566-3), when the ball touches the workpiece
- Not suitable for rotary use
- Hardened shank and contact ball

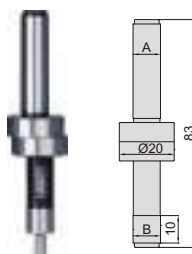


Code	Shank (A)	Contact ball (B)	Accuracy	Beeper	Battery
6566-2	Ø20mm	SØ10mm	5µm	without	23A, 12V×1 pc
6566-3	Ø20mm	SØ10mm	5µm	with	23A, 12V×1 pc

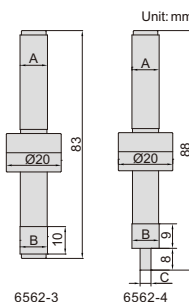
### EDGE FINDERS



6562-3

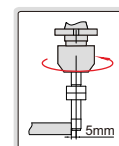


6562-4

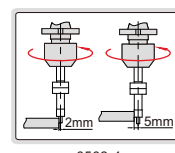


6562-3

6562-4



6562-3

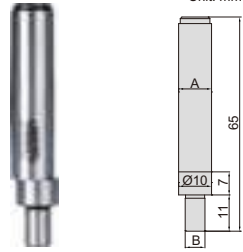
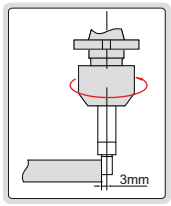


6562-4

- Hardened shank and contact point
- Suitable for machine speed 400~600rpm

Code	Shank(A)	Contact point (B)	Contact point (C)	Accuracy
6562-3	Ø10mm	Ø10mm	—	5µm
6562-4	Ø10mm	Ø10mm	Ø4mm	5µm

**EDGE FINDER**

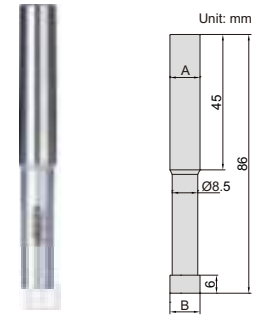
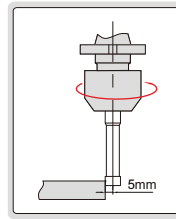


**6567-1**

- Hardened shank and contact point
- Suitable for machine speed 400-600rpm

Code	Shank (A)	Contact point (B)	Accuracy
6567-1	∅10mm	∅6mm	8μm

**CERAMIC EDGE FINDER**



**6568-1**

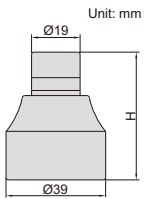
- Ceramic contact point, non magnetic
- Suitable for machine speed 400-600rpm

Code	Shank (A)	Contact point (B)	Accuracy
6568-1	∅10mm	∅10mm	8μm

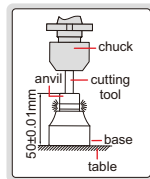
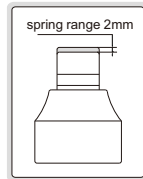
**ELECTRONIC ZERO SETTER**



**LOW TEST FORCE**



**6553-50**

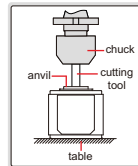


- The base is electrically conducted to the cutting tools through the table and chuck, the LED lights up when the cutting tool touches the anvil
- Magnetic base
- Two batteries LR44

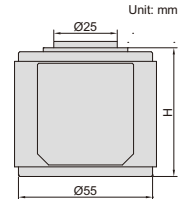
Code	Height (H)	Accuracy	Test force
6553-50	50mm	±10μm	7N (at 49mm)

**DIGITAL ZERO SETTER**

**IP65 WATERPROOF**



**6557-50**



- Resolution: 0.001mm/0.00005"
- IP65 dust/waterproof
- Buttons: on/off, mm/inch, zero
- CR2032 battery
- Automatic power off
- Magnetic base
- Automatic backlight at zero



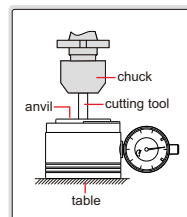
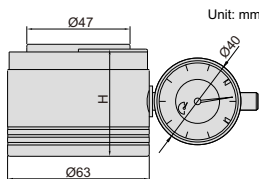
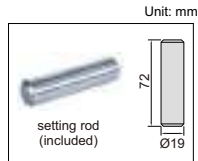
Code	Height (H)	Anvil stroke	Accuracy*	Test force	Repeatability
6557-50	50mm	2.5mm	±5μm/0.0002"	4N (at 50mm)	2μm

\* The accuracy is ensured within ∅10mm of the center

**ZERO SETTER**



**6556-50**

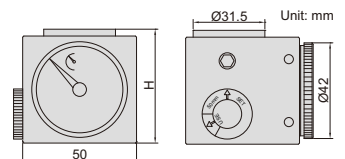


Code	Height (H)	Accuracy	Test force
6556-50	50mm	±10μm	10N (at 50mm)

**ZERO SETTER**

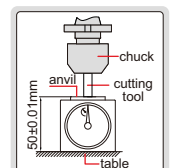


**2397-502A**



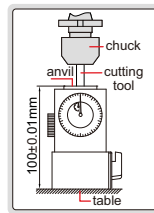
- Magnetic base

Code	Height (H)	Accuracy	Test force
2397-502A	50mm	±10μm	9N (at 50mm)

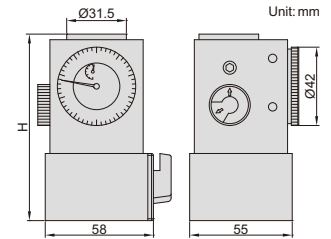


## ZERO SETTER

- Magnetic base with on-off switch
- Test force: 9N (at 100mm)



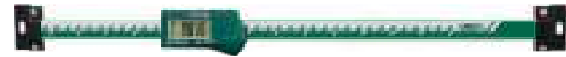
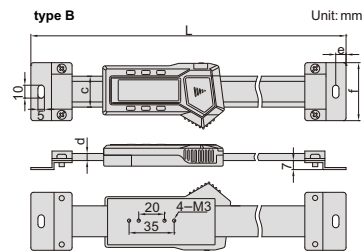
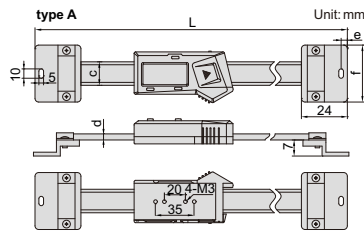
2394-100A



Code	Height (H)	Accuracy
2394-100A	100mm	±10µm

## DIGITAL HORIZONTAL SCALES

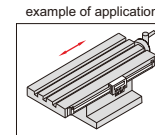
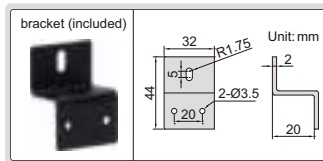
DATA OUTPUT



7101-300A



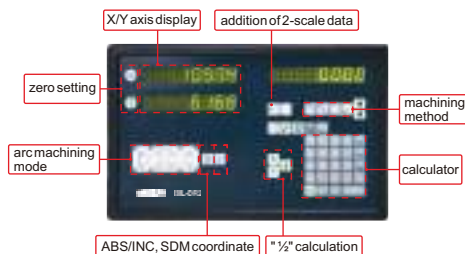
7101-400A



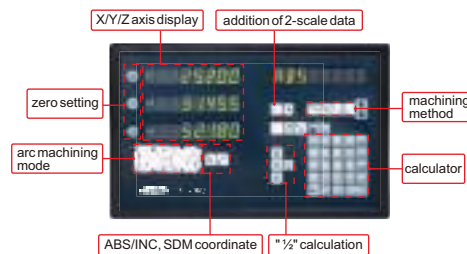
- Resolution: 0.01mm/0.0005"
- Buttons type A: on/off, zero, mm/inch, type B: on/off, zero, mm/inch, ABS, data preset
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Supplied with bracket to be mounted on the back
- Optional accessory: data output cable

Code	Range	Type	Accuracy	L	c	d	e	f	Data output cable (optional)
7101-100A	100mm	A	±0.02mm	215	16	4	6	36	7315-21, 7302-21
7101-150A	150mm	A	±0.03mm	265	16	4	6	36	7315-21, 7302-21
7101-200A	200mm	A	±0.03mm	315	16	4	6	36	7315-21, 7302-21
7101-300A	300mm	A	±0.04mm	445	16	4	6	36	7315-21, 7302-21
7101-400A	400mm	B	±0.05mm	590	24	5.5	8	45	7315-22, 7302-22
7101-500A	500mm	B	±0.05mm	690	24	5.5	8	45	7315-22, 7302-22
7101-600A	600mm	B	±0.08mm	790	24	5.5	8	45	7315-22, 7302-22
7101-800A	800mm	B	±0.10mm	990	24	5.5	8	45	7315-22, 7302-22
7101-1000A	1000mm	B	±0.10mm	1240	31	10.5	10	60	7315-22, 7302-22

## COUNTERS



ISL-DR2



ISL-DR3

software CD (included)



### SPECIFICATION

Code	ISL-DR2	ISL-DR3
Application	two-axis	three-axis
Scale input ports	2	3
Resolution	0.05µm, 0.1µm, 0.2µm, 0.5µm, 1µm, 2µm, 5µm, 10µm, 20µm, 50µm	
Functions	addition of 2-scale data, linearity error compensation, smoothing, RS232C interface unit, BCD code out, zero setting, preset, resolution setting, counting direction setting, inch/mm conversion, ABS/INC conversion, expansion/contraction coefficient setting, "1/2" calculation, detecting RI, bolt-hole circle machining, ramp circle machining	
Power supply	110/220V, 50/60Hz	
Dimension	295x185x45mm	
Weight	1.45kg	

### STANDARD DELIVERY

Main unit	1 pc
Mounting bracket	1 pc
Ground cable	1 pc
RS232C cable	1 pc
Software CD for RS232C	1 pc

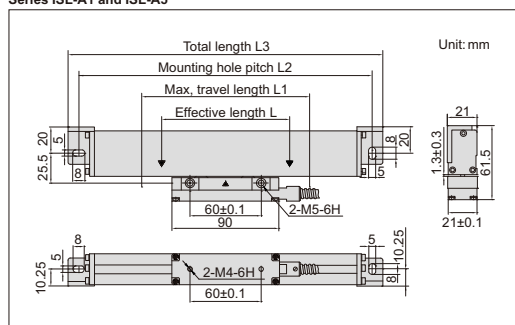
## LINEAR SCALES



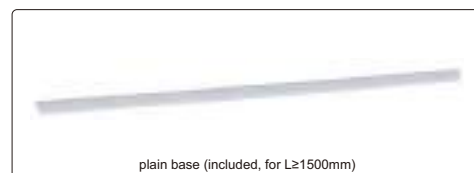
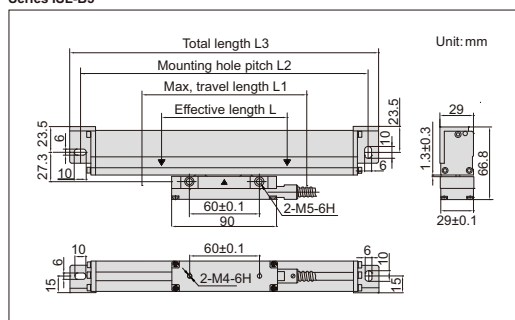
ISL-A5-300

Effective length (L)	Code	Code	Code
	Series ISL-A1	Series ISL-A5	Series ISL-B5
50mm	ISL-A1-50	ISL-A5-50	ISL-B5-50
100mm	ISL-A1-100	ISL-A5-100	ISL-B5-100
150mm	ISL-A1-150	ISL-A5-150	ISL-B5-150
200mm	ISL-A1-200	ISL-A5-200	ISL-B5-200
250mm	ISL-A1-250	ISL-A5-250	ISL-B5-250
300mm	ISL-A1-300	ISL-A5-300	ISL-B5-300
350mm	ISL-A1-350	ISL-A5-350	ISL-B5-350
400mm	ISL-A1-400	ISL-A5-400	ISL-B5-400
450mm	ISL-A1-450	ISL-A5-450	ISL-B5-450
500mm	ISL-A1-500	ISL-A5-500	ISL-B5-500
550mm	ISL-A1-550	ISL-A5-550	ISL-B5-550
600mm	ISL-A1-600	ISL-A5-600	ISL-B5-600
650mm	ISL-A1-650	ISL-A5-650	ISL-B5-650
700mm	ISL-A1-700	ISL-A5-700	ISL-B5-700
750mm	ISL-A1-750	ISL-A5-750	ISL-B5-750
800mm	ISL-A1-800	ISL-A5-800	ISL-B5-800
850mm	ISL-A1-850	ISL-A5-850	ISL-B5-850
900mm	ISL-A1-900	ISL-A5-900	ISL-B5-900
950mm	ISL-A1-950	ISL-A5-950	ISL-B5-950
1000mm	ISL-A1-1000	ISL-A5-1000	ISL-B5-1000
1100mm		ISL-A5-1100	ISL-B5-1100
1200mm			ISL-B5-1200
1300mm			ISL-B5-1300
1400mm			ISL-B5-1400
1500mm			ISL-B5-1500
1600mm			ISL-B5-1600
1700mm			ISL-B5-1700
1800mm			ISL-B5-1800
1900mm			ISL-B5-1900
2000mm			ISL-B5-2000

Series ISL-A1 and ISL-A5

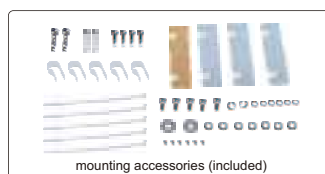


Series ISL-B5



### STANDARD DELIVERY

Main Unit	1 pc
'L' shape support	1 pc
Anti-dust cover	1 pc
Plain base	1 pc (for L≥1500mm)
Mounting accessories	1 package



### SPECIFICATION

Code	Series ISL-A1		Series ISL-A5		Series ISL-B5	
L1 (mm)	L+30(L<950)	L+50(L≥950)	L+30(L<950)	L+50(L≥950)	L+30(L<950)	L+50(L≥950)
L2 (mm)	L+132(L<950)	L+152(L≥950)	L+132(L<950)	L+152(L≥950)	L+136(L<950)	L+156(L≥950)
L3 (mm)	L+149(L<950)	L+169(L≥950)	L+149(L<950)	L+169(L≥950)	L+154(L<950)	L+174(L≥950)
Resolution	1μm		5μm		5μm	
Max. response speed	50m/min		90m/min		60m/min	
Scale grating pitch	20μm					
Scale reference point pitch	50mm					
Accuracy	±(5+5L/1000)μm L is the effective length in mm					
Cable length	3.5m (L: 50-950mm), 5m (L: 1000-1500mm), 10m (L: 1600-2000mm)					



## JIG SET FOR CMM CODE ISY-100



ISY-100

application examples



Product	Code	Size (mm)	Quantity	Application
	ISY-100-1001	Ø16×30	5	
	ISY-100-1002	Ø16×50	5	
	ISY-100-1003	Ø16×100	3	
	ISY-100-1004	Ø20×30	5	
	ISY-100-1005	Ø20×50	5	
	ISY-100-1006	Ø20×100	3	
stand with fine adjustment	ISY-100-2001	Ø16×45~60	2	height adjustment: 45~60mm
stand with fine adjustment	ISY-100-2003	Ø20×45~60	2	
horizontal spring stand	ISY-100-4001	—	2	
horizontal screw stand	ISY-100-5001	—	2	
magnetic stand (magnetic top surface)	ISY-100-7001	Ø20×25	3	
stand for slice parts	ISY-100-8001	Ø20×25	2	ISY-100-8001 and ISY-100-8002 use cooperatively
clamping stand for slice parts	ISY-100-8002		1	
clip	ISY-100-1201	—	2	
clip	ISY-100-1301	—	2	
clip stand	ISY-100-1401	Ø6×60	2	
	ISY-100-1402	Ø6×100	2	
vertical square column	ISY-100-3003	30×30×250	2	
sliding support plate	ISY-100-1801	78×20×10	3	
clamping screw	ISY-100-2301	Ø8×20	6	

Product	Code	Size (mm)	Quantity	Application
screw	ISY-100-2302	Ø8×20	6	
base plate	ISY-600-400200	400×400×12	2 pieces	—
wrench	ISY-100-3701	Ø3.8×70	1	—
wrench	ISY-100-3801	M2.5	1	—
	ISY-100-3802	M5	1	—
	ISY-100-3803	M6	1	—
45° stand	ISY-100-9001	—	2	
V shaped support	ISY-100-1901	—	2	
V shaped support	ISY-100-1902	—	2	
marker	ISY-6100-1501	—	52*	
dust cleaner	ISY-100-3501	—	1	—
lubricating oil	ISY-100-3601	—	1	—

\* Letter A~Z, number 0~25

To be continued

Continued from previous page

Product	Code	Quantity	Material	Application
	ISY-100-27016	2	aluminum	
	ISY-100-27018	2	nylon	
	ISY-100-27026	2	aluminum	
	ISY-100-27028	2	nylon	
	ISY-100-27036	2	aluminum	
	ISY-100-27038	2	nylon	
	ISY-100-27046	2	aluminum	
	ISY-100-27048	2	nylon	

Product	Code	Quantity	Material	Application
	ISY-100-27056	2	aluminum	
	ISY-100-27058	2	nylon	
	ISY-100-27066	2	aluminum	
	ISY-100-27068	2	nylon	
	ISY-100-27076	2	aluminum	
	ISY-100-27078	2	nylon	

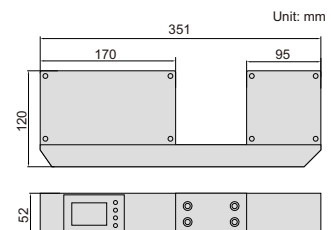
## LASER SCAN MICROMETERS



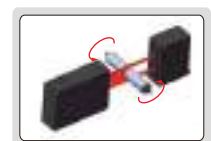
- Measure external diameter, ellipticity, run-out, maximum diameter of tools, etc.
- Can be used for transparent or non transparent workpieces
- Tolerance measurement
- Online or offline measurement
- Connected with computer and PLC

### SPECIFICATION

Code	LDM-030	LDM-065
Measuring range	0.1~30mm	0.5~65mm
Resolution	0.01/0.1/1/10/100μm selectable	
25°C accuracy	±(0.5+5%D)μm D is measuring diameter in mm	
Repeatability	0.2μm	0.4μm
Laser wave length	650nm	
Measuring speed	800~3200times/s (adjustable)	
Working temperature	0~50°C	
Working humidity	35~85RH without condensation	
Output	dual channel RS485	
Alarm output	24V, 1A	
Power supply	DC24V, 2A	
Dimension (L×W×H)	351×52×120mm	469×52×156mm
Weight	5kg	8kg



measure external diameter



measure ellipticity and run-out



two-axis measurement



large size measurement

### STANDARD DELIVERY

Main unit	1 pc
V-block	1 pc
AC/DC adapter	1 pc
RS485 cable	1 pc

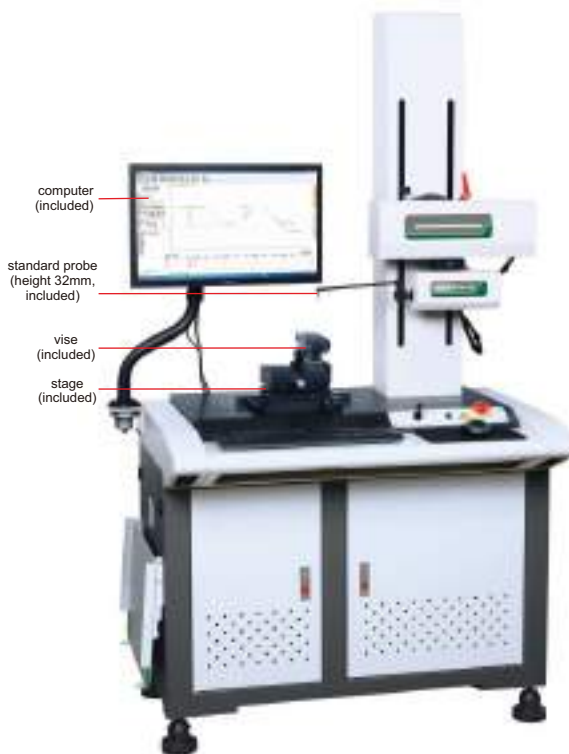
### OPTIONAL ACCESSORY

Calibration gage	custom made
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## SURFACE PROFILE MEASURING MACHINE CODE SPM-1000



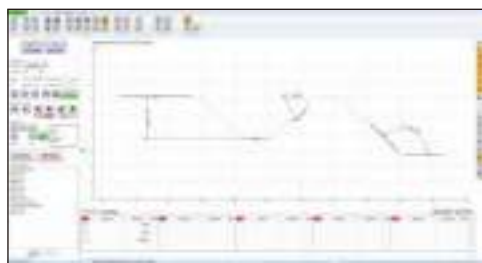
- Software is included, for surface profile measurement and data output
- Probe compensation
- Output as format xy, txt, csv, etc.
- Large range design, the leverage ratio is 1:2.2, maintain the original accuracy of the sensor
- The overall structure of the Z-axis sensor does not have any elastic components, ensuring the measuring force is constant regardless the position of probe



calibration



contour scanning



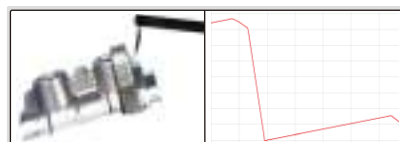
dimension measurement



data output

### SPECIFICATION

X axis measuring range	140mm
X axis resolution	0.2μm
X axis straightness	0.8μm/100mm
X axis traverse speed	0.1~10mm/s
Z axis measuring range	±20mm
Z axis resolution	0.05μm
Z axis traverse speed	0.5~10mm/s
Linear accuracy	±(1.5+ 0.2H )μm, H is measuring height in mm
Angular measuring accuracy	±2'
Arc measuring accuracy	±(2+R/8)μm, R is 2~10mm standard ball
Radius of probe tip	25μm
Traverse direction	backward
Measuring force	0.69~0.98mN
Measuring unit	mm/inch
Traceable angle	72° (upward), 87° (downward)
Drive mode	motor
Travel of Z axis	400mm
Dimension(L×W×H)	1200×700×1780mm
Power supply	220±5%V, 50Hz
Weight	320kg



### STANDARD DELIVERY

Main unit	1 pc
Standard probe and arm	1 pc of each
Standard block	2 pcs
Standard ball	2 pcs
Standard shaft	1 pc
Stage	1 pc
Vise	1 pc
Computer	1 pc
Measurement software	1 pc
Printer	1 pc
Installation tools	1 set



standard blocks (included)



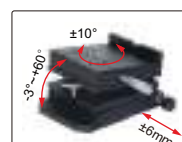
standard shaft (included)



standard balls (included)



vise (included)



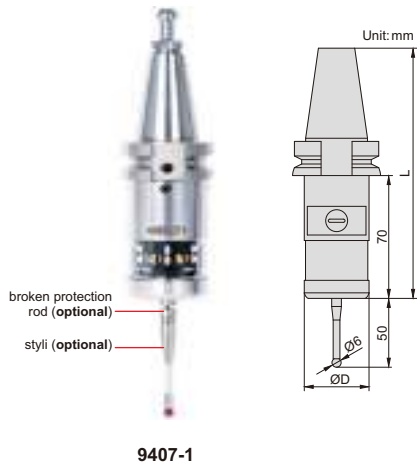
stage (included)

### OPTIONAL ACCESSORY

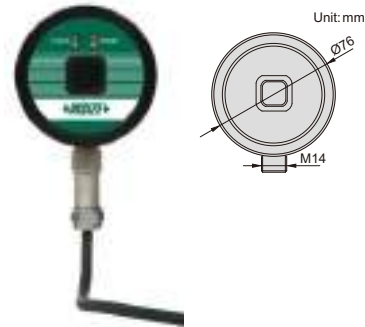
Probe and arm	
---------------	--

# OPTICAL TRANSMISSION PROBES FOR CNC MACHINE TOOLS

**IP68**  
WATERPROOF

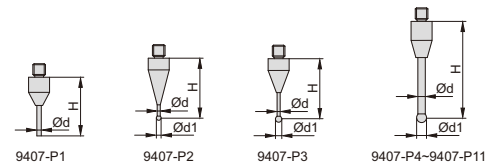


9407-1



9407-1A

- CNC on-machine measurement
- Multi-channel transmission between probes and receivers, for anti-interference
- Transmit three kinds of signals: trigger, contact and low battery voltage
- With spindle protection function
- Optical transmission range: 1m, 3m, 5m
- Automatic power off in 3 seconds, move styli to power on



## OPTICAL PROBE SPECIFICATION

Code	9407-1	9407-2
Probe length (L)	140mm	180mm
Probe diameter (ØD)	40mm	46.5mm
Trigger accuracy of styli in any one direction	1µm	
Protection stroke triggered by styli in all directions	X and Y axis stroke: ±12.5°, Z axis stroke: 5mm	
Trigger force of styli in all directions	X and Y axis: 0.9N, Z axis: 6N	
Applicable spindle	Below BT40	Over BT50
Dust/waterproof	IP68	
Power supply	2×LS14250 lithium battery	

## STYLI (OPTIONAL)

(mm)

Code	H	Ød	Ød1	Material of measuring face
9407-P1	20	1	—	carbide
9407-P2	19.5	0.7	1	ruby
9407-P3	19	1.4	2	ruby
9407-P4	20	0.7	1	ruby
9407-P5	20	1.5	2	ruby
9407-P6	20	2	3	ruby
9407-P7	20	2	4	ruby
9407-P8	50	3	4	ruby
9407-P9	50	3.8	5	ruby
9407-P10	50	4.5	6	ruby
9407-P11	75	3.8	5	ruby

## RECEIVER SPECIFICATION

Code	9407-1A	9407-2A
Protection function	no	Low battery voltage or probe transmitting signal all the time *
Applicable probe	code 9407-1	code 9407-2
Cable length	5m	
Dust/waterproof	IP68	

## BROKEN PROTECTION ROD (OPTIONAL)

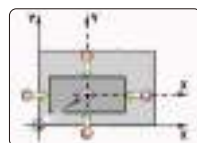
Code	H
9407-R1	12mm
9407-R2	22mm



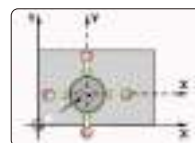
\* When the battery voltage is low or the probe transmits signal all the time, the receiver will send a signal to the machine tool to stop working



application



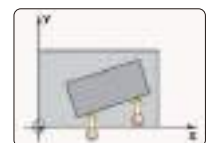
find center of rectangular boss



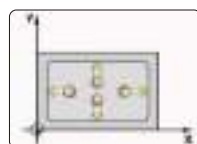
find center of the round boss



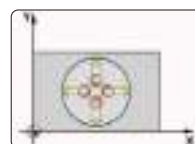
measure position of point on any axis



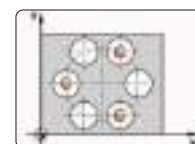
measure inclination of line



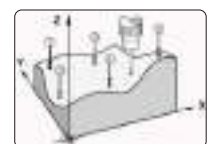
measure rectangular cavity



measure round cavity



measure center of holes



measure freeform surfaces

# PROFILE PROJECTOR CODE ISP-Z3015



### OPTIONAL ACCESSORY



### SPECIFICATION

Lens	magnification	10X (included) 20X (optional) 50X (optional) 100X (optional)
	view field	Ø30mm Ø15mm Ø6mm Ø3mm
	working distance	77.7mm 44.3mm 38.4mm 25.3mm
Max. workpiece height		90mm 90mm 90mm 90mm
Magnification accuracy		±0.08%
Image		erect image
Projector screen		diameter: Ø300mm
		rotation range: 0°~360°, resolution: 1" or 0.01°
		reference lines: cross-hairs
Stage	metal stage size	340×152mm
	glass stage size	196×96mm
	X-Y stage travel	range: 150×50mm
		resolution: 0.5µm
	Z (focus) travel range	90mm
max. load capacity	4kg	
Illumination		contour illumination: 24V/150W halogen lamp, brightness is adjustable surface illumination: 24V/150W halogen lamp
Data processing unit	display	X-Y stage travel, screen rotation
	output	RS232C
Data processing unit	function	measure coordinate of point
		measure coordinate of line
		measure center coordinate, radius of circle with three points
		measure distance between two objects
		measure angle with four points or two lines
		set origin of coordinate
		coordinate transform
		set midpoint of coordinate
		Power supply
Dimension (L×W×H)	550×770×1100mm	
Weight	135kg	

### STANDARD DELIVERY

Main unit	1pc
10X lens with half-reflection mirror and oblique illuminator mirror	1pc
Overlay chart clip	4pcs
Foot-switch	1pc
Anti-dust cover	1pc

### STANDARD DELIVERY

20X lens with half-reflection mirror and oblique illuminator mirror	ISP-Z3015-LENS20X
50X lens with half-reflection mirror	ISP-Z3015-LENS50X
100X lens with half-reflection mirror	ISP-Z3015-LENS100X
Rotary table	ISP-Z3015-TABLE
Overlay chart	ISP-Z3015-CHART
Holder with clamp	ISP-Z3015-HOLDER
Swivel center support	ISP-Z3015-SUPPORT
V-block with clamp	ISP-Z3015-VBLOCK
50mm reading scale	ISP-Z3015-SCALE50
300mm calibration scale	ISP-Z3015-RULE
Blue filter	ISP-Z3015-FILTER
Demo sample	ISP-Z3015-DEMO

## VISION MEASURING SYSTEMS



VIDEO



software CD (included)

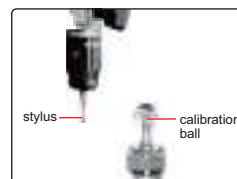
### SPECIFICATION

Code	ISD-V150A	ISD-V250A	ISD-V300A
Measuring range (X×Y×Z)	150×100×200mm	250×150×200mm	300×200×200mm
Stage size	354×228mm	450×280mm	500×330mm
Glass stage size	210×160mm	306×196mm	350×250mm
Resolution of X/Y/Z axis	0.5μm		
Accuracy of X/Y axis	≤(2.5+L/100)μm (L is the measuring length in mm)		
Repeatability of X/Y axis	2μm		
Objective	0.7X~4.5X (zoom)		
Working distance	92mm		
Magnification	33X~195X (on 19" monitor)		
Camera	1/3" color CCD, 0.3M pixel		
Illumination	surface and contour with adjustable LED		
Max. height of workpiece	160mm		
Max. weight of workpiece	20kg		
Operation system	Windows 7/8/10		
Drive method	manual		
Power supply	110/220V, 50/60Hz		
Dimension (L×W×H)	560×540×850mm	760×600×900mm	760×600×900mm
Weight	100kg	120kg	140kg



ISD-V250A

computer is included



probe (optional), includes Ø2mm and Ø3mm styli, Ø25mm calibration ball, measuring accuracy is 10μm



lens with coaxial light (optional, must be installed in factory)

### STANDARD DELIVERY

Main unit	1 pc
Computer	1 pc
Calibration glass chart	1 pc
Clay	1 pc
Foot switch	1 pc
Anti-dust cover	1 pc

### OPTIONAL ACCESSORY

0.5X auxiliary objective	Code: <b>ISD-V-OB05X</b> Working distance: 175mm Magnification: 16.5~97.5X (on 19" monitor)
2X auxiliary objective	Code: <b>ISD-V-OB2X</b> Working distance: 36mm Magnification: 66~390X (on 19" monitor)
Probe	Code: <b>ISD-V-PROBE</b> Includes Ø2mm and Ø3mm styli, Ø25mm calibration ball
Vision measuring system with coaxial light lens (with computer)	Code: <b>ISD-V150ACL, ISD-V250ACL, ISD-V300ACL</b>
Office software	Code: <b>7313-OFFICE</b>

### SOFTWARE

- Operation system: Windows 7/8/10
- Language: English
- Single measuring tools:

- measure coordinate of point
- measure center coordinate and axis length of ellipse
- measure length of open curve
- measure distance of two elements

- measure center coordinate, diameter and area of circle
- measure length, width and area of rectangle
- measure length and area of closed curve

- measure distance between two points
- measure length, width and diameter of key slot
- measure angle of two lines

- measure length and diameter of arc
- measure width and diameter of ring
- measure focus distance of urface

### Combined measuring tools:



measure distance and angle of two elements

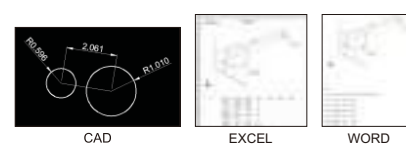
### Focus indicator:



### Coordinate transfer:



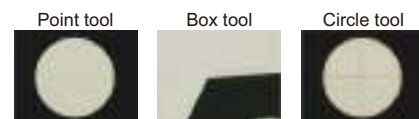
### Data export to CAD, EXCEL and WORD



### Profile detection:



### Edge-detection:



### Contour scanning:

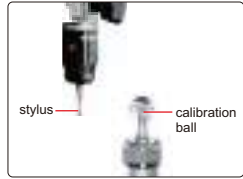


### CAD measuring:



Input CAD drawing and set reference, move the stage to make the target box in the center of crosshair, then the software will do automatic measurement

# CNC VISION MEASURING SYSTEMS



probe (optional), includes Ø2mm and Ø3mm styli, Ø25mm calibration ball, measuring accuracy is 10µm



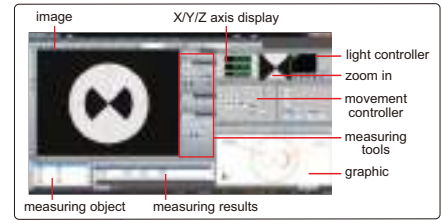
lens with coaxial light (included)



programmable segmented ring light (included)



ISD-V220CNCA



software CD (included)

computer is included

controller

- Automatic edge-detection, focus, measuring, contour scanning, calibration, etc.
  - Servo motors for X, Y, Z axis
  - SPC function for large quantity measurement
- Measuring software is included

## SPECIFICATION

Code	ISD-V220CNCA**	ISD-V270CNCA**	ISD-V370CNCA**
Measuring range (X*Y*Z)	220×120×150mm	270×170×150mm	370×270×150mm
Stage size	450×280mm	500×330mm	606×466mm
Glass stage size	306×196mm	350×250mm	450×350mm
Resolution of X/Y/Z axis	0.5µm		
Accuracy of X/Y axis	≤(2.5+L/100)µm (L is the measuring length in mm)		
Repeatability of X/Y axis	2µm		
Objective	0.7X~4.5X (zoom)		
Working distance	92mm		
Magnification	20X~128X (on 19.5" monitor)		
Camera	1/2" color CCD, 0.4M pixel		
Illumination	surface	coaxial light, programmable segmented ring light	
	contour	adjustable LED light	
View field (diagonal length)	1.7~11.1mm		
Max. height of workpiece	160mm		
Max. weight of workpiece	30kg		
Operation system	Windows 7/8/10		
Drive method	Automatic		
Power supply	220V, 50/60Hz **		
Dimension (L*W*H)	760×600×900mm	760×600×900mm	970×670×940mm
Weight	146kg	168kg	266kg

\*\* Add "-U" on code NO. when power supply is 110V, 50/60HZ

## SOFTWARE

- Operation system: Windows 7/8/10
- Language: English
- Single measuring tools:

- measure coordinate of point
- measure center coordinate and axis length of ellipse
- measure length of open curve
- measure distance of two elements

- measure center coordinate, diameter and area of circle
- measure length, width and area of rectangle
- measure length and area of closed curve

- measure distance between two points
- measure length, width and diameter of key slot
- measure angle of two lines

- measure length and diameter of arc
- measure width and diameter of ring
- measure focus distance of surface

## Combined measuring tools:



measure distance and angle of two elements

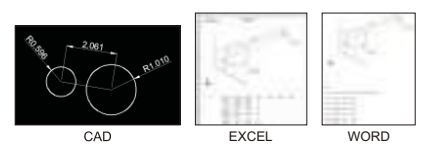
## Focus indicator:



## Coordinate transfer:



## Data export to CAD, EXCEL and WORD



CAD

EXCEL

WORD

## Profile detection:



## Edge-detection:



## Contour scanning:



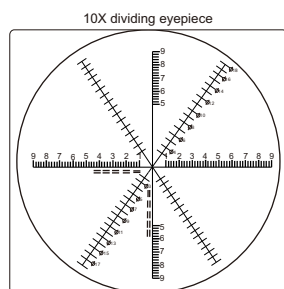
## CAD measuring:



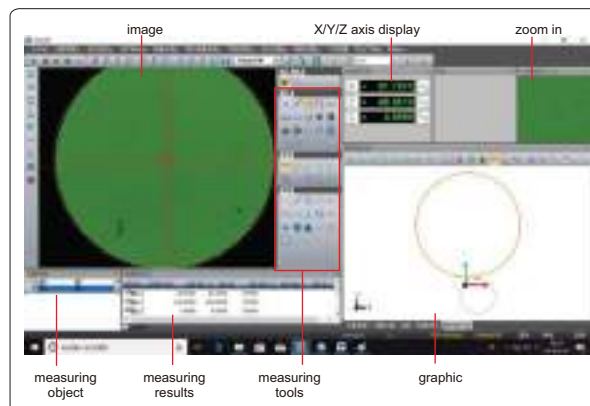
Input CAD drawing and set reference, move the stage to make the target box in the center of crosshair, then the software will do automatic measurement



## TOOLMAKER MICROSCOPE



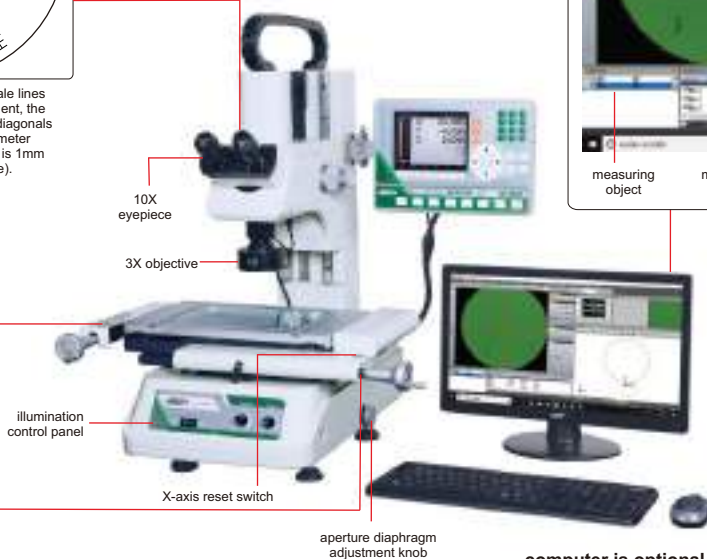
The horizontal and vertical scale lines are used for length measurement, the graduation is 0.2mm. The two diagonal scale lines are used for diameter measurement, the graduation is 1mm (when using 1X objective).



Y-axis reset switch



laser positioning switch



computer is optional

### SPECIFICATION

Code	ISD-VMM215 (binocular)
X/Y axis travel	200×100mm
Z axis travel	150mm
Metal stage size	404×228mm
Glass stage size	260×160mm
Resolution of X/Y/Z axis	0.5μm
Accuracy of X/Y axis	≤(2.5+L/100)μm (L is the measuring length in mm)
Repeatability	2μm
Camera	1/3" color CCD, 0.3M pixel
Optical magnification	30X (with 3X objective)
Image magnification	114X (on 19" monitor)
Illumination	surface and contour with adjustable LED
Max. weight of workpiece	25kg
Power supply	100V~240V, 50/60Hz
Operating system	Windows 7/8/10
Drive method	manual
Dimension (L×W×H)	540×667×850mm
Weight	110kg

### DATA PROCESSING UNIT

Output	RS232
Function	Simple measuring tools
	Measure coordinate of points
	Measure lines
	Measure center coordinate, radius of circle with three points
	Measure distances between two objects
	Measure angles
	Set origin of coordinate
	Skew and calibrate the workpiece
	Measure rectangle (including length, width, perimeter and center coordinate)
	Measure thread (including thread diameter, screw pitch, screw angle)
	Measure slot (including center coordinate, length, width)

### STANDARD DELIVERY

Main unit	1 pc
Video card with dongle	1 pc
Software disc	1 pc
Calibration glass chart	1 pc
Demo sample	1 pc
Foot switch	1 pc
3X objective	1 pc

### OPTIONAL ACCESSORY

1X objective	ISD-VMM-LENS1X
5X objective	ISD-VMM-LENS5X
10X objective	ISD-VMM-LENS10X
Printer	ISD-VMM-PRINTER
Toolmaker microscopes (with computer)	Code: ISD-VMM215A (binocular)

To be continued



Continued from previous page

**SOFTWARE**

- **Operation system:** Windows 7/8/10
- **Language:** English
- **Single measuring tools:**

- measure coordinate of point
- measure center coordinate and axis length of ellipse
- measure length of open curve
- measure distance of two elements

- measure center coordinate, diameter and area of circle
- measure length, width and area of rectangle
- measure length and area of closed curve

- measure distance between two points
- measure length, width and diameter of key slot
- measure angle of two lines

- measure length and diameter of arc
- measure width and diameter of ring
- measure focus distance of surface

■ **Combined measuring tools:**

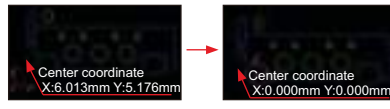


measure distance and angle of two elements

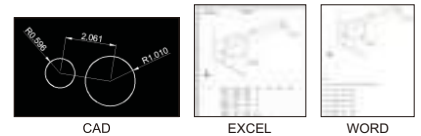
■ **Focus indicator:**



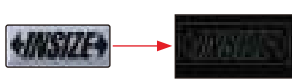
■ **Coordinate transfer:**



■ **Data export to CAD, EXCEL and WORD**



■ **Profile detection:**



■ **Edge-detection:**



■ **Contour scanning:**



■ **CAD measuring:**



Input CAD drawing and set reference, move the stage to make the target box in the center of crosshair, then the software will do automatic measurement

**DIGITAL MEASURING MICROSCOPE CODE 5307-ID100A**

- **Electronic magnification feedback lens:** when the objective lens magnification is changed manually, the software automatically selects the corresponding pre-calibration data and calibration is not needed
- Two methods of LED brightness adjustment, knob adjustment and software adjustment
- Built-in software without computer, operated by mouse
- Take pictures, save to USB flash disk
- Measuring results can be sent to Excel



ELECTRONIC MAGNIFICATION FEEDBACK LENS

BUILT-IN SOFTWARE WITHOUT COMPUTER



**SPECIFICATION**

Sensor	1/2" CMOS
Pixel	2M
Resolution	1920×1080
Magnification	12~77X
Focus distance	100mm
View field	2.7×1.9~17.5×11.9mm
Max workpiece height	60mm
Frame rate	60fps
Output	USB/HDMI
Power supply	power adapter
Dimension (L×W×H)	610×610×660mm
Weight	4.5kg

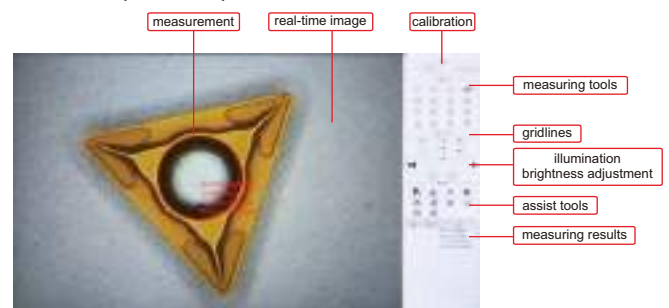
**STANDARD DELIVERY**

Main unit	1 pc
Calibration plate	1 pc
Power adapter	1 pc
Mouse	1 pc
16G USB flash disk	1 pc

**MAGNIFICATION AND MEASURING ACCURACY**

Objective magnification	Magnification	Measuring accuracy
0.7X	12X	±9μm
1X	17X	±9μm
1.5X	26X	±8μm
2X	35X	±7μm
2.5X	43X	±7μm
3X	51X	±7μm
3.5X	60X	±6μm
4X	68X	±6μm
4.5X	77X	±5μm

**SOFTWARE (INCLUDED)**



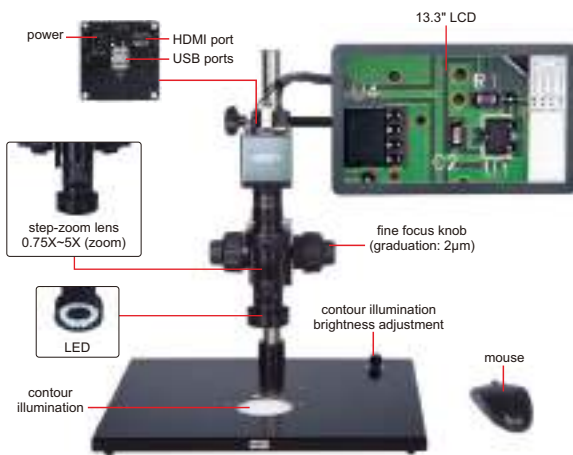
## DIGITAL MEASURING MICROSCOPE (WITH DISPLAY)

**ATTENTION: PLEASE MAKE CONFOCAL ADJUSTMENT AFTER CHANGING CAMERA ADAPTERS OR AUXILIARY OBJECTIVES**

MEASUREMENT

BUILT-IN SOFTWARE  
WITHOUT COMPUTER

TAKE PICTURES



- 1080P high-definition image
- Built-in software without computer, operation by mouse
- Take pictures, saved to USB flash disk
- Measurement results can be output to Excel
- Automatic white balance and exposure
- Brightness, contrast ratio, gain are adjustable

ISM-DL301 (with contour illumination)

### SPECIFICATION

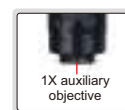
Code	ISM-DL301 (with contour illumination)
Magnification	15X~100X
Sensor	1/2" CMOS
Pixel	2M
Resolution	1920×1080
Frame rate	60fps
Output	HDMI
Power supply	power adapter
Dimension (L×W×H)	570×300×430mm
Weight	6.5kg



16G USB flash disk  
(included)



calibration plate  
(included)



1X auxiliary objective  
(included)



0.5X camera adapter  
(included)



1X camera adapter  
(optional)



2X auxiliary objective  
(optional)

### STANDARD DELIVERY

Main unit	1 pc
0.5X camera adapter	1 pc
1X auxiliary objective	1 pc
Calibration plate	1 pc
16G USB flash disk	1 pc
White/black plate	1 pc
Mouse	1 pc
HDMI cable	1 pc
Power adapter	3 pcs

### MAGNIFICATION AND MEASURING ACCURACY

Objective magnification	Image magnification	Measuring accuracy
0.75X	15X	±8μm
1X	20X	±7μm
1.5X	30X	±6μm
2X	40X	±6μm
2.5X	50X	±6μm
3X	60X	±5μm
3.5X	70X	±5μm
4X	80X	±4μm
4.5X	90X	±4μm
5X	100X	±4μm

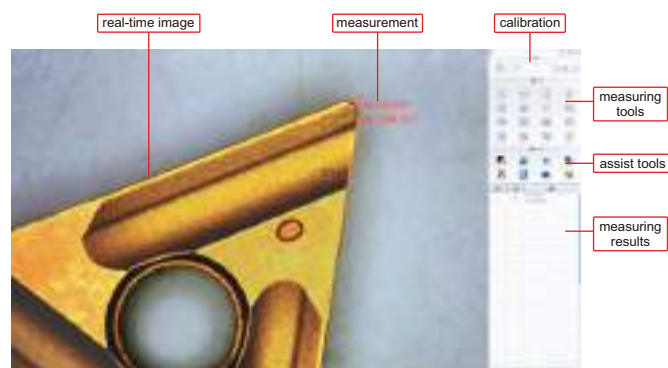
### OPTIONAL ACCESSORY

1X camera adapter	ISM-DL-CA1X
2X auxiliary objective	ISM-DL-OB2X
X-Y glass stage (travel: 74×60mm)	ISM-DL-STAGE
X-Y metal stage	ISM-DL-STAGE1
LED light	
Auxiliary objective	

### MAGNIFICATION, FOCUS DISTANCE AND VIEW FIELD

Auxiliary Objective	Specification	Camera adapter	
		0.5X (included)	1X (optional)
1X (included)	Magnification	15~100X	30~200X
	Focus distance	70±2mm	70±2mm
	View field	16×11~2.5×1.6mm	7.8×5.3~1.2×0.8mm
2X (optional)	Magnification	30~200X	60~400X
	Focus distance	29±2mm	29±2mm
	View field	7.8×5.3~1.2×0.8mm	3.8×2.7~0.6×0.4mm

### SOFTWARE (INCLUDED)



## DIGITAL AUTO FOCUS MICROSCOPE CODE 5302-AF105

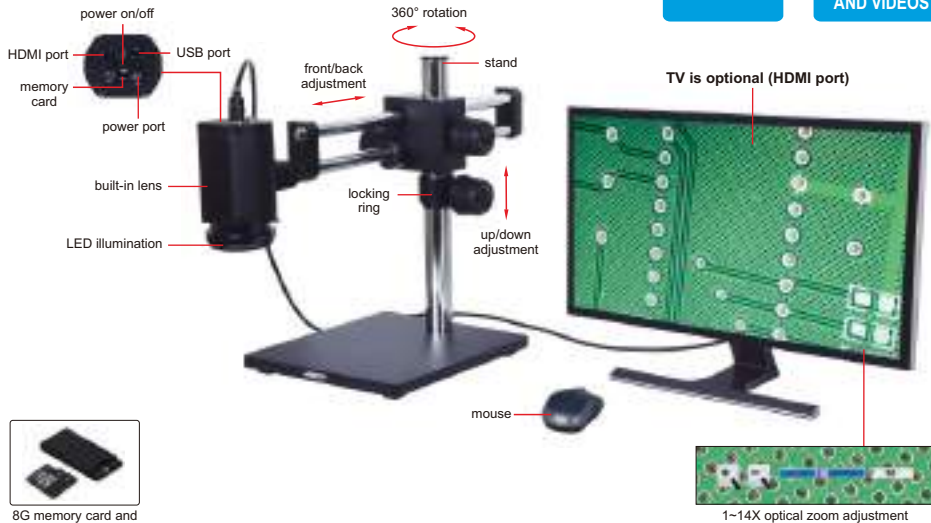
**AUTO FOCUS**  
**TAKE PICTURES AND VIDEOS**



display cross hair  
(blue/green/red/yellow/black/brown colors)



VIDEO



8G memory card and holder (included)

- 1080P high-definition image
- Auto focus camera
- Take pictures and videos, saved to memory card
- Connected to TV by HDMI port
- Automatic exposure and white balance
- Brightness, contrast ratio, gain are adjustable
- Display cross hair  
(blue/green/red/yellow/black/brown colors)

### SPECIFICATION

Magnification	1.8X~27.5X (on 28" TV)
Sensor	1/2.8" CMOS
Pixel	2M
Resolution	1920×1080
Frame rate	60fps
Auto Focus distance	100mm~∞
Output	HDMI
Powersupply	power adapter
Dimension (L×W×H)	500×280×410mm
Weight	17kg

### STANDARD DELIVERY

Main unit (with stand)	1 pc
LED illumination	1 pc
8G memory card and holder	1 pc
Mouse	1 pc
HDMI cable (for TV)	1 pc
Power adapter	2 pcs

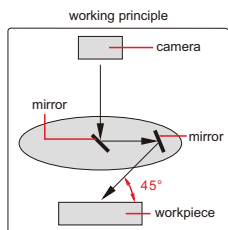
### FOCUS DISTANCE, MAGNIFICATION AND VIEW FIELD (MANUAL FOCUS)

Focus distance	Magnification (on 28" TV)	View field (mm)
100mm	4.5~27.5X	24×14~161×90
150mm	3~21X	30×17~240×128
200mm	2.3~17.5X	38×20~305×176
250mm	2~15X	42×24~320×210
270mm	1.8~14.4X	43×25~378×240

## 3D MOTORIZED ROTATION MICROSCOPE (WITH DISPLAY) CODE 5301-D400

**SUITABLE TO CHECK CONVEX OBJECTS AND WALL OF HOLE**

**TAKE PICTURES AND VIDEOS**



working principle



VIDEO



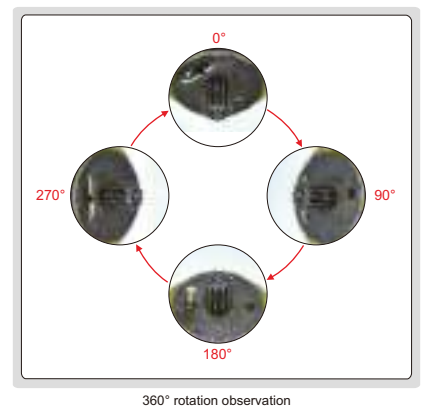
- 1080P high-definition 3D image
- Take pictures and videos, save to USB flash disk
- Automatic white balance and exposure
- Brightness, contrast ratio and gain are adjustable

### SPECIFICATION

Magnification	18X~120X
View field	2.4×1.5mm~16×9mm
Focus distance	20mm
View angle	45°
Sensor	1/2.8" CMOS
Pixel	2M
Resolution	1920×1080
Frame rate	60fps
Output	HDMI
Rotation speed	2~5RPM
Power supply	110/220V, 50/60Hz
Dimension (L×W×H)	570×300×430mm
Weight	10kg

### STANDARD DELIVERY

Main unit	1 pc
Rotation controller	1 pc
X-Y metal stage	1 pc
16G USB flash disk	1 pc
White/black plate	1 pc
Mouse	1 pc
Power adapter	2 pcs

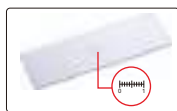


360° rotation observation

# WiFi DIGITAL MEASURING MICROSCOPE CODE ISM-WF200



plastic calibration rule  
(graduation 1mm, included)



glass calibration rule  
(graduation 0.1mm, included)



software CD  
(included)

- Maximum working distance is 5m under WiFi mode
- Can be connected to multiple iPads, Android devices or computers at the same time under WiFi mode
- Take pictures and videos
- Supplied with software

### SPECIFICATION

Magnification	10X~200X
Pixel	1.3M (resolution: 1280x1024)
Illumination	built-in adjustable LED
Power supply	built-in rechargeable battery

### STANDARD DELIVERY

Microscope	1 pc
Focus support ring for 80X/150X	1 pc
Focus support ring for 60X/200X	1 pc
Glass calibration rule (graduation 0.1mm)	1 pc
Plastic calibration rule (graduation 1mm)	1 pc
USB cable and software	1 pc
AC/DC adapter	1 pc

### OPTIONAL ACCESSORY

Stand	ISM-PM-STAND
Green filter	ISM-PM-GREEN
Yellow filter	ISM-PM-YELLOW
Blue filter	ISM-PM-BLUE



stand (code  
ISM-PM-STAND, optional)



filter (optional)



connected to iPad  
by WiFi



connected to Android  
device by WiFi



connected to computer by WiFi

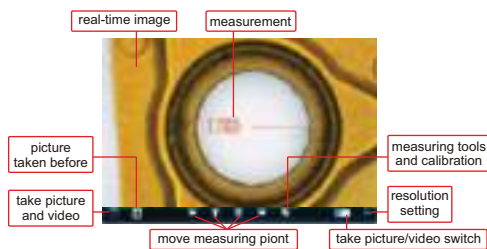


connected to computer by USB cable

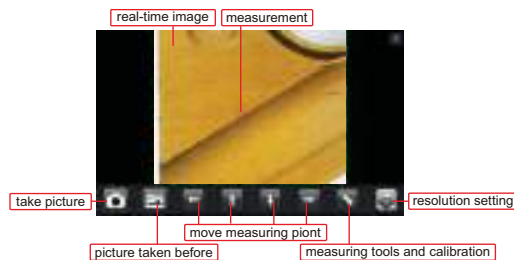
### MAGNIFICATION, FOCUS DISTANCE, VIEW FIELD AND ACCURACY

Magnification	Focus distance	View field	Accuracy
50X	21mm	8.1×6.4mm	30μm
100X	13mm	3.9×3.1mm	15μm
150X	16mm	2.6×2.1mm	10μm
200X	19mm	1.8×1.5mm	8μm

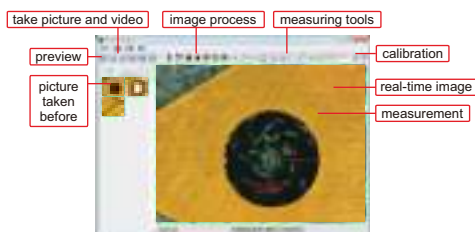
### 1 Software ISM-PAD (for iPad by WiFi)



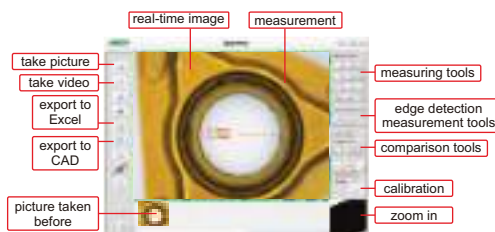
### 2 Software ISM-APK (for Android devices by WiFi)



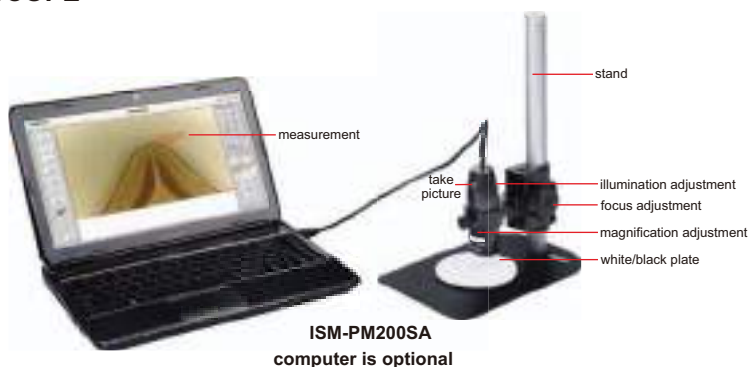
### 3 Software ISM-WF Partner (for computer by WiFi)



### 4 Software ISM-PRO (for computer by USB cable)



## DIGITAL MEASURING MICROSCOPE



software CD (included)

- Can take pictures and videos
- Supplied with software
- Calibration rules (graduation 0.1 and 1mm) are included

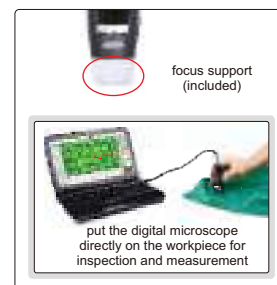
ISM-PM200SA  
computer is optional

### SPECIFICATION

Code	ISM-PM200SA
Magnification	10X-200X
Stand	standard
Pixel	2M (resolution: 1600×1200)
Illumination	built-in adjustable LED
Power supply	USB 2.0 cable (voltage required: 5±0.1V)



filter (optional)



### MAGNIFICATION, FOCUS DISTANCE, VIEW FIELD AND ACCURACY

Magnification	Focus distance	View field (mm)	Accuracy
50X	21mm	8.1×6.4	30μm
100X	13mm	3.9×3.1	15μm
150X	16mm	2.6×2.1	10μm
200X	19mm	1.8×1.5	8μm

### OPTIONAL ACCESSORY

Green filter	ISM-PM-GREEN
Yellow filter	ISM-PM-YELLOW
Blue filter	ISM-PM-BLUE

### SOFTWARE

- **Language:** English, Japanese, Korean, German, Turkey, Portuguese, Chinese
- **Operation system:** Windows 7/8/XP/Vista
- **Measurement tools:**

- measure length of line or distance between two points
- measure distance between point and line
- measure distance between two parallel lines
- measure length of continuous line
- measure area of rectangle
- measure radius, girth and area of circle
- measure radius, length and angle of arc
- measure distance between two circles
- measure angle with three points
- measure angle with two lines
- add text
- add number with circle

#### ■ Edge detection measurement tools:

- detect line automatically, and calculate length
- detect arc automatically, and calculate radius, angle and arc length
- detect two lines automatically, and calculate angle
- detect circle automatically, and calculate radius, girth and area
- detect two parallel lines automatically, and calculate distance



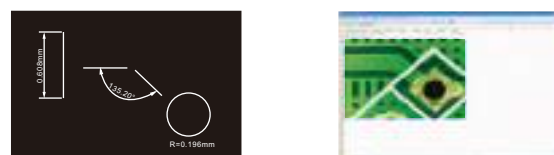
#### ■ Comparison tools:

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

- create line
- create angle
- create circle with tolerance



#### ■ Data export to CAD or Excel:



## INDUSTRIAL MICROSCOPES



- Infinite optical system, polarization observation, dark field observation
- Kohler illumination system provides uniform illumination field
- Objective 50X is spring type

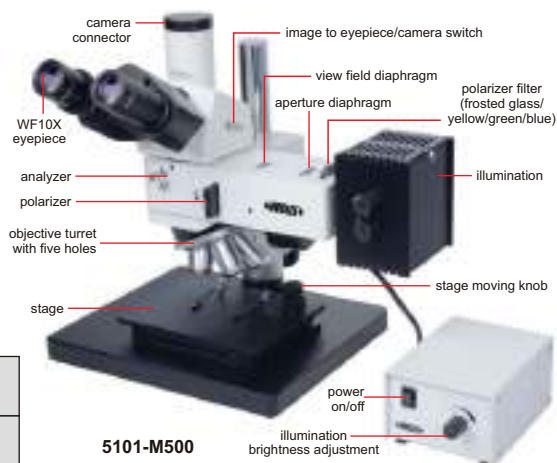
### STANDARD DELIVERY

Main unit	1 pc
Anti-dust cover	1 pc

### SPECIFICATION

Code	5101-M500** (bright field objectives)				5101-M500BD** (bright & dark field objectives)			
Illumination	6V/30W halogen lamp, brightness is adjustable				12V/50W halogen lamp, brightness is adjustable			
Objective (infinite plan achromatic)	bright field objectives				bright & dark field objectives			
	5X	10X	20X	50X	5X	10X	20X	50X
Working distance	26.1mm	20.2mm	8.80mm	3.68mm	9.70mm	9.30mm	7.23mm	2.50mm
Numerical aperture	0.12	0.25	0.40	0.70	0.12	0.25	0.40	0.70
Magnification	50X~500X							
Eyepiece (wide field)	10X (view field: Ø22mm)							
	double layer							
Stage	size: 160×140mm							
	travel: 35x30mm							
Pupil distance	53~75mm							
Diopter adjustment	±5 diopter (one eyepiece)							
Power supply	220V, 50/60Hz**							
Dimension (L×W×H)	415×345×380mm							
Weight	14kg							

\*\* Add "-U" on code No. when power supply is 110V, 50/60Hz



5101-M500

Bright field objective (for 5101-M500)	PL40X	5101-M-OB40X
	PL60X	5101-M-OB60X
	PL80X	5101-M-OB80X
	PL100X	5101-M-OB100X
Camera adapter		5101-M-ADAPTER
Bright & dark field objective (for 5101-M500BD)	PL40X	5101-M-BD40X
	PL60X	5101-M-BD60X
	PL80X	5101-M-BD80X
	PL100X	5101-M-BD100X
10X dividing eyepiece (0.1mm/div.)		5101-M-EPD10X
Digital camera *		ISM-CM20, ISM-CM63, ISM-ZS70-S

\* Digital camera must be used with camera adapter

## METALLURGICAL MICROSCOPES



- Infinite optical system, polarization observation, dark field observation
- Kohler illumination system provides uniform illumination field
- Objectives 50X, 100X are spring type

### STANDARD DELIVERY

Main unit	1 pc
Polarizer and analyzer	1 pc of each
Anti-dust cover	1 pc

### SPECIFICATION

Code	5103-M1000** (bright field objectives)				5103-M1000BD** (bright & dark field objectives)			
Illumination	6V/30W halogen lamp, brightness is adjustable				12V/50W halogen lamp, brightness is adjustable			
Objective (infinite plan achromatic)	bright field objectives				bright & dark field objectives			
	10X	20X	50X	100X	5X	10X	20X	50X
Working distance	20.2mm	8.80mm	3.68mm	0.40mm	9.70mm	9.30mm	7.23mm	2.50mm
Numerical aperture	0.25	0.40	0.70	0.85	0.12	0.25	0.40	0.70
Magnification	100X~1000X				50X~500X			
Eyepiece (wide field)	10X (view field: Ø22mm)							
	double layer							
Stage	size: 242×200mm							
	travel: 30x30mm							
Pupil distance	53~75mm							
Diopter adjustment	±5 diopter (one eyepiece)							
Power supply	220V, 50/60Hz**							
Dimension (L×W×H)	614×250×394mm							
Weight	13kg							

\*\* Add "-U" on code No. when power supply is 110V, 50/60Hz



5103-M1000

### OPTIONAL ACCESSORY

Bright field objective (for 5103-M1000)	PL5X	5101-M-OB5X
	PL40X	5101-M-OB40X
	PL60X	5101-M-OB60X
	PL80X	5101-M-OB80X
Bright & dark field objective (for 5103-M1000BD)	PL40X	5101-M-BD40X
	PL60X	5101-M-BD60X
	PL80X	5101-M-BD80X
	PL100X	5101-M-BD100X
10X dividing eyepiece (0.1mm/div.)		5103-M-EPD10X
Camera adapter *		5101-M-ADAPTER
Digital camera		5101-M-ADAPTER

\* Digital camera must be used with camera adapter

## METALLURGICAL MICROSCOPES



VIDEO

- Infinite optical system, observation in reflected or transmitted illumination, polarizing observation and dark field observation
- Kohler illumination system provides uniform illumination field
- Objectives 40X, 60X are spring type



blue filter (included)



frosted glass filter (included)

### STANDARD DELIVERY

Main unit	1 pc
Anti-dust cover	1 pc
Filter (blue/frosted glass)	1 pc of each

### SPECIFICATION

Code	5102-M600** (bright field objectives)	5102-M600BD** (bright & dark field objectives)
Illumination	6V/30W (transmitted), 6V/30W (reflected)	12V/30W (transmitted), 12V/50W (reflected)
Objective (infinite plan achromatic)	bright field objectives	bright & dark field objectives
	5X    10X    40X    60X	5X    10X    20X    40X
Working distance	26.1mm    20.2mm    3.98mm    3.18mm	9.70mm    9.30mm    7.20mm    3.00mm
Numerical aperture	0.12    0.25    0.60    0.70	0.12    0.25    0.40    0.70
Magnification	50X~600X	50X~400X
Eyepiece (wide field)	10X (view field: Ø22mm)	
Stage	double layer size: 210×140mm travel: 75x50mm	
Pupil distance	53~75mm	
Diopter adjustment	±5 diopter (one eyepiece)	
Power supply	220V, 50/60Hz**	
Dimension (L×W×H)	456×260×498mm	
Weight	11kg	

\*\* Add "-U" on code No. when power supply is 110V, 50/60Hz



5102-M600

### OPTIONAL ACCESSORY

Bright field objective (for 5102-M600)	PL20X	5101-M-OB20X
	PL50X	5101-M-OB50X
	PL80X	5101-M-OB80X
	PL100X	5101-M-OB100X
Camera adapter*		5101-M-ADAPTER
Bright & dark field objective (for 5102-M600BD)	PL50X	5101-M-BD50X
	PL60X	5101-M-BD60X
	PL80X	5101-M-BD80X
	PL100X	5101-M-BD100X
10X dividing eyepiece (0.1mm/div.)		5101-M-EPD10X
Digital camera		ISM-CM20, ISM-CM63, ISM-ZS70-S

\* Digital camera must be used with camera adapter

## ZOOM STEREO MICROSCOPES (ADVANCED TYPE)

LARGE ZOOM RATIO



VIDEO

### SPECIFICATION

Code	ISM-ZS100	ISM-ZS100T
Optical tube	binocular	trinocular
Eyepiece (wide field)	10X (view field: Ø23mm)	
Objective	0.6X~5X (zoom)	
Zoom ratio	1:8.3	
Pupil distance	55~75mm	
Diopter adjustment	±5 diopter (two eyepieces)	
Working distance of objective	115mm	
Max. workpiece height	75mm	
Illumination	adjustable reflected and transmitted LED light	
Dimension (L×W×H)	260×310×490mm	
Weight	4.9kg	

### STANDARD DELIVERY

Main unit	1 pc
Digital camera adapter 0.55X for ISM-ZS100T	1 pc
WF10X eyepiece	2 pcs
Ø100mm glass plate	1 pc
Ø100mm white/black plate	1 pc
Anti-dust cover	1 pc

application (ISM-ZS100T)



LED ring light (optional)



ISM-ZS100T

### OPTIONAL ACCESSORY

Auxiliary objective	0.5X (focus distance: 220mm)	ISM-ZS100-OB05X*
	0.7X (focus distance: 125mm)	ISM-ZS100-OB07X
	2X (focus distance: 45mm)	ISM-ZS100-OB2X
Eyepiece	WF15X (view field: Ø16mm)	ISM-ZS100-EP15X
	WF20X (view field: Ø12mm)	ISM-ZS100EP20X
	WF30X (view field: Ø8mm)	ISM-ZS100-EP30X
Sleeve for auxiliary objective		ISM-ZS30-ADAPTER
LED ring light		ISM-ZSRL
Digital camera adapter 1X for ISM-ZS100T		ISM-ZS100-DA
Digital camera for ISM-ZS100T		ISM-CM20, ISM-CM63, ISM-ZS70-S

\* 0.5X auxiliary eyepiece only must be used with adapter sleeve ISM-ZS30-ADAPTER

## PARALLEL LIGHT STEREO MICROSCOPE CODE ISM-ZS200

PARALLEL LIGHT PATH: REDUCE FATIGUE  
ACCESSORIES CAN BE ADDED INTO LIGHT PATH



- Infinity parallel optical system and 20° inclined optical tube reduce fatigue
- Coaxial illumination is optional for deep holes which cannot be observed by ring light
- Aperture diaphragm is optional for large depth for field and high quality image

### SPECIFICATION

Optical tube	binocular (20° inclined)
Eyeiece (wide field)	10X (view field: Ø22mm)
Objective	0.8X~8X (zoom)
Zoom ratio	1:10
Pupil distance	55~75mm
Diopter adjustment	±5 diopter (both eyepieces)
Working distance of objective	78mm
Max. workpiece height	72mm
Illumination	adjustable reflected and transmitted LED light
Power supply	110/220V, 50/60HZ
Dimension (L×W×H)	240×280×440mm
Weight	4.3kg

### STANDARD DELIVERY

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



### OPTIONAL ACCESSORY

Objective	0.5X achromatic objective (focus distance: 186mm)	ISM-ZS200-OB05X*
	2X plan achromatic objective (focus distance: 32.5mm)	ISM-ZS200-OB2X
	0.5X plan apochromatic objective (focus distance: 126mm)	ISM-ZS200-APO05X*
Eyepiece	WF15X (view field: Ø16mm)	ISM-ZS200-EP15X
	WF20X (view field: Ø12mm)	ISM-ZS200-EP20X
	WF30X (view field: Ø20mm)	ISM-ZS200-EP30X
Sleeve for objective		ISM-ZS30-ADAPTER
Iris diaphragm		ISM-ZS200-IRD
Optical path splitter		ISM-ZS200-OBS
Coaxial illumination		ISM-ZS200-COAXIAL
Digital camera**		ISM-CM20, ISM-CM63

\* 0.5X eyepiece only must be used with adapter sleeve ISM-ZS30-ADAPTER

\*\* Digital camera must be used with optical path splitter

## ZOOM STEREO MICROSCOPES (STANDARD TYPE)

### SPECIFICATION

Code	ISM-ZS50	ISM-ZS50T
Optical tube	binocular	trinocular
Eyeiece (wide field)	10X (view field: Ø22mm)	
Objective	0.8X~5X (zoom)	
Zoom ratio	1:6.3	
Pupil distance	55-75mm (adjustable)	
Diopter adjustment	±5 diopter (two eyepieces)	
Working distance of objective	115mm	
Max. workpiece height	215mm	
Illumination	adjustable reflected and transmitted LED light	
Power supply	110/220V, 50/60Hz	
Dimension (L×W×H)	290x260x480mm	
Weight	4.9kg	



### STANDARD DELIVERY

Main unit	1 pc
WF10X eyepiece	2 pcs
Ø100mm glass plate	1 pc
Ø100mm white/black plate	1 pc
Anti-dust cover	1 pc



LED ring light (optional)

### OPTIONAL ACCESSORY

Auxiliary objective	0.5X	ISM-ZS50-OB05X*
	2X	ISM-ZS50-OB2X
Eyepiece	10X dividing eyepiece (graduation 0.1mm/div.)	ISM-ZS50-EPD10X
	WF15X (view field: Ø16mm)	ISM-ZS50-EP15X
	WF20X (view field: Ø12mm)	ISM-ZS50-EP20X
LED ring light		ISM-ZS-RL
Sleeve for auxiliary objective		ISM-ZS30-ADAPTER
Digital camera for ISM-ZS50T		ISM-CM20, ISM-CM63, ISM-ZS70-S
Camera adapter 0.5X for ISM-ZS50T**		ISM-MAS-ADAPTER

\* 0.5X auxiliary objective must be used with ISM-ZS30-ADAPTER

\*\* 0.5X auxiliary objective must be used with sleeve



## ZOOM STEREO MICROSCOPES (WITH UNIVERSAL STAND)



### SPECIFICATION

Code	5106-M50	5106-M50T
Optical tube	binocular	trinocular
Eyeiece (wide field)	10X (view field: Ø22mm)	
Objective	0.8X~5X (zoom)	
Zoom ratio	1:6.3	
Pupil distance	55~75mm	
Diopter adjustment	±5 diopter (two eyepieces)	
Working distance of objective	115mm	
Max. workpiece height	300mm	
Illumination	adjustable reflected LED ring light	
Power supply	110/220V, 50/60HZ	
Dimension (L×W×H)	790×230×430mm	
Weight	20kg	

### STANDARD DELIVERY

Main unit	1 pc
WF 10X eyepiece	2 pcs
LED ring light	1 pc
Anti-dust cover	1 pc



### OPTIONAL ACCESSORY

Auxiliary objective	0.5X	ISM-ZS50-OB05X*
	2X	ISM-ZS50-OB2X
Eyepiece	10X dividing eyepiece (graduation 0.1mm/div.)	ISM-ZS50-EPD10X
	WF15X (view field: Ø16mm)	ISM-ZS50-EP15X
	WF20X (view field: Ø12mm)	ISM-ZS50-EP20X
Adapter sleeve		ISM-ZS30-ADAPTER
0.5X adapter (5106-M50T)		ISM-MAS-ADAPTER
Digital camera (5106-M50T)**		ISM-CM20, ISM-CM63

\* 0.5X auxiliary objective must be used with adapter sleeve ISM-ZS30-ADAPTER

\*\* Digital camera must be used with 0.5X adapter ISM-MAS-ADAPTER

## ZOOM STEREO MICROSCOPE (BASIC TYPE) CODE ISM-ZS30



### SPECIFICATION

Optical tube	binocular
Eyeiece (wide field)	10X (view field: Ø20mm)
Objective	1X~4.5X (zoom)
Zoom ratio	1:4.5
Pupil distance	55~75mm (adjustable)
Diopter adjustment	±5 diopter (two eyepieces)
Working distance of objective	97mm
Max. workpiece height	147mm
Illumination	adjustable reflected and transmitted LED light
Power supply	110/220V, 50/60Hz
Dimension (L×W×H)	260×190×400mm
Weight	4.3kg

### STANDARD DELIVERY

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



### OPTIONAL ACCESSORY

Auxiliary objective	0.5X	ISM-ZS30-OB05X*
	0.63X	ISM-ZS30-OB06X*
	0.75X	ISM-ZS30-OB07X*
	2X	ISM-ZS30-OB2X
Eyepiece	10X dividing eyepiece (graduation 0.1mm/div.)	ISM-ZS30-EPD10X
	WF15X (view field: Ø16mm)	ISM-ZS50-EP15X
	WF20X (view field: Ø12mm)	ISM-ZS50-EP20X
LED ring light		ISM-ZS-RL
Sleeve for auxiliary objective		ISM-ZS30-ADAPTER
Digital camera		ISM-CM63
Camera adapter 0.75X**		ISM-AD-0D75

\* 0.5X, 0.63X and 0.75X auxiliary objectives must be used with ISM-ZS30-ADAPTER

\*\* Digital camera must be used with camera adapter 0.75X

# DIGITAL CAMERA FOR MICROSCOPES CODE ISM-CM63

**ATTENTION: ADAPTERS ARE NEEDED  
ACCORDING TO MICROSCOPES**



adapter 0.75X (optional)



application



- To be used with computers
- Sony Exmor back-illuminated CMOS sensor
- USB3.0 transmission
- Automatic exposure, gain adjustment, white balance, chrominance adjustment, saturation adjustment, gamma correction, luminance adjustment, contrast adjustment

Software (included)

selectable resolution

histogram (quantify the distribution of color and brightness)

black balance (reduce color difference)

flat field correction (reduce brightness difference)

dark field correction (reduce thermal noise)

The software can control image completely, including measurement, image stitch, extend focus depth, image gray processing, RGB histogram observation, image color sampling, 3D plot(3D representation of image intensity), image exposure, white balance, black balance, image bit depth, flat field correction and dark field correction, etc.

### Measurement tools:

- measure length of line or distance between two points
- measure rectangle
- measure angle
- measure radius, girth and area of circle
- measure axis lengths, girth and area of ellipse
- calibration
- measure distance between two parallel lines
- measure width and diameter of ring
- measure diameter, length, perimeter angle of arc
- measure area of polygon
- measure center distance between two circles
- measure length of open curve

counting

select counting tool

automatic counting

### SPECIFICATION

Sensor (back-up)	1/1.8" CMOS
Resolution	3072×2048
Pixel	6.3M
Single pixel size	2.4×2.4μm
Spectral range	380-650nm (with infrared cut filter)
Frame rate	30fps
Sampling average	1×1
Exposure time	0.1ms~15s
Power supply	USB port
Weight	400g

### STANDAER DELIVERY

Camera (USB cable included)	1 pc
Software	1 pc

### COMPUTER REQUIREMENT

Operation system	Windows/7/8/10
CPU	Intel Core 2 2.8Hz or above
Memery	2GB or above
USB port	USB3.0 (Recommand) or USB2.0
Display	17" or above

### OPTIONAL ACCESSORY

Adapter 0.75X	ISM-AD-0D75
---------------	-------------

Extend focus depth

focus on the top

focus on the bottom

clear image of both top and bottom

automatic image stitching (expand field of view)

left side

right side

after stitching

Binary

separate target and background

3D plot

Visualize the distribution of image brightness and color

## DIGITAL CAMERA FOR MICROSCOPES (WITH PAD) CODE ISM-ZS70-S

MEASUREMENT, TAKE  
PICTURES AND VIDEOS

ATTENTION: CAMERA CONNECTOR AND ADAPTER  
ARE NEEDED ACCORDING TO MICROSCOPES

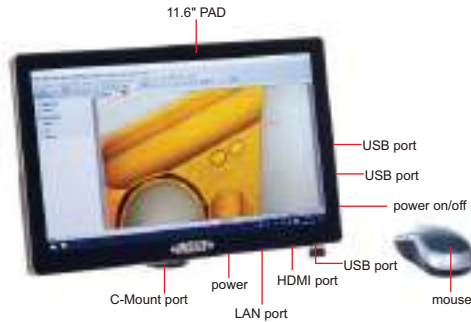


glass calibration rule  
(included,  
graduation 0.1mm)



VIDEO

- Windows 10 operation system
- Built-in software, can take pictures and videos, can measure  
Language: Chinese, English, French, Japanese,  
German, Polish, Arabic
- Automatic exposure, white balance, brightness,  
contrast ratio, saturation are adjustable
- Image process feature: zoom in/out, flip, mirror, stitching and so on
- Output to Excel or CSV file

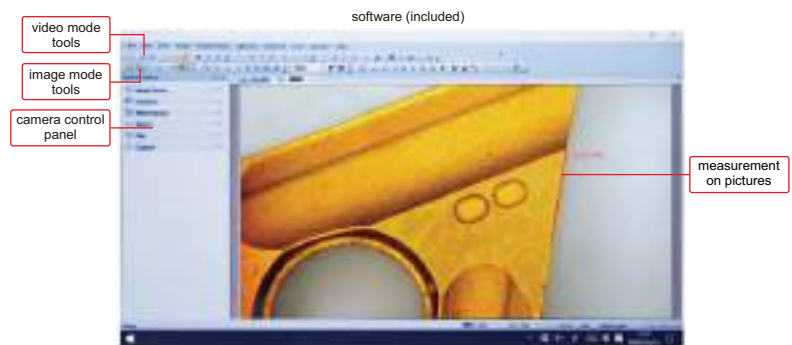


### SPECIFICATION

Sensor	1/2.3" CMOS
Pixel	16M
Resolution	800×600, 1600×1200, 1920×1080, 2048×1536, 2304×1728, 2592×1944, 4608×3456
Frame rate	30fps (1920×1080)
Output	HDMI, USB 3.0
Power supply	power adapter
Dimension (L×W×H)	280.3×177.4×12.5mm
Weight	0.9kg

### STANDARD DELIVERY

Main unit	1 pc
Mouse	1 pc
Glass calibration rule (graduation 0.1mm)	1 pc
AC/DC adapter	1 pc



### Measurement tools



measure line



measure meander line



arrow mark



measure polygon



calibration



measure angle



measure rectangle



measure circle



text mark



show/hide scale

## PORTABLE MEASURING MICROSCOPE



ISM-PM100

### SPECIFICATION

Code	ISM-PM100
Total magnification	100X
Eyepiece	10X with graduation
Objective (achromatic)	10X (numerical aperture: 0.25)
Working distance	7mm
Graduation	0.01mm
Viewing field	Ø1.8mm
Focus range	30mm
Illumination	LED light
Diameter of base	Ø63mm
Height	210mm
Weight	650g

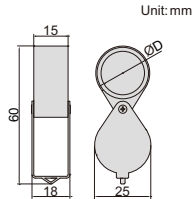
### STANDARD DELIVERY

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

**FOLDING MAGNIFIER**



7511-8



Unit: mm

- Glass lens

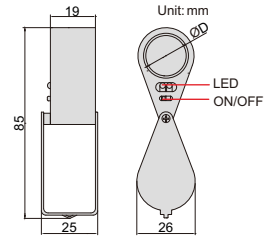
Code	Magnification	Lens diameter (ØD)
7511-8	10X	Ø21mm



**FOLDING MAGNIFIER WITH ILLUMINATION**



7515-10



Unit: mm

- Glass lens
- Powered by 3xLR927 batteries (included)

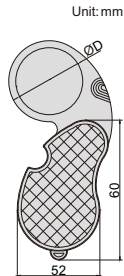
Code	Magnification	Lens diameter (ØD)
7515-10	10X	Ø21mm



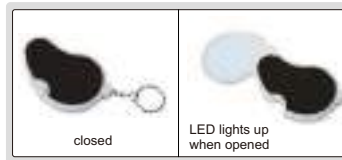
**FOLDING MAGNIFIER WITH ILLUMINATION**



7514-1

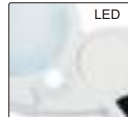


Unit: mm



- Resin lens
- Powered by 2xCR1620 batteries (included)
- LED lights up automatically when opened

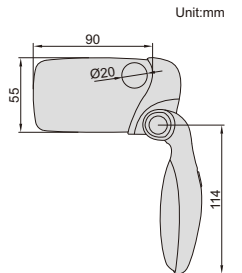
Code	Magnification	Lens diameter (ØD)
7514-1	2.5X	Ø45mm



**MAGNIFIER WITH ILLUMINATION**



7518-26



Unit: mm

- Two magnifications
- LED illumination
- Powered by 2 pcs AAA batteries (included)
- Resin lens

Code	Magnification	Lens size
7518-26	2X/6X	90x55mm



**MAGNIFIERS WITH ILLUMINATION**



7513-2

7513-4

- Glass lens
- Powered by 3xAAA batteries (included)

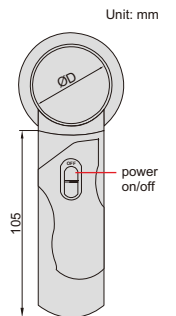
Code	Magnification	Lens diameter (ØD)	L	h
7513-2	2X	Ø75mm	170mm	90mm
7513-4	4X	Ø50mm	145mm	90mm



**MAGNIFIER WITH TWO LENSES**



7522-610



Unit: mm

- Resin lens
- Interchangeable lenses
- Powered by 3 pcs AAA batteries (included)

Code	Lens number	Magnification	Lens diameter (ØD)
7522-610	2 pcs	6X	50mm
		10X	37mm



## MAGNIFICATION GLASSES

- Resin lens
- Interchangeable lenses
- Powered by 3 pcs AAA batteries (included)



7523-3D5

2 pcs LED



head band (included)



interchangeable lenses



Code	Lens number	Magnification
7523-3D5	5 pcs	1X
		1.5X
		2X
		2.5X
		3.5X

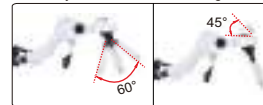
adjustable holder and lens angle



moveable lens for focus



adjustable lens and LED angle



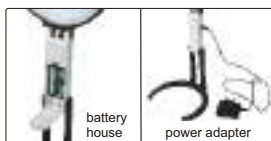
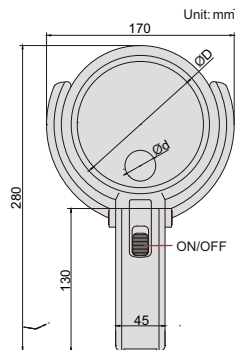
## THREE WAYS MAGNIFIER WITH ILLUMINATION



three ways use



7512-1



battery house

power adapter



10 pcs LED

- Resin lens
- Powered by 2xAA batteries (included) or power adapter (110~240V, 50~60Hz)

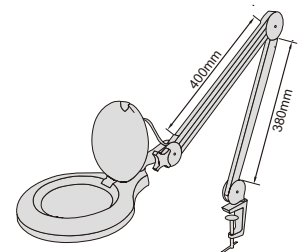
Code	Magnification	Lens diameter (ØD)	Lens diameter (Ød)
7512-1	2X/4X	Ø120mm	Ø28mm

## TABLE MAGNIFIER WITH ILLUMINATION CODE 7516-5D

60 pcs LED



- LED illumination, working life 20000h

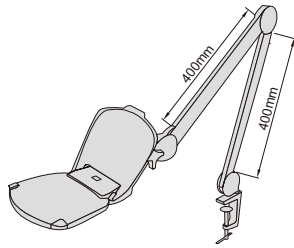


### SPECIFICATION

Magnification	2.25X
Diopter	5D
Lens diameter	Ø122mm
Illumination	power: 7W, illuminance: 420lm
Power supply	100~240V, 50~60Hz

**TABLE MAGNIFIERS WITH ILLUMINATION**

- LED illumination, working life 20000h
- Resin lens



**SPECIFICATION**

Code	7520-320D	7521-3D
Magnification	double magnification 1.75X/6X	1.75X
Diopter	3D/20D	3D
Lens diameter	160×127mm	Ø126mm
Illumination	power: 6W, illuminance: 550lm	
Power supply	power adapter 12V, 1A	



**TABLE MAGNIFIER WITH ILLUMINATION  
CODE 7517-3D**



- Four steps brightness adjustment
- LED illumination, working life 20000h
- Resin lens

**SPECIFICATION**

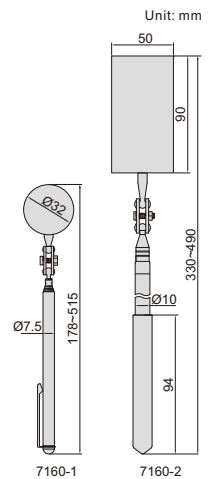
Magnification	1.75X
Diopter	3D
Lens diameter	Ø125mm
Illumination	power: 3W, illuminance: 260lm
Power supply	power adapter 12V, 1A

**TELESCOPING INSPECTION MIRRORS**



- Inspect hidden areas
- Rotation of the mirror: 360°
- Length of the handle is adjustable, the handle is made of stainless steel

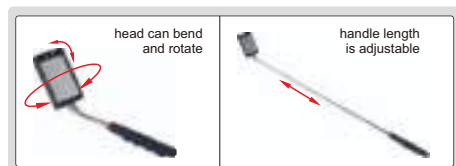
Code	Size of mirror	Length
7160-1	Ø32mm	178~515mm
7160-2	50x90mm	330~490mm



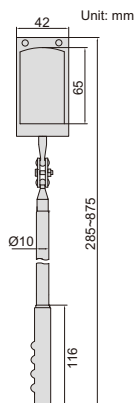
**TELESCOPING INSPECTION MIRROR  
(WITH ILLUMINATION)**



- Inspect hidden areas
- Head can bend and rotate
- Telescoping handle, made of stainless steel
- With two CR2032 batteries



Code	Size of mirror	Length
7162-1	65x42mm	285~875mm

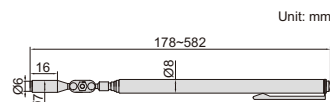


**TELESCOPING MAGNETIC PICK-UP**

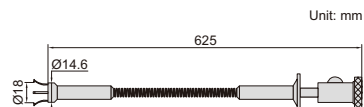


- Pick up metal parts from hidden areas
- Rotation of the magnetic head: 360°
- Length of the handle is adjustable, the handle is made of stainless steel

Code	Size of magnetic tip	Magnetic force	Length
7161-1	Ø6mm	0.45kgf	178~582mm



## FLEXIBLE PICK-UP AND FLASHLIGHT



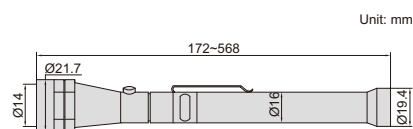
- To illumination, to pick up parts from hidden areas, or to pick up metal parts
- Flexible spring rod, made of stainless steel
- Three LR44 batteries

7164-1



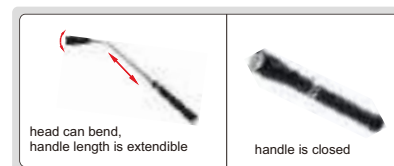
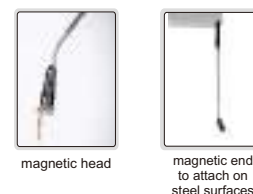
Code	Magnetic force	Flashlight range	Battery life
7164-1	0.9kgf	1m	24h

## TELESCOPING MAGNETIC PICK-UP AND FLASHLIGHT



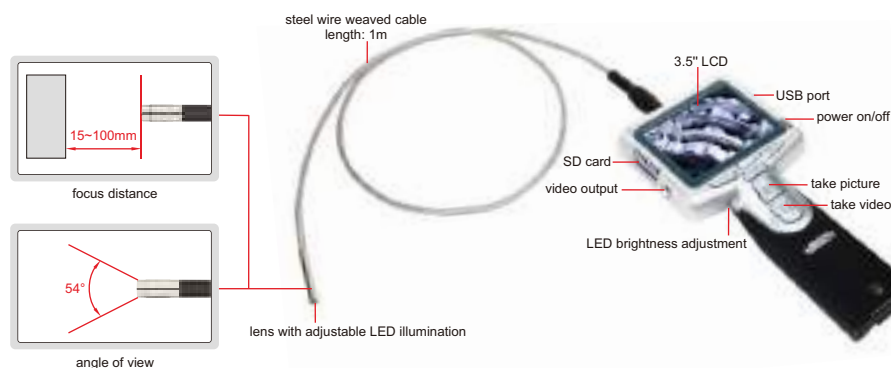
- For illumination and pick up metal parts in hidden areas
- Head can bend
- Telescoping handle, made of stainless steel
- Magnetic head and end
- With four LR44 batteries

7163-1



Code	Magnetic end	Magnetic head	Flashlight range	Battery life	Length (mm)
7163-1	4kgf	2kgf	3m	8h	172-568

## VIDEOSCOPE CODE ISV-E10



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

**OPTIONAL CABLE LENGTH 3M, 5M AND 10M**

**IP65 WATERPROOF**

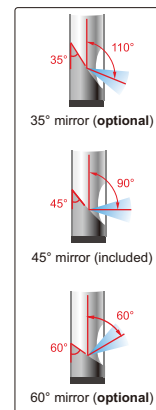


### SPECIFICATION

Lens	diameter	5.5mm
	pixel	0.3M
	resolution	640×480
Cable	frame rate	30fps
	length	1m
Main unit	type	steel wire weaved cable
	function	take picture, take video
	file format	picture: JPG, video: AVI
	image process	brightness, contrast, color saturation
	memory	2G SD card
	output	TV, USB
	power supply	rechargeable battery (for 3 hours working)
Weight		450g

### STANDARD DELIVERY

Main unit	1 pc
Cable with lens	1 pc
2G SD card	1 pc
45° mirror	1 pc
AC/DC adapter	1 pc
Video output cable	1 pc
USB cable	1 pc
Lens cleaning kit	1 pc



### OPTIONAL ACCESSORY

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

## COATING THICKNESS GAGE CODE 9501-1200

FOR MAGNETIC AND  
NON-MAGNETIC SUBSTRATES

DATA  
OUTPUT



software CD  
(included)

- Magnetic induction probe (Fe) is to measure the thickness of non-magnetic coating on magnetic substrate.  
Substrate: iron, steel, magnetic stainless steel (does not include non-magnetic stainless steel)  
Coating: zinc, copper, chrome, tin, plastic, powder, paint (nickel is not included)
- Eddy current probe (NFe) is to measure the thickness of non-conductive coating on non-magnetic substrate.  
Substrate: copper, aluminum, zinc, non-magnetic stainless steel  
Coating: plastic, powder, paint, anodizing
- Low and high limits with judgement
- Automatic power off

### SPECIFICATION

Probe type	Fe (included) magnetic induction probe	NFe (optional) eddy current probe	Fe90 (optional) magnetic induction probe for bores and grooves	Fe10 (optional) magnetic induction probe for large range
Measuring range	0~1250μm	0~1250μm	0~1250μm	500~10000μm
Accuracy	±(3%L+1)μm (range≤1250μm) ±(3%L+10)μm (range>1250μm) L is measuring thickness in μm			
Resolution	0.1μm (range<100μm) 1μm (range≥100μm)			
Measuring mode	continuous and single			
Minimum substrate thickness	0.5mm	0.3mm	0.5mm	2mm
Minimum measuring area	Ø7mm	Ø5mm	Ø7mm	Ø40mm
Minimum curvature radius of convex workpiece	1.5mm	3mm	—	10mm
Memory	500			
Power supply	2x1.5V AA batteries			
Dimension	128x68x32mm			
Weight	340g			



eddy current probe NFE (optional) with zero calibration block



magnetic induction probe FE90 for bores and grooves (optional)



magnetic induction probe FE10 for large range (optional)



zero calibration block for FE (included)



calibration foils (included)



data transmission cable (optional)

### STANDARD DELIVERY

Main unit	1 pc
Magnetic induction probe (Fe)	1 pc
Zero calibration block for Fe probe	1 pc
Calibration foils (50μm, 100μm, 250μm, 500μm, 1000μm)	1 set
1.5V AA battery	2 pcs
USB cable and software	1 pc

### OPTIONAL ACCESSORY

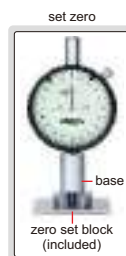
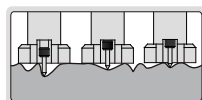
Data transmission cable	9501-1200-SPC
Eddy current probe (NFE) with zero calibration block	9501-1200-NFE
Magnetic induction probe (FE90) for bores and grooves	9501-1200-FE90
Magnetic induction probe (FE10) for large range	9501-1200-FE10

## SURFACE PROFILE GAGE

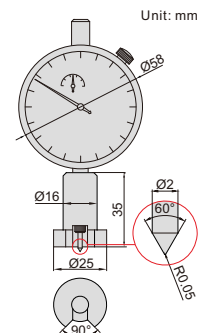


- Measure peak-to-valley height of blast cleaned surface.  
If the profile is too low, the adhesion of the coating to the surface will be reduced.  
If the profile is too high, there is the danger that the profile peaks will remain uncoated, allowing rust spots to occur.
- Meet ASTM D 4417-B
- Zero set block is included, set zero before measurement
- Stainless steel base

measure peak-to-valley height of blast cleaned surface

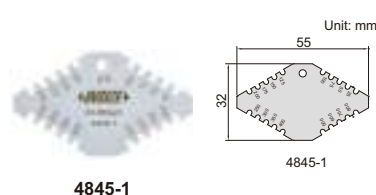


2344-1

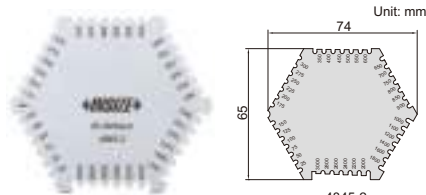


Code	Range	Dial indicator stroke	Dial indicator graduation	Accuracy
2344-1	0-1mm	1mm	0.001mm	±0.005mm

## WET FILM GAGES



4845-1



4845-2

- Made of stainless steel

Code	Range	Accuracy	Thickness
4845-1	25-800μm	±5μm	1.8mm
4845-2	25-3000μm	25-100μm: ±5μm 100μm-3000μm: ±5%	1mm



## ULTRASONIC THICKNESS GAGE CODE ISU-250C



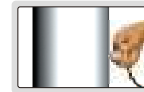
DATA  
OUTPUT



- Measure the thickness from one side of objects, suitable for pipes, tanks, etc.
- Applicable material: metal, plastic, glass, nylon, resin, ceramic, ice
- Low and high limits with judgement
- Average calculation of maximum 9 readings
- Data can be input to Excel and Word as keyboard signal

### SPECIFICATION

Resolution	0.01mm (range<100mm) 0.1mm (range≥100mm)
Repeatability	0.03mm (range<100mm) 0.1mm (range≥100mm)
Accuracy	±0.04mm (range<10mm) ±(0.04+H/1000)mm (range 10~100mm) ±H/333mm (range≥100mm) H is the thickness to be measured in mm
Velocity	1000-9999m/s
Power supply	2×1.5V AAA batteries
Dimension	64×116×27mm
Weight	220g



couplant (included)



transducer ISU-T04  
(optional)



transducer ISU-T06  
(optional)



transducer ISU-T12  
(optional)



transducer ISU-T13  
(optional)

### STANDARD DELIVERY

Main unit	1 pc
Transducer ISU-T08	1 pc
Battery (AAA)	2 pcs
Couplant (for ISU-T04, ISU-T06, ISU-T08, ISU-T12)	1 bottle
USB cable	1 pc

### OPTIONAL ACCESSORY

Transducer	ISU-T04, ISU-T06, ISU-T12, ISU-T13
Couplant (for ISU-T13)	ISU-HT5-COUPPLANT

### SPECIFICATION OF TRANSDUCERS

Code	Frequency	Diameter (Ød)	Measuring range	Minimum size of pipes for measurement (diameter × wall thickness)	Applicable temperature	Application
ISU-T08 (included)	5.0MHz	10.8mm	0.8~300mm	20×1.2mm	<60°C	general use
ISU-T04 (optional)	10.0MHz	6mm	0.7~20mm	10×1mm	<60°C	for small tubes
ISU-T06 (optional)	7.5MHz	8.5mm	0.7~50mm	15×1.2mm	<60°C	for thin workpieces
ISU-T12 (optional)	2.0MHz	16.3mm	2~400mm	30×4mm	<60°C	for casting steel
ISU-T13 (optional)	5.0MHz	13mm	2~200mm	25×3mm	<350°C	for high temperature

## ULTRASONIC THICKNESS GAGE (BASIC TYPE) CODE ISU-100D



ATTENTION: NOT SUITABLE  
FOR CASTING WORKPIECES



- Measure the thickness from one side of objects, suitable for pipes, tanks, etc.
- Applicable material: metal, plastic, glass, nylon, resin, ceramic, ice



### SPECIFICATION

Measuring range	0.8~300mm	
Resolution	0.01mm (range<100mm) 0.1mm (range≥100mm)	
Accuracy	±0.04mm (range<10mm) ±(0.04+H/1000)mm (range 10~100mm) ±H/333mm (range≥100mm) H is the thickness to be measured in mm	
Transducer	frequency	5MHz
	diameter (Ød)	10.8mm
Minimum size of pipes for measurement	20×1.2mm (diameter × wall thickness)	
Applicable temperature	<60°C	
Velocity	1000-9999m/s	
Power supply	2×AAA batteries	
Dimension	114×64×28mm	
Weight	200g	

### STANDARD DELIVERY

Main unit	1 pc
Transducer	1 pc
Couplant	1 bottle
Battery (AAA)	2 pcs

# ROUGHNESS TESTER CODE ISR-S400

**INSIZE PLUS**  
MADE IN EUROPE



CUSTOM-MADE  
PROBES ARE AVAILABLE

DATA  
OUTPUT

PROBE CAN  
BE REPLACED

- Automatic probe leveling
- Language: English, French, German, Italian, Spanish, Portuguese
- 12 roughness parameters
- Can set tolerance
- Measuring range up to 400µm, can measure grit and shot blasting
- Traverse length up to 16mm
- The probe can be set at 90° or 270°, for transverse measurement
- Memory of maximum 100 results



software CD  
(included)



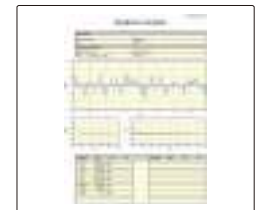
heavy duty test stand (optional)



light duty test stand (optional)



probe cover (included), can put the small  
workpieces directly on the probe for measurement



output software (included), output data  
and graphic to Excel, make report, print



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



adjustable stand (included)



transverse measurement

## SPECIFICATION

Parameters	Ra, Rq, Rt, Rz, Rc, Rmax, Rsm, Rpc, Rmr, R, AR, Rx	
Range	Ra: 0~100µm, Rt: 0.05~400µm	
Accuracy	±3%	
Resolution (Ra)	0.001µm	
Probe	type	inductive
	stylus radius/angle	5µm/90°
	stylus material	diamond
Measuring force	0.75mN	
Measuring unit	µm/µin	
Cut off	0.25/0.8/2.5mm	
Number of cut-offs	1 to 5	
Traverse speed	1mm/s	
Memory	100 measurement results	
Output	USB	
Power	built-in rechargeable battery	
Dimension (L×W×H)	122x52x68mm	
Weight	650g	

## STANDARD DELIVERY

Main unit	1 pc
Standard probe	1 pc
Calibration block	1 pc
Adjustable stand	1 pc
AC/DC adapter	1 pc
Probe cover	1 pc
USB cable and output software	1 pc

## OPTIONAL ACCESSORY

Extension rod	ISR-S400-ER100
Probe	see details
Measuring software	ISR-S-SOFTWARE
Heavy duty test stand	ISR-S400-DK
Light duty test stand	ISR-S400-STAND

# ROUGHNESS TESTER CODE ISR-C002

CAN BE CONTROLLED  
BY COMPUTER

DATA  
OUTPUT

- 21 roughness parameters
- Display roughness values, profile and curve
- Memory of maximum 100 results
- Automatic power off



software CD (included)



printer (optional)



data transmission  
cable (optional)



adjustable stand (included)



probe cover (included)



light duty test stand  
(optional)



Unit: mm

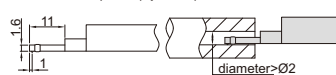
extension rod (optional), code ISR-C002-ER



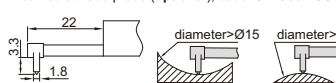
transverse rod (optional), code ISR-C002-TR



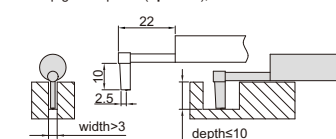
small hole probe (optional), code ISR-C002-SBP



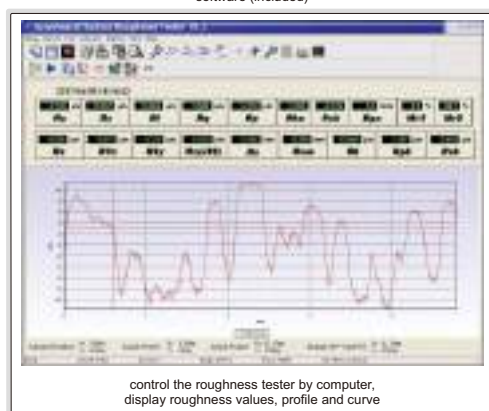
curved surface probe (optional), code ISR-C002-SUR



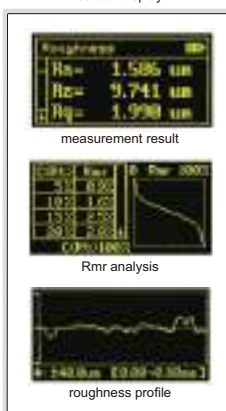
deep groove probe (optional), code ISR-C002-DGP



software (included)



screen display



## SPECIFICATION

Parameters	Ra, Rz, Rq, Rv, Rp, RS, R3z, R3y, Rt, Rz (JIS), Rk, Rku, Rsm, Rpc, Rpk, Rvk, Rsk, Mr1, Mr2, Ry (JIS), Rmax	
Range	160µm	
Accuracy	±10%	
Resolution (Ra)	0.001µm	
Probe	type	inductive
	stylus radius/angle	5µm/90°
	stylus material	diamond
Measuring force	4mN	
Measuring unit	µm/µin	
Cut off	0.25/0.8/2.5mm	
Number of cut-off	1 to 5	
Traverse speed	0.5mm/s, 1mm/s	
Memory	100 measurement results	
Output	USB	
Power	built-in rechargeable battery	
Dimension (L×W×H)	141×55×40mm	
Weight	400g	

## STANDARD DELIVERY

Main unit	1 pc
Standard probe	1 pc
Calibration block and support	1 pc of each
Adjustable stand	1 pc
Probe cover	1 pc
Software	1 pc
AC/DC adapter	1 pc

## OPTIONAL ACCESSORY

Extension rod	ISR-C002-ER
Transverse rod	ISR-C002-TR
Deep groove probe	ISR-C002-DGP
Small hole probe	ISR-C002-SBP
Curved surface probe	ISR-C002-SUR
Light duty test stand	ISR-C002-STAND1
Heavy duty test stand	ISR-C002-STAND
Printer	ISR-C002-PRINTER
Data transmission cable	ISR-C002-SPC

# ROUGHNESS TESTER (SEPARABLE TYPE) CODE ISR-C300

CAN BE OPERATED BY  
COMPUTER OR MOBILE PHONES

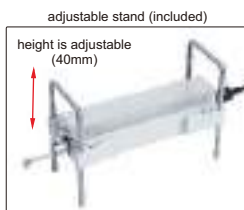
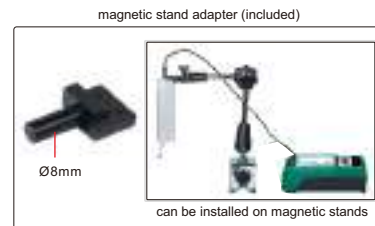
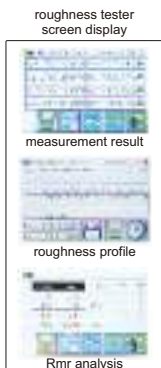
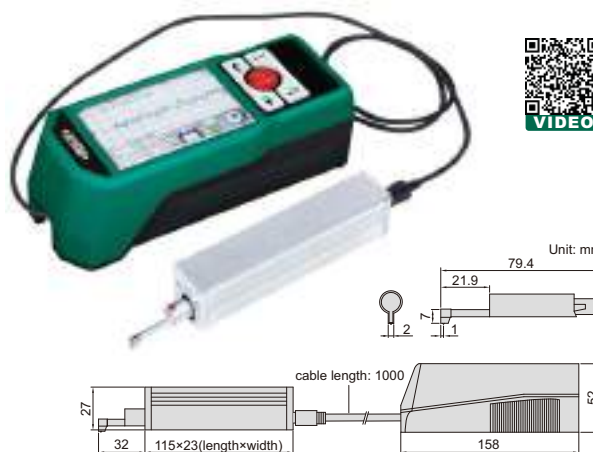
DATA  
OUTPUT

BLUETOOTH

TOUCH  
SCREEN



- Roughness tester can be operated by mobile phones (only Android system) or computers
- Data can be sent to Excel by connecting with computers via bluetooth or USB cable
- Support bluetooth printer
- 22 roughness parameters
- Meet ISO, DIN, ANSI, JIS standards
- Display roughness values, profile and curve
- Memory of maximum 100 data and waveform
- Built-in lithium battery, working time more than 50 hours
- Touch screen
- Automatic power off



NOTE: Please confirm whether the adapter can fit your height gages. When using INSIZE height gages, please use the dial test indicator holder of height gages

### optional probes

<p>extension rod (optional), code ISR-C002-ER</p>	<p>deep groove probe (optional), code ISR-C002-DGP</p>	<p>tiny hole probe (optional), code ISR-C002-SBP</p>	<p>curved surface probe (optional), code ISR-C002-SUR</p>	<p>small hole probe (optional), code ISR-C002-PROBE</p>
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### SPECIFICATION

Parameters		Ra, Rz, Rq, Rv, Rp, Rs, R3z, R3y, Rt, Rc, Rz (JIS), Rk, Rku, Rsm, Rpc, Rpk, Rvk, Rsk, Mr1, Mr2, Ry, Rmax
Range	X axis	17.5mm
	Z axis	320μm (-160μm~160μm)
Accuracy		±10%
Resolution (Ra)		0.001μm
Probe	type	inductive
	stylus radius/angle	5μm/90°
	stylus material	diamond
Measuring force		4mN
Measuring unit		μm/μin
Cut off		0.25/0.8/2.5mm
Number of cut-offs		1~5
Traverse speed		0.135mm/s, 0.5mm/s, 1mm/s
Memory		100 measurement results
Output		USB and bluetooth
Power		built-in rechargeable battery
Dimension (L×W×H)		158×64×52mm
Weight		400g

### STANDARD DELIVERY

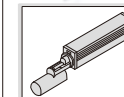
Main unit	1pc
Standard probe	1pc
Calibration block and support	1pc of each
Connecting cable (long and short)	1pc of each
Magnetic stand adapter	1pc
Adjustable stand	1pc
Touch pen	1pc
Software and USB cable	1pc
AC/DC adapter	1pc

software CD (included)

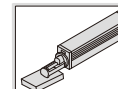


probe support (optional)

support for flat surface



support for cylindrical surface



### OPTIONAL ACCESSORY

Extension rod	ISR-C002-ER
Small hole probe	ISR-C002-PROBE
Tiny hole probe	ISR-C002-SBP
Deep groove probe	ISR-C002-DGP
Curved surface probe	ISR-C002-SUR
Bluetooth printer	ISR-C002-PRINTER
Height gage adapter	ISR-C300-LB1
Bluetooth receiver	ISR-C300-RECEIVER
Support for flat surface	ISR-C300-COVER1
Support for cylindrical surface	ISR-C300-COVER2

## ROUGHNESS TESTER CODE ISR-C003



calibration block (included)

- Unit:  $\mu\text{m}$ ,  $\mu\text{in}$
- Automatic power off

### STANDARD DELIVERY

Main unit	1 pc
Calibration block	1 pc
AC/DC adapter	1 pc



fixture for small shafts (optional)



application

### SPECIFICATION

Parameters	Ra, Rz, Rq, Rt	
Range	Ra, Rq: 0.05~15 $\mu\text{m}$ Rz, Rt: 0.1~50 $\mu\text{m}$	
Accuracy	$\pm 10\%$	
Resolution (Ra)	0.01 $\mu\text{m}$	
Probe	type	piezoelectric
	stylus radius/angle	10 $\mu\text{m}/90^\circ$
	stylus material	diamond
Measuring force	5mN	
Measuring unit	$\mu\text{m}/\mu\text{in}$	
Cut off	0.25/0.8/2.5mm	
Evaluation length	1.25mm for cut off 0.25mm	
	4mm for cut off 0.8mm	
	5mm for cut off 2.5mm	
Traverse speed	0.75mm/s	
Power	built-in rechargeable battery	
Dimension (L×W×H)	106×70×24mm	
Weight	200g	

### OPTIONAL ACCESSORY

Fixture for small shafts	ISR-C003-FIXTURE
--------------------------	------------------

## SURFACE ROUGHNESS SPECIMEN SET CODE ISR-CS130-W

**INSIZE PLUS**  
MADE IN EUROPE



- For checking, identifying and specifying the roughness by symbol
- Rust-proof, made of pure Nickel

Machining method	Roughness (Ra)	Roughness (Rz)	Quantity
Flat lapping	0.05, 0.1, 0.2 $\mu\text{m}$	0.55, 1, 1.6 $\mu\text{m}$	3 pcs
	2, 4, 8 $\mu\text{m}$		
Reaming	0.4, 0.8, 1.6 $\mu\text{m}$	3, 6, 10 $\mu\text{m}$	3 pcs
	16, 32, 63 $\mu\text{m}$		
Plain grinding	0.05, 0.1, 0.2, 0.4, 0.8, 1.6 $\mu\text{m}$	0.55, 1, 1.6, 3, 6, 10 $\mu\text{m}$	6 pcs
	2, 4, 8, 16, 32, 63 $\mu\text{m}$		
Horizontal milling	0.4, 0.8, 1.6, 3.2, 6.3, 12.5 $\mu\text{m}$	2.5, 4, 8, 16, 32, 50 $\mu\text{m}$	6 pcs
	16, 32, 63, 125, 250, 500 $\mu\text{m}$		
Vertical milling	0.4, 0.8, 1.6, 3.2, 6.3, 12.5 $\mu\text{m}$	2.5, 4, 8, 16, 32, 50 $\mu\text{m}$	6 pcs
	16, 32, 63, 125, 250, 500 $\mu\text{m}$		
Turning	0.4, 0.8, 1.6, 3.2, 6.3, 12.5 $\mu\text{m}$	2.5, 4, 8, 16, 32, 50 $\mu\text{m}$	6 pcs
	16, 32, 63, 125, 250, 500 $\mu\text{m}$		

## DIGITAL SOUND LEVEL METER CODE 9351-130

DATA OUTPUT



software (included), display measurement values and graph, save and output data



software CD (included)



- Automatically select best range: 30~80dB, 40~90dB, 50~100dB, 60~110dB, 70~120dB, 80~130dB
- Over range indicator
- Real time, average, maximum modes
- Memory 16000 measurement values
- AC signal output: 0.707 Vrms at FS, impedance approx. 600 $\Omega$
- DC signal output: 10mV/dB, impedance approx. 100 $\Omega$
- Automatic power off

### SPECIFICATION

Measuring range	30~130dB
Accuracy	$\pm 2\text{dB}$
Resolution	0.1dB
Sampling time	0.5s for digital, 0.05s for analogue
Response time	fast: 125ms, slow: 1s
Frequency	30Hz~8KHz
Frequency weighting	A/C
Microphone	electret condenser type
Output	RS232, AC/DC
Power supply	6×AAA batteries
Dimension	265×80×69mm
Weight	317g

### STANDARD DELIVERY

Main unit	1 pc
RS232 cable and software	1 pc
Output connector	1 pc
Battery (AAA)	6 pcs

## INFRARED THERMAL IMAGING CAMERA CODE 9130-H360

**IP54**  
WATERPROOF

**DATA**  
OUTPUT



- 4 inch high-brightness touchscreen
- Four image presentations: IR, visible, PIP and MIF
- WIFI real-time sharing, one-click connection to mobile devices
- USB interface for data transmission and charging
- Built-in illumination
- Video can be recorded and stored

### SPECIFICATION

IR resolution	192×144
NETD	≤50mk
Focus length	7mm/F1.1
Angle of view	37.8°×28.8°
Spatial resolution	3.45mrad
Focus adjustment	focus-free
Detector type	unrefrigerated vanadium oxide/8~14μm
Pixel size	25μm
Visible camera	resolution 500W, focus-free
Display	4" highlight LCD touch screen, 480×800
Image mode	IR image, visible image, MIF, PIP
Digital zoom	1.1~4
Color palette	8 modes
Temperature range	-20°C~350°C
Accuracy	±2°C or ±2% (of maximize range)
Emissivity	0.01-1.00 (adjustable)
Storage	in camera and TF card (up to 32GB)
Image format	JPG with temp info
Output	USB, HDMI
Power	rechargeable Li-ion battery (7.4V), working time≥4h
Operating temperature	-10°C~50°C
Vibration	10HZ~150HZ~10HZ 0.15mm (IEC 60068-2-6)
Impact	30g 11ms (IEC 60068-2-27)
Weight	735g
Dimension	274x97x78mm

### STANDARD DELIVERY

Main unit	1 pc
Power supply adapter	1 pc
USB cable	1 pc
HDMI cable	1 pc
Capacitive screen gloves	1 pc
TF card (16GB)	1 pc

## LUX METER CODE 9371-L110

- Measure visible light emitted by fluorescent lamp, metal halide lamp, high voltage sodium lamp or incandescent lamp
- Min/Max, data hold
- Two units: LUX and FC
- Reading in digital and analog
- Display backlight
- Auto power off



### SPECIFICATION

Measuring range	0~200000LUX (0~20000FC)
Resolution	0.1LUX (range<1000LUX), 1LUX (range≥1000LUX)
Accuracy	±4%
LED type	standard light source-L0, white LED-L1, red LED-L2, yellow LED-L3, green LED-L4, blue LED-L5, purple LED-L6
Sensor	silicon photo-diode and spectral response filter
Operating temperature	0°C~40°C
Operating humidity	<80%RH
Operating altitude	<2000m
Sampling rate	about 0.5 seconds
Spectral range	320~730nm
Auto power off	10 minutes
Dimension	190×60×33mm
Weight	180g
Power supply	3×AAA battery

### STANDARD DELIVERY

Main unit	1 pc
Battery (AAA)	3 pcs

## THERMOHYGROMETER CODE 9361-T65



VIDEO



- Measure humidity, ambient temperature, dew-point temperature and wet bulb temperature
- Min/Max/Average, data hold function
- Display backlight
- Auto power off

### SPECIFICATION

Function	Measuring range	Resolution	Accuracy
Ambient temperature	-20°C~60°C/-4°F~140°F	0.1°C/0.1°F	±1°C/2°F
Wet bulb temperature	-20°C~60°C/-4°F~140°F		
Dew-point temperature	-10°C~50°C/14°F~122°F		
Humidity	0~99.9%RH	0.1%RH	±5%RH
Date storage	99 groups		
Auto power off	30 minutes		
Weight	190g		
Dimension	180×60×33mm		
Power supply	3×AAA battery		

### STANDARD DELIVERY

Main unit	1 pc
Battery (AAA)	3 pcs

## DIGITAL ANEMOMETER CODE 9331-40



DATA  
OUTPUT



software (included), display measurement values and graph, save and output data



- Measure velocity, flow, temperature and relative humidity
- Velocity unit: m/s, km/h, mil/h, ft/m, ft/s, knots
- Flow unit: CMS (cubic meter per second), CMM (cubic meter per minute), CFM (cubic feet per minute)
- Temperature type: ambient, dew point, wet bulb
- Maximum and minimum modes
- Automatic power off

### STANDARD DELIVERY

Main unit	1 pc
USB cable and software	1 pc
9V battery	1 pc

software CD  
(included)



### SPECIFICATION

Measuring range	velocity	0.8~30m/s, 1.4~108km/h, 0.9~67.2mil/h, 1.3~98.5ft/s, 78~5900ft/m, 0.8~58.3knots
	flow	0~9999CMS, 0~99990CMM, 0~99990CFM
	temperature	-20~60°C/-4~140°F
	relative humidity	0~100%RH
Accuracy	velocity	±(2%+0.5) for m/s, km/h, mil/h, ft/s, knots ±(2%+50) for ft/m
	temperature	±1.5°C/±2.7°F
	relative humidity	±3% (20~80%RH), ±5% (<20%RH or >80%RH)
Resolution	velocity	0.01m/s, 0.01km/h, 0.01mil/h, 0.01ft/s, 1ft/m, 0.01knots
	flow	0.01CMS, 0.1CMM, 0.1CFM
	temperature	0.1°C/0.1°F
	relative humidity	0.1%RH
Flowing area range	0~9.999m <sup>2</sup> /0~9.999ft <sup>2</sup>	
Sampling time	0.4s	
Maximum working height	2000m	
Output	USB	
Power supply	9V battery	
Dimension	165×85×38mm	
Weight	200g	

## DIGITAL MOISTURE METER CODE 9341-50



VIDEO

cover  
(included)



- Suitable for wood, smooth cement, hard gypsum, mixed mortar, brick, etc.
- Measure moisture, temperature and relative humidity
- Temperature type: ambient, dew point, wet bulb
- Maximum and minimum modes
- Automatic power off

### STANDARD DELIVERY

Main unit	1 pc
Battery (AAA)	2 pcs

### SPECIFICATION

Measuring depth	0~50mm	
Measuring range	moisture	0~60%
	temperature	-10~50°C/14~122°F
	relative humidity	0~100%RH
Accuracy	moisture	±2%
	temperature	±2%
	relative humidity	±5%RH
Resolution	moisture	0.1%
	temperature	0.1°C/0.1°F
	relative humidity	0.1%RH
Sampling time	0.5s for moisture 1s for temperature and relative humidity	
Power supply	2×AAA batteries	
Dimension	130×56×29mm	
Weight	206g	

## LASER DISTANCE METERS

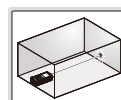
- Large display with backlight
- Unit: m, ft, in
- Distance, area, volume and height measurement
- Continuous measuring mode to track maximum and minimum value
- Memory of 99 measurement values
- Automatic power off: laser 20s, main unit 150s

### SPECIFICATION

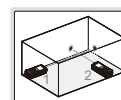
Code	9561-40	9561-80
Measuring range	0.05~40m	0.05~80m
Accuracy	±3mm	
Resolution	1mm, 10mm, 0.1", 0.01ft	
Measuring speed	0.5 second	
Laser type	635nm, Class II, <1mW	
Power supply	3×AAA batteries, for 4000 measurements	
Dimension (L×W×H)	120×60×28mm	
Weight	175g	



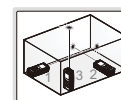
9561-80



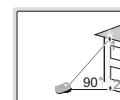
distance measurement



area measurement



volume measurement



height measurement

### STANDARD DELIVERY

Main unit	1 pc
Battery (AAA)	3 pcs

## PEN-TYPE DIGITAL MULTIMETER CODE 9241-ML200



### SPECIFICATION

Function	Range	Resolution	Accuracy
DC Voltage	200mV/2V/20V/200V/600V	0.1mV/1mV/10mV/0.1V/1V	±(0.7%+2)
AC Voltage	200mV/2V/20V/200V	0.1mV/1mV/10mV/0.1V	±(0.8%+3)
	600V	1V	±(1.0%+3)
DC Current	20mA/200mA	10µA/0.1mA	±(1.5%+3)
AC Current	20mA/200mA	10µA/0.1mA	±(2.0%+3)
Resistance	200Ω	0.1Ω	±(1.0%+3)
	2kΩ/20kΩ/200kΩ/2MΩ	1Ω/10Ω/0.1kΩ/1kΩ	±(1.0%+1)
	20MΩ	10kΩ	±(1.0%+5)
Logic level test	<1.5V (green LED on) 1.5~3.5V (green & red LED off) >3.5V (red LED on)		
Diode	open circuit voltage 1.5V		
Continuity buzzer	<50Ω		
Power supply	2×1.5V AAA batteries		

- Auto/manual ranging
- Maximum mode
- Data hold
- Low battery display
- Auto power off
- Safety rating: CAT III 600V



probe (included)



clips (included)

### STANDARD DELIVERY

Main unit	1 pc
Probe	1 pc
Clip	2 pcs
1.5V battery	2 pcs

## DIGITAL MULTIMETER CODE 9242-ML100



### SPECIFICATION

Function	Range	Resolution	Accuracy
DC Voltage	200mV/2V/20V/200V	0.1mV/1mV/10mV/0.1V	±(0.5%+3)
	600V	1V	±(0.8%+5)
AC Voltage	200V/600V	0.1V/1V	±(1.2%+10)
DC Current	200µA/2mA	0.1µA/1µA	±(1.0%+3)
	20mA	10µA	±(1.0%+5)
	200mA	0.1mA	±(1.5%+5)
	10A	10mA	±(3.0%+10)
Resistance	200Ω	0.1Ω	±(0.8%+5)
	2kΩ/20kΩ/200kΩ	1Ω/10Ω/0.1kΩ	±(0.8%+2)
	2MΩ	1kΩ	±(1.0%+5)
Diode	open circuit voltage 3.0V		
Continuity buzzer	<70±30Ω		
Transistor hFE	measuring range 0~1000		
Power supply	1×9V 6F22/NEDA 1604 battery		

- Data hold
- Display backlight
- Low battery display
- Safety rating: CAT II 600V



probes (included)

### STANDARD DELIVERY

Main unit	1 pc
Probe	2 pcs
9V battery	1 pc



## AC DIGITAL CLAMP METER CODE 9243-CA600



- Auto/manual ranging
- Maximum mode
- Data hold
- Display backlight
- Work light
- Low battery display
- Auto power off
- Safety rating: CAT III 600V



probes (included)



### SPECIFICATION

Function	Range	Resolution	Accuracy
DC Voltage	200mV/2V/20V/200V	0.1mV/1mV/10mV/0.1V	±(0.8%+2)
	600V	1V	±(1.0%+2)
AC Voltage	2V/20V/200V	1mV/10mV/0.1V	±(1.0%+5)
	600V	1V	±(1.2%+5)
AC Current	2A(≤0.5A)	1mA	±(3.5%+20)
	2A	1mA	±(3.0%+10)
	20A	10mA	±(3.0%+10)
	200A	0.1A	±(2.5%+10)
	600A	1A	±(1.5%+5)
Resistance	200Ω/2kΩ/20kΩ/200kΩ/2MΩ	0.1Ω/1Ω/10Ω/0.1kΩ/1kΩ	±(1.2%+2)
	20MΩ	10kΩ	±(2.0%+5)
Diode	open circuit voltage 1.5V		
Continuity buzzer	<50Ω		
Power supply	3×1.5V AAA batteries		
Dimension	208×78×35mm		
Weight	245g		

### STANDARD DELIVERY

Main unit	1 pc
Probe	2 pcs
1.5V battery	3 pcs

## NON-CONTACT DIGITAL TACHOMETER CODE 9221-999



reflection sticker (included)



- Maximum and minimum modes
- Memory 100 measurement values
- Automatic power off

### SPECIFICATION

Measuring range	50~99999RPM
Accuracy	±(0.03%+2) RPM
Resolution	0.01RPM (range 50~99.99RPM)
	0.1RPM (range 100~9999.9RPM)
	1RPM (range 10000~99999RPM)
Measuring distance	50~250mm
Power supply	4×AAA batteries
Dimension	155×60×27mm
Weight	118g

### STANDARD DELIVERY

Main unit	1 pc
Reflection sticker	1 roll
Battery (AAA)	4 pcs

## CONTACT DIGITAL TACHOMETER CODE 9222-199



wheel with 6" perimeter (included)



wheel with 0.1m perimeter (included)



cone cavity head (included)



cone head (included)



- Unit: RPM, m/min, m/sec, ft/min, ft/sec, in/min
- Maximum and minimum modes
- Memory 100 measurement values
- Automatic power off

### SPECIFICATION

Measuring range	50~19999RPM
Accuracy	±(0.03%+2) RPM
Resolution	0.01RPM (range 50~99.99RPM)
	0.1RPM (range 100~9999.9RPM)
	1RPM (range 10000~19999RPM)
Power supply	4×AAA batteries
Dimension	183×60×27mm
Weight	122g

### STANDARD DELIVERY

Main unit	1 pc
Wheel with 0.1m perimeter	1 pc
Wheel with 6" perimeter	1 pc
Cone cavity head	1 pc
Cone head	1 pc
Extension rod	1 pc
Battery (AAA)	4 pcs



Extension rod (included)

## FACE RECOGNITION THERMAL SCANNER 4 IN 1

- TEMPERATURE DETECTION
- MASK DETECTION
- TIME ATTENDANCE
- ACCESS CONTROL



- Infrared Thermal Imaging Camera**
- Optimized for human body temperature measurement ( $\pm 0.5^{\circ}\text{C}$ )
  - Distance range: 0.5-1.2m
  - Real-time measurement ( $< 0.1$  second)
- Dual Camera with Advanced Algorithm**
- High Face ID accuracy at 99.9%
  - Support Face ID identification with face mask (accuracy 90%)
  - High performance face anti-spoofing technology protects system from attack
  - Real-time face recognition ( $< 0.2$  second)

- This device introduces a highly advanced built-in facial recognition algorithm and high resolution infrared thermal imaging camera. This brand new technology will identify someone by face, even while wearing a face mask. It locates the forehead and measures forehead temperature without touch. This device is the ideal solution for fully automatic contactless access control, time attendance, and temperature measurement.

### Features:

- **Access at a glance**  
Walk through identification & authorization, no slowing down or stopping needed.
- **Contactless forehead temperature measurement**  
High resolution infrared thermal imaging camera enhanced by an algorithm provides instant and high accuracy forehead temperature measurement with zero human involvement in less than 0.1 second.  
The new technology comes pre-calibrated and has automatic temperature calibration through software and algorithm when the camera is turned on every time. This eliminates the need for a calibration system generally referred to as a black body. This eliminates not just added cost but human error when attempting to calibrate.  
(1) To be used for initial temperature assessment for triage use in high throughput areas (e.g., airports, businesses, warehouses, factories) due to the high detection speed.  
(2) Working distance is 0.5-1.2m and no operation needed, which can avoid inter infection.  
(3) Captures photo of people when abnormal body temperature is detected, which can be used for tracing.
- **High accurate & reliable face ID**  
Built-in world class facial recognition algorithm with dual cameras detects the identification in less than 0.2 seconds with the accuracy rate more than 99.9%. High performance face anti-spoofing technology can resist many kinds of presentation attack, such as, printed photo, the electronic display of a facial photo, replaying video using an electronic display and 3D face masks. Enhanced facial recognition algorithm can identify people even if they are wearing masks with the accuracy rate more than 90%.
- **Detect someone wearing or not wearing a mask**

### SPECIFICATION

Operation system	Linux
Display	7 inch screen TFT
Speaker	voice prompt
Language	English, Spanish, etc.
Face database capacity	50K
Verification & identification speed	less than 0.1 second for thermal and less than 0.2 second for facial
Face anti spoofing	printed photo, electronic display of a facial photo, replaying video, 3D face masks, etc.
Facial recognition accuracy rate	>99.9%
Forehead thermometer range & accuracy	32°C-42°C, $\pm 0.5^{\circ}\text{C}$
Work range	0.5-1.2m
Infrared thermal imaging camera	Uncooled infrared focal plane junction detectors array sensor Resolution: 160x120
Facial recognition camera	dual 1080p starlight CMOS sensors for visible light and near infrared light
Communication	RS232/485, TCP/IP, USB-Host, USB-Client, RJ45
Power supply	12V DC 2A
Ambient temperature	18°C-32°C



Code	Description
ATF-1612	With desk stand
ATF-1612H	With floor stand

### Use:

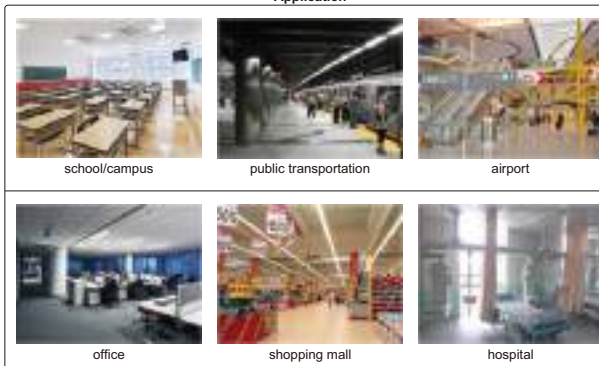
- This device is for indoor use only. It detects one person at a time.
- The device is used for initial temperature assessment. The final temperature should be confirmed with secondary evaluation methods (e.g., clinical grade contact thermometer).
- Select "Temperature", "Mask" and "Face recognition" as conditions to trigger alarm or to control door opening.
- For hospital / restaurant / hotel / retail store, etc., it can be used as thermal detector and/or mask detector. No need to input facial pictures in advance. It will alert you when the forehead temperature is above the preset target (for example, 37.3°C), for people with or without masks. It can also detect if people wear or not wear masks.
- A plant or school can have this set up at entrance for access control and time attendance, as well as temperature and mask detection. Input face pictures taken with a cell phone in advance for facial recognition. The readings can be monitored in an office.

time attendance record including staffs and visitors (temperature documentation)

ID	Name	Gender	Age	Phone	Time	Temperature	Mask
2001501	Andresca	0	35		2020/07/16-09:06:18	35.8°C	1
2001502	aida	0	35		2020/07/16-09:06:45	35.8°C	1
3					2020/07/16-09:06:43	35.5°C	1
4001504	rich	1	35		2020/07/16-09:06:59	35.5°C	1
5001505	simly	0	35		2020/07/16-09:07:13	35.8°C	1
6001506	hanwei	1	28		2020/07/16-09:08:05	36.0°C	1
7001507	Aurevi	0	32		2020/07/17-19:59:58	36.4°C	0
8001508	Barbara	0	30		2020/07/17-19:20:07	36.3°C	1
9001509	Robert	1	35		2020/07/17-19:20:18	36.3°C	1
10001510	Henry	1	35		2020/07/17-19:20:33	36.3°C	1
11001511	Macy	0	37		2020/07/17-19:20:54	36.4°C	1
12001512	Mika	1	30		2020/07/17-19:20:57	35.5°C	1
13001513	Dalei	1	31		2020/07/17-19:20:58	36.3°C	1
14001514	Alexis	0	31		2020/07/17-19:21:10	36.6°C	0
15001515	Jack	0	30		2020/07/17-19:21:13	36.5°C	1

Visitor

### Application



## VIBRATION PEN CODE 9720-199



- Measure vibration of motors, fans, pumps, compressors and machine tools to prevent mechanical failure
- Small size, light weight, low energy consumption, easy operation, easy to carry
- One key control
- Automatic power off

### STANDARD DELIVERY

Main unit	1 pc
LR44 battery	2 pcs

### SPECIFICATION

Code	9720-199
Measured parameter	speed
Measuring range	0.1~199.9mm/s
Frequency	10Hz~1KHz
Accuracy	±(5%±2)mm/s
Operating temperature	0°C~40°C
Operating humidity	<85%
Power supply	2×LR44 batteries (for 10 hours working)
Dimension	150x22x18mm
Weight	55g

## DIGITAL REFRACTOMETER CODE ISQ-DRM31

SUITABLE FOR WATER  
BASED COOLANT



- Quickly measure the concentration of coolant
- Two measurement modes: single measurement and automatic average multiple measurement
- Two units: brix and refractive index
- Refer to the refraction factor of coolant, for example: the refraction factor of grinding emulsion is 2.1, the reading value is 6%, so the actual concentration is  $(2.1 \times 6\%) = 12.6\%$
- Automatic power off

dropper (included)



### SPECIFICATION

Measuring range	0~50% (1.3330~1.4200RI)
Accuracy	±0.2% (±0.0003RI)
Resolution	0.1% (0.0001RI)
Power supply	1×AAA battery
Dimension	121×58×25mm
Weight	90g

### STANDARD DELIVERY

Main unit	1 pc
Dropper	1 pc
Battery (AAA)	1 pc

## 60° GLOSS METER CODE ISQ-DG6



base with calibration block (included)

- To test the gloss of coating, such as painting, varnish, printing ink, etc.
- To test the material surfaces, such as metal, granite, ceramic, plastic, paper, etc.
- According to ISO 2813, ASTM D2457, ASTM D523
- Automatic power off

### SPECIFICATION

Incidence angle	60°
Measuring range	0~150GU
Resolution	0.1GU
Accuracy	±1.2GU
Repeatability	0.4GU
Zero set error	0.2GU
Measuring area	20×10mm
Power supply	1×1.5V AA battery
Dimension	123×38×65mm
Weight	300g

### STANDARD DELIVERY

Main unit	1 pc
Base with calibration block	1 pc
Spare calibration block	1 pc

## PORTABLE REFRACTOMETER CODE ISQ-RM30

SUITABLE FOR WATER  
BASED COOLANT

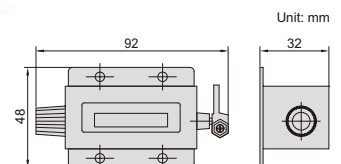


- Quickly measure the concentration of coolant
- Refer to the refraction factor of coolant, for example: the refraction factor of grinding emulsion is 2.1, the reading value is 6%, so the actual concentration is  $(2.1 \times 6\%) = 12.6\%$

### SPECIFICATION

Measuring range	0~32%
Graduation	0.2%
Dimension	27×40×160mm
Weight	175g

## STROKE COUNTER CODE 7600-6



- Accumulate and record the number of mechanical movements
- Rotate back to zero

### SPECIFICATION

Code	Number of digits	Range
7600-6	6	0-999999

## CROSS-LINE LASER LEVEL CODE 4917-30



**IP54**  
WATERPROOF

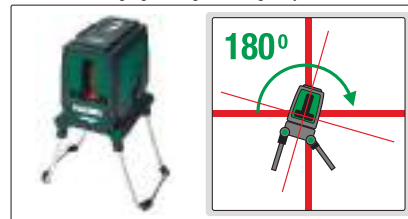
**AUDIBLE AND VISUAL  
WARNING WHEN OUT OF ±3°**

- Red horizontal and vertical cross laser lines
- Self-leveling within ±3°, self-leveling time within 4s, "out of ±3°" audible and visual warning
- Folding legs for angle and height adjustment
- Outdoor use with the detector (code 4917-DETECTOR)

application examples



folding legs for angle and height adjustment



outdoor detector (optional)



stand  
(included with outdoor detector)

### SPECIFICATION

Laser line width	2±0.5mm (within 5m)
Laser type	630~660nm, class II, <1mW
Beam angle	120±0.5°
Self-leveling range	±3°
Working distance	indoor: 30m, outdoor: 50m with detector (optional)
Accuracy	0.2mm/m
Operation temperature	-10~40°C
Power supply	3×AA batteries, for 3 hours continuous operation
Dimension	100×82×104mm
Weight	620g

### STANDARD DELIVERY

Main unit	1 pc
1/4" to 5/8" tripod adaptor	1 pc
Battery (AA)	3 pcs

### OPTIONAL ACCESSORY

Outdoor detector	4917-DETECTOR
------------------	---------------

### OUTDOOR DETECTOR (OPTIONAL)

Detecting distance	horizontal 1~50m, vertical 1~30m
Detecting accuracy*	high accuracy ±1.5mm, low accuracy ±2.5mm
Power supply	9V battery
Dimension	168×58×30mm
Weight	140g (battery included)

\*Use high accuracy detection mode within 15m, use low accuracy detection mode over 15m

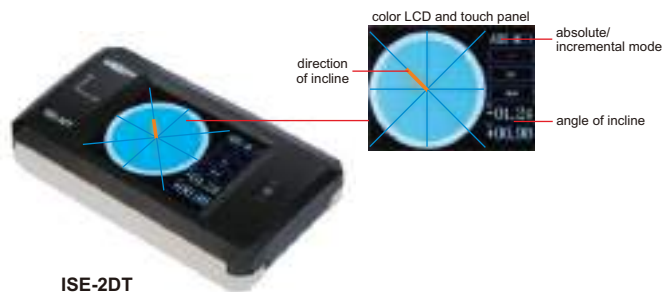
## DIGITAL LEVEL CODE ISE-2DT

**DATA  
OUTPUT**

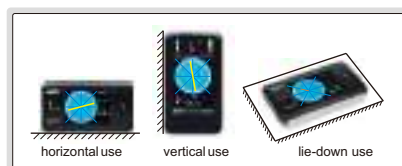
- Color LCD, touch panel
- X-Y axis measurement
- Set the tolerance and the display is shown in different colors



- To show the incline with line or bubble



ISE-2DT



### SPECIFICATION

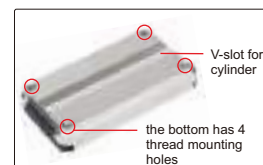
Measuring range	±30°
Resolution	0.01°, 0.1mm/m
Accuracy	±0.03° (range 0~3°) ±0.05° (range >3°)
Power supply	rechargeable battery
Dimension	115×66×23mm
Weight	224g

### STANDARD DELIVERY

Main unit	1 pc
USB cable	1 pc

### OPTIONAL ACCESSORY

Software	ISE-2DT-SOFTWARE
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### DIGITAL LEVEL AND SLOPE METER

WORKING TEMPERATURE  
-5°C~50°C

IP67  
WATERPROOF

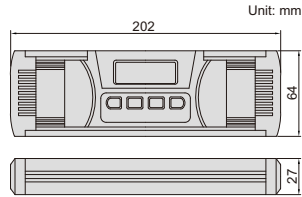
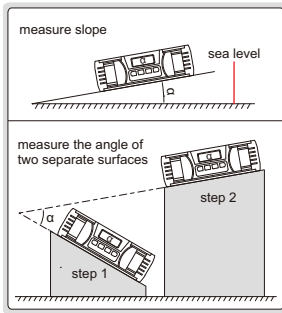
ABSOLUTE  
LEVEL

BUZZER ALARM  
AT 0° AND 90°

BACKLIGHT



2175-360



- IP67 dust/waterproof
- Used as level and slope meter
- Aluminum frame, shock absorbing rubber end caps
- Magnetic bottom with V-groove for shafts
- The sea level is permanently set inside the chip, zero setting is not needed when batteries are replaced
- Buttons: ON/OFF, backlight/buzzer alarm, absolute and incremental measurement, unit (mm/m, %, °), HOLD (keep the reading)
- Three AAA batteries, automatic power off

Code	Range	Resolution	Accuracy
2175-360	0-360° (90°x4)	0.05° (=0.873mm/m)	at 0°: ±0.05°; at others: ±0.1°

### DIGITAL LEVEL AND SLOPE METER

WORKING TEMPERATURE  
-5°C ~ 50°C

IP54  
WATERPROOF

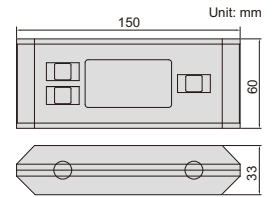
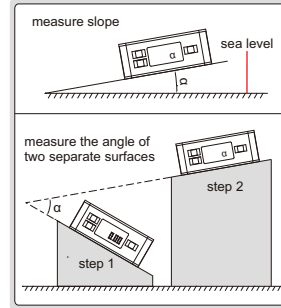
ABSOLUTE  
LEVEL

BUZZER ALARM  
AT 0° AND 90°

BACKLIGHT



2179-360



- IP54 dust/waterproof
- Used as level and slope meter
- Aluminum frame
- Magnetic bottom with V-groove for plane and cylinder
- The sea level is permanently set inside the chip, zero setting is not needed when battery is replaced
- Buttons: ON/OFF, absolute and incremental measurement, keep the reading, buzzer alarm, unit (mm/m, %, in/ft), conversion, backlight
- Two AAA batteries, automatic power off

Code	Range	Resolution	Accuracy
2179-360	0-360° (90°x4)	0.05° (=0.873mm/m)	at 0° and 90°: ±0.1°; at others: ±0.2°

### DIGITAL LEVEL AND SLOPE METER

WORKING TEMPERATURE  
-5°C~50°C

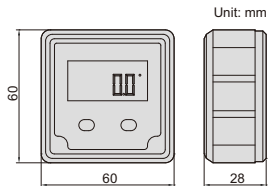
DISPLAY FLIPS OVER WHEN  
THE BOTTOM FACES UP



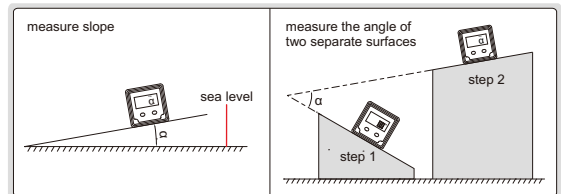
ABSOLUTE  
LEVEL

MAGNETIC  
BOTTOM

BACKLIGHT



2170-1



- Used as level and slope meter
- Aluminum frame, magnetic bottom
- The display flips over when the bottom faces up
- The backlight is on automatically when in use, and automatically off in 15 seconds after use
- The sea level is permanently set inside the chip, zero setting is not needed when battery is replaced
- Buttons: ON/OFF, ZERO, absolute and incremental measurement
- One AAA battery, automatic power off in 5 minutes

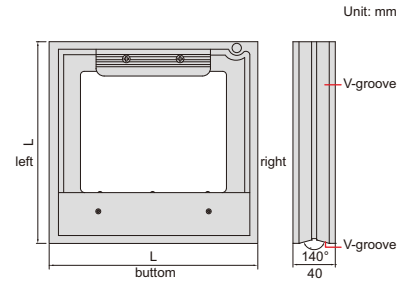
Code	Range	Resolution	Accuracy
2170-1	4x90°	0.1° (= 1.745 mm/m)	at 0° and 90°: ±0.1°; at others: ±0.2°

## FRAME LEVEL (ECONOMIC TYPE)

- V-groove on bottom and left for shafts (shafts dia. 15~70mm)
- With transverse vial
- Supplied with adjusting wrench



4902-200



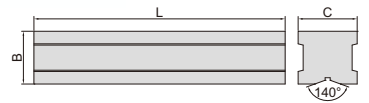
Code	Sensitivity	Size (LxL)
4902-200	0.02mm/m (=0.001°)	200x200mm

## BLOCK LEVELS (ECONOMIC TYPE)

- V-groove on bottom for shafts (shafts dia. 15~70mm)
- With transverse vial
- Supplied with adjusting wrench

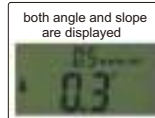
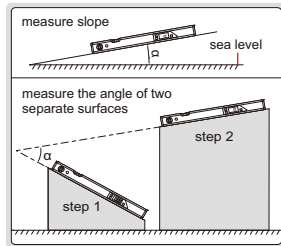


4903-200A



Code		Length (L)	B	C
Sensitivity 0.02mm/m (=0.001°)	Sensitivity 0.05mm/m (=0.0029°)			
4903-150A	4903-C150	150	40	45
4903-200A	4903-C200	200	42	47
4903-300A	4903-C300	300	45	50

## DIGITAL LEVELS AND SLOPE METERS



WORKING TEMPERATURE  
0°C ~ 50°C

BACKLIGHT

ABSOLUTE LEVEL

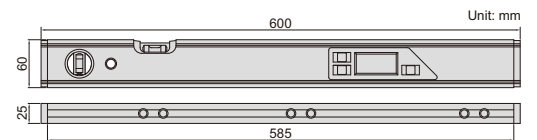


4910-400



4910-600

- With transverse and longitudinal vials
- Used as level and slope meter
- Aluminum frame, magnetic bottom
- The sea level is permanently set inside the chip, zero setting is not needed when batteries are replaced
- Buttons: ON/OFF, absolute and incremental measurement, keep the reading, buzzer alarm (not for 4910-400), unit (mm/m, %, in/ft), conversion (not for 4910-400), backlight
- The display flips over when the bottom faces up
- Two AAA batteries, automatic power off



Code	Range	Resolution	Accuracy	Remark	L	L1	a	b
4910-400	0~360° (90°x4)	angle: 0.1°; slope: 1mm/m	±0.2°	both angle and slope are displayed	416mm	400mm	50mm	21mm
4910-600	0~360° (90°x4)	at 0° and 90°: 0.05° (=0.8725mm/m); at others: 0.1° (=1.745mm/m)	at 0° and 90°: ±0.1°; at others: ±0.2°	at 0° and 90° buzzer alarms	600mm	585mm	60mm	25mm

## ALUMINUM ALLOY LEVELS

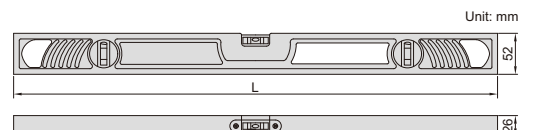
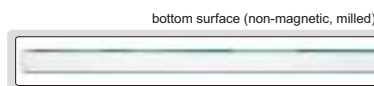
- Top and bottom working surfaces
- Shock-proof and UV-proof vials
- Die casting aluminum alloy frame
- Zero position of horizontal vial can be set
- One graduation of horizontal vial is 2% slope
- Working temperature: -15°C~55°C

LIFETIME WARRANTY VIALS



4911-600

Code	Length (L)	Accuracy
4911-600	600mm	0.5mm/m
4911-800	800mm	0.5mm/m



### HANDY LEVEL

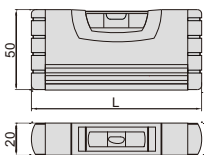
LIFETIME WARRANTY VIALS

MAGNETIC BASE

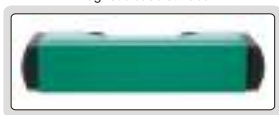


4912-100

Unit: mm



magnetic base surface



- Shockproof vials
- Magnetic base
- Shock absorbing rubber end caps
- Working temperature: -15°C~55°C

Code	Size (L)	Accuracy
4912-100	100mm	0.5mm/m

### CAST ALUMINUM LEVEL

MAGNETIC BASE

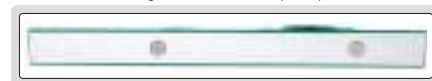
LIFETIME WARRANTY VIALS

packaging

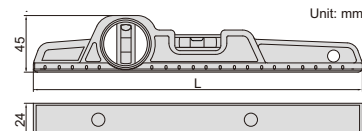


4913-250

magnetic bottom surface (milled)



- Shockproof horizontal and vertical vials
- Magnetic base
- Working temperature: -15°C~55°C
- Cast aluminum body



Unit: mm

Code	Size (L)	Accuracy
4913-250	250mm	0.5mm/m

### ALUMINUM LEVELS

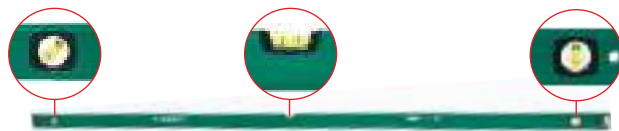
LIFETIME WARRANTY VIALS

MAGNETIC BASE



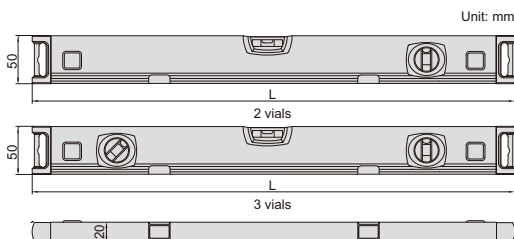
4914-600

magnetic bottom surface (milled)



4914-2000

- Accuracy: 0.5mm/m
- Shockproof horizontal and vertical vials
- Magnetic base
- Shock absorbing rubber end caps
- Working temperature: -15°C~55°C



Unit: mm

Code	Size (L)	Number of vials
4914-300	300mm	2
4914-600	600mm	2
4914-800	800mm	2
4914-1000	1000mm	2
4914-1200	1200mm	2
4914-2000	2000mm	3

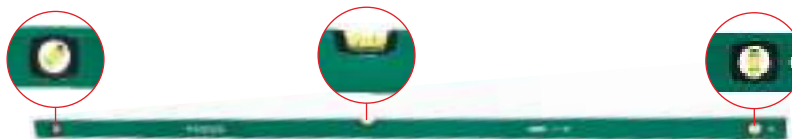
### ALUMINUM ALLOY LEVELS (BASIC TYPE)

MAGNETIC BASE

LIFETIME WARRANTY VIALS



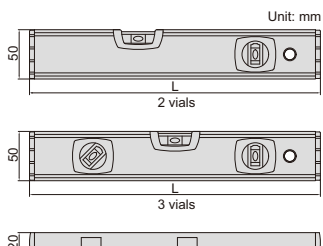
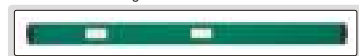
4918-300



4918-2000

- Accuracy: 1mm/m
- Shock-proof and UV-proof vials
- Magnetic base
- Shock absorbing rubber end caps
- Working temperature: -15°C~55°C

magnetic bottom surface



Unit: mm

Code	Size (L)	Number of vials
4918-300	300mm	2
4918-600	600mm	2
4918-800	800mm	2
4918-1000	1000mm	2
4918-1200	1200mm	2
4918-2000	2000mm	3

# DIGITAL ROCKWELL AND SUPERFICIAL ROCKWELL HARDNESS TESTERS (DOLPHIN-NOSE TYPE)

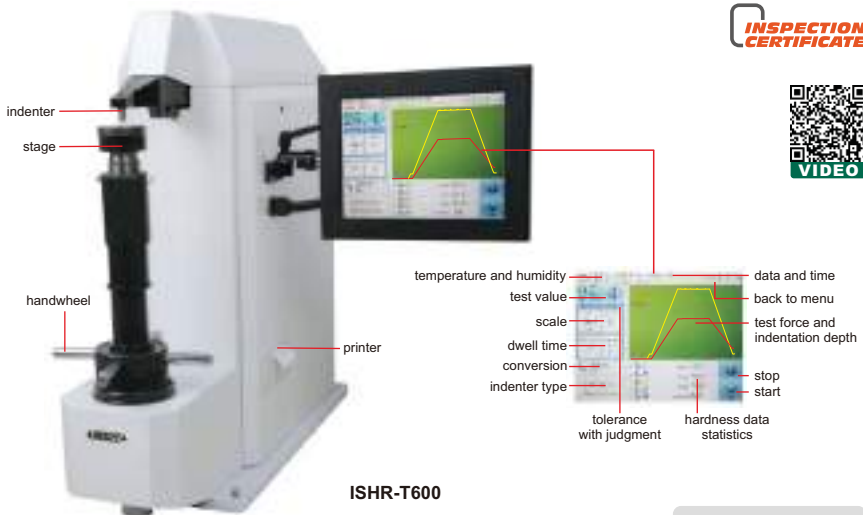
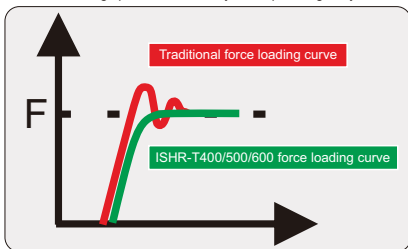
AUTOMATIC TESTING, CONTINUOUS TESTING IS AVAILABLE

FORCE LOADING BY CLOSE-LOOP SYSTEM (WITHOUT WEIGHTS)

HIGH TEST SPEED

HIGH ACCURACY

The preliminary and total test force are loaded by high speed close-loop system automatically, faster and more stable than traditional motor loading. Loading process is smooth, no overshoot. Loading speed and accuracy are improved greatly



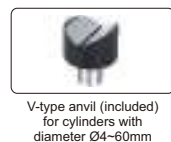
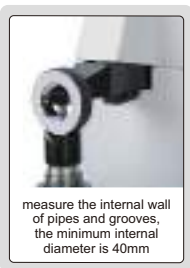
INSPECTION CERTIFICATE



- Automatic testing, the preliminary and total test force are loaded by high speed close-loop system automatically
- High accuracy (0.5HR)
- Dolphin-nose indenter for easy reach of the internal wall of pipes and grooves, the minimum internal diameter is 40mm
- Can be connected to PLC controller
- LCD touch screen
- Tolerance with judgement
- Memory of 120 test values for browsing and output
- Provide the maximum, minimum and average value of measurements
- The test process curve shows the material property
- Test force is selected automatically according to hardness scale

## SPECIFICATION

Code	ISHR-T400	ISHR-T500	ISHR-T600
Type	Rockwell	Superficial Rockwell	Rockwell and Superficial Rockwell
Hardness scale	with standard indenters	HR15N, HR30N, HR45N, HR15T, HR30T, HR45T	HRA, HRB, HRC, HRD, HRF, HRG, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T
	with optional indenters	HR15W, HR30W, HR45W, HR15X, HR30X, HR45X, HR15Y, HR30Y, HR45Y	HRE, HRH, HRK, HRL, HRM, HRP, HRR, HRS, HRV, HR15W, HR30W, HR45W, HR15X, HR30X, HR45X, HR15Y, HR30Y, HR45Y
Preliminary test force	Rockwell: 98N (10kg)	Superficial Rockwell: 29.4N (3kg)	Rockwell: 98N (10kg) Superficial Rockwell: 29.4N (3kg)
Total test force	588N (60kg), 980N (100kg), 1471N (150kg)	147.1N (15kg), 294.2N (30kg), 441.3N (45kg)	147.1N (15kg), 294.2N (30kg), 441.3N (45kg), 588N(60kg), 980N(100kg), 1471N(150kg)
Conversion scale	HR, HB, HK, HV		
Stage elevation	manual		
Load control	high speed close-loop system automatic loading (load/dwell/unload)		
Load dwell time	0~99 second		
Resolution	0.1HR		
Data output	built-in printer, RS232		
Max. workpiece height	260mm		
Max. workpiece width	150mm (from the center of indenter to the wall of main body)		
Power supply	110/220V, 50/60Hz		
Dimension	700×260×700mm		
Weight	85kg		



## STANDARD DELIVERY

Code	ISHR-T400	ISHR-T500	ISHR-T600
Main unit	1 pc	1 pc	1 pc
Ø60mm flat anvil	1 pc	1 pc	1 pc
Ø150mm flat anvil	1 pc	1 pc	1 pc
V-type anvil	1 pc	1 pc	1 pc
Ø1.5875mm carbide ball indenter	1 pc	1 pc	1 pc
Diamond indenter	1 pc	1 pc	1 pc
Hardness test block HRB88~95	1 pc	—	1 pc
Hardness test block HRC20~30	1 pc	—	1 pc
Hardness test block HRC40~50	1 pc	—	1 pc
Hardness test block HRC60~65	1 pc	—	1 pc
Hardness test block 78~88HR15N	—	1 pc	1 pc
Hardness test block 55~73HR30N	—	1 pc	1 pc
Hardness test block 57~69HR30T	—	1 pc	1 pc

## OPTIONAL ACCESSORY

Hardness test block HRB88~100	ISH-BHRB
Hardness test block HRC20~30	ISH-BHRC1
Hardness test block HRC35~55	ISH-BHRC2
Hardness test block HRC60~70	ISH-BHRC3
Hardness test block 78~88HR15N	ISH-BHR15N2
Hardness test block 55~73HR30N	ISH-BHR30N2
Hardness test block 57~69HR30T	ISH-BHR30T1
Small V-type anvil	ISH-SMALLANVIL
Connection cable and software	ISHR-T-SOFTWARE



## AUTOMATIC DIGITAL ROCKWELL HARDNESS TESTER

FORCE LOADING BY ELECTRIC MOTOR (WITHOUT WEIGHTS)

DATA OUTPUT

- Automatic testing, the preliminary and main test force are loaded automatically
- LCD touch screen, easy operation
- Convert to other Rockwell scales, HV or HB automatically
- Tolerance testing
- Insert USB flash disk, save the testing results as Excel
- Self-correcting the hardness value for curved workpieces
- Force loading by electric motor (without weights)
- The test force is selected automatically according to hardness scale



INSPECTION CERTIFICATE

### SPECIFICATION

Code	ISH-RSR400**	
Type	Rockwell	
Hardness scale	with standard indenters	HRA, HRB, HRC, HRD, HRF, HRG
	with optional indenters	HRE, HRH, HRK, HRL, HRM, HRP, HRR, HRS, HRV
Preliminary test force	98N/10kgf for Rockwell	
Test force	588N (60kg), 980N (100kg), 1471N (150kg)	
Stage elevation	manual	
Load control	automatic (load/dwell/unload)	
Load dwell time	0~60 second	
Resolution	0.1HR	
Output	USB	
Max. workpiece height	220mm	
Max. workpiece width	200mm (from the center of indenter to the wall of main body)	
Power supply	220V, 50/60Hz	
Dimension	510×260×780mm	
Weight	70kg	

### STANDARD DELIVERY

Main unit	1 pc
Ø63mm flat anvil	1 pc
Ø150mm flat anvil	1 pc
V-type anvil	1 pc
Diamond indenter	1 pc
Ø1.5875mm carbide ball indenter	1 pc
Hardness test block HRB88~95	1 pc
Hardness test block HRC60~65	1 pc
Hardness test block HRC20~30	1 pc
USB flash disk (8G)	1 pc
Level	1 pc
Touch pen	1 pc
Anti-dust cover	1 pc

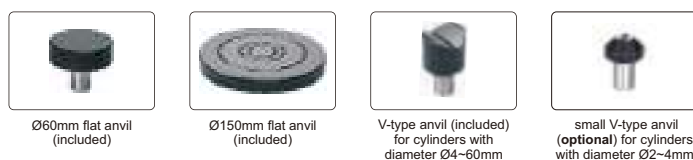


### OPTIONAL ACCESSORY

Hardness test block HRB88~100	HDT-B-HRB
Hardness test block HRC60~70	HDT-B-HRC3
Hardness test block HRC20~30	HDT-B-HRC1
Hardness test block 78~88HR15N	HDT-B-HR15N2
Hardness test block 55~73HR30N	HDT-B-HR30N2
Hardness test block 57~69HR30T	ISH-BHR30T1
Small V-type anvil	ISH-SMALLANVIL

\*\* Add "-U" on code No. when power supply is 110V, 50/60Hz

## MANUAL ROCKWELL HARDNESS TESTER CODE ISH-R150

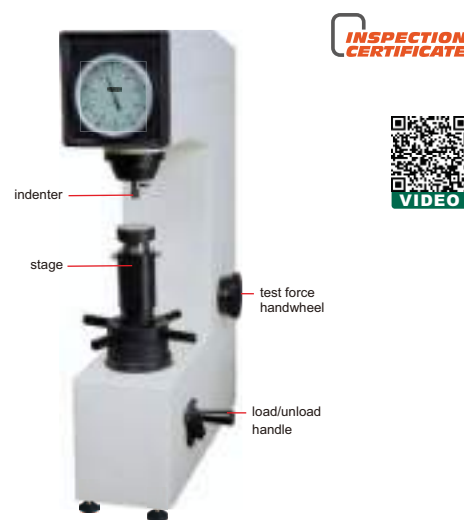


### SPECIFICATION

Hardness scale	HRA, HRB, HRC, HRD, HRF, HRG
Preliminary test force	98N
Test force	588N, 980N, 1471N
Display	analogue
Stage elevation	manual
Load control	manual
Min. reading	0.5HR
Max. workpiece height	170mm
Dimension	520x160x700mm
Weight	60kg

### STANDARD DELIVERY

Main unit	1 pc
Ø60mm flat anvil	1 pc
Ø150mm flat anvil	1 pc
V-type anvil	1 pc
Diamond indenter	1 pc
Ø1.5875mm carbide ball indenter	1 pc
Hardness test block HRB88~95	1 pc
Hardness test block HRC60~65	1 pc
Hardness test block HRC20~30	1 pc
Anti-dust cover	1 pc



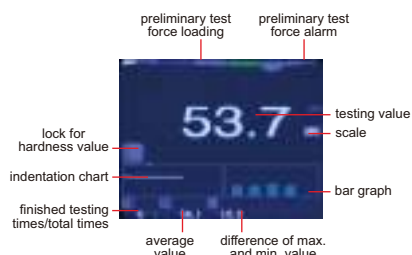
INSPECTION CERTIFICATE



### OPTIONAL ACCESSORY

Hardness test block HRB88~100	HDT-B-HRB
Hardness test block HRC60~70	HDT-B-HRC3
Hardness test block HRC20~30	HDT-B-HRC1
Small V-type anvil	ISH-SMALLANVIL

# AUTOMATIC DIGITAL ROCKWELL HARDNESS TESTER CODE ISH-MRD200\*\*



- Low and high limits with judgement
- Set testing times (2~10) to have average value and the difference of max. and min. value
- Convert to other Rockwell scales, HV or HB automatically
- Memory of 500 testing values for browsing and output
- Testing value can be sent to wireless printer automatically
- Calibration function compensates the testing value for high accuracy
- The hardness value of soft materials like plastic is not stable.
- The lock function can obtain the value automatically
- Display unit is automatic power off

## SPECIFICATION

Hardness scale	HRA, HRB, HRC, HRD, HRF, HRG (with standard indenters)
	HRE, HRH, HRK (with optional indenter)
Preliminary test force	98N
Test force	588N, 980N, 1471N
Stage elevation	manual
Load control	automatic (load/dwell/unload)
Load dwell time	1~99 second
Resolution	0.1HR
Output	wireless and USB
Memory	500
Max. workpiece height	170mm
Power supply of the display unit	built-in rechargeable battery
Power supply	220V, 50/60Hz **
Dimension	520×160×700mm
Weight	60kg

\*\* Add "-U" on code No. when power supply is 110V, 50/60Hz



## STANDARD DELIVERY

Main unit	1 pc
Ø60mm flat anvil	1 pc
Ø150mm flat anvil	1 pc
V-type anvil	1 pc
Diamond indenter	1 pc
Ø1.5875mm carbide ball indenter	1 pc
Hardness test block HRB88~95	1 pc
Hardness test block HRC60~65	1 pc
Hardness test block HRC20~30	1 pc
Anti-dust cover	1 pc
Software and USB cable	1 pc
AC/DC adapter	1 pc

## OPTIONAL ACCESSORY

Wireless printer	ISH-DS-PRINTER
Ø3.175mm carbide ball indenter	ISH-EHK-INDENTER
Hardness test block HRB88~100	HDT-B-HRB
Hardness test block HRC60~70	HDT-B-HRC3
Hardness test block HRC20~30	HDT-B-HRC1
Small V-type anvil	ISH-SMALLANVIL

## MANUAL ROCKWELL HARDNESS TESTER (BASIC TYPE) CODE HDT-RW160



### SPECIFICATION

Hardness scale	HRA, HRB, HRC, HRD, HRF, HRG
Preliminary test force	98N (10kg)
Test force	588N (60kg), 980N (100kg), 1471N (150kg)
Display	analogue
Stage elevation	manual
Load control	manual
Min. reading	0.5HR
Max. workpiece height	170mm
Dimension	466×238×630mm
Weight	70kg



### STANDARD DELIVERY

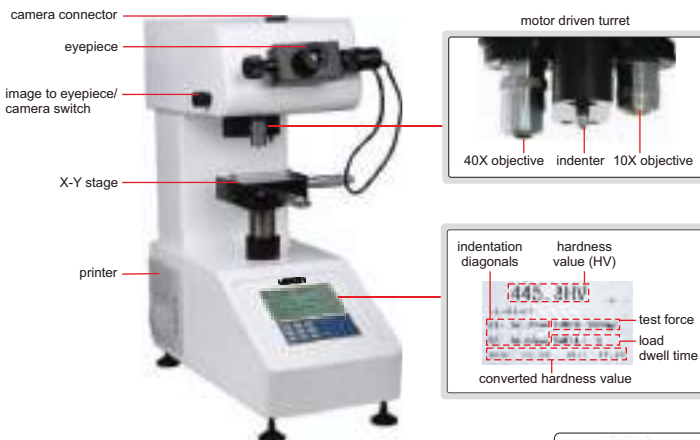
Main unit	1 pc
Ø58mm flat anvil	1 pc
Ø150mm flat anvil	1 pc
V-type anvil	1 pc
Diamond indenter	1 pc
Ø1.5875mm steel ball indenter	1 pc
Ø1.5875mm steel ball	5 pcs
Level	1 pc
Hardness test block HRA80~88	1 pc
Hardness test block HRB85~95	1 pc
Hardness test block HRC20~30	1 pc
Hardness test block HRC35~55	1 pc
Hardness test block HRC60~70	1 pc
Anti-dust cover	1 pc



### OPTIONAL ACCESSORY

Hardness test block HRA80~84	HDT-B-HRA
Hardness test block HRB88~100	HDT-B-HRB
Hardness test block HRC20~30	HDT-B-HRC1
Hardness test block HRC35~55	HDT-B-HRC2
Hardness test block HRC60~70	HDT-B-HRC3
Small V-type anvil	ISH-SMALLANVIL

## DIGITAL MICRO-VICKERS HARDNESS TESTER CODE ISH-TDV1000A\*\*



- Measure hardness of thin or small workpieces
- Based on Vickers (HV), can be converted to Rockwell (HRA, HRB and HRC)

### OPTIONAL ACCESSORY

20X objective	ISH-TDV-20X
Hardness test block 400~500HV0.2	HDT-B-HV02C
Hardness test block 700~750HV1	HDT-B-HV1F
Measuring system	9631-130
Camera adapter	ISH-TDV-ADAPTER



### SPECIFICATION

Test force	0.01, 0.025, 0.05, 0.1, 0.2, 0.3, 0.5, 1kgf
Vickers scales	HV0.01, HV0.025, HV0.05, HV0.1, HV0.2, HV0.3, HV0.5, HV1
Stage elevation	manual
Load control	automatic (load/dwell/unload)
Load dwell time	5-60second (5 second increment)
Objective	10X, 40X
Eyepiece	15X
Total magnification	150X (for observation) 600X (for measurement)
Max. workpiece height	85mm
Max. workpiece depth	85mm (from the center of indenter)
X-Y stage	dimensions: 100×100mm travel range: 25×25mm graduation: 0.01mm
Data output	RS232C
Power supply	110/220V, 50Hz**
Dimension	540x500x640mm
Weight	50kg

\*\* Add "-B" on code No. when power supply is 110/220V, 60Hz

### STANDARD DELIVERY

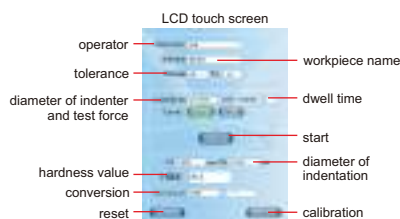
Main unit	1 pc
10X, 40X objective	1 pc of each
Micro Vickers indenter	1 pc
Hardness test block 400~500HV0.2	1 pc
Hardness test block 700~800HV1	1 pc
Slice holder	1 pc
Vice	1 pc
Cylinder holder	1 pc
Level	1 pc
Anti-dust cover	1 pc

# AUTOMATIC DIGITAL BRINELL HARDNESS TESTER

**AUTOMATIC TESTING,  
AUTOMATIC TEST FORCE LOADING**

**FORCE LOADING BY ELECTRIC  
MOTOR (WITHOUT WEIGHTS)**

**INSPECTION  
CERTIFICATE**



**ISHB-D300**

- Automatic testing, automatic test force loading
- LCD touch screen, easy operation
- Measure indentation by measuring microscope then read the hardness value from LCD
- Tolerance testing
- Insert USB flash disk, save the test results as Excel
- Converted to HRA, HRB, HRC, HRD, HRF, HV, HB, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T
- Force loading by electric motor, without weights

**step: 1**

elevate the stage by hand to let the indenter approach the workpiece, press "start" to start testing automatically, the test force is loaded automatically

---

**step: 2**

measure indentation with measuring microscope

---

**step: 3**

then read the hardness value from LCD



Ø80mm flat anvil (included)



Ø200mm flat anvil (included)



V-type anvil (included)



touch pen (included)

## SPECIFICATION

Code	ISHB-D300**	
Turret rotation	automatic	
Range	8-650HBW	
Reading mode	directly read from LCD	
Test force	62.5, 100, 125, 187.5, 250, 500, 750, 1000, 1500, 3000kgf	
Max. height of workpiece	200mm	
Stage elevation	manual	
Load control	automatic (load/dwell/unload)	
Load dwell time	5-60 second	
Measuring microscope	magnification	20X
	resolution	0.625mm
Power supply	220V, 50/60Hz**	
Dimension	550x210x750mm	
Weight	110kg	

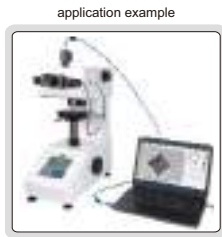
## STANDARD DELIVERY

Main unit	1 pc
Ø80mm flat anvil	1 pc
Ø200mm flat anvil	1 pc
V-type anvil	1 pc
Ø2.5mm carbide ball indenter	1 pc
Ø5mm carbide ball indenter	1 pc
USB flash disk (8G)	1 pc
Ø10mm carbide ball indenter	1 pc
Hardness test block 150-250HBW2.5/187.5	1 pc
Hardness test block 75-125HBW10/1000	1 pc
Hardness test block 175-250HBW10/3000	1 pc
Touch pen	1 pc
Anti-dust cover	1 pc

## OPTIONAL ACCESSORY

Hardness test block 200-300HBW2.5/187.5	HDT-B-HB25A2
Hardness test block 90-200HBW10/1000	HDT-B-HB10C1
Hardness test block 200-300HBW10/3000	HDT-B-HB10A2
Brinell indentation measuring system	ISHB-MSA

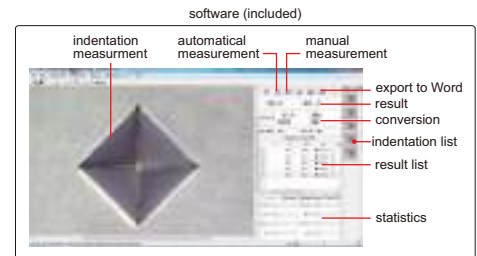
## VICKERS HARDNESS MEASURING SYSTEM CODE 9631-130



- Connected to computer USB port
- Measure the indentation sizes automatically or manually
- Multiple measurements to have average value, max. value and min. value
- Tolerance testing
- Convert to HRA, HRB, HRC, HRD, HRE, HRF, HRG, HRK, HR15T/30T/45T, HR15N/30N/45N, HK, HV, HB, HS, HSD
- Calibration with standard test block
- Measurement result can be sent to Word or Excel

### SPECIFICATION

Sensor	1/2" CMOS
Pixel	1.3M (resolution 1280×1024)
Hardness measurement resolution	0.1HV
Length measurement resolution	0.1μm
Hardness measurement accuracy	±3%
Test force	0.01, 0.025, 0.05, 0.1, 0.2, 0.3, 0.5, 1, 2, 2.5, 3, 5, 10, 20, 30, 50, 100kgf
Dimension	57×51×49mm
Weight	200g



### STANDARD DELIVERY

Main unit	1 pc
USB dongle	1 pc
Software and USB cable	1 pc



software CD (included)

## ULTRASONIC HARDNESS TESTER CODE ISHU-330



ATTENTION: HARDNESS BLOCKS FOR CALIBRATION ARE OPTIONAL

ATTENTION: NEED TO CONFIRM IF THE WORKPIECES ARE SUITABLE BEFORE PURCHASE

DATA OUTPUT

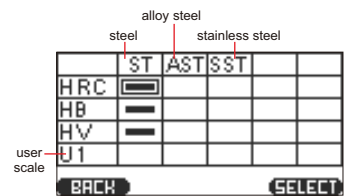


### Application:

1. For steel material
2. Test surface hardening layers (carburized, nitriding, high frequency hardened, etc.)
3. Suitable for arc and conical surface
4. Suitable for small or light workpieces
5. Test large workpieces at any direction
6. Suitable for rough surfaces

### SPECIFICATION OF MAIN UNIT

Hardness scale	HV, HB, HRC, MPa	
Range	100~940HV, 80~650HB, 20~70HRC, 370~1740MPa	
Resolution	1HV, 1HB, 0.1HRC, 1MPa	
Accuracy	HB	±3%
	HV	±3%
	HRC	±1.5%
Data output	USB	
Operating temperature	-20°C~+40°C	
Power supply	built-in rechargeable battery	
Dimension of main unit	120×60×25mm	
Weight of main unit	200g	



select the material and scale, use the corresponding standard hardness blocks or workpieces for calibration (calibration of HRC, HB and HV for steel are already made, calibration is needed before use other materials and scales)



test cylinder surfaces (use V-groove on the cover)



test flat surfaces (with the cover)

- Small test indentation
- Test force and time are not affected by the operator
- Quick testing, only 2 seconds
- Average and statistics test modes
- Memory of 1024 test results for browsing and output
- Automatic power off
- Anti-dust and waterproof



software CD (included)

### STANDARD DELIVERY

Main unit	1 pc
Probe A	1 pc
Rechargeable battery	2 pcs
Charger	1 pc
Software and USB cable	1 pc

### SPECIFICATION OF PROBE

Type	A (standard)	B (optional)
Test force	50N	10N (small force)
Application	general use	plating
Maximum roughness of workpieces (Ra)	2.5μm	1.5μm
Minimum weight of workpieces (direct measurement)	0.1kg*	0.1kg*
Minimum thickness of workpieces (direct measurement)	1mm*	1mm*
Minimum radius of workpieces	5mm	5mm
Minimum thickness of surface hardening layer or plating	0.1mm	0.03mm
Minimum test area	Ø1mm	Ø1mm
Dimension and weight of probe	140×Ø37mm, 271g	145×Ø37mm, 271g

\* If the weight or thickness of workpieces is less than required, the workpieces should be fixed or coupled on solid support

### OPTIONAL ACCESSORY

Probe B	ISHU-460-B
Couplant	ISH-COULPLANT
Hardness block HRC20~30	HDT-B-HRC1
Hardness block HRC35~55	HDT-B-HRC2
Hardness block HRC60~70	HDT-B-HRC3
Hardness block 200~300HV5	HDT-B-HV5B
Hardness block 400~500HV5	HDT-B-HV5D
Hardness block 700~750HV5	HDT-B-HV5G
Hardness block 90~200HBW10/1000	HDT-B-HB10C1
Hardness block 200~300HBW10/3000	HDT-B-HB10A2
Hardness block 400~500HBW10/3000	HDT-B-HB10A4

## PORTABLE LEEB HARDNESS TESTER CODE ISH-SPHA

- Based on Leeb (HL), converted to Vickers (HV), Brinell (HB), Rockwell (HRC and HRB), Shore (HS) and tensile strength (MPa)
- Connected with printer via bluetooth
- Connected with computer via USB port
- Up to 800 test results can be saved
- Tolerance testing
- Touch screen operation, large display with backlight
- Language: English, Chinese, Italian, German, French and Portuguese
- Automatic power off
- According to ASTM A 956



DATA  
OUTPUT



### SPECIFICATION

Min. reading	1HL, 1HV, 1HB, 0.1HRC, 0.1HRB, 1HS, 1MPa
Accuracy	±6HL (when HL=800)
Display	Leeb(HL), converted hardness, material, impact direction, test times, average value, deviation, time
Output	bluetooth and USB
Power supply	built-in rechargeable battery
Dimension	135×83×24mm
Weight	350g



software CD  
(included)



hardness test block D  
(included)



small support ring  
(included)



wireless printer  
(optional)

### STANDARD DELIVERY

Main unit	1 pc
Impact device D	1 pc
Printer	1 pc
Hardness test block D	1 pc
Small support ring	1 pc
Cleaning brush	1 pc
AC/DC adapter	1 pc
Software disc and USB cable	1 pc
Pen for touch screen	1 pc

### OPTIONAL ACCESSORY

Impact device DC	ISH-SPHA-DC
Impact device C	ISH-SPHA-C
Impact device D+15	ISH-SPHA-D15
Impact device DL	ISH-SPHA-DL
Impact device G	ISH-SPHA-G
Hardness test block D *	HDT-B-HLD3
Hardness test block G *	HDT-B-HLG2
Couplant	ISH-COUPPLANT
Support rings	see details

\* Hardness test block G (HDT-B-HLG2) is for impact device G (ISH-SPHA-G).  
Hardness test block D (HDT-B-HLD3) is for all others impact devices.

## PORTABLE LEEB HARDNESS TESTER CODE ISH-PHB

- Based on Leeb (HLD), converted to Vickers (HV), Brinell (HB), Rockwell (HRC and HRB), Shore (HS) and tensile strength (MPa)
- Memory of 99 measurement values for browsing
- Set measurement times (1-9) to have average value
- Connected with printer via bluetooth
- Automatic power off
- According to ASTM A 956



hardness test block D  
(included)



small support ring  
(included)



wireless printer  
(optional)

### SPECIFICATION

Min. reading	1HLD, 1HV, 1HB, 0.1HRC, 0.1HRB, 1HS, 1MPa	
Accuracy	±6HLD (when HLD=800)	
Display	Leeb (HLD), converted hardness, material, impact direction, test times, average value, date	
Output	bluetooth	
Applicable workpiece	minimum weight	5kg
		2Kg (on solid support) 0.1kg(coupled on plate)
	minimum thickness: 5mm	
	minimum radius of curved surface: 30mm maximum roughness (Ra): 1.6µm	
Power supply	3×AAA batteries	
Dimension	150×84×28mm	
Weight	200g	

### STANDARD DELIVERY

Main unit	1 pc
Impact device D	1 pc
Hardness test block D	1 pc
Small support ring	1 pc
Cleaning brush	1 pc

### OPTIONAL ACCESSORY

Wireless printer	ISH-DS-PRINTER
Couplant	ISH-COUPPLANT
Support rings	see details
Hardness test block D	HDT-B-HLD3



## PORTABLE LEEB HARDNESS TESTERS (BASIC TYPE)



HDT-LP200

- Can change probes
- Dual-coil probe for high accuracy
- Universal testing angle, no need to set impact direction
- Based on Leeb (HLD), converted to Vickers (HV), Brinell (HB), Rockwell (HRC, HRA and HRB), Shore (HS) and tensile strength (SGM)
- Dual value display, shows both Leeb and converted hardness
- Large LCD display with backlight
- Can choose large font display and statistics display
- Automatically calculate maximum, minimum and average value
- Save 300 data
- Operating temperature: -10°C~45°C
- According to ASTM A956, DIN 50156, GB/T 17394



small support ring (included)



hardness test block D (included)



wireless printer (included in HDT-LP200B)

### SPECIFICATION

Code	HDT-LP200	HDT-LP200B
Printer	not included	included
Output	-	bluetooth
Resolution	1HLD/1HV/1HB/0.1HRC/0.1HRB/0.1HRA/0.1HS/1SGM	
Accuracy	±6HLD (when HLD=800)	
Measuring range	HL 100-960/HRC 0.9-79.2/HRB 1-140/HB 1-1878/HV 1-1698/HS 0.5-1370/HRA 1-88.5/SGM (rm) 1-6599N/mm <sup>2</sup>	
Power supply	2xAA battery	
Dimension	127×67×30mm	
Weight	240g	

### STANDARD DELIVERY

Main unit	1 pc
Hardness test block D	1 pc
Small support ring	1 pc
Cleaning brush	1 pc
Impact device D	1 pc
Printer (included in HDT-LP200B)	1 pc

### OPTIONAL ACCESSORY

Impact device DC	HDT-LP200-DC
Impact device C	HDT-LP200-C
Impact device D+15	HDT-LP200-D15
Impact device DL	HDT-LP200-DL
Impact device E	HDT-LP200-E
Impact device G	HDT-LP200-G
Hardness test block D *	HDT-B-HLD3
Hardness test block G *	HDT-B-HLG2
Support rings	ISH-PH-SP9

\* Hardness test block G (HDT-B-HLG2) is for impact device G (HDT-LP200-G).  
Hardness test block D (HDT-B-HLD3) is for all others impact devices.



### APPLICABLE WORKPIECE

Impact device	DC	C	D	D+15	DL	E	G
Application	inner wall of small space	small or thin workpiece, coating layer	general use	deep groove	narrow slot or small hole	very hard material	casting or forging workpiece
Maximum roughness of workpiece (Ra)	2μm	0.4μm	2μm	2μm	2μm	2μm	7μm
Minimum weight of workpiece	direct measurement	5kg	1.5kg	5kg	5kg	5kg	15kg
	on solid support	2kg	0.5kg	2kg	2kg	2kg	5kg
	coupled on plate	0.05kg	0.02kg	0.05kg	0.1kg	0.05kg	0.5kg
Minimum thickness of workpiece	3mm	1mm	3mm	3mm	3mm	3mm	10mm

# PORTABLE LEEB HARDNESS TESTER (HIGH ACCURACY) CODE HDT-L410

DATA  
OUTPUT

HIGH  
ACCURACY

DL PROBE IS  
OPTIONAL

INSPECTION  
CERTIFICATE



- Metal housing
- HD TFT 320×320 display
- Impact device D
- Based on Leeb (HLD), converted to Vickers (HV), Brinell (HB), Rockwell (HRC, HRA and HRB), Shore (HS) and tensile strength (SGM)
- Four display modes
- Automatic direction correction
- Tolerance testing
- Automatic power off, automatic calculation of statistics
- Dual value display, shows both Leeb and other conversion values
- 31 files can be saved, each containing 100 measurement data
- Connected to PC software via USB or Bluetooth 2.0
- Connected with printer via Bluetooth
- Operating temperature: -20°C~70°C
- According to ASTM A956, DIN 50156, GB/T 17394



software CD (included)

DL probe can be installed (optional)



small support ring (included)

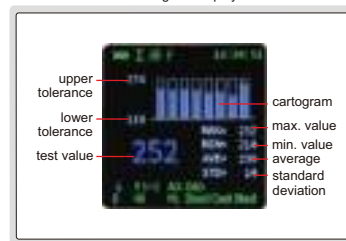


hardness test block D (included)

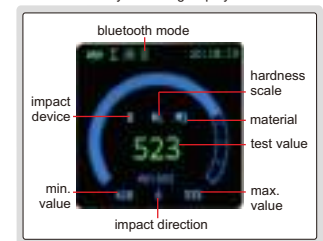


wireless printer (optional)

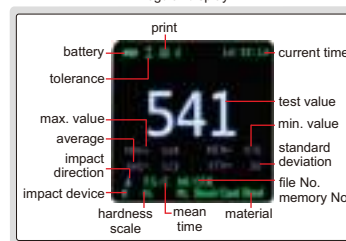
histogram display



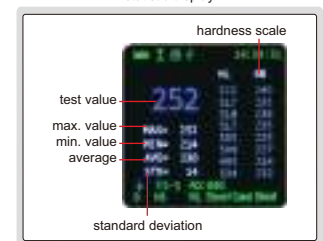
dynamic ring display



regular display



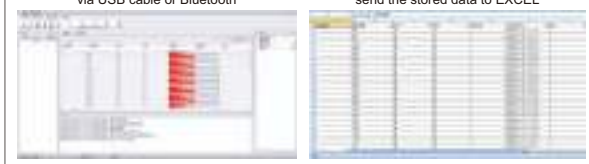
statistic display



Software (included), upload the memory to PC, print and send to EXCEL

upload the memory to PC software via USB cable or Bluetooth

send the stored data to EXCEL



## SPECIFICATION

<b>Resolution</b>	1HLD, 1HV, 1HB, 0.1HRC, 0.1HRB, 0.1HRA, 0.1HS, 1SGM	
<b>Accuracy</b>	±4HLD (when HLD=800)	
<b>Output</b>	USB and bluetooth	
<b>Applicable workpiece</b>	minimum weight	5kg (direct measurement)
		2kg (on solid support)
		0.05kg (coupled on plate)
	minimum thickness: 5mm	
minimum radius of curved surface: 30mm		
maximum roughness (Ra): 2µm		
<b>Power supply</b>	built-in 3.7V rechargeable battery	
<b>Dimension</b>	148×44×22mm	
<b>Weight</b>	115g	

## STANDARD DELIVERY

Main unit	1 pc
Hardness test block D	1 pc
Small support ring	1 pc
Cleaning brush	1 pc
AC/DC adapter	1 pc
Software disc and USB cable	1 pc

## OPTIONAL ACCESSORY

Printer	HDT-L410-PRINTER
Support rings	ISH-PH-SP9
Hardness test block D	HDT-B-HLD3
DL probe	HDT-L410-DL



## PORTABLE LEEB HARDNESS TESTER (BASIC TYPE) CODE HDT-L411



software CD  
(included)



small support ring  
(included)



hardness test  
block D (included)

- Impact device D
- Universal testing angle, no need to set impact direction
- Dual-coil probe, high accuracy
- Based on Leeb (HLD), converted to Vickers (HV), Brinell (HB), Rockwell (HRC, HRA and HRB), Shore (HS) and tensile strength (SGM)
- Dual value display, shows both Leeb and converted hardness
- High contrast digital LCD display
- Can choose large font display
- Automatically calculate maximum, minimum, average value
- Connected to PC via USB
- Save 999 data
- Operating temperature: -20°C~45°C
- According to ASTM A956, DIN 50156, GB/T 17394



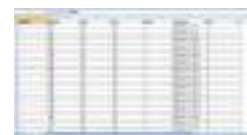
VIDEO

Software (included), upload the memory to PC, print and send to EXCEL

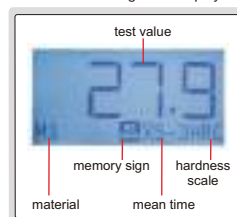
upload the memory to PC software via USB cable



send the stored data to EXCEL



can choose large font display



### SPECIFICATION

Resolution	1HLD, 1HV, 1HB, 0.1HRC, 0.1HRB, 0.1HRA, 0.1HS, 1SGM	
Accuracy	±6HLD (when HLD=800)	
Output	USB	
Measuring range	HL100-960, HRC1-74.7, HRB1.2-140, HB28-1027, HV45-1230, HS4-112, HRA7-88.5, SGM (rm) 118-3315N/mm <sup>2</sup>	
Applicable workpiece	minimum weight	5kg (direct measurement) 2kg (on solid support) 0.05kg (coupled on plate)
	minimum thickness:	5mm
	minimum radius of curved surface:	30mm
	maximum roughness (Ra):	2µm
Power supply	1xAAA battery	
Dimension	148×45×21mm	
Weight	105g	

### STANDARD DELIVERY

Main unit	1 pc
Hardness test block D	1 pc
Cleaning brush	1 pc
AAA battery	1 pc
Small support ring	1 pc
Software disc and USB cable	1 pc

### OPTIONAL ACCESSORY

Support rings	ISH-PH-SP9
Hardness test block D	HDT-B-HLD3

## BARCOL HARDNESS TESTER CODE ISHB-B300

- To measure the hardness of workpieces made of pure aluminum, aluminum alloy, fiber reinforced plastic, hard plastic, etc.
- According to ASTM B648-00, ASTM D2853-07



VIDEO

### SPECIFICATION

Hardness range	0~100HBa (equal to 25~150HBW)
Min. reading	1HBa
Accuracy	±2HBa (at 42~52HBa) ±1HBa (at 84~88HBa)
Min. workpiece thickness	0.8mm
Dimension	142×65×90mm
Weight	500g

### STANDARD DELIVERY

Main unit	1 pc
Spare indenter	2 pcs
Hardness test block	2 pcs
Wrench	1 pc

## WEBSTER HARDNESS TESTER

- To measure the hardness of soft metal such as aluminum alloy, copper, brass, soft steel, etc.
- According to ASTM B647-84 (2000)



### SPECIFICATION

Code	ISHW-L20
Application	for aluminum alloy general use
Thickness requirement of flat workpiece	0.6~6mm
Internal diameter requirement of tube workpiece	>Ø10mm
Wall thickness requirement of tube workpiece	0.6~6mm
Hardness range	0~20HW
Min. reading	1HW
Accuracy	±0.5HW (at 5~17HW)
Dimension	205x30x85mm
Weight	500g



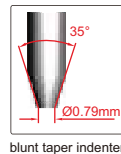
ISHW-L20

### STANDARD DELIVERY

Main unit	1 pc
Spare indenter	1 pc
Hardness test block	1 pc
Wrench	1 pc

## DIGITAL SHORE DUROMETERS

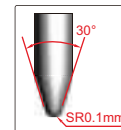
- According to ISO868, ISO7619, ASTM D 2240
- Average and peak (max.) mode
- Dwell time is adjustable
- Low and high limits with judgement
- 500 memories
- Wireless connection to printer
- Handhold use or work with test stand (code ISH-DS-STANDA)
- Automatic power off



blunt taper indenter



ISH-DSA



sharp point indenter



ISH-DSD

DATA OUTPUT



software CD (included)



calibration block (included)



printer (optional)

### SPECIFICATION

Code	ISH-DSA	ISH-DSD
Unit	Shore A	Shore D
Test material	soft plastic, soft rubber, etc.	hard plastic, hard rubber, etc.
Measuring range	0~100HA	0~100HD
Resolution	0.1HA	0.1HD
Accuracy	±1HA	±1HD
Indenter protrusion	2.5mm	
Output	wireless and USB	
Power supply	built-in rechargeable battery	
Dimension	153x50x29mm	
Weight	170g	

### STANDARD DELIVERY

Main unit	1 pc
Calibration block	1 pc
Software and USB cable	1 pc
AC/DC adapter	1 pc

### OPTIONAL ACCESSORY

Printer	ISH-DS-PRINTER
Test stand	ISH-DS-STANDA

- \*Use ISH-DSD when measuring result is higher than 90HA  
Use ISH-DSA when measuring result is lower than 20HD

## TEST STAND FOR DIGITAL SHORE DUROMETERS CODE ISH-DS-STANDA

- For digital shore durometers (code ISH-DSA and ISH-DSD)
- Can perform repeatable hardness measurement due to fewer possibilities of human error or measurement variations
- Special structure for stable loading
- Weight block A is for ISH-DSA, weight block D is for ISH-DSD

### SPECIFICATION

Stage diameter	Ø115mm
Maximum workpiece height	45mm (from test point to the column)
Dimension	Ø195x370mm
Weight	5.61kg

### STANDARD DELIVERY

Test stand	1 pc
Weight block A (for ISH-DSA)	1 pc



weight block D (optional)  
for ISH-DSD

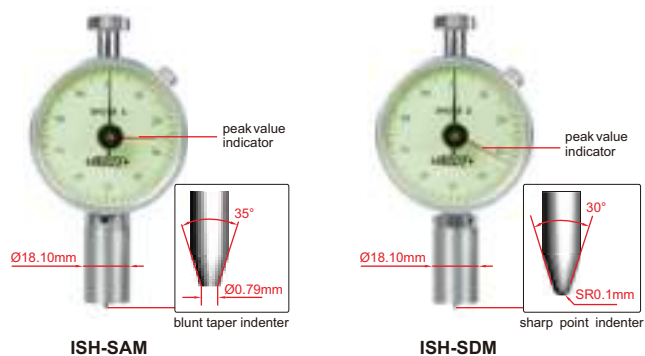


durometer  
is optional

### OPTIONAL ACCESSORY

Weight block D (for ISH-DSD)	ISH-DS-W4
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## SHORE DUROMETERS



- According to ISO868, ISO7619, ASTM D 2240
- With peak value indicator
- Optional accessory: test stand ISH-STAC and ISH-STD



### SPECIFICATION

Code	ISH-SAM	ISH-SDM
Scale	Shore A	Shore D
Application	natural rubber, soft elastomer, etc.	hard elastomer, plastic, hard rubber, etc.
Measuring range *	10~90HA	20~90HD
Graduation	1HA	1HD
Indenter protrusion	2.5mm	2.5mm
Dimension	115x60x25mm	
Net weight	160g	

\* Use **ISH-SDM** when measuring result is higher than 90HA  
Use **ISH-SAM** when measuring result is lower than 20HD

## TESTING STAND FOR SHORE DUROMETERS

- For shore durometers weight block (code ISH-SAM and ISH-SDM)
- Perform repeatable hardness measurement due to fewer possibilities of human error or measurement variations

### SPECIFICATION

Code	ISH-STAC
Applicable durometer	ISH-SAM
Stage diameter	Ø100mm
Maximum workpiece height	75mm (from test point to the column)
Weight block	1kg



## DIGITAL FORCE GAGES

DATA OUTPUT

INSPECTION CERTIFICATE



- Push and pull test
- Units: lbf, ozf, N, gf, kgf
- 500 memories
- Automatic power off
- Metal case
- LCD display with backlight
- The display flips over when the bottom faces up
- Overload alarm

software CD (included)



printer (optional)



ISF-1DF100

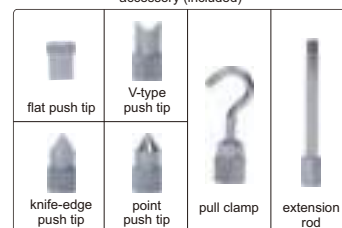
### SPECIFICATION

Code	ISF-1DF10	ISF-1DF50	ISF-1DF100	ISF-1DF500	ISF-1DF1000
Load capacity (N)	10	50	100	500	1000
Resolution (N)	0.01	0.01	0.1	0.1	1
Accuracy	±0.3% (of load capacity)				
Measuring mode	tracking, peak (max.), low and high limits with judgement				
Power supply	built-in rechargeable battery				
Dimension	150×73×33mm				
Weight	450g				

### STANDARD DELIVERY

Main unit	1 pc
AC/DC adapter	1 pc
USB cable and software	1 pc
Push/pull accessory	6 pcs (flat push tip, V-type push tip, knife-edge push tip, point push tip, pull clamp, extension rod)

accessory (included)



### OPTIONAL ACCESSORY

Printer	ISF-DF-PRINTER
Test stand	ISF-MT1K

## DIGITAL FORCE GAGES (HIGH ACCURACY)

**INSPECTION  
CERTIFICATE**

**DATA  
OUTPUT**



ISF-DF100A

- Push and pull test
- Peak (max.) and tracking mode
- Units: mN, N, gf, kgf, ozf, lbf, MPa (only for type B)
- Low and high limits with judgement
- 1000 memories
- Automatic power off
- Metal case, touch buttons
- LCD display with backlight
- The display flips over when the bottom faces up
- Overload alarm

software CD (included)



printer (optional)



### SPECIFICATION

Code	ISF-DF50A	ISF-DF100A	ISF-DF200A	ISF-DF500A	ISF-DF1KA
Type	internal sensor				
Load capacity (N)	50	100	200	500	1000
Resolution (N)	0.005	0.01	0.05	0.05	0.1
Accuracy	±0.2% (of load capacity)				
Power supply	built-in rechargeable battery				

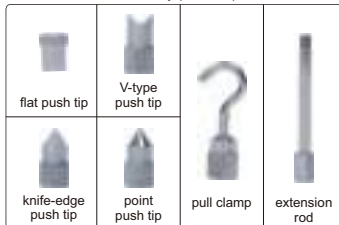
### STANDARD DELIVERY

Main unit	1 pc
AC/DC adapter	1 pc
USB cable and software	1 pc
Push/pull accessory	6 pcs (flat push tip, V-type push tip, knife-edge push tip, point push tip, pull clamp, extension rod)

### OPTIONAL ACCESSORY

Printer	ISF-DF-PRINTER
Test stand	ISF-MT1K

accessory (included)



## TEST STAND FOR DIGITAL FORCE GAGE CODE ISF-MT1K

- For digital force gages (code ISF-1DF□□ and ISF-DF□□)
- To be used in vertical and horizontal orientation

### SPECIFICATION

Load capacity	1000N
Travel	200mm (3mm vertical movement per revolution of handwheel)
Dimension	196x250x446mm
Weight	13kg

### OPTIONAL ACCESSORY

Digital scale (range: 200mm, resolution: 0.01mm/0.0005")	ISF-MT1K-SCALE
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force gages  
are optional



horizontal orientation test



digital scale (optional)



## FORCE GAGES



- Push and pull test
- Peak (max.) or tracking mode

### SPECIFICATION

Code	ISF-F10	ISF-F20	ISF-F30	ISF-F50	ISF-F100	ISF-F200	ISF-F300	ISF-F500	
Capacity	N	10	20	30	50	100	200	300	500
	kgf	1	2	3	5	10	20	30	50
Graduation	N	0.05	0.1	0.2	0.25	0.5	1	2	2.5
Accuracy	±1% (of load capacity)								

### STANDARD DELIVERY

Main unit	1 pc
Push tip	4 pcs (flat, V type, knife-edge, point)
Pull clamp	1 pc
Extension rod	1 pc

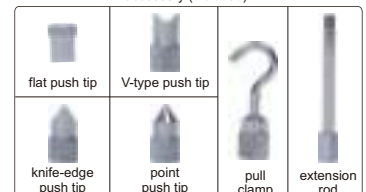
### OPTIONAL ACCESSORY

Test stand	ISF-MT500
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ISF-F500

accessory (included)



## TEST STAND FOR FORCE GAGE CODE ISF-MT500

- For force gages (code ISF-F□□□)
- To be used in vertical and horizontal orientation



horizontal orientation test

force gages  
are optional



VIDEO

### SPECIFICATION

Load capacity	500N
Travel	150mm (3mm vertical movement per revolution of handwheel)
Dimension	160×240×460mm
Weight	12kg

## DIGITAL SPRING TESTERS

DATA  
OUTPUT

- Peak hold and automatic release function
- Set upper and lower limits, red and green indicator and buzzer alarm
- Automatic conversion of three units: N, kgf, lbf
- Built in printer
- Automatic power off



ISF-S500



VIDEO

### SPECIFICATION

Code	ISF-S50*	ISF-S100*	ISF-S200*	ISF-S300*	ISF-S500*
Maximum load	50N	100N	200N	300N	500N
Resolution	0.01N	0.02N	0.05N	0.1N	0.1N
Range of digital scale	95mm				
Resolution of digital scale	0.01mm				
Disk diameter	Ø49mm				
Maximum free length of spring	95mm				
Measuring range of force	5%~100% (maximum load)				
Accuracy of force	±1% (maximum load)				
Data output	RS232				
Power supply	220V, 50/60Hz*				
Dimension	300×235×620mm				
Weight	17.3kg	19.1kg	19.1kg	19.1kg	20.8kg

\*Add "-U" on code No. when power supply is 110V, 50/60Hz

### STANDARD DELIVERY

Main unit	1 pc
Power supply adapter	1 pc

## MANUAL HORIZONTAL TEST STAND FOR FORCE GAGES

force gage is optional



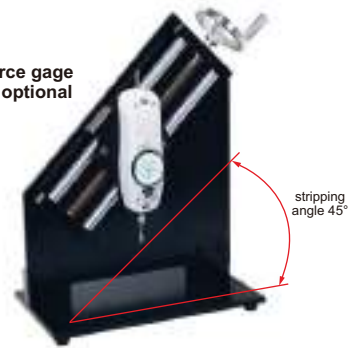
- For tensile and compression load test, plug and pull force test, horizontal stripping test and destruction test with force gages

### SPECIFICATION

Code	ISF-H20D
Apply to	Digital force gages (code ISF-1DF□□□ and ISF-DF□□□)
Load capacity	500N
Travel	60mm
Dimension	450×185×170mm
Weight	9kg

## MANUAL STRIPPING FORCE TEST STAND

force gage is optional



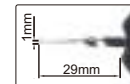
- For stripping force test with force gages

### SPECIFICATION

Code	ISF-P30D
Apply to	Digital force gages (code ISF-1DF□□□ and ISF-DF□□□)
Load capacity	500N
Horizontal travel	170mm
Dimension	420×215×480mm
Weight	22kg

## DIAL TENSION GAGES

- Clockwise and counter-clockwise use
- For electronic and precision mechanical industry, such as test the contact pressure of relay, adjust the tension or compression of spring



ISF-TG3

### SPECIFICATION (Unit: N)

Code	ISF-TGD1	ISF-TGD3	ISF-TGD5	ISF-TG1	ISF-TG1D5	ISF-TG3	ISF-TG5
Range (N)	0.01~0.1	0.03~0.3	0.05~0.5	0.1~1	0.15~1.5	0.3~3	0.5~5
Graduation (N)	0.002	0.005	0.01	0.02	0.025	0.05	0.1
Accuracy	±2% (full scale)						
Dimension (L×W×H)	90×47×19mm						
Weight	60g						

### SPECIFICATION (Unit: gf)

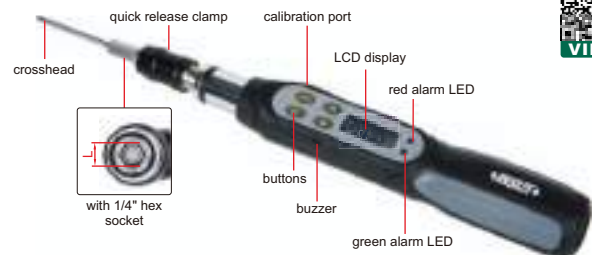
Code	ISF-TG10	ISF-TG30	ISF-TG50	ISF-TG100	ISF-TG150	ISF-TG300	ISF-TG500
Range (gf)	1~10	3~30	5~50	10~100	15~150	30~300	50~500
Graduation (gf)	0.2	0.5	1	2	2.5	5	10
Accuracy	±2% (full scale)						
Dimension (L×W×H)	90×47×19mm						
Weight	60g						

## DIGITAL TORQUE SCREWDRIVERS

- Clockwise and counter-clockwise operation
- Unit: cN.m, in.lb, kg.cm
- Peak and track working modes
- Target torque value can be set, with audible and visible alarm:
  - Green LED light on and buzzer sounds when target torque value is 90%~100% of target torque
  - Red LED light on and buzzer sounds when target torque value is reached
- Power off automatically in 5 minutes without any operations

### SPECIFICATION

Code	IST-SD50	IST-SD200
Range	10~50cN.m	40~200cN.m
Accuracy	clockwise	±3%
	counter-clockwise	±4%
Resolution	0.1cN.m	0.1cN.m
Size of shank (L)	1/4"	1/4"
Powersupply	1xAAA battery	
Length	193mm	203mm
Weight	190g	200g



IST-SD200

software CD (included)

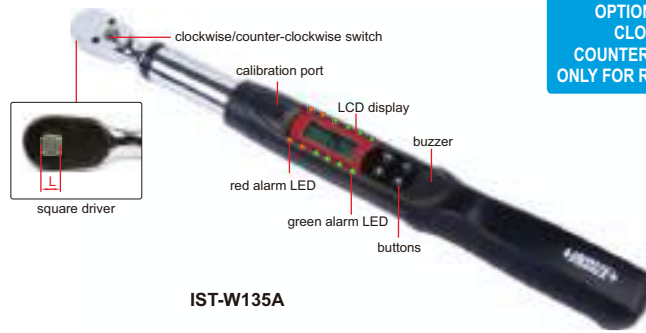


### OPTIONAL ACCESSORY

Calibration cable IST-SD-CABLE

## DIGITAL TORQUE WRENCHES

- Clockwise and counter-clockwise operation
- Unit: N.m, in.lb, ft.lb, kg.cm
- Peak and track working modes
- Target torque value can be set, with audible and visible alarm:
  - Green LED light on and buzzer sounds when torque value is 90%~100% of target torque
  - Both green and red LED light on and buzzer sounds when target torque value is reached
- Power off automatically in 5 minutes without any operations
- Non-slip grip handle
- With damp record
- With overload record (once the torque reaches 110% of the maximum range)



IST-W135A

OPTIONAL ACCURACY:  
CLOCKWISE: ±1%  
COUNTER-CLOCKWISE: ±2%  
ONLY FOR RANGE FOR 6~850N.m

INSPECTION  
CERTIFICATE



### SPECIFICATION

Code	Range	Accuracy	Resolution	Square driver (L)	Power supply	Length	Weight
IST-W30A	6~30N.m	clockwise: ±2% counter-clockwise: ±3%	0.01N.m	1/4"	2×AA batteries	390mm	830g
IST-W135A	27~135N.m		0.1N.m	3/8"		415mm	950g
IST-W500A	100~500N.m	clockwise: ±2.5% counter-clockwise: ±3.5%	0.1N.m	3/4"		950mm	2.1kg

### OPTIONAL ACCESSORY

Calibration cable	IST-W-CABLE
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## PRESET TORQUE WRENCHES

ATTENTION: CLOCKWISE  
OPERATION ONLY

- Torque is preset, to prevent adjustment by mistake during use
- The torque is set at the factory before delivery. Customers can also set the torque with torque adjustment tool (IST-PW-TOOL, optional) and digital torque testers (IST-TT□□□, optional)
- Clockwise operation only



IST-PW60

### SPECIFICATION

Code	IST-PW12	IST-PW20	IST-PW30	IST-PW60	IST-PW125	IST-PW200
Adjustable range *	2.5~12N.m	4~20N.m	6~30N.m	10~60N.m	25~125N.m	40~200N.m
Accuracy	±3%	±3%	±3%	±3%	±3%	±3%
Square driver (D)	1/4"	1/4"	3/8"	3/8"	3/8"	1/2"
Length	184mm	184mm	214mm	255mm	366mm	457mm
Weight	450g	450g	500g	560g	790g	1200g

Code	IST-PW340	IST-PW500	IST-PW650	IST-PW800	IST-PW1000A	IST-PW1000B
Adjustable range *	65~340N.m	100~500N.m	150~650N.m	160~800N.m	200~1000N.m	200~1000N.m
Accuracy	±3%	±3%	±4%	±4%	±4%	±4%
Square driver (D)	1/2"	3/4"	3/4"	3/4"	3/4"	1"
Length	691mm	910mm	910mm	1037mm	1265mm	1265mm
Weight	1960g	2800g	2800g	5000g	6000g	6000g



torque adjustment tool (optional)

### OPTIONAL ACCESSORY

Torque adjustment tool	IST-PW-TOOL
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\*Adjust to a fixed torque value according to customer requirements before delivery

## TORQUE WRENCHES

ATTENTION: CLOCKWISE  
OPERATION ONLY

- According to DIN ISO 6789, ASME B107.300
- All-metal construction, sturdy and durable



IST-9WM335

INSPECTION  
CERTIFICATE

### SPECIFICATION

Code	IST-9WM30	IST-9WM60	IST-9WM100	IST-9WM200	IST-9WM335	IST-9WM500	IST-9WM800	IST-9WM1000
Range (clockwise)	6~30N.m	10~60N.m	20~100N.m	40~200N.m	65~335N.m	100~500N.m	160~800N.m	200~1000N.m
Accuracy	±6% (<10N.m) ±4% (≥10N.m)	±4%	±4%	±4%	±4%	±4%	±4%	±4%
Graduation	0.1N.m	0.25N.m	0.5N.m	1N.m	1N.m	2.5N.m	4N.m	5N.m
Square driver (D)	3/8"	3/8"	1/2"	1/2"	1/2"	3/4"	3/4"	3/4"
Length	318mm	388mm	443mm	468mm	528mm	855mm	1055mm	1055mm
Weight	820g	960g	1040g	1160g	1300g	5000g	5900g	5900g

# INTERCHANGEABLE HEAD TORQUE WRENCHES

ATTENTION: CLOCKWISE OPERATION ONLY



IST-11WM200



- According to DIN ISO 6789, ASME B107.300
- All-metal construction, sturdy and durable

### SPECIFICATION

Code	Range (clockwise)	Accuracy	Graduation	Socket size (A×B)	Length	Weight
IST-11WM12	2.5~12N.m	±6% (<10N.m) ±4% (≥10N.m)	0.05N.m	12×9mm	284mm	580g
IST-11WM30	6.0~30N.m	±6% (<10N.m) ±4% (≥10N.m)	0.1N.m	12×9mm	303mm	720g
IST-11WM60	10~60N.m	±4%	0.5N.m	12×9mm	372mm	860g
IST-11WM125	25~125N.m	±4%	0.5N.m	12×9mm	427mm	940g
IST-11WM200	40~200N.m	±4%	1N.m	18×14mm	460mm	1060g
IST-11WM335	65~335N.m	±4%	1N.m	18×14mm	520mm	1200g

### RATCHET HEAD (optional)

Code	Square driver	Applicable wrenches
IST-11WM-R1	1/4"	IST-11WM12 IST-11WM30
IST-11WM-R2	3/8"	IST-11WM12 IST-11WM30 IST-11WM60 IST-11WM125
IST-11WM-R3	1/2"	IST-11WM200 IST-11WM335
IST-11WM-R4*	3/4"	IST-11WM200 IST-11WM335



### OPEN END HEAD (optional)

Code	Open size	Applicable wrenches
IST-11WM-K8	8mm	IST-11WM12 IST-11WM30 IST-11WM60 IST-11WM125
IST-11WM-K10	10mm	
IST-11WM-K13	13mm	
IST-11WM-K14	14mm	
IST-11WM-K15	15mm	
IST-11WM-K17	17mm	
IST-11WM-K19*	19mm	
IST-11WM-K13A	13mm	IST-11WM200 IST-11WM335
IST-11WM-K14A	14mm	
IST-11WM-K15A	15mm	
IST-11WM-K17A	17mm	
IST-11WM-K19A	19mm	
IST-11WM-K22A	22mm	
IST-11WM-K24A	24mm	
IST-11WM-K27A*	27mm	
IST-11WM-K30A*	30mm	
IST-11WM-K32A*	32mm	

### BOX END HEAD (optional)

Code	Open size	Applicable wrenches
IST-11WM-M8	8mm	IST-11WM12 IST-11WM30 IST-11WM60 IST-11WM125
IST-11WM-M10	10mm	
IST-11WM-M13	13mm	
IST-11WM-M14	14mm	
IST-11WM-M15	15mm	
IST-11WM-M17	17mm	
IST-11WM-M19	19mm	
IST-11WM-M13A	13mm	IST-11WM200 IST-11WM335
IST-11WM-M14A	14mm	
IST-11WM-M15A	15mm	
IST-11WM-M17A	17mm	
IST-11WM-M19A	19mm	
IST-11WM-M22A	22mm	
IST-11WM-M24A	24mm	
IST-11WM-M27A	27mm	
IST-11WM-M30A	30mm	
IST-11WM-M32A	32mm	

\*Torque value needs to be corrected with those heads



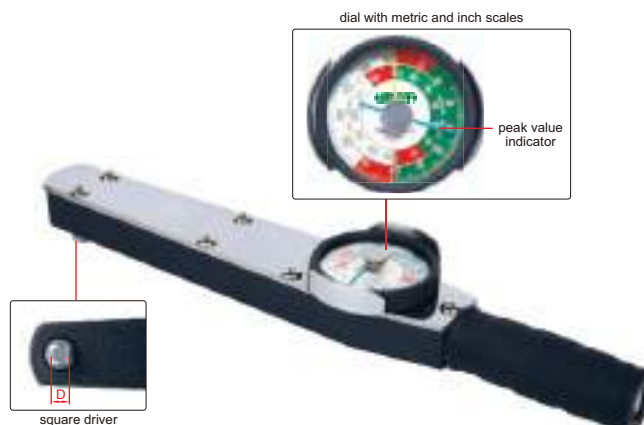
## DIAL TORQUE WRENCHES



- Clockwise and counter-clockwise operation
- According to DIN ISO 6789, ASME B107.300

### SPECIFICATION

Code	IST-DW18	IST-DW35	IST-DW70	IST-DW140
Range	3.6~18N.m 30~150in.lb	7~35N.m 60~300in.lb	14~70N.m 120~600in.lb	28~140N.m 20~100ft.lb
Accuracy	±3%	±3%	±3%	±3%
Graduation	0.2N.m 2in.lb	0.5N.m 5in.lb	1N.m 10in.lb	2N.m 1ft.lb
Square driver (D)	3/8"	3/8"	3/8"	1/2"
Length	254mm	254mm	378mm	546mm
Weight	480g	480g	820g	1300g



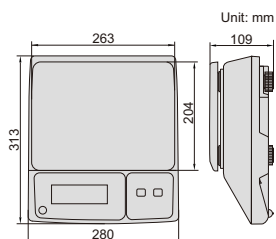
IST-DW70

## WEIGHING SCALES (HIGH PRECISION)



8001-30

- LCD display, with backlight
- Zero-setting, subtracting tare value
- Overload alarm
- Automatic power off



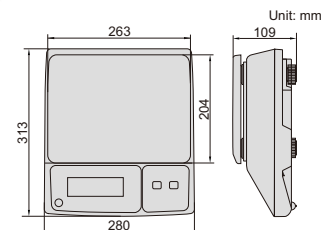
Code	8001-6	8001-15	8001-30
Capacity	6kg	15kg	30kg
Minimum capacity	4g	10g	20g
Readout	0.2g	0.5g	1g
Resolution	30000d		
Operating temperature	-10~40°C		
Power	rechargeable battery (6V/3.2Ah) power adapter (12V/500mA)		
Dimensions of pan	263×204mm		

## WEIGHING SCALES (OIML CERTIFICATE)



8002-30M

- LCD display, with backlight
- Zero-setting, subtracting tare value
- Overload alarm
- Automatic power off
- OIML certificate (No. 0200-NAWI-04601)



Code	8002-6M	8002-15M	8002-30M
Capacity	3/6kg	6/15kg	15/30kg
Minimum capacity	20g	40g	100g
Readout	1g/2g	2g/5g	5g/10g
Resolution	2×3000e		
Operating temperature	-10~40°C		
Power	rechargeable battery (6V/3.2Ah) power adapter (12V/500mA)		
Dimensions of pan	263×204mm		

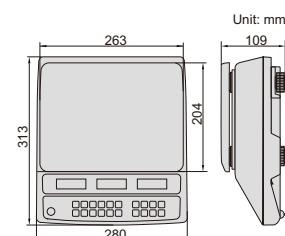
## COUNTING SCALES

- LCD display, with backlight
- Zero-setting, subtracting tare value, counting, accumulation, checking alarm
- Overload alarm

Code	8101-6	8101-15	8101-30
Capacity	6kg	15kg	30kg
Minimum capacity	4g	10g	20g
Readout	0.2g	0.5g	1g
Resolution	3000d		
Operating temperature	-10~40°C		
Power	rechargeable battery (6V/3.2Ah) power adapter (12V/500mA)		
Dimensions of pan	263×204mm		

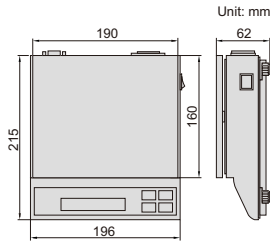


8101-30



**ELECTRONIC BALANCES**

- Automatic zero when power on
- Unit: g (gram), ct (carat), ozt (troy ounce)
- Weighing, counting, taring
- Overload alarm
- Data output



DATA OUTPUT



8301-3000



calibration weight (included in 8301-300, 8301-600 and 8301-1200)



windshield (included in 8301-300, 8301-600 and 8301-1200)

Code	8301-300	8301-600	8301-1200	8301-3000	8301-6000
Maximum weighing	300g	600g	1200g	3000g	6000g
Minimum weighing	0.2g	0.2g	0.2g	2g	2g
Resolution	0.01g	0.01g	0.01g	0.1g	0.1g
Pan size	Ø135mm			190×160mm	
Verification scale interval	10d				
Working temperature	0~40°C				
Working humidity	≤80% RH				
Power supply	power adapter				

**OPTIONAL ACCESSORY**

RS232 CABLE	8301-CABLE
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**ELECTRONIC CRANE SCALES**

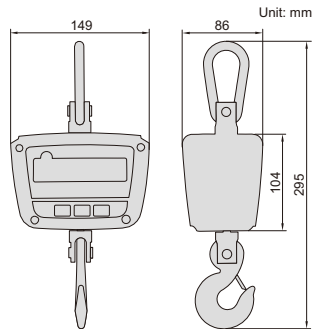
IP65 WATERPROOF



8201-150KG



Remote controller (included)



- Dust/waterproof level: IP65
- LED display, remote control
- Low voltage indicator
- Unit: kg, lb
- Automatic power off, overload alarm
- 360° safe rotary hook and shackle
- Aluminum alloy die casting case with high strength

**SPECIFICATION**

Code	8201-50KG	8201-150KG	8201-300KG
Maximum capacity	50kg	150kg	300kg
Minimum capacity	0.4kg	1.0kg	2.0kg
Resolution	0.02kg/0.01kg	0.05kg/0.02kg	0.10kg/0.05kg
Operating temperature	-10~40°C		
Operating humidity	30%~90% RH		
Overload alarm	100%F.S.+9e		
Maximum safe load	125%F.S.		
Limited overload	400%F.S.		
Power supply	rechargeable battery 6V/3Ah (for 40 hours working)		
Stable reading time	≤8s		

**STANDARD DELIVERY**

Main unit	1 pc
Remote controller	1 pc
Battery charger	1 pc

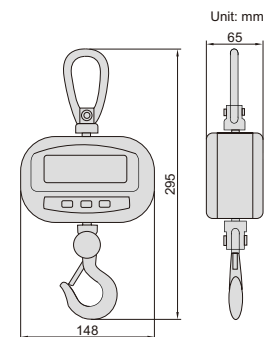
**ELECTRONIC CRANE SCALES (ECONOMIC TYPE)**



8202-150KG



Remote controller (included)



- LED display, remote control
- Low voltage indicator
- Unit: kg, lb
- Automatic power off
- Overload alarm
- 360° safe rotary hook and shackle
- Plastic case

**SPECIFICATION**

Code	8202-50KG	8202-150KG	8202-300KG
Maximum capacity	50kg	150kg	300kg
Minimum capacity	0.4kg	1.0kg	2.0kg
Resolution	0.02kg/0.01kg	0.05kg/0.02kg	0.10kg/0.05kg
Operating temperature	-10~40°C		
Operating humidity	30%~90% RH		
Overload alarm	100%F.S.+9e		
Maximum safe load	125%F.S.		
Limited overload	400%F.S.		
Power supply	4×1.5V AA batteries (for 40 hours working)		
Stable reading time	≤8s		

**STANDARD DELIVERY**

Main unit	1 pc
Remote controller	1 pc

## PLATFORM SCALES

DATA  
OUTPUT



printer (optional)

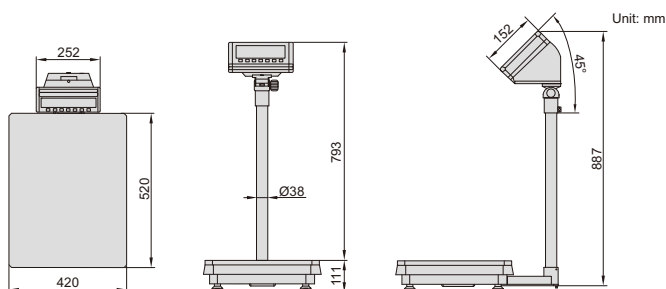
- LCD large screen display with LED backlight
- Weighing, overweight alarm, counting, keyboard lock, accumulating, auto zero and animal scale
- Units: kg, g, lb, oz



8501-AL150

### OPTIONAL ACCESSORY

Printer	8001-PRINTER
---------	--------------



### SPECIFICATION

Code	8501-AL60	8501-AL150	8501-AL300
Maximum capacity	60kg	150kg	300kg
Minimum capacity	100g	200g	400g
Division	5g	10g	20g
Verification interval	20g	50g	100g
Operating temperature	-10~40°C		
Material	platform: stainless steel, base: die-cast aluminum		
Dimension of platform	420×520mm		
Power	rechargeable lead acid battery (6V/4Ah)		
Output	RS232		
Weight	18.3kg		

## WEIGHT SETS

- Supplied with manufacturer inspection certificate



### SPECIFICATION AND SHAPE

Weight	Specification				
	1mg~100g	1mg~200g	1mg~1kg	1mg~2kg	1mg~5kg
1mg	◆	◆	◆	◆	◆
2mg	◆◆*	◆◆◆*	◆◆◆*	◆◆◆*	◆◆◆*
5mg	◆	◆	◆	◆	◆
10mg	◆	◆	◆	◆	◆
20mg	◆◆*	◆◆◆*	◆◆◆*	◆◆◆*	◆◆◆*
50mg	◆	◆	◆	◆	◆
100mg	◆	◆	◆	◆	◆
200mg	◆◆*	◆◆◆*	◆◆◆*	◆◆◆*	◆◆◆*
500mg	◆	◆	◆	◆	◆
1g	◆	◆	◆	◆	◆
2g	◆◆*	◆◆◆*	◆◆◆*	◆◆◆*	◆◆◆*
5g	◆	◆	◆	◆	◆
10g	◆	◆	◆	◆	◆
20g	◆◆*	◆◆◆*	◆◆◆*	◆◆◆*	◆◆◆*
50g	◆	◆	◆	◆	◆
100g	◆	◆	◆	◆	◆
200g		◆◆◆*	◆◆◆*	◆◆◆*	◆◆◆*
500g			◆	◆	◆
1kg			◆	◆	◆
2kg				◆◆*	◆◆◆*
5kg					◆
Quantity	21 pcs	23 pcs	25 pcs	27 pcs	28 pcs
Total range	1mg~211.11g	1mg~611.11g	1mg~2111.11g	1mg~6111.11g	1mg~11111.11g

- ◆ sheet
- ◆\* sheet, with mark
- ◆ cylinder
- ◆\* cylinder, with mark

Code	Specification	Class and material
8910-100GM1	1mg~100g	M1 (304 stainless steel)
8910-200GM1	1mg~200g	M1 (304 stainless steel)
8910-1KGM1	1mg~1kg	M1 (304 stainless steel)
8910-2KGM1	1mg~2kg	M1 (304 stainless steel)
8910-5KGM1	1mg~5kg	M1 (304 stainless steel)

# INCH PRODUCTS

## DIAL CALIPERS

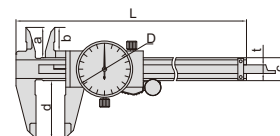
SHOCK PROOF

INSPECTION CERTIFICATE TRACEABLE TO NIST

- Dial indicator graduation 0.001"
- Shockproof dial indicator
- Made of stainless steel



1311-6



Code	Range	Accuracy	L	a	b	c	d	D	t
1311-6*	0-6"	±0.0015"	9.252"	0.827"	0.650"	0.630"	1.575"	1.535" DIA	0.256"
1311-8*	0-8"	±0.0020"	11.339"	0.945"	0.748"	0.630"	1.890"	1.535" DIA	0.256"
1311-12*	0-12"	±0.0020"	16.142"	1.102"	0.866"	0.787"	2.441"	1.752" DIA	0.295"

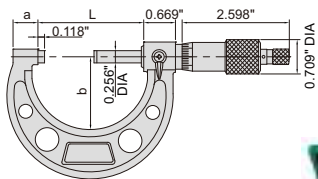
\*Supplied with manufacturer inspection certificate traceable to NIST

## OUTSIDE MICROMETERS

INSPECTION CERTIFICATE TRACEABLE TO NIST



3203-2A



3203-44A

- Graduation 0.0001"
- Carbide measuring faces
- Ratchet stop type
- Supplied with setting standards (except 0-1")

### Individual

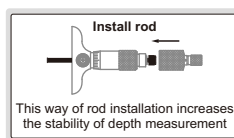
Code	Range	Accuracy	L	a	b
3203-1A*	0-1"	0.00015"	1.260"	0.354"	1.102"
3203-2A*	1-2"	0.00015"	2.244"	0.551"	1.496"
3203-3A*	2-3"	0.00020"	3.228"	0.591"	1.929"
3203-4A*	3-4"	0.00020"	4.213"	0.591"	2.362"
3203-5A*	4-5"	0.00025"	5.236"	0.650"	2.874"
3203-6A*	5-6"	0.00025"	6.220"	0.650"	3.346"

### Set

Code	Range	Micrometers included	Packaging
3203-33A*	0-3"	3203-1A, 3203-2A, 3203-3A	blow mould case
3203-44A*	0-4"	3203-1A, 3203-2A, 3203-3A, 3203-4A	blow mould case
3203-66A*	0-6"	3203-1A, 3203-2A, 3203-3A, 3203-4A, 3203-5A, 3203-6A	blow mould case

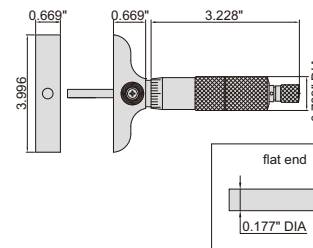
\*Supplied with manufacturer inspection certificate traceable to NIST

## DEPTH MICROMETER



3241-6

- Graduation 0.001"
- Micrometer head accuracy: ±0.00012"
- Rod accuracy: ±[0.001+0.0005(L/3)]", L is the measuring range in inch
- Rods with flat end
- Ratchet stop



Code	Range	Rods
3241-6	0-6"	6 pcs

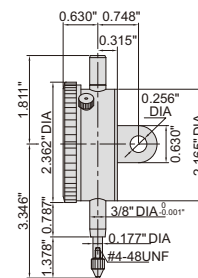
## DIAL INDICATOR

INSPECTION CERTIFICATE TRACEABLE TO NIST



2307-1

- Meet ASME B89.1.10M-2001
- Graduation: 0.001"
- With lug back
- Supplied with limit pointers and bezel clamp
- Optional accessory: backs, contact points



Code	Range	Accuracy		Range/rev	Dial reading
		First 2.5 rev	Overall		
2307-1*	1"	±0.001"	±0.002"	0.1"	0-100

\*Supplied with manufacturer inspection certificate traceable to NIST

# INCH PRODUCTS

## DIAL TEST INDICATOR

**INSPECTION CERTIFICATE**  
TRACEABLE TO NIST

**JEWELLED BEARING**

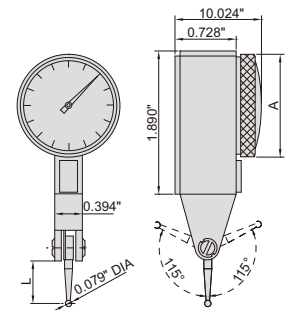
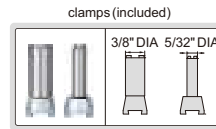


2380-31

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

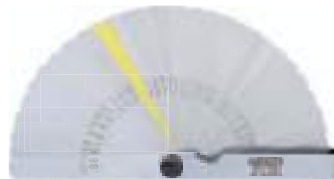
Code	Range	Graduation	Accuracy	Dial reading	A (DIA)	L
2380-31*	0.03"	0.001"	±0.001"	0-15-0	1.181"	0.50"

\*Supplied with manufacturer inspection certificate traceable to NIST

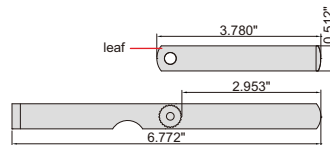


## FEELER GAGE

- 0.010" is made of brass, others are made of hardened alloy steel
- Each blade is marked with inch/metric size



4608-31



Thickness of leaves included	Accuracy
0.010" (brass)	±0.00039"
0.0015", 0.002"	±0.0002"
0.0025", 0.003", 0.004", 0.005", 0.006", 0.007"	±0.00028"
0.008", 0.009"	±0.00035"
0.010", 0.011"	±0.00039"
0.012", 0.013"	±0.00047"
0.014", 0.015"	±0.00051"
0.016", 0.017"	±0.00055"
0.018", 0.019"	±0.00059"
0.020", 0.021"	±0.00067"
0.022", 0.023"	±0.00071"
0.024", 0.025", 0.026"	±0.00075"
0.028"	±0.00091"
0.030"	±0.00094"
0.032", 0.035"	±0.00102"

Code	Range	Quantity of Leaves
4608-31	0.0015"~0.035"	32

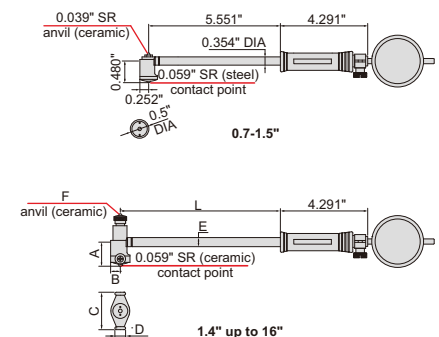
## BORE GAGES

- Optional accessory: setting ring (part no. 6313), long handle (part no. 7351) bore gage setter (part no. 2395-400)

**ATTENTION: NOT SUITABLE FOR 0.00005" OR 0.0001" DIAL INDICATORS**



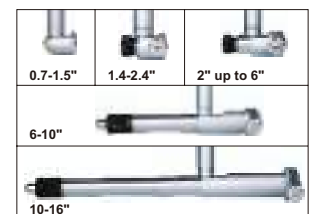
2323-6



### With dial indicator

Code	Range	Indicator	Accuracy	Repeatability
2323-15	0.7-1.5"	dial indicator, range 0.25", graduation 0.0005"	±0.00075"	0.00015"
2323-24	1.4-2.4"		±0.0009"	0.00015"
2323-6	2-6"		±0.0009"	0.00015"
2323-10	6-10"		±0.0009"	0.00015"
2323-16	10-16"		±0.0009"	0.00015"

Range	A	B	C	D	E	F	L
1.4-2.4"	0.866"	0.354"	10.063"	0.512" DIA	0.504" DIA	0.079" R	5.551"
2-6"	10.024"	0.354"	1.378"	0.512" DIA	0.504" DIA	0.079" R	5.551"
6-10"	2.224"	0.512"	2.933"	0.591" DIA	0.504" DIA	0.079" R	9.488"
10-16"	3.406"	0.591"	3.996"	0.591" DIA	0.571" DIA	0.098" R	9.488"



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Measuring Length		Permissible Error	Error		Measuring Length		Permissible Error	Error	
			External	Internal				External	Internal
0.4 DIA		+0.0005 -0.0010	/	0.0005	Φ10		+0.01 -0.02	/	0.01
2		±0.0010	-0.0005	/	50		±0.02	-0.01	/
4			-0.0005	/	100			-0.01	/
6			-0.0010	/	150			-0.02	/
8			/	/	200			/	/
10		±0.0015	/	/	250		±0.03	/	/
12			/	/	300			/	/



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