



### Search products:

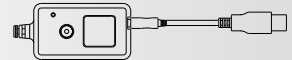
1. According to the product code, search in the code index (in the end of this catalogue)
2. According to the product functions, search following index.



Please scan QR code to watch the basic operation video of the products.

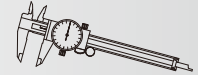
## P1-3

OUTPUT INTERFACE  
WIRELESS DATA TRANSFER SYSTEM



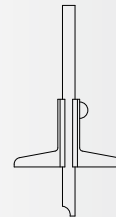
## P4-49

DIGITAL CALIPER  
VERNIER CALIPER  
DIAL CALIPER



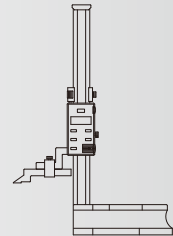
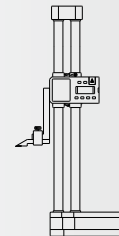
## P50-67

DEPTH CALIPER  
DEPTH MICROMETER  
DEPTH INDICATOR



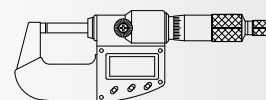
## P68-77

HEIGHT GAGE



## P78-125

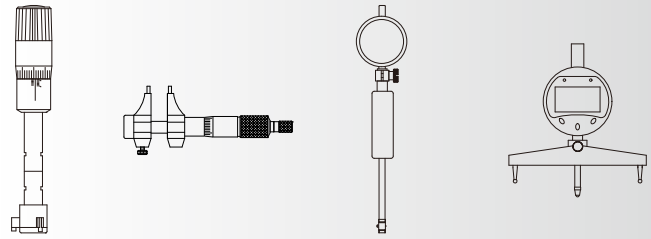
OUTSIDE MICROMETER  
MICROMETER HEAD  
MICROMETER STAND



# INDEX

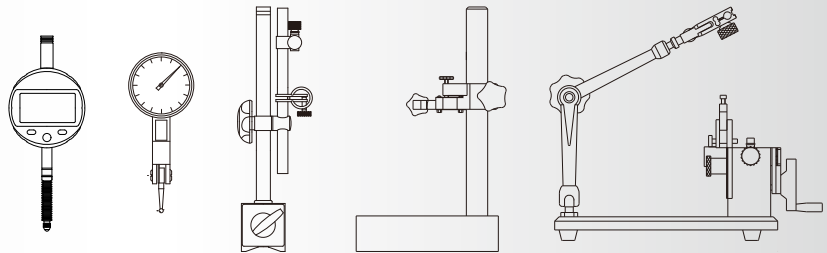
## P126-152

INSIDE MICROMETER  
BORE GAUGE  
RADIUS GAUGE  
CIRCUMFERENCE TAPE



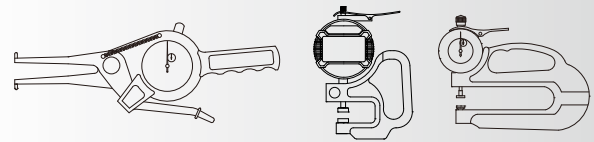
## P153-198

LINEAR GAUGE  
DIAL INDICATOR  
DIGITAL INDICATOR  
DIAL TEST INDICATOR  
STYLI  
MAGNETIC STAND  
INDICATOR STAND  
CONCENTRICITY GAUGE



## P199-220

DIAL CALIPER GAUGE  
DIGITAL CALIPER GAUGE  
THICKNESS GAUGE  
SNAP GAUGE  
CRANKSHAFT TESTER



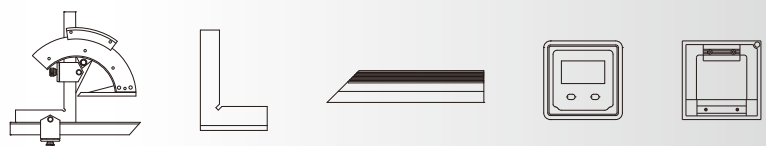
## P221-251

GAUGE BLOCK  
PIN GAUGE  
STEEL BALL  
MASTER SETTING DISC  
RING GAUGE  
PLUG GAUGE



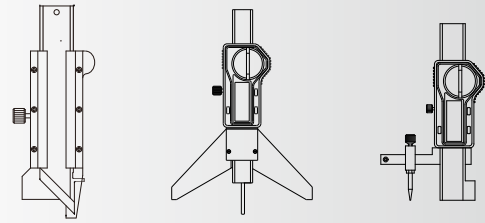
## P251-278

PROTRACTOR  
SQUARE  
STRAIGHT EDGE  
LEVEL



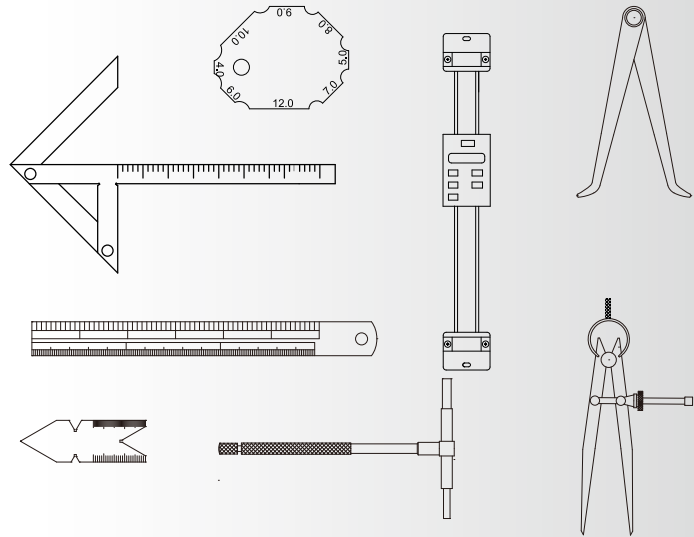
## P279-284

CHAMFER GAUGE  
DIGITAL KEYWAY GAUGE  
DIGITAL STEP GAUGE



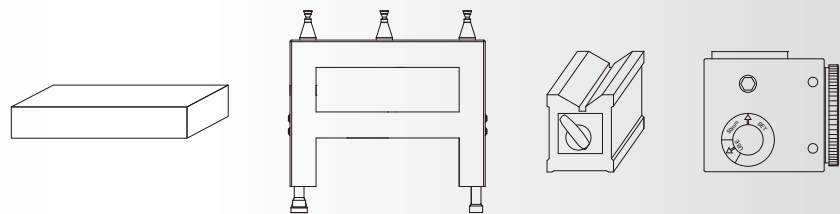
## P285-325

FEELER  
PITCH GAUGE  
ANGLE GAUGE  
RADIUS GAUGE  
TELESCOPING GAUGE  
TAPER GAUGE  
WELDING GAUGE  
CHAMFER GAUGE  
KEY GAUGE  
INSIDE/OUTSIDE CALIPER  
DIVIDER  
STEEL RULE  
MEASURING TAPE  
MARKING GAUGE  
DIGITAL SCALE  
STEP GAUGE



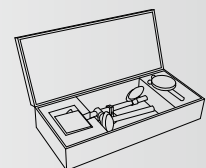
## P326-346

GRANITE SURFACE PLATE  
V-BLOCK  
PARALLEL SET  
ANGLE PLATE SET  
PRECISION VISE  
CENTERING INDICATOR  
EDGE FINDER  
ZERO SET



## P346-351

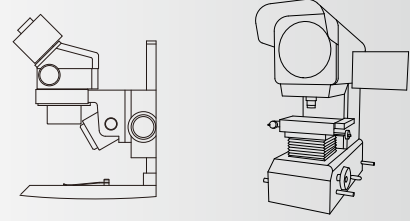
MEASURING TOOLS SET



# INDEX

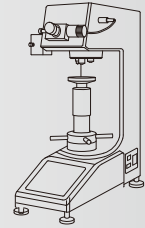
## P352-384

ENDOSCOPE  
DIGITAL MICROSCOPE  
STEREO MICROSCOPE  
VIDEO MICROSCOPE  
CAMERA  
PROFILE PROJECTOR  
VISION MACHINE  
TOOL PRESETTER



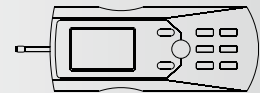
## P385-409

HARDNESS TESTER



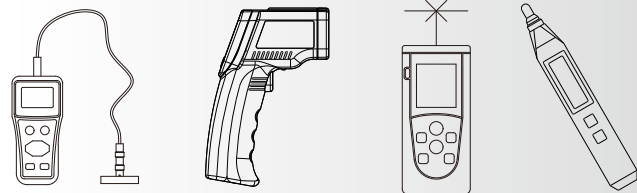
## P409-417

ROUGHNESS SPECIMEN  
ROUGHNESS TESTER  
ROUNDNESS TESTER



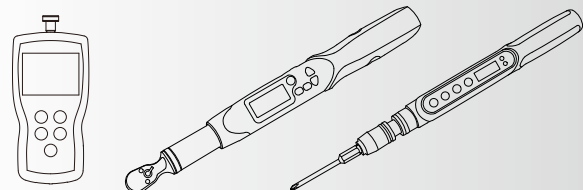
## P418-442

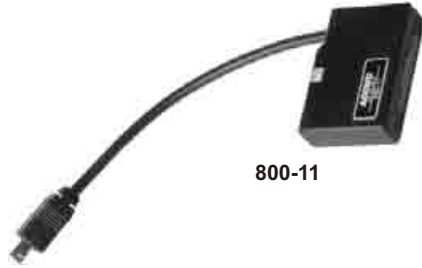
ULTRASONIC THICKNESS GAUGE  
COATING THICKNESS GAUGE  
TEMPERATURE METER  
INFRARED THERMOMETER  
DIGITAL MULTIMETER  
LASER TACHOMETER  
LASER DISTANCE METER  
LASER LEVEL  
GLOSS METER  
COLOR METER



## P443-463

FORCE GAUGE  
TORQUE WRENCH  
TORQUE SCREWDRIVER  
TORQUE METER  
WEIGHING SCALE  
WEIGHT



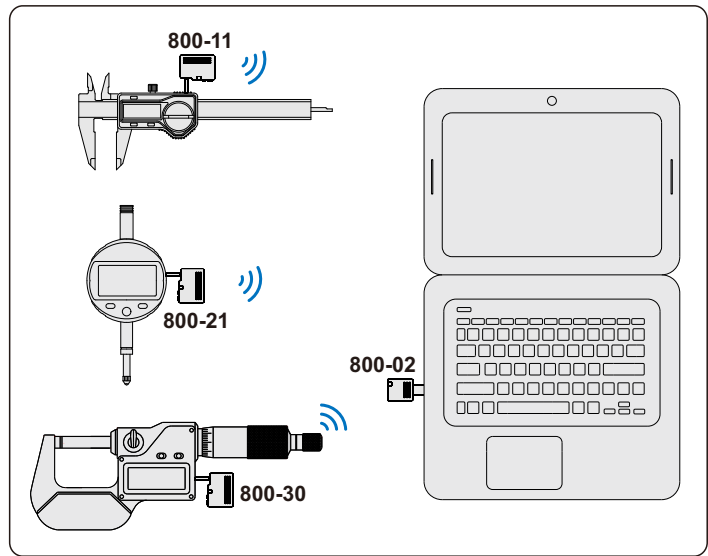


800-11



800-02

- ◆ Max. transmission distance: 15m
- ◆ For single channel receiver (code: 800-01), it can be only connected to one receiver(gages). There is no software, the data can be transferred into Excel, Word directly.
- ◆ For multi- channel receiver(code: 800-02), it can be connected to Max. 10 receivers(gages). It includes a software, the data can be transferred into the software.
- ◆ Wireless zigbee protocol, conforming to IEEE802, 2.4GHz band



CABLE

Code	Name	Plug to product	Products
800-01	single channel receiver		for follow measuring tools
800-02	multi- channel receiver		for follow measuring tools
800-10	transmitter		for digital calipers with following electronics
800-10L	transmitter		for digital height gage with following electronics
800-11	transmitter		for digital calipers with following electronics

Code	Name	Plug to product	Products
800-15	transmitter		for digital calipers and height gage with following electronics
800-21	transmitter		for digital indicators with following electronics
800-20	transmitter		for digital indicators with following electronics
800-30	transmitter		for digital micrometers with data output with following electronics

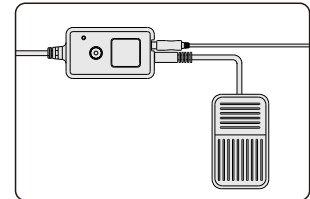
\* Confirm the electronics output port type when placing orders



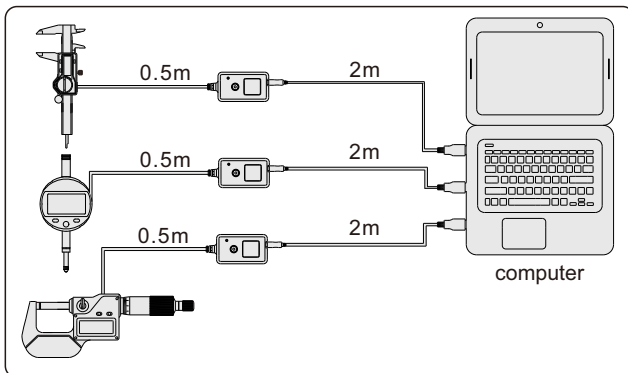
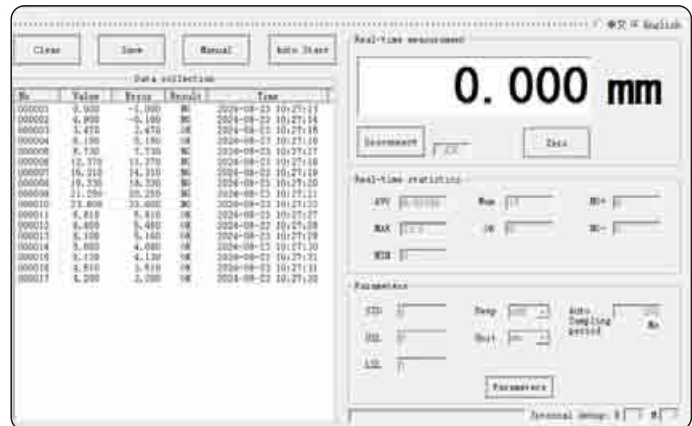
100-11

- ◆ The cable without software, push the black button or footswitch, the data can be transferred into Excel, Word directly.
- ◆ The cable with software, the data can be transferred into the software at a set interval time automatically.

Connect foot switch to transfer the data (code: 400-01)



Software



Code	Software	Plug to product	Products
100-03	Without		for digital calipers with following electronics
100-04	With		
100-03L	Without		for digital height gage with following electronics
100-04L	With		
100-11	Without		for digital calipers with following electronics
100-12	With		
100-15	Without		for digital calipers and height gage with following electronics
100-17	Without		for digital calipers with following electronics

Code	Software	Plug to product	Products
200-03	Without		for digital indicators with following electronics
200-04	With		
200-01	Without		for digital indicators with following electronics
200-02	With		
200-05	Without		for digital indicators with following electronics (output radius)
200-06	With		
300-03	Without		for digital micrometers with data output with following electronics
300-04	With		

Code	Name
400-01	foot switch

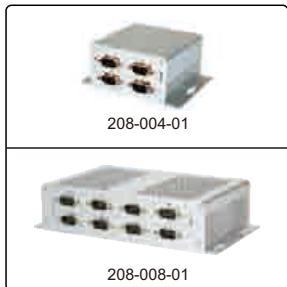
\* Confirm the electronics output port type when placing orders

**SERIES 200**

**USB OUTPUT INTERFACE**

- ◆ Connecting series 208 (software is included)
- ◆ Connecting 206 (software is included)

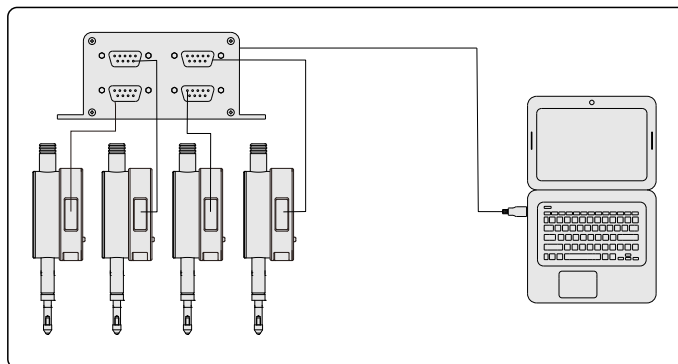
For following series 208  
(counter for linear gauge)



For following 206



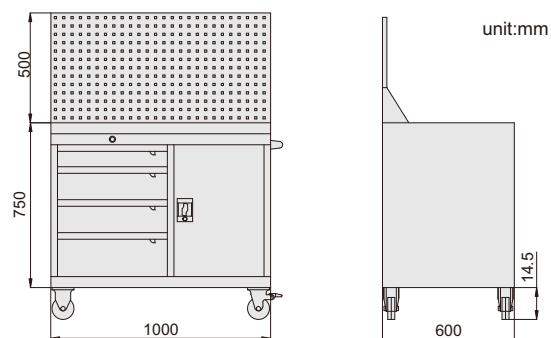
Work with series 208 (counter for linear gauge)



code	Plug to product	Products
200-91		for digital indicators with following electronics 
200-92		for digital indicators with following electronics 

**809**

**MOVABLE WORKBENCH**



Application



Code	Description	LxWxH(mm)
809-040-11	movable workbench	1000x600x1250

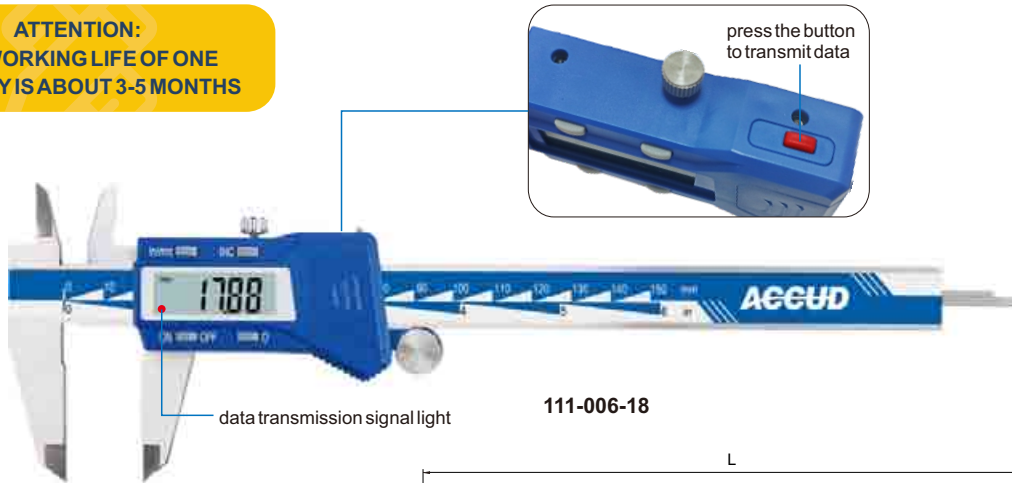
## SERIES 111

## WIRELESS DIGITAL CALIPER



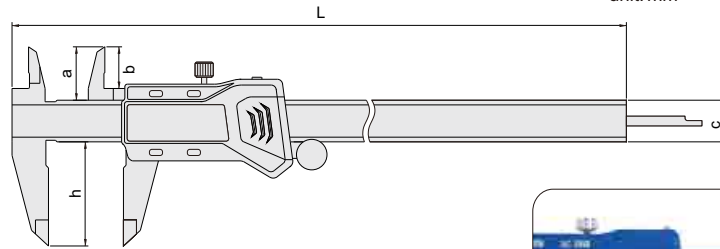
**ATTENTION:**  
THE WORKING LIFE OF ONE  
BATTERY IS ABOUT 3-5 MONTHS

**NEW**



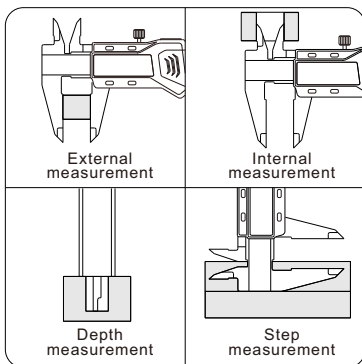
111-006-18

unit: mm



- ◆ Non waterproof
- ◆ Built-in wireless data transmission module, Zigbee signal
- ◆ Transmission distance is 10 meter (under the condition of no obstruction and no electromagnetic interference)
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Automatic power on/off
- ◆ Made of stainless steel
- ◆ Optional accessory: receiver (code 800-01 or 800-02)

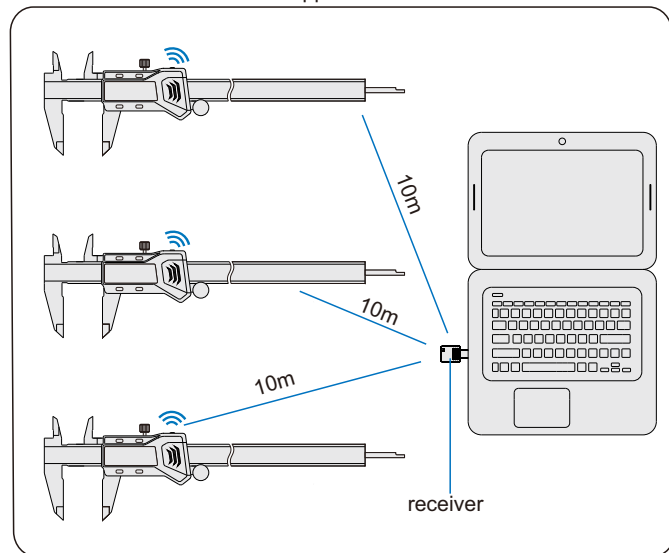
CALIPER



Receiver (optional)



Application



Code	Range	Accuracy	a	b	c	h	L
111-006-18	0-150mm/0-6"	±0.03mm	21	16	16	40	236
111-008-18	0-200mm/0-8"	±0.03mm	24	19	16	50	286
111-012-18	0-300mm/0-12"	±0.03mm	25	20.5	16	60	400
111-006-18W	0-150mm/0-6"	±0.03mm	21	16	16	40	236
111-008-18W	0-200mm/0-8"	±0.03mm	24	19	16	50	286
111-012-18W	0-300mm/0-12"	±0.03mm	25	20.5	16	60	400

With manufacturer inspection certificate





**SERIES 111**

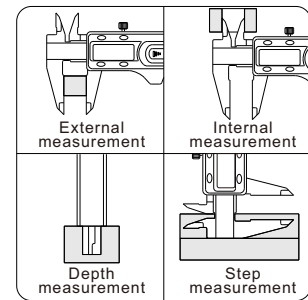
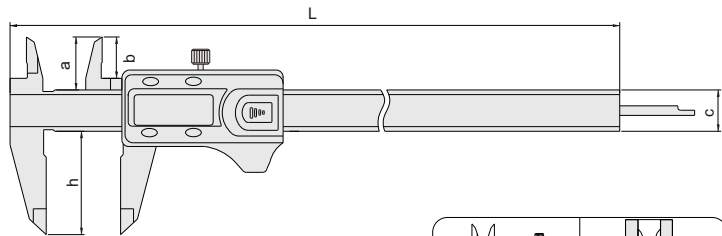
**DIGITAL CALIPER**



111-006-11N

- ◆ High accuracy due to using the glass scale
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/in, ABS
- ◆ Data output(cable code:100-03 or 100-04)
- ◆ Automatic power on/off
- ◆ Meet DIN862
- ◆ Made of stainless steel

unit: mm



Code	Range	Accuracy	a	b	c	h	L
111-006-11N	0-150mm/0-6"	±0.03mm	21	16	16	40	236
111-008-11N	0-200mm/0-8"	±0.03mm	24	19	16	50	286
111-012-11N	0-300mm/0-12"	±0.03mm	25	20.5	16	60	400

With manufacturer inspection certificate

**SERIES 111**

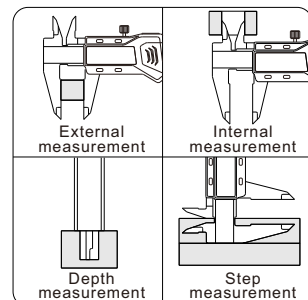
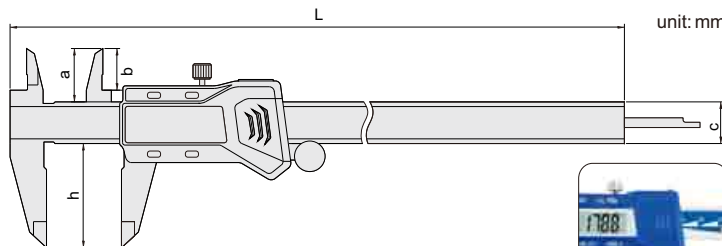
**DIGITAL CALIPER**



111-006-10

- ◆ High accuracy due to using the glass scale
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Data output(cable code:100-03 or 100-04)
- ◆ Automatic power on/off
- ◆ Meet DIN862
- ◆ Made of stainless steel

unit: mm

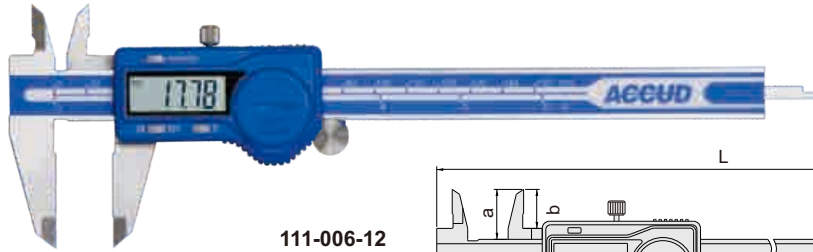


Code	Range	Accuracy	a	b	c	h	L
111-006-10	0-150mm/0-6"	±0.03mm	21	16	16	40	236
111-008-10	0-200mm/0-8"	±0.03mm	24	19	16	50	286
111-012-10	0-300mm/0-12"	±0.03mm	25	20.5	16	60	400
111-006-10W	0-150mm/0-6"	±0.03mm	21	16	16	40	236
111-008-10W	0-200mm/0-8"	±0.03mm	24	19	16	50	286
111-012-10W	0-300mm/0-12"	±0.03mm	25	20.5	16	60	400

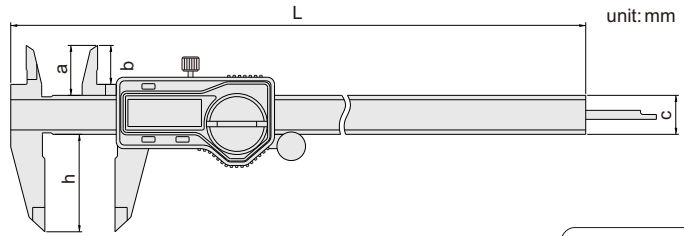
With manufacturer inspection certificate

**SERIES 111**

**DIGITAL CALIPER**



111-006-12

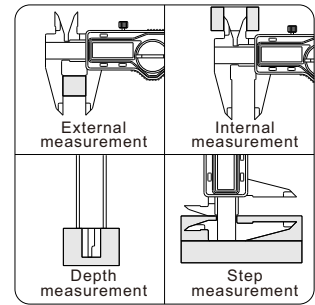


- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/inch
- ◆ Data output(cable code:100-11 or 100-12)
- ◆ Automatic power on/off
- ◆ Meet DIN862
- ◆ Made of stainless steel



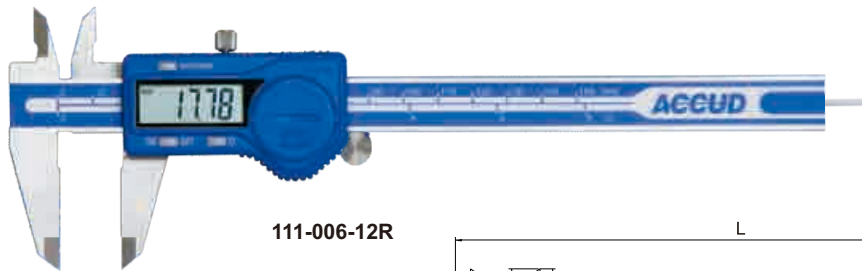
Code	Range	Accuracy	a	b	c	h	L
111-006-12	0-150mm/0-6"	±0.03mm	21	16	16	40	236
111-008-12	0-200mm/0-8"	±0.03mm	24	19	16	50	286
111-012-12	0-300mm/0-12"	±0.03mm	25	20.5	16	60	400
111-006-12W	0-150mm/0-6"	±0.03mm	21	16	16	40	236
111-008-12W	0-200mm/0-8"	±0.03mm	24	19	16	50	286
111-012-12W	0-300mm/0-12"	±0.03mm	25	20.5	16	60	400

With manufacturer inspection certificate

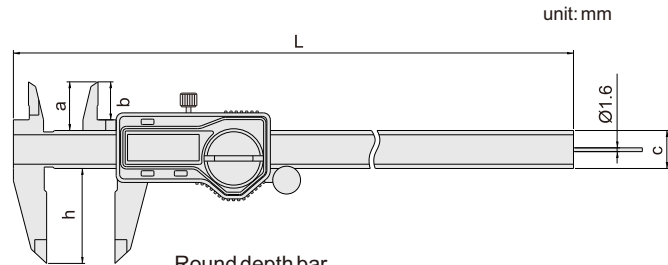


**SERIES 111**

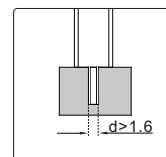
**DIGITAL CALIPER WITH ROUND DEPTH BAR**



111-006-12R

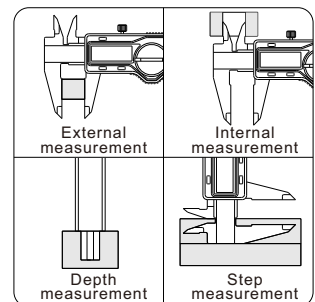


- ◆ With round depth bar, for small hole depth measurement
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/inch
- ◆ Data output(cable code:100-11 or 100-12)
- ◆ Automatic power on/off
- ◆ Meet DIN862
- ◆ Made of stainless steel



Code	Range	Accuracy	Thumb roller	a	b	c	h	L
111-006-12R	0-150mm/0-6"	±0.03mm	with	21	16	16	40	236
111-006-12RW	0-150mm/0-6"	±0.03mm	without	21	16	16	40	236

With manufacturer inspection certificate



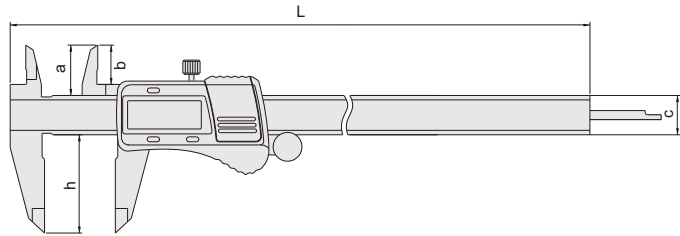
## SERIES 111

## DIGITAL CALIPER WITH METAL COVER



111-006-16

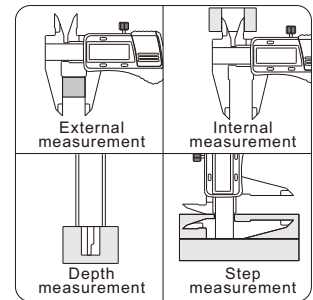
unit: mm



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

Code	Range	Accuracy	a	b	c	h	L
111-006-16	0-150mm/0-6"	±0.03mm	21	16	16	40	236
111-008-16	0-200mm/0-8"	±0.03mm	24	19	16	50	286
111-012-16	0-300mm/0-12"	±0.03mm	25	20.5	16	60	400

With manufacturer inspection certificate



CALIPER

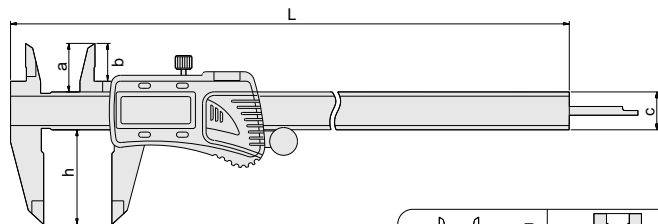
## SERIES 111

## DIGITAL CALIPER



111-006-17

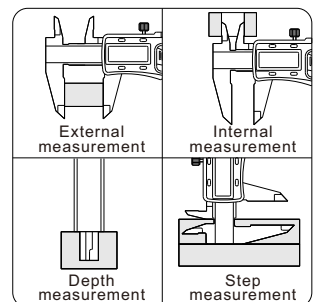
unit: mm



- ◆ High accuracy
- ◆ Absolute system
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, ABS/ZERO, inch/mm, ORIGIN
- ◆ Data output(cable code:100-17)
- ◆ Meet DIN862
- ◆ Made of stainless steel

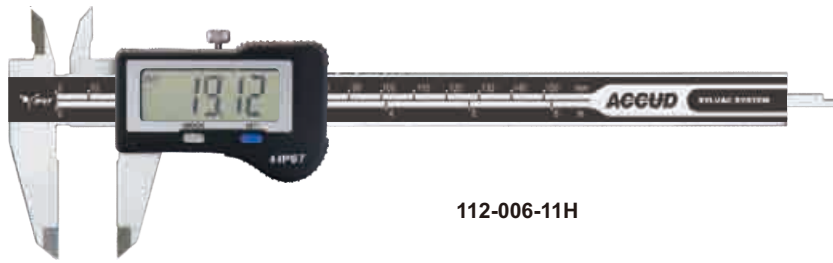
Code	Range	Accuracy	a	b	c	h	L
111-006-17	0-150mm/0-6"	±0.02mm	21	16.5	16	40	236
111-008-17	0-200mm/0-8"	±0.02mm	24	19	16	50	286
111-012-17	0-300mm/0-12"	±0.03mm	26	20.5	16	60	400

With manufacturer inspection certificate



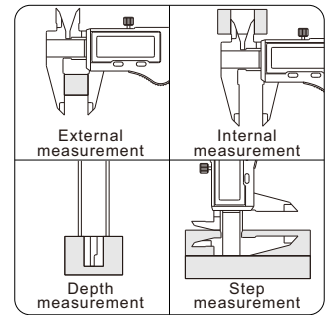
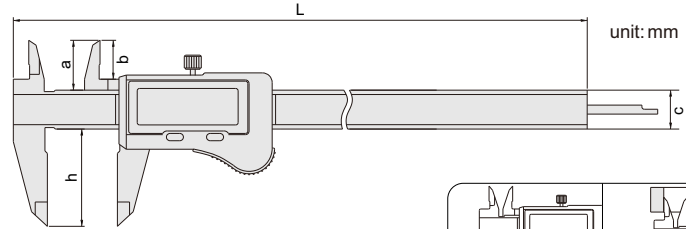
SERIES 112

IP67 DIGITAL CALIPER



112-006-11H

- ◆ IP67 protection level
- ◆ Absolute measuring system
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Automatic power off
- ◆ Buttons: zero, mm/inch, data preset
- ◆ Made of stainless steel



Code	Range	Accuracy	a	b	c	h	L
112-006-11H	0-150mm/0-6"	±0.02mm	21	16.5	16	40	236
112-008-11H	0-200mm/0-8"	±0.02mm	24	19	16	50	286
112-012-11H	0-300mm/0-12"	±0.03mm	25	20.5	16	60	400

With manufacturer inspection certificate

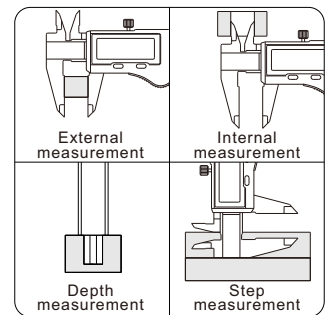
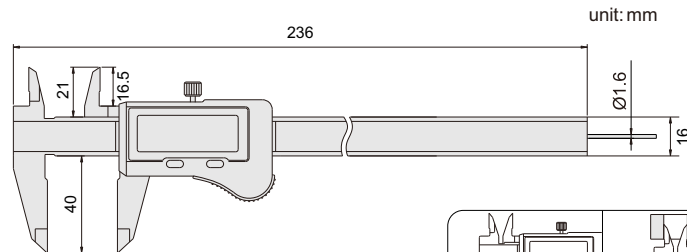
SERIES 112

WATERPROOF DIGITAL CALIPER WITH ROUND DEPTH BAR



112-006-11HR

- ◆ IP67 protection level
- ◆ Absolute measuring system
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Automatic power off
- ◆ Buttons: zero, mm/inch, data preset
- ◆ Made of stainless steel



Code	Range	Accuracy
112-006-11HR	0-150mm/0-6"	±0.02mm

With manufacturer inspection certificate

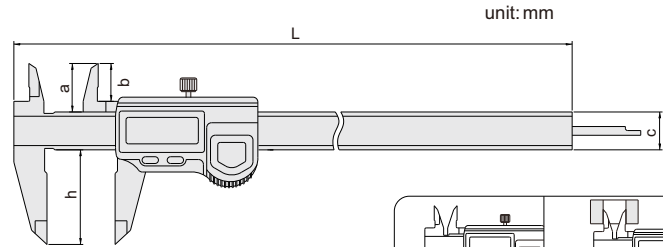
## SERIES 112

## IP67 DIGITAL CALIPER

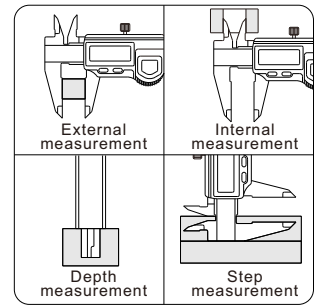


112-006-12

- ◆ IP67 protection level
- ◆ Absolute measuring system
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Automatic power off
- ◆ Buttons: on/off, zero, mm/inch



unit: mm



Code	Range	Accuracy	a	b	c	h	L
112-006-12	0-150mm/0-6"	±0.03mm	21	16.5	16	40	236
112-008-12	0-200mm/0-8"	±0.03mm	24	20	16	50	286
112-012-12	0-300mm/0-12"	±0.03mm	25	20.5	16	60	400

With manufacturer inspection certificate

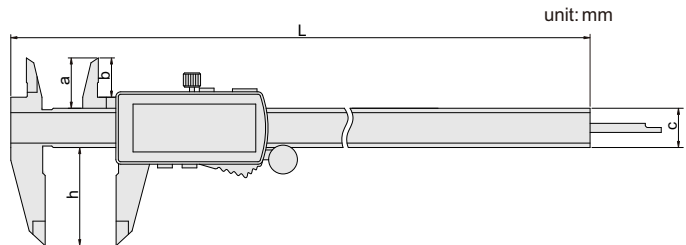
## SERIES 106

## DIGITAL CALIPER WITH LARGE SCREEN

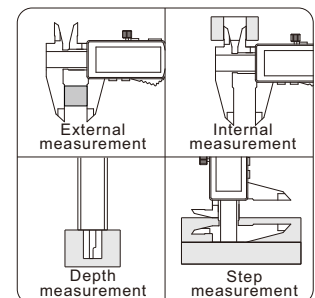


106-006-11

- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/inch
- ◆ Data output(cable code:100-03)
- ◆ Made of stainless steel
- ◆ Power: rechargeable battery, for 3 months continuous working(full charge)



unit: mm



Code	Range	Accuracy	a	b	c	h	L
106-006-11	0-150mm/0-6"	±0.03mm	21	16	16	40	236
106-008-11	0-200mm/0-8"	±0.03mm	24	19	16	50	286
106-012-11	0-300mm/0-12"	±0.03mm	25	20.5	16	60	400

With manufacturer inspection certificate



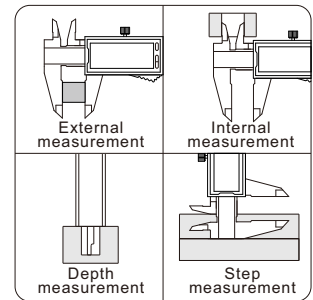
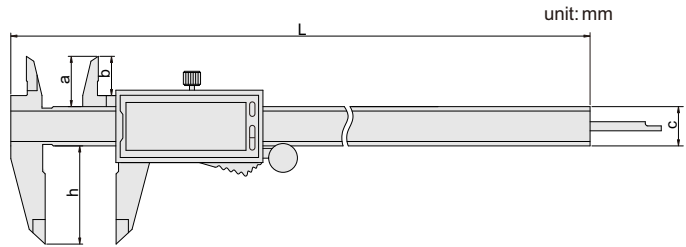
**SERIES 106**

**DIGITAL CALIPER WITH LARGE SCREEN**



106-006-21

- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/inch
- ◆ Automatic power on/off
- ◆ Meet DIN862
- ◆ Made of stainless steel



Code	Range	Accuracy	a	b	c	h	L
106-006-21	0-150mm/0-6"	±0.03mm	21	16	16	40	236
106-008-21	0-200mm/0-8"	±0.03mm	24	19	16	50	286
106-012-21	0-300mm/0-12"	±0.03mm	25	20.5	16	60	400

With manufacturer inspection certificate

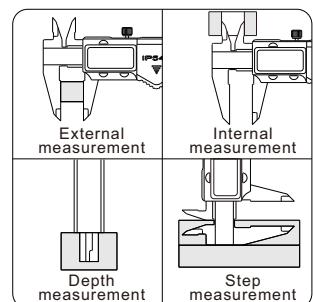
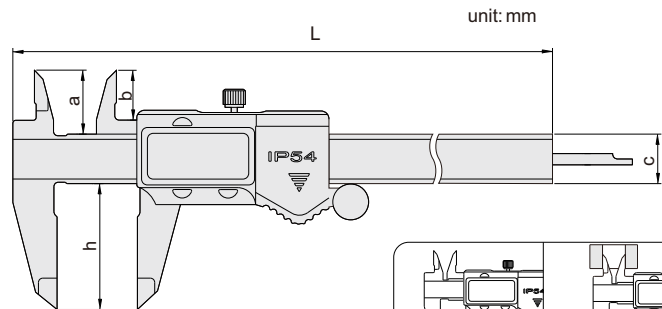
**SERIES 113**

**FRACTIONAL DIGITAL CALIPER**



113-006-11

- ◆ With fraction reading
- ◆ Resolution: 0.01mm, 0.0005", 1/128"
- ◆ Buttons: on/off, zero, mm/inch
- ◆ Made of stainless steel

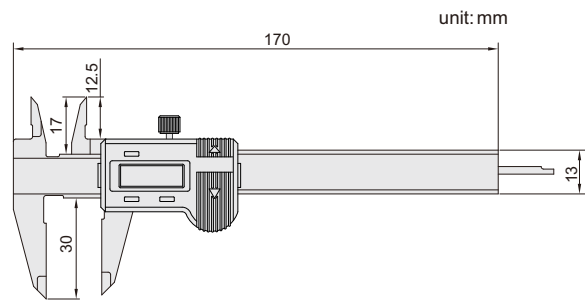


Code	Range	Accuracy	a	b	c	h	L
113-006-11	0-150mm/0-6"	±0.03mm	21	16	16	40	236
113-008-11	0-200mm/0-8"	±0.03mm	24	19	16	50	286
113-012-11	0-300mm/0-12"	±0.03mm	25	20.5	16	60	400

With manufacturer inspection certificate

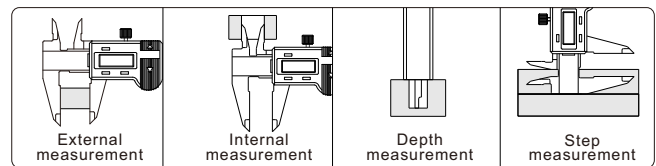


- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/inch
- ◆ Meet DIN862
- ◆ Made of stainless steel



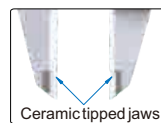
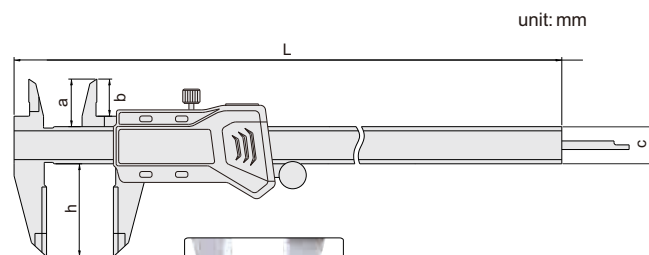
Code	Range	Accuracy
114-004-11	0-100mm/0-4"	±0.02mm

With manufacturer inspection certificate



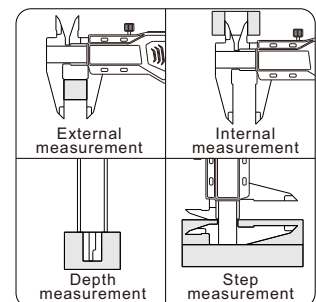
115-006-11

- ◆ Ceramic tipped jaws for outside measurements, good wear-resistance, non-magnetic, non-conductive
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Data output(cable code: 100-03 or 100-04)
- ◆ Automatic power on/off
- ◆ Made of stainless steel



Code	Range	Accuracy	a	b	c	h	L
115-006-11	0-150mm/0-6"	±0.03mm	21	16.5	16	40	236
115-008-11	0-200mm/0-8"	±0.03mm	24	19	16	50	286
115-012-11	0-300mm/0-12"	±0.03mm	26	20.5	16	60	400

With manufacturer inspection certificate



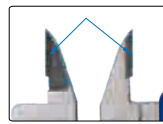
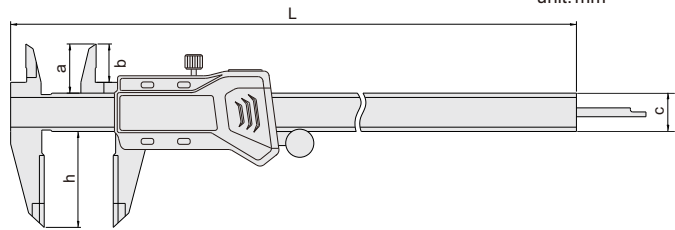
SERIES 116

DIGITAL CALIPER WITH CARBIDE TIPPED JAWS

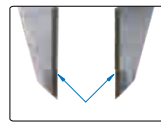


116-006-11

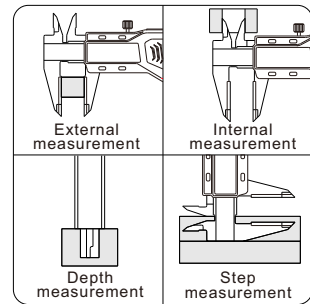
- ◆ Carbide tipped jaws for inside and outside measurements, good wear-resistance
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Data output(cable code:100-03 or 100-04)
- ◆ Automatic power on/off
- ◆ Made of stainless steel



Carbide tipped jaws



Carbide tipped jaws

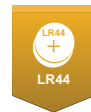


Code	Range	Accuracy	a	b	c	h	L
116-006-11	0-150mm/0-6"	±0.03mm	21	16	16	40	236
116-008-11	0-200mm/0-8"	±0.03mm	24	19	16	50	286
116-012-11	0-300mm/0-12"	±0.03mm	25	20.5	16	60	400

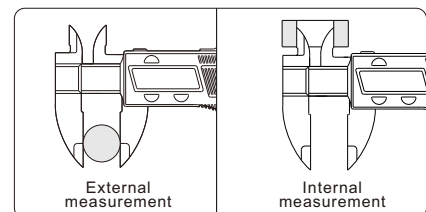
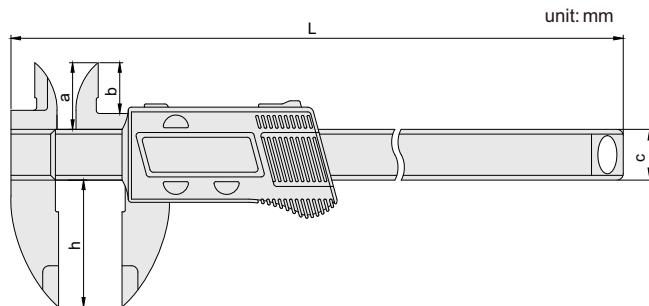
With manufacturer inspection certificate

117

PLASTIC DIGITAL CALIPER



- ◆ Made of hard plastic
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/inch

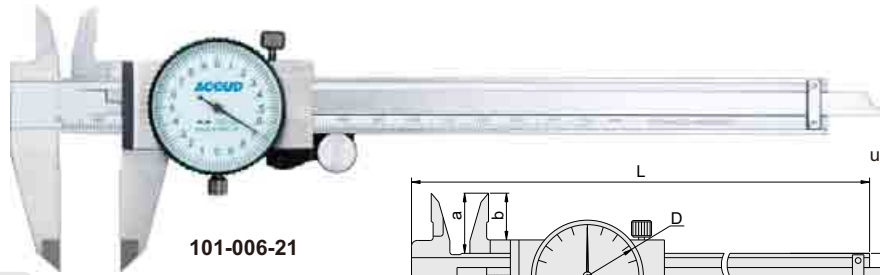


Code	Range	Accuracy	a	b	c	h	L
117-006-11	0-150mm/0-6"	±0.2mm	21	16	16	40	243

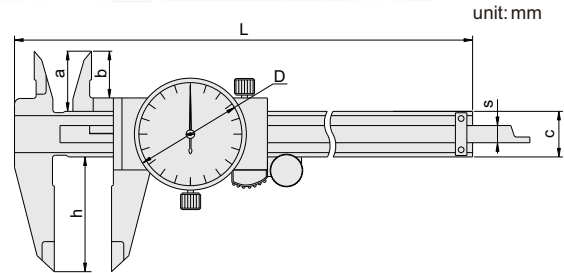


## SERIES 101

## DIAL CALIPER



101-006-21



- ◆ Shockproof dial indicator
- ◆ Made of stainless steel

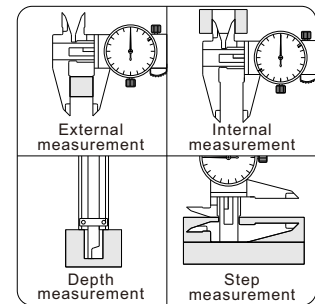
### Graduation 0.01mm

Code	Range	Accuracy	a	b	c	h	s	D	L
101-006-11	0-150mm	±0.03mm	21	16.5	16	40	6.5	Ø39	235
101-008-11	0-200mm	±0.03mm	24	19	16	48	6.5	Ø39	288
101-012-11	0-300mm	±0.03mm	28	22	20	62	7.5	Ø44.5	410

### Graduation 0.02mm

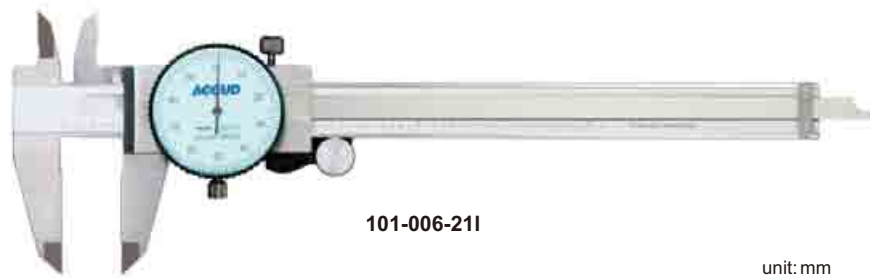
Code	Range	Accuracy	a	b	c	h	s	D	L
101-006-21	0-150mm	±0.03mm	21	16.5	16	40	6.5	Ø39	235
101-008-21	0-200mm	±0.03mm	24	19	16	48	6.5	Ø39	288
101-012-21	0-300mm	±0.03mm	28	22	20	62	7.5	Ø44.5	410

With manufacturer inspection certificate

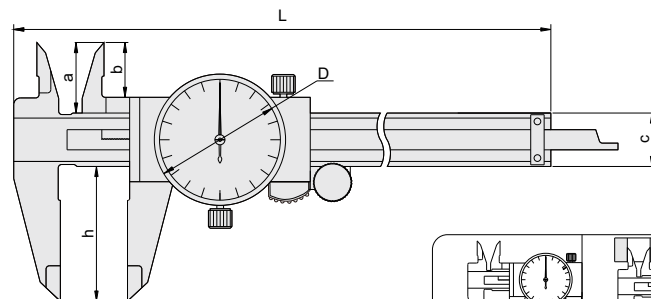


## SERIES 101

## INCH DIAL CALIPER

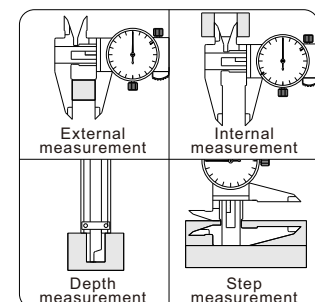


101-006-21I



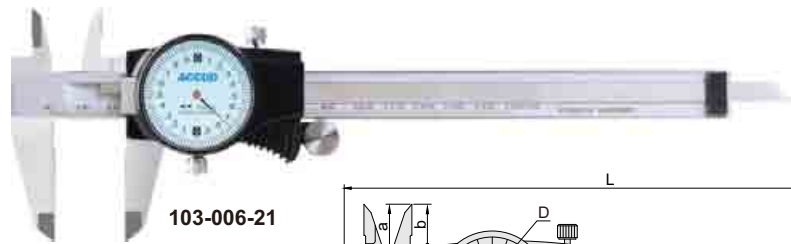
- ◆ Shockproof dial indicator
- ◆ Made of stainless steel

Code	Range	Graduation	Accuracy	a	b	c	h	D	L
101-006-21I	0-6"	0.001in	±0.0015in	21	16.5	16	40	Ø39	233
101-008-21I	0-8"	0.001in	±0.0020in	24	19	16	50	Ø39	288
101-012-21I	0-12"	0.001in	±0.0020in	30	25	20	64	Ø44	390

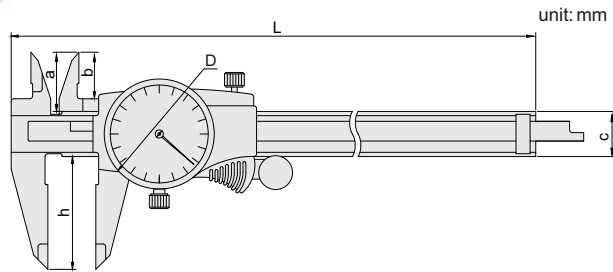


**SERIES 103**

**DIAL CALIPER**



103-006-21



- ◆ Shockproof dial indicator
- ◆ Made of stainless steel

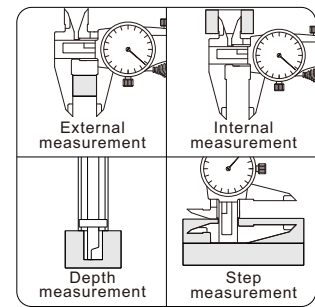
**Graduation 0.01mm**

Code	Range	Accuracy	a	b	c	h	D	L
103-006-11	0-150mm	±0.03mm	21	16.5	16	40	Ø39	233
103-008-11	0-200mm	±0.03mm	24	19	16	50	Ø39	288
103-012-11	0-300mm	±0.03mm	30	25	20	64	Ø44	390

**Graduation 0.02mm**

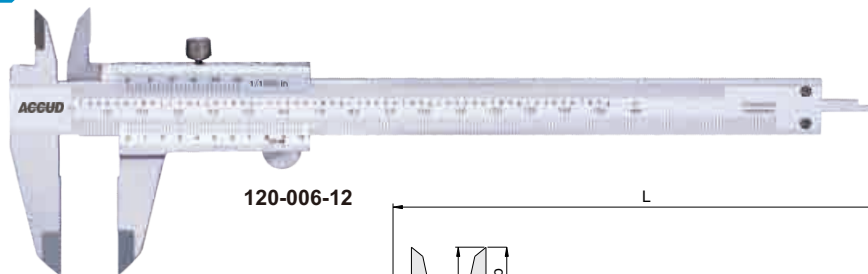
Code	Range	Accuracy	a	b	c	h	D	L
103-006-21	0-150mm	±0.03mm	21	16.5	16	40	Ø39	233
103-008-21	0-200mm	±0.03mm	24	19	16	50	Ø39	288
103-012-21	0-300mm	±0.03mm	30	25	20	64	Ø44	390

With manufacturer inspection certificate

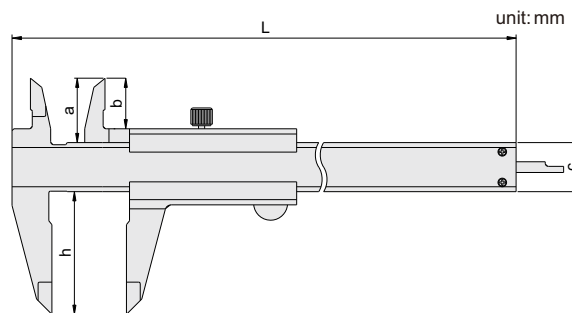


**SERIES 120**

**VERNIER CALIPER**



120-006-12



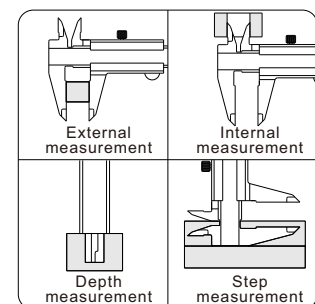
- ◆ Meet DIN862
- ◆ Satin chrome plated reading surface
- ◆ Made of stainless steel

**Graduation 0.02mm/0.001"**

Code	Range	Accuracy	a	b	c	h	L
120-006-12	0-150mm/0-6"	±0.03mm	20.5	15.5	16	40	235
120-008-12	0-200mm/0-8"	±0.03mm	23.5	19	16	50	290
120-012-12	0-300mm/0-12"	±0.03mm	29.5	24	20	62	414

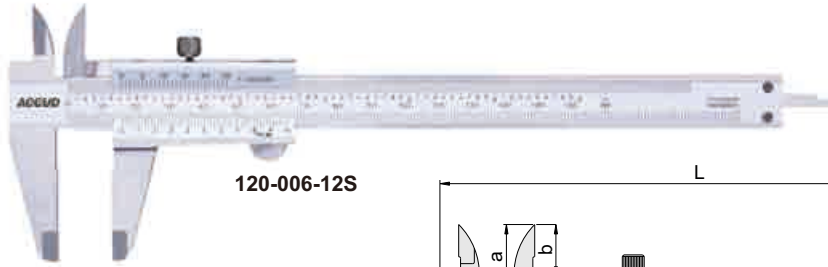
**Graduation 0.05mm/1/128"**

Code	Range	Accuracy	a	b	c	h	L
120-006-14	0-150mm/0-6"	±0.05mm	20.5	15.5	16	40	235
120-008-14	0-200mm/0-8"	±0.05mm	23.5	19	16	50	290
120-012-14	0-300mm/0-12"	±0.05mm	29.5	24	20	62	414



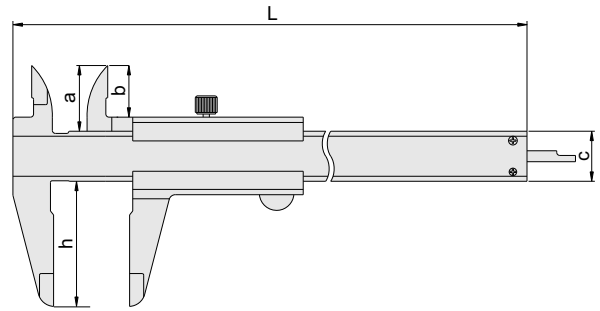


**SERIES 120 VERNIER CALIPER**



120-006-12S

unit: mm



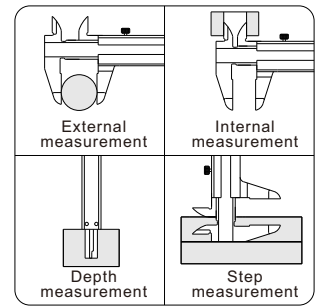
- ◆ Meet DIN862
- ◆ Satin chrome plated reading surface
- ◆ Made of stainless steel

**Graduation 0.02mm/0.001"**

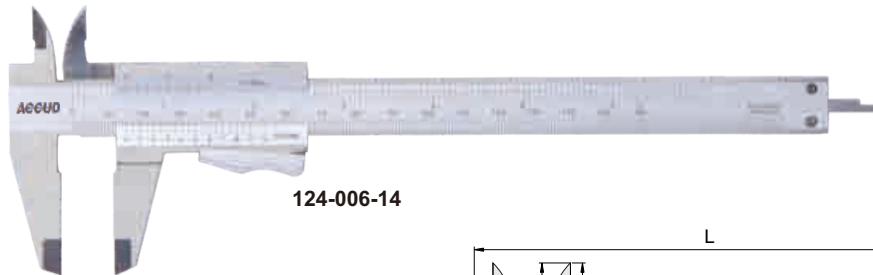
Code	Range	Accuracy	a	b	c	h	L
120-006-12S	0-150mm/0-6"	±0.03mm	20.5	15.5	16	40	235
120-008-12S	0-200mm/0-8"	±0.03mm	23.5	19	16	50	290
120-012-12S	0-300mm/0-12"	±0.03mm	27.5	22	20	64	414

**Graduation 0.05mm/1/128"**

Code	Range	Accuracy	a	b	c	h	L
120-006-14S	0-150mm/0-6"	±0.05mm	20.5	15.5	16	40	235
120-008-14S	0-200mm/0-8"	±0.05mm	23.5	19	16	50	290
120-012-14S	0-300mm/0-12"	±0.05mm	27.5	22	20	64	414

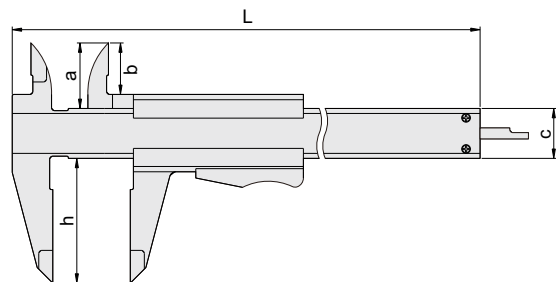


**SERIES 124 VERNIER CALIPER**



124-006-14

unit: mm



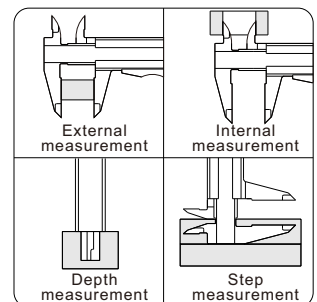
- ◆ With auto thumb clamp
- ◆ Meet DIN862
- ◆ Satin chrome plated reading surface
- ◆ Made of stainless steel

**Graduation 0.02mm/0.001"**

Code	Range	Accuracy	a	b	c	h	L
124-006-12	0-150mm/0-6"	±0.03mm	20.5	15.5	16	40	235
124-008-12	0-200mm/0-8"	±0.03mm	23.5	19	16	50	290

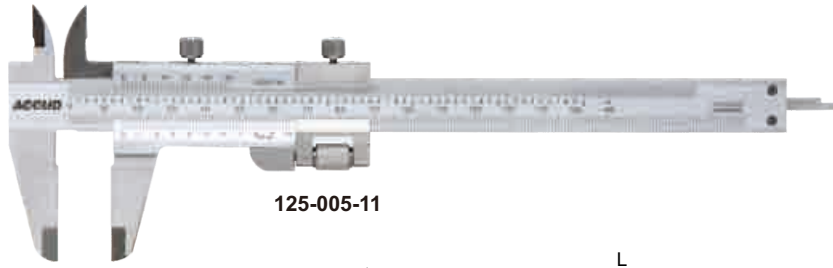
**Graduation 0.05mm/1/128"**

Code	Range	Accuracy	a	b	c	h	L
124-006-14	0-150mm/0-6"	±0.05mm	20.5	15.5	16	40	235
124-008-14	0-200mm/0-8"	±0.05mm	23.5	19	16	50	290

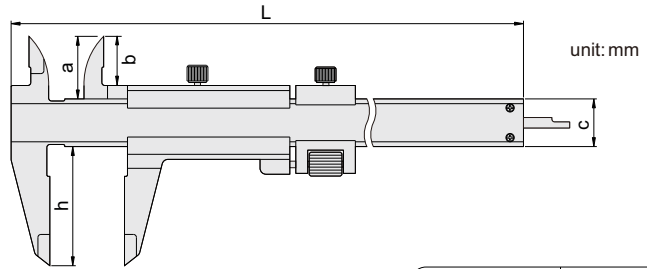


**SERIES 125**

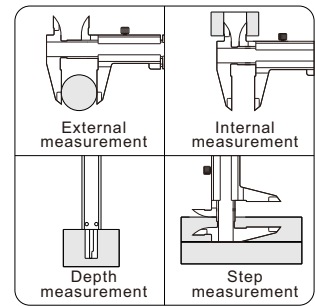
**VERNIER CALIPER**



125-005-11



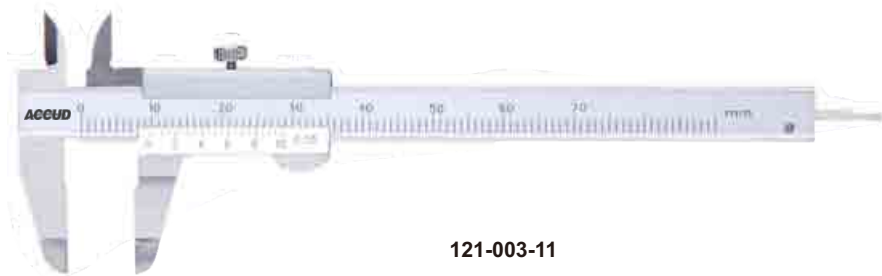
- ◆ With fine adjustment
- ◆ Graduation: 0.02mm/0.001"
- ◆ Meet DIN862
- ◆ Satin chrome plated reading surface
- ◆ Made of stainless steel



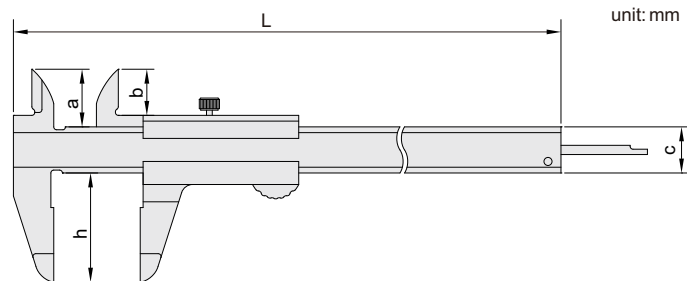
Code	Range	Accuracy	a	b	c	h	L
125-005-11	0-130mm/0-5"	±0.03mm	20.5	16.5	16	40	230
125-007-11	0-180mm/0-7"	±0.03mm	23.5	19	16	50	295
125-011-11	0-280mm/0-11"	±0.03mm	27.5	22	20	60	410

**SERIES 121**

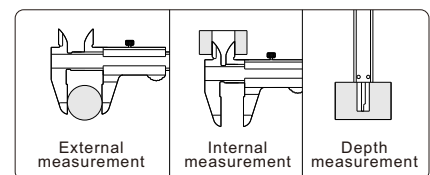
**MINI VERNIER CALIPER**



121-003-11



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

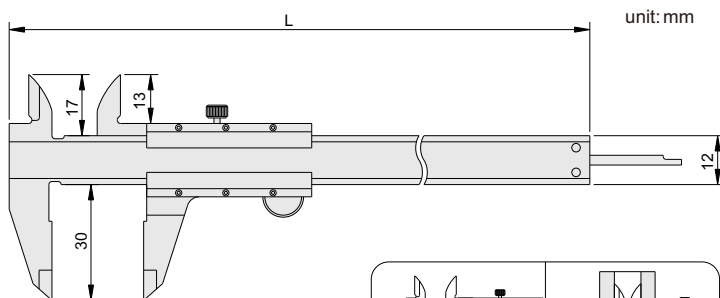
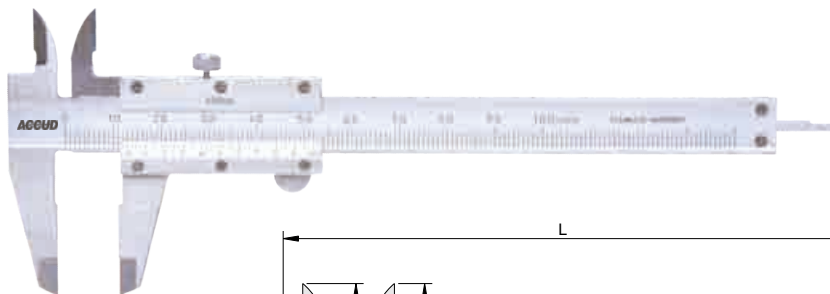


Code	Range	Graduation	Accuracy	a	b	h	L	C
121-003-11	0-70mm	0.05mm	±0.05mm	10	8	19	113	8
121-004-11	0-100mm	0.05mm	±0.05mm	17	13	30	160	12

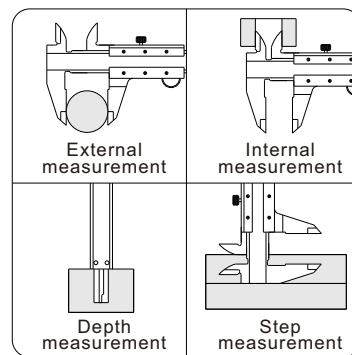


121

MINI VERNIER CALIPER



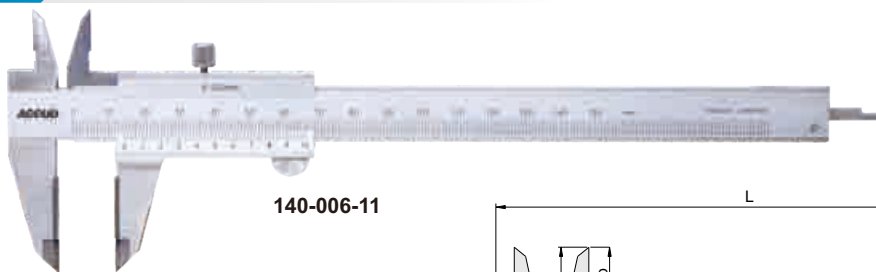
- ◆ Meet DIN862
- ◆ Made of stainless steel
- ◆ Satin chrome plated reading surface



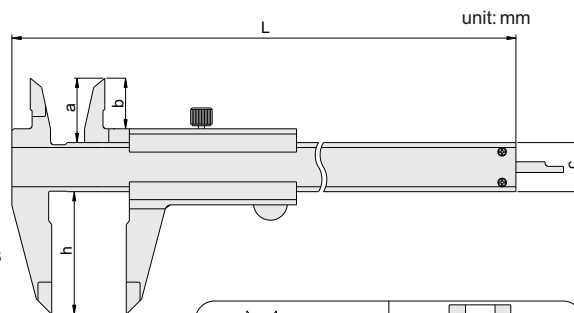
Code	Range	Graduation	Accuracy	L
121-004-11B	0-100mm	0.05mm	±0.05mm	160

SERIES 140

VERNIER CALIPER WITH CARBIDE TIPPED JAWS



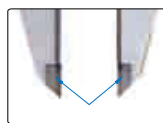
140-006-11



- ◆ Carbide tipped jaws
- ◆ Meet DIN862
- ◆ Satin chrome reading surface
- ◆ Made of stainless steel



Carbide tipped jaws



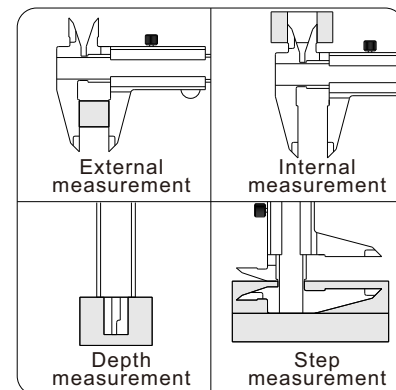
Carbide tipped jaws

Graduation 0.02mm

Code	Range	Accuracy	a	b	c	h	L
140-006-11	0-150mm	±0.03mm	21	16.5	16	40	235
140-008-11	0-200mm	±0.03mm	24	19	16	50	295
140-012-11	0-300mm	±0.03mm	25	20	17	60	410

Graduation 0.05mm

Code	Range	Accuracy	a	b	c	h	L
140-006-13	0-150mm	±0.05mm	21	16.5	16	40	235
140-008-13	0-200mm	±0.05mm	24	19	16	50	295
140-012-13	0-300mm	±0.05mm	25	20	17	60	410



**SERIES 123**

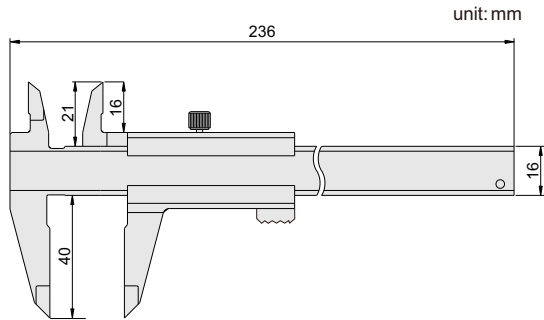
**VERNIER CALIPER (ANTI MAGNETIC)**

**ATTENTION:**  
Not hardened



123-006-11

- ◆ Suitable for magnetic parts
- ◆ Made of pure copper

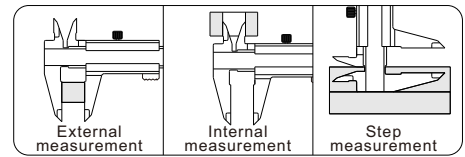


Graduation 0.02mm

Code	Range	Accuracy
123-006-11	0-150mm	±0.05mm

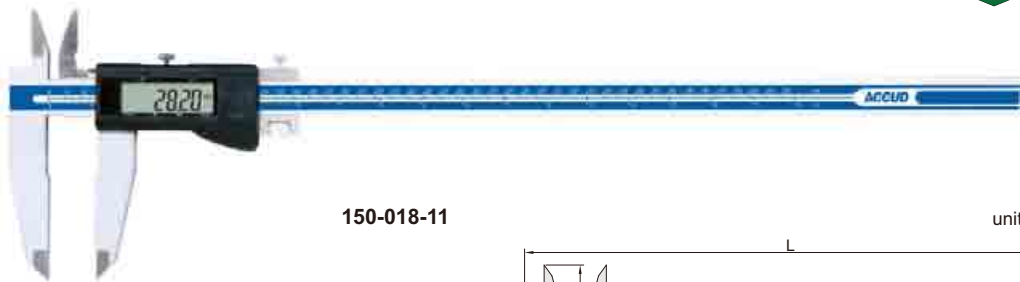
Graduation 0.05mm

Code	Range	Accuracy
123-006-13	0-150mm	±0.05mm



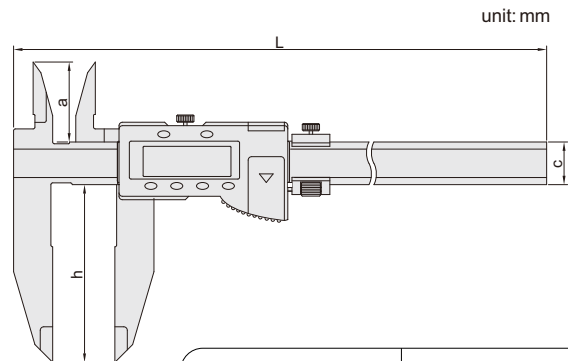
**SERIES 150**

**DIGITAL CALIPER**

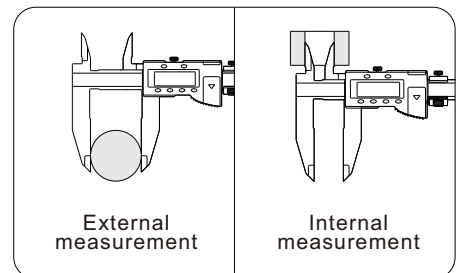


150-018-11

- ◆ Resolution: 0.01mm/0.0005"
- ◆ Button function: on/off, zero, mm/inch, ABS, data preset
- ◆ Data output(cable code:100-15)
- ◆ Made of stainless steel

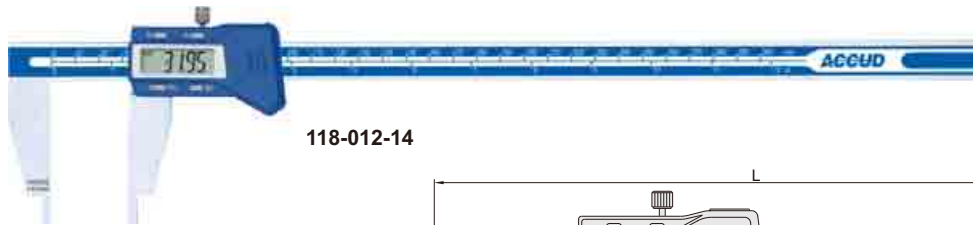


Code	Range	Accuracy	a	c	h	L
150-018-11	0-450mm/0-18"	±0.05mm	45	24	100	610
150-024-11	0-600mm/0-24"	±0.05mm	45	24	100	770
150-040-11	0-1000mm/0-40"	±0.08mm	60	31	150	1220

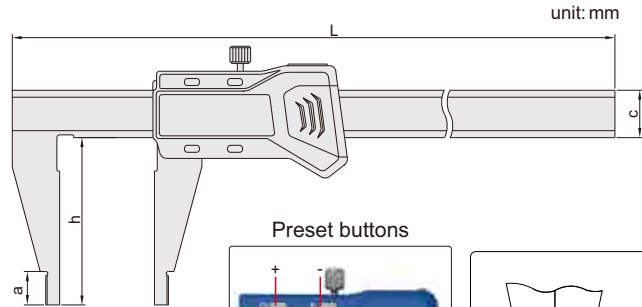


## SERIES 118

## DIGITAL CALIPER



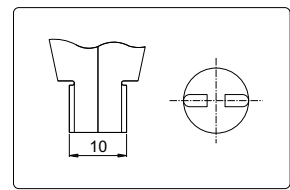
118-012-14



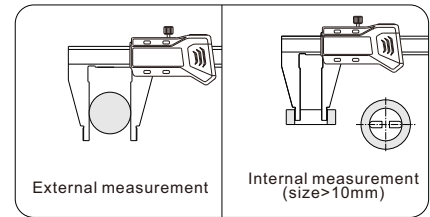
unit: mm

- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: mm/in, SET, preset(P+,P-)
- ◆ Preset: 10mm, don't need to add the width of the jaws on the reading
- ◆ Automatic power on/off
- ◆ Data output(cable code:100-03 or 100-04)
- ◆ Made of stainless steel

Preset buttons



Code	Range	Accuracy	a	c	h	L
118-008-11	0-200mm/0-8"	±0.03mm	12	17	60	320
118-012-14	0-300mm/0-12"	±0.04mm	12	17	60	420
118-012-15	0-300mm/0-12"	±0.06mm	12	17	90	420

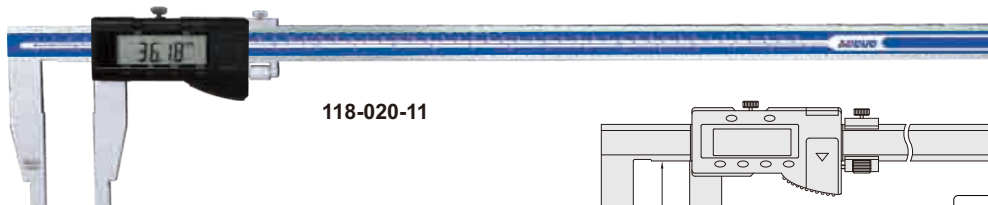


External measurement

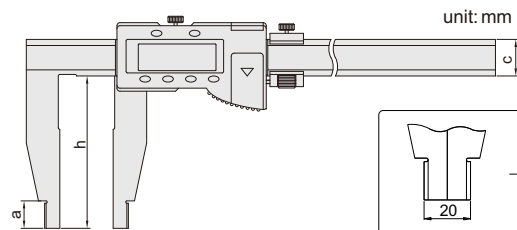
Internal measurement (size>10mm)

## SERIES 118

## DIGITAL CALIPER

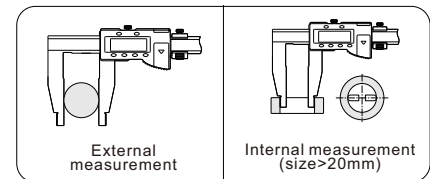
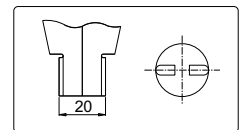


118-020-11



unit: mm

Code	Range	Accuracy	a	c	h
118-012-11	0-300mm/0-12"	±0.04mm	18	24	100
118-012-12	0-300mm/0-12"	±0.05mm	18	24	150
118-012-13	0-300mm/0-12"	±0.05mm	18	24	200
118-020-11	0-500mm/0-20"	±0.05mm	18	24	100
118-020-12	0-500mm/0-20"	±0.06mm	18	24	150
118-020-13	0-500mm/0-20"	±0.06mm	24	32	200
118-020-14	0-500mm/0-20"	±0.08mm	24	42	300
118-024-11	0-600mm/0-24"	±0.05mm	18	24	100
118-024-12	0-600mm/0-24"	±0.06mm	18	24	150
118-024-13	0-600mm/0-24"	±0.06mm	24	32	200
118-024-15	0-600mm/0-24"	±0.08mm	24	42	300
118-032-11	0-800mm/0-32"	±0.07mm	24	32	150
118-040-11	0-1000mm/0-40"	±0.08mm	24	32	150
118-040-12	0-1000mm/0-40"	±0.08mm	24	32	200
118-040-13	0-1000mm/0-40"	±0.10mm	24	42	300
118-060-11	0-1500mm/0-60"	±0.11mm	24	42	150
118-080-11	0-2000mm/0-80"	±0.14mm	24	42	150

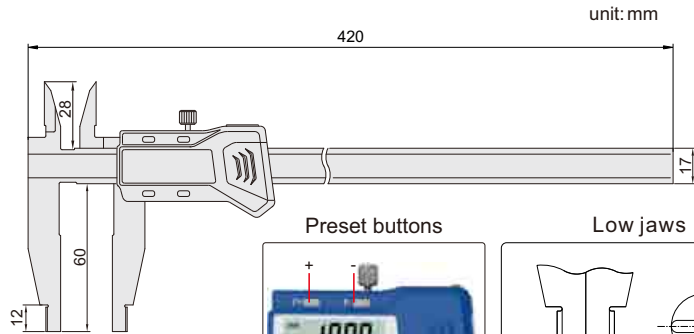
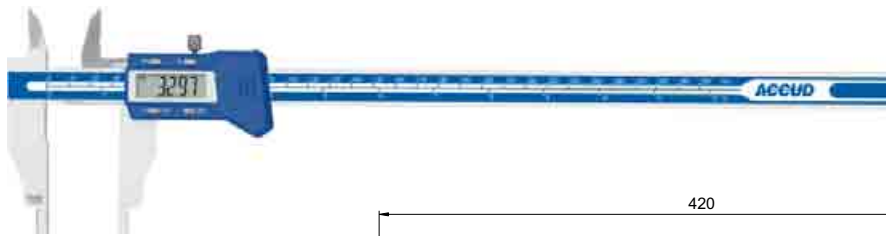


External measurement

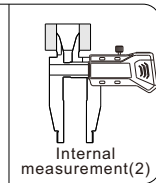
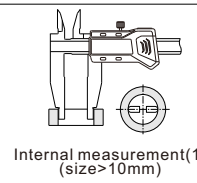
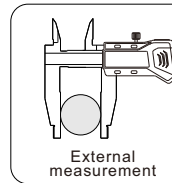
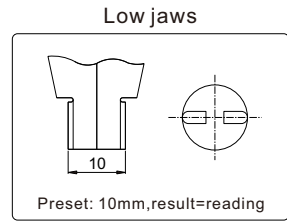
Internal measurement (size>20mm)

- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/inch, ABS, data preset
- ◆ Preset: 20mm, don't need to add the width of the jaws on the reading
- ◆ Data output(cable code:100-15)
- ◆ Made of stainless steel

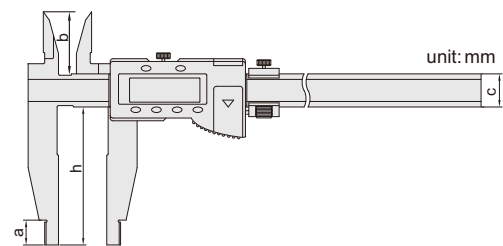
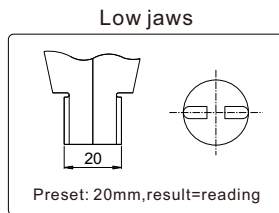
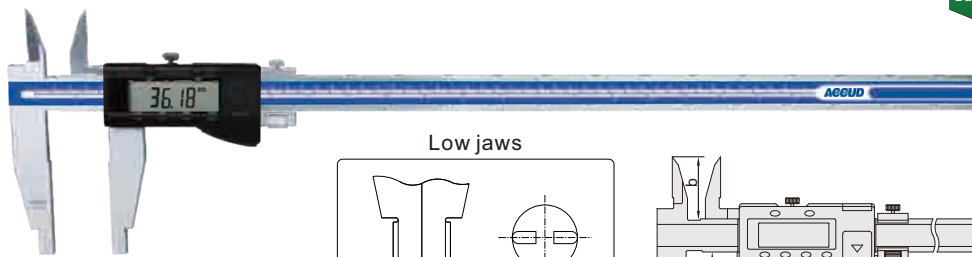




- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: mm/in, SET, preset(P+,P-)
- ◆ Automatic power on/off
- ◆ Data output(cable code:100-03 or 100-04)
- ◆ Made of stainless steel

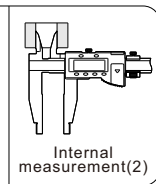
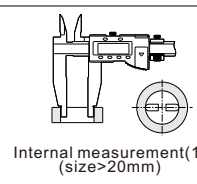
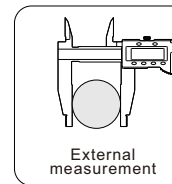


Code	Range	Accuracy
119-012-11	0-300mm/0-12"	±0.04mm



119-020-11

Code	Range	Accuracy	a	b	c	h
119-012-12	0-300mm/0-12"	±0.05mm	18	45	24	100
119-018-11	0-450mm/0-18"	±0.05mm	18	45	24	100
119-020-11	0-500mm/0-20"	±0.05mm	18	45	24	100
119-020-12	0-500mm/0-20"	±0.06mm	18	45	24	150
119-020-13	0-500mm/0-20"	±0.06mm	24	60	32	200
119-024-11	0-600mm/0-24"	±0.05mm	18	45	24	100
119-024-12	0-600mm/0-24"	±0.06mm	18	45	24	150
119-024-14	0-600mm/0-24"	±0.06mm	24	60	32	200
119-040-11	0-1000mm/0-40"	±0.08mm	24	60	32	150
119-040-12	0-1000mm/0-40"	±0.08mm	24	60	32	200
119-060-11	0-1500mm/0-60"	±0.11mm	24	60	42	150
119-060-12	0-1500mm/0-60"	±0.12mm	24	60	42	200

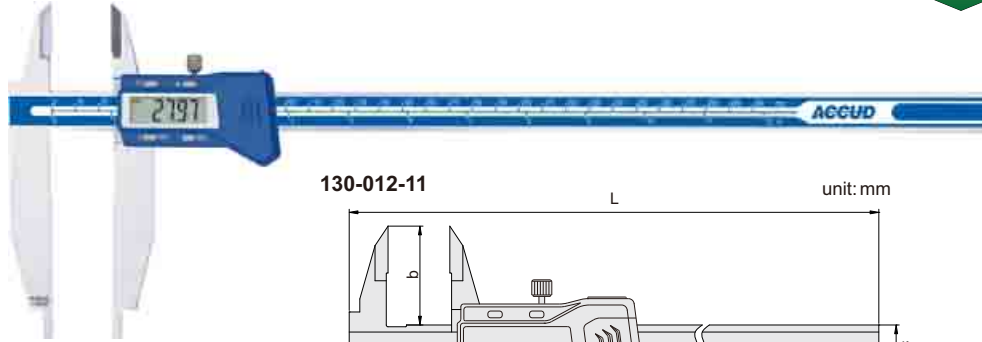


- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/inch, ABS, data preset
- ◆ Data output(cable code:100-15)
- ◆ Made of stainless steel



## SERIES 130

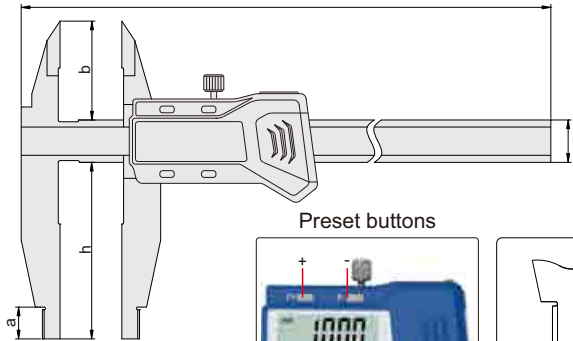
## DIGITAL CALIPER



130-012-11

L

unit: mm

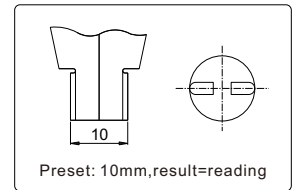


- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: mm/in, SET, preset(P+,P-)
- ◆ Automatic power on/off
- ◆ Data output(cable code: 100-03 or 100-04)
- ◆ Made of stainless steel

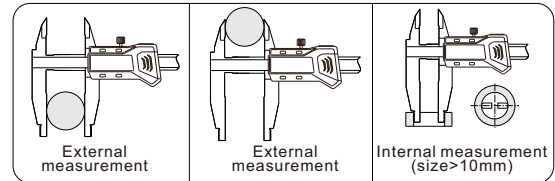
Preset buttons



Low jaws

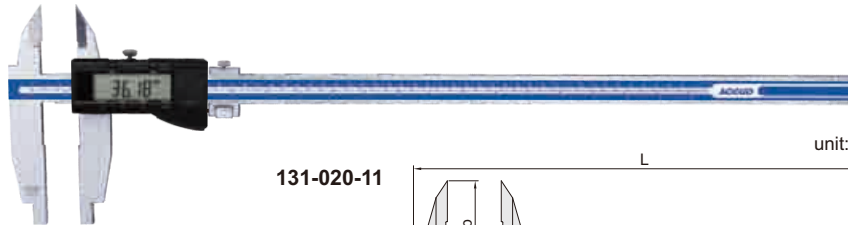


Code	Range	Accuracy	a	b	c	h	L
130-008-11	0-200mm/0-8"	±0.03mm	12	38	17	60	320
130-012-11	0-300mm/0-12"	±0.04mm	12	38	17	60	420
130-012-12	0-300mm/0-12"	±0.04mm	12	38	17	90	420



## SERIES 131

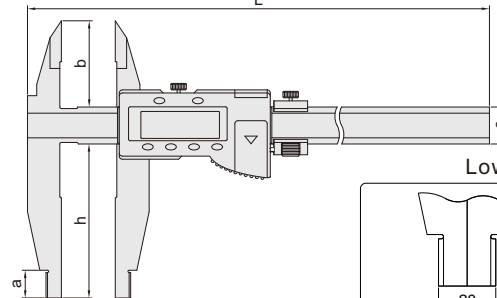
## DIGITAL CALIPER



131-020-11

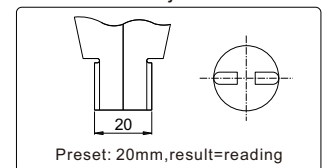
L

unit: mm

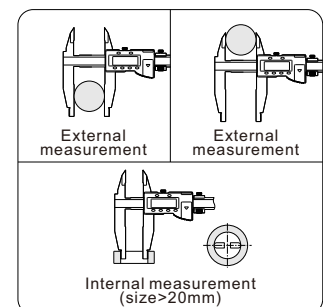


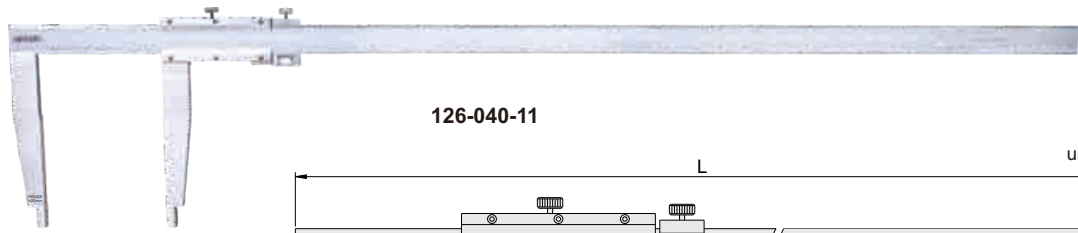
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/inch, ABS, data preset
- ◆ Data output(cable code:100-15)
- ◆ Made of stainless steel

Low jaws

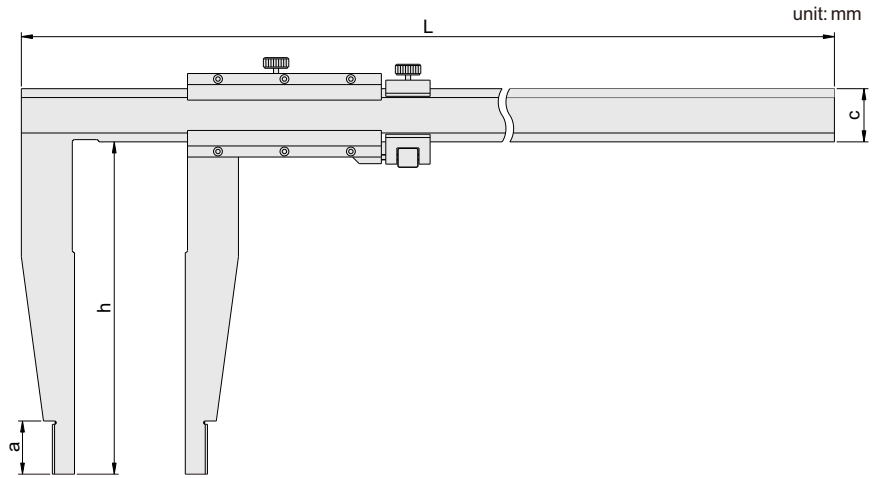


Code	Range	Accuracy	a	b	c	h	L
131-012-11	0-300mm/0-12"	±0.05mm	18	56	24	100	420
131-020-11	0-500mm/0-20"	±0.05mm	18	56	24	100	675
131-020-12	0-500mm/0-20"	±0.06mm	18	56	24	150	675
131-024-11	0-600mm/0-24"	±0.05mm	18	56	24	100	770
131-028-11	0-800mm/0-32"	±0.07mm	24	67	31	150	1025
131-040-11	0-1000mm/0-40"	±0.08mm	24	67	31	150	1220

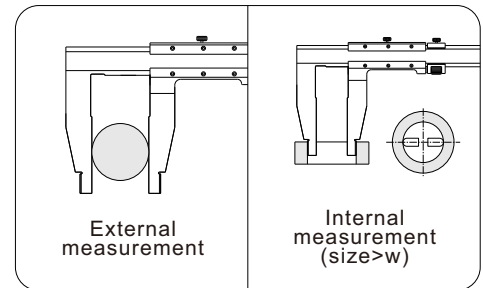
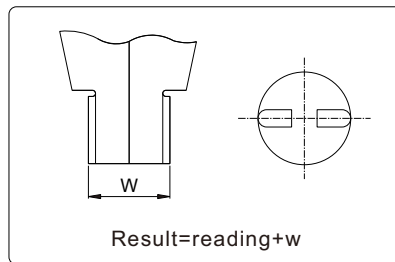




126-040-11



unit: mm



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

Graduation 0.02mm/0.001"

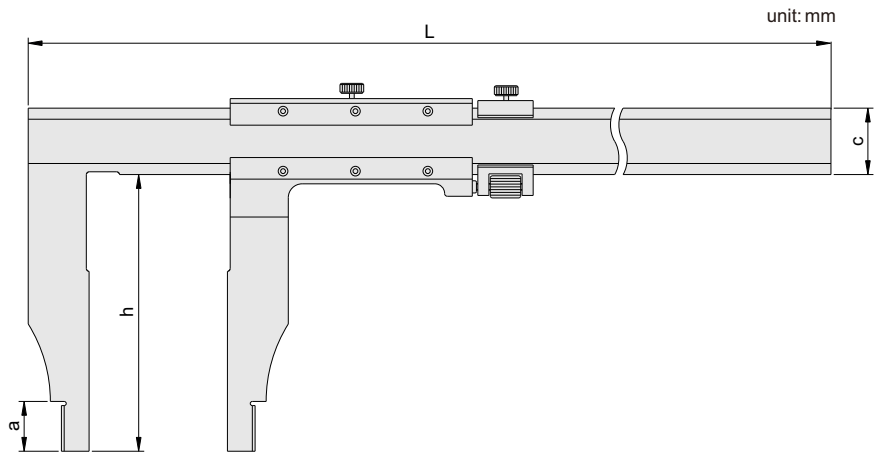
Code	Range	Accuracy	a	c	h	w	L
126-012-11	0-300mm/0-12"	±0.05mm	12	17	90	10	410
126-012-12	0-300mm/0-12"	±0.05mm	18	24	150	20	470
126-020-11	0-500mm/0-20"	±0.06mm	18	24	150	20	670
126-020-12	0-500mm/0-20"	±0.06mm	18	24	200	20	670
126-024-11	0-600mm/0-24"	±0.06mm	18	24	150	20	770
126-024-12	0-600mm/0-24"	±0.08mm	24	32	250	20	820
126-040-11	0-1000mm/0-40"	±0.08mm	24	32	200	20	1220
126-040-12	0-1000mm/0-40"	±0.11mm	24	32	300	20	1330
126-120-12	0-3000mm/0-120"	±0.26mm	24	50	300	20	3360

Graduation 0.05mm/1/128"

Code	Range	Accuracy	a	c	h	w	L
126-012-51	0-300mm/0-12"	±0.07mm	12	17	90	10	410
126-012-52	0-300mm/0-12"	±0.07mm	18	24	150	20	470
126-020-51	0-500mm/0-20"	±0.08mm	18	24	150	20	670
126-020-52	0-500mm/0-20"	±0.08mm	18	24	200	20	670
126-024-51	0-600mm/0-24"	±0.08mm	18	24	150	20	770
126-024-52	0-600mm/0-24"	±0.08mm	24	32	250	20	820
126-040-51	0-1000mm/0-40"	±0.12mm	24	32	200	20	1220
126-040-52	0-1000mm/0-40"	±0.12mm	24	32	300	20	1330
126-120-52	0-3000mm/0-120"	±0.31mm	24	50	300	20	3360



**127-020-11**

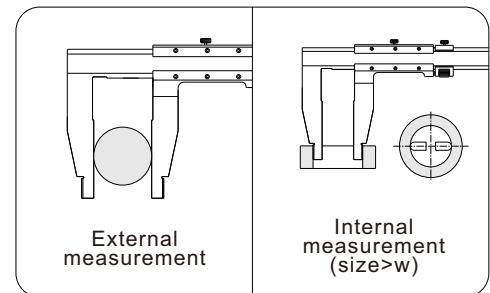
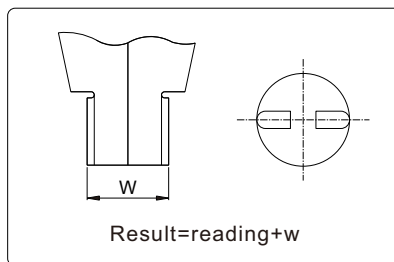


unit: mm



**CALIPER**

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

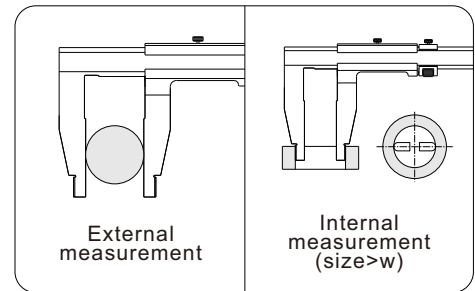
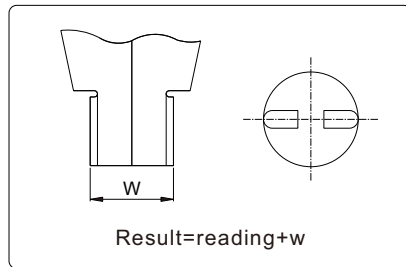
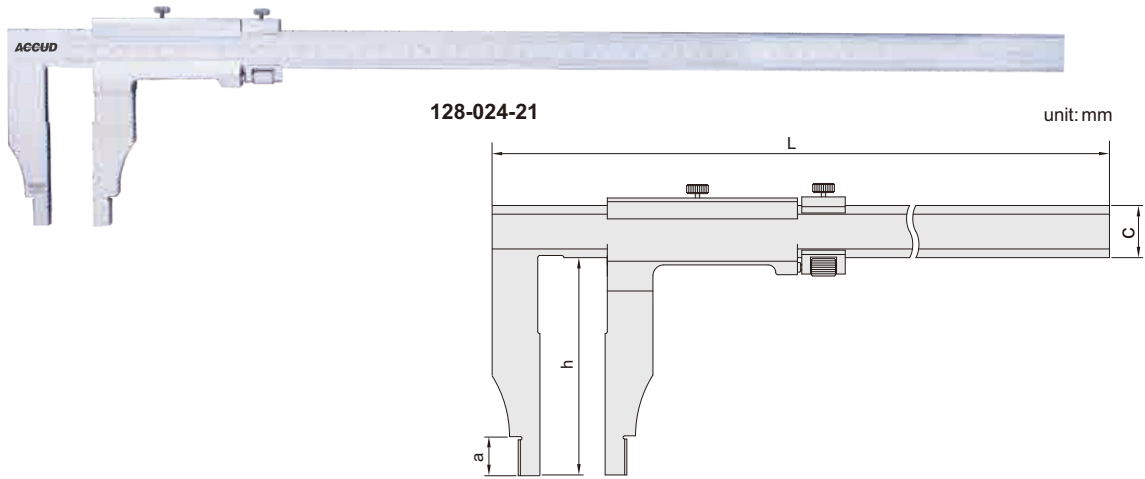


**Graduation 0.02mm/0.001"**

Code	Range	Accuracy	a	c	h	w	L
127-012-11	0-300mm/0-12"	±0.05mm	10	20	75	10	410
127-020-11	0-500mm/0-20"	±0.05mm	18	24	100	20	670
127-024-11	0-600mm/0-24"	±0.05mm	18	24	100	20	770
127-032-11	0-800mm/0-32"	±0.08mm	24	32	150	20	1020
127-040-11	0-1000mm/0-40"	±0.08mm	24	32	140	20	1216
127-060-11	0-1500mm/0-60"	±0.11mm	24	42	180	20	1830
127-080-11	0-2000mm/0-80"	±0.14mm	24	42	200	20	2320

**Graduation 0.05mm/1/128"**

Code	Range	Accuracy	a	c	h	w	L
127-012-51	0-300mm/0-12"	±0.05mm	10	20	75	10	410
127-020-51	0-500mm/0-20"	±0.08mm	18	24	100	20	670
127-024-51	0-600mm/0-24"	±0.08mm	18	24	100	20	770
127-040-51	0-1000mm/0-40"	±0.10mm	24	32	140	20	1216
127-060-51	0-1500mm/0-60"	±0.15mm	24	42	180	20	1830
127-080-51	0-2000mm/0-80"	±0.20mm	24	42	200	20	2320



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

Graduation 0.02mm/0.001"

Code	Range	Accuracy	a	c	h	w	L
128-008-21	0-200mm/0-8"	±0.05mm	12	20	100	10	330
128-012-21	0-300mm/0-12"	±0.05mm	18	24	90	20	410
128-012-22	0-300mm/0-12"	±0.07mm	18	24	150	20	410
128-020-21	0-500mm/0-20"	±0.05mm	18	24	100	20	670
128-020-22	0-500mm/0-20"	±0.06mm	18	24	150	20	670
128-024-21	0-600mm/0-24"	±0.06mm	18	24	100	20	770
128-024-22	0-600mm/0-24"	±0.08mm	18	24	150	20	770
128-040-21	0-1000mm/0-40"	±0.08mm	24	32	150	20	1230
128-060-21	0-1500mm/0-60"	±0.11mm	24	42	150	20	1820
128-080-21	0-2000mm/0-80"	±0.14mm	24	42	150	20	2230

Graduation 0.05mm/1/128"

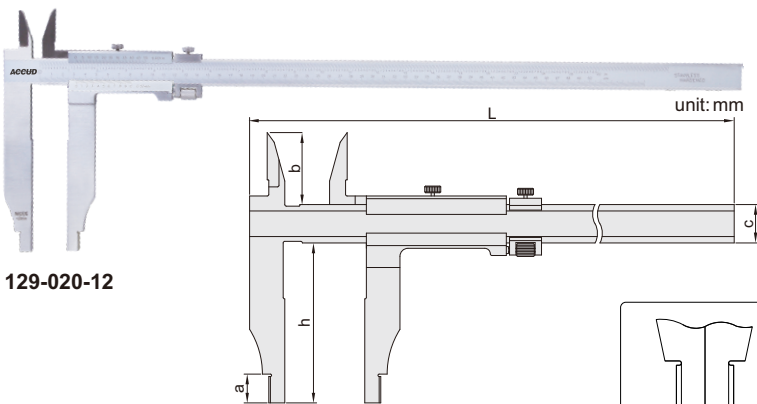
Code	Range	Accuracy	a	c	h	w	L
128-008-51	0-200mm/0-8"	±0.06mm	12	20	100	20	330
128-012-51	0-300mm/0-12"	±0.07mm	18	24	90	20	410
128-012-52	0-300mm/0-12"	±0.07mm	18	24	150	20	410
128-020-51	0-500mm/0-20"	±0.08mm	18	24	100	20	670
128-020-52	0-500mm/0-20"	±0.08mm	18	24	150	20	670
128-024-51	0-600mm/0-24"	±0.08mm	18	24	100	20	770
128-024-52	0-600mm/0-24"	±0.09mm	18	24	150	20	770
128-032-51	0-800mm/0-32"	±0.09mm	24	31	150	20	1030
128-040-51	0-1000mm/0-40"	±0.12mm	24	32	150	20	1230
128-060-51	0-1500mm/0-60"	±0.16mm	24	42	150	20	1820
128-080-51	0-2000mm/0-80"	±0.20mm	24	42	150	20	2230



**SERIES 129**

**VERNIER CALIPER**

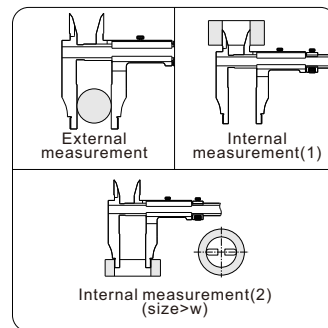
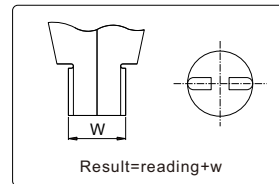
- ◆ Made of stainless steel
- ◆ With fine adjustment
- ◆ Satin chrome plated reading surface



129-020-12

Graduation 0.02mm/0.001"

Code	Range	Accuracy	a	b	c	h	w	L
129-020-11	0-500mm/0-20"	±0.05mm	18	45	24	100	20	670
129-020-12	0-500mm/0-20"	±0.06mm	18	45	24	150	20	670
129-024-11	0-600mm/0-24"	±0.06mm	18	45	24	100	20	770
129-040-11	0-1000mm/0-40"	±0.08mm	24	60	31	150	20	1230

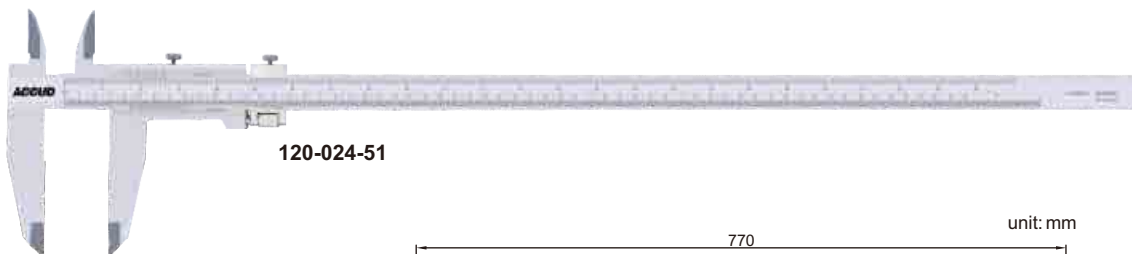


Graduation 0.05mm/1/128"

Code	Range	Accuracy	a	b	c	h	w	L
129-020-51	0-500mm/0-20"	±0.07mm	18	45	24	100	20	670
129-020-52	0-500mm/0-20"	±0.08mm	18	45	24	150	20	670
129-024-51	0-600mm/0-24"	±0.08mm	18	45	24	100	20	770
129-040-51	0-1000mm/0-40"	±0.12mm	24	60	31	150	20	1230

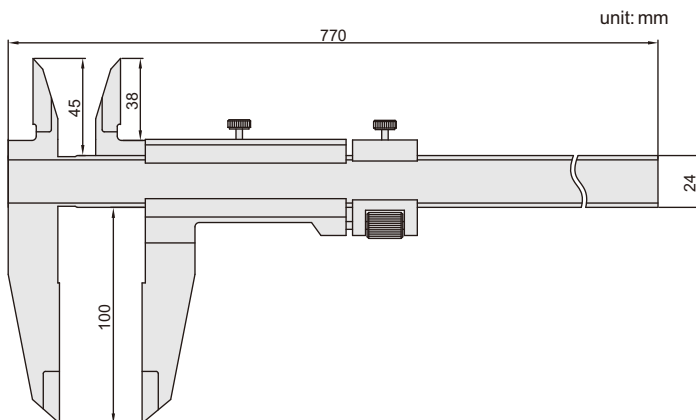
**SERIES 120**

**VERNIER CALIPER (SOLID TYPE)**



120-024-51

- ◆ Made of stainless steel
- ◆ Satin chrome plated reading surface

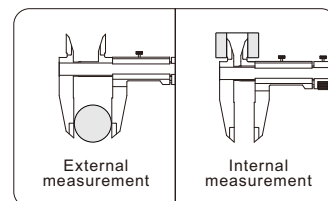


Graduation 0.02mm/0.001"

code	Range	Accuracy
120-024-11	0-600mm/0-24"	±0.06mm

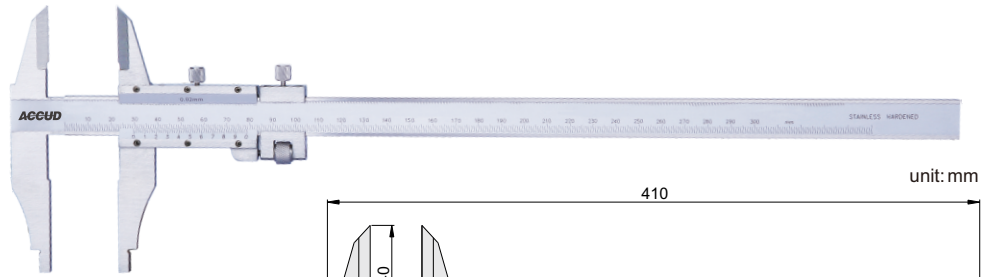
Graduation 0.05mm/1/128"

code	Range	Accuracy
120-024-51	0-600mm/0-24"	±0.08mm

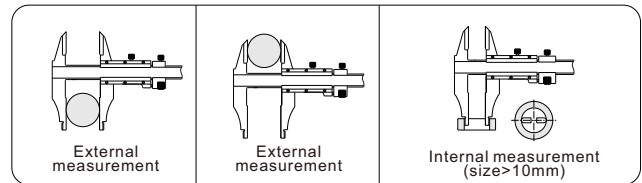
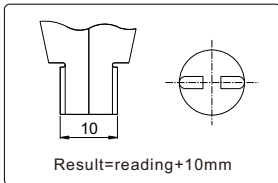
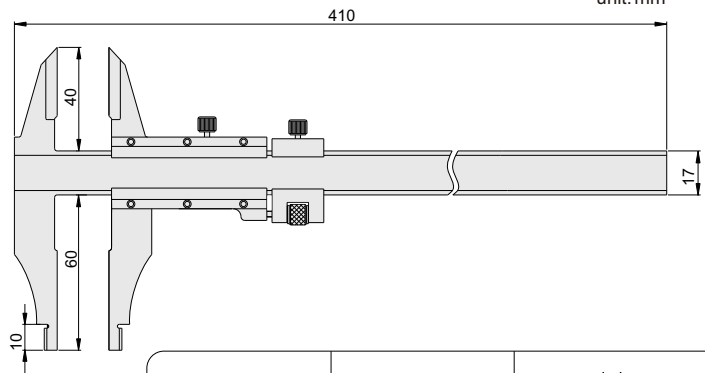


122

VERNIER CALIPER



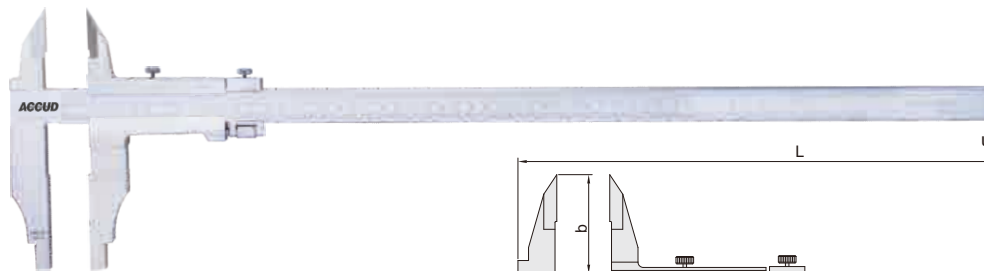
- ◆ With fine adjustment
- ◆ Made of stainless steel
- ◆ Satin chrome reading surface



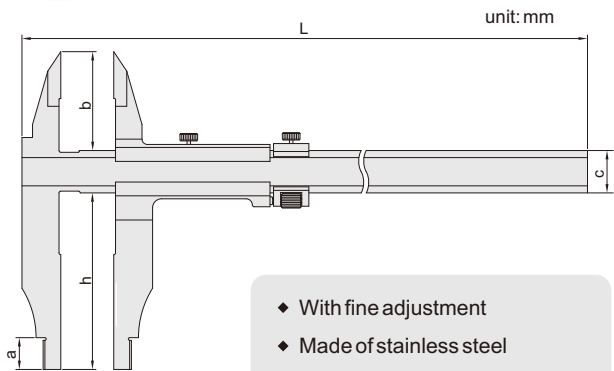
Code	Range	Graduation	Accuracy
122-012-11	0-300mm	0.02mm	±0.03mm

SERIES 122

VERNIER CALIPER



122-020-21



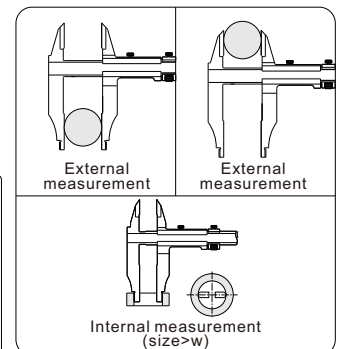
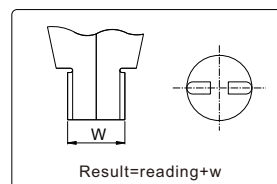
Graduation: 0.02mm/0.001"

Code	Range	Accuracy	h	a	b	c	w	L
122-012-21	0-300mm/0-12"	±0.05mm	90	12	40	20	10	410
122-020-21	0-500mm/0-20"	±0.05mm	100	18	56	24	20	670
122-020-22	0-500mm/0-20"	±0.06mm	150	18	56	24	20	670
122-032-21	0-800mm/0-32"	±0.07mm	150	24	67	31	20	1020
122-040-21	0-1000mm/0-40"	±0.08mm	150	24	67	31	20	1220

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

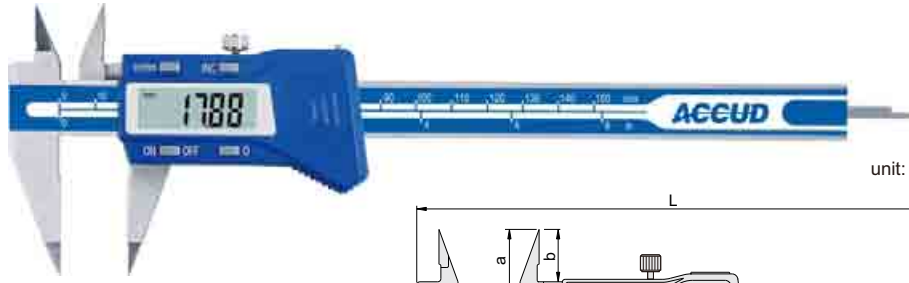
Graduation: 0.05mm/1/128"

Code	Range	Accuracy	h	a	b	c	w	L
122-012-51	0-300mm/0-12"	±0.07mm	90	12	40	20	10	410
122-020-51	0-500mm/0-20"	±0.07mm	100	18	56	24	20	670
122-020-52	0-500mm/0-20"	±0.08mm	150	18	56	24	20	670
122-032-51	0-800mm/0-32"	±0.09mm	150	24	67	31	20	1020
122-040-51	0-1000mm/0-40"	±0.12mm	150	24	67	31	20	1220



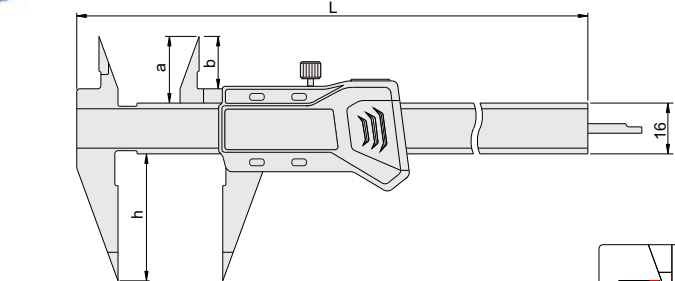
# SERIES 138

# DIGITAL POINT CALIPER

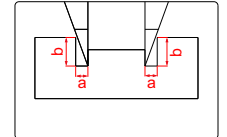
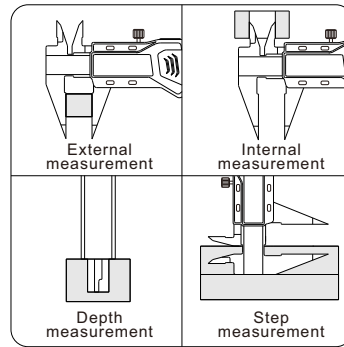
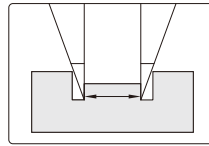


138-006-11

- ◆ Measure small holes or grooves
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Automatic power on/off
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Data output(cable code: 100-03 or 100-04)
- ◆ Made of stainless steel



unit: mm



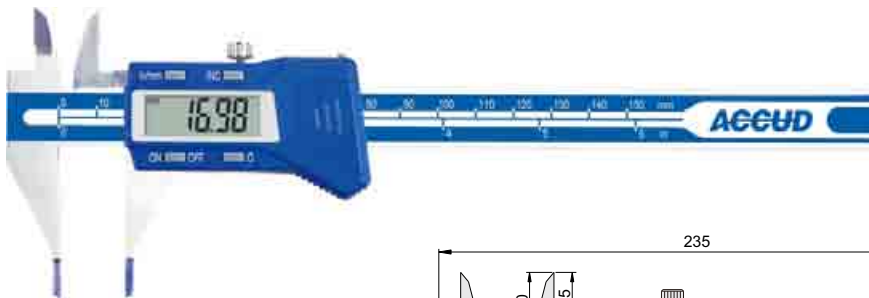
(mm)

a	b
1	2.5
2	5
3	7.5
4	10
5	12.5
6	15

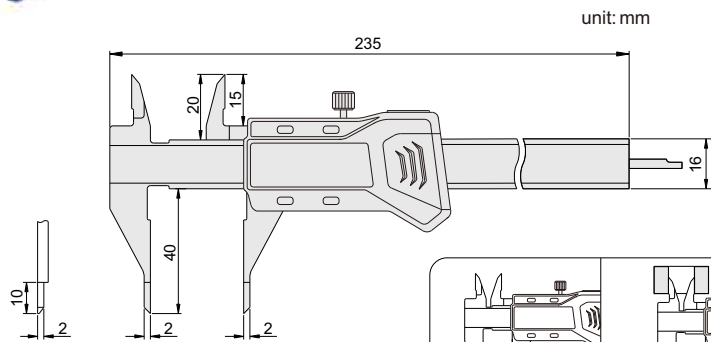
Code	Range	Accuracy	a	b	h	L
138-006-11	0-150mm/0-6"	±0.03mm	21	16	40	236
138-008-11	0-200mm/0-8"	±0.03mm	24	19	50	286
138-012-11	0-300mm/0-12"	±0.03mm	25	21	60	400

# 168

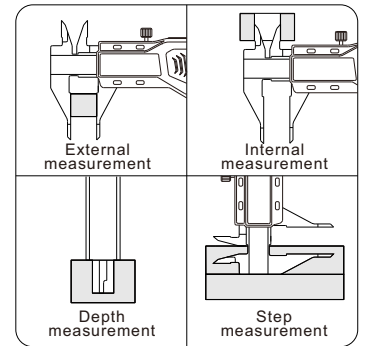
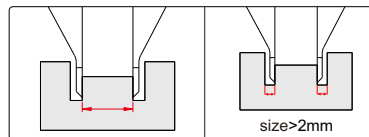
# DIGITAL SMALL POINT CALIPER



- ◆ Small point jaws fits into small grooves and recesses
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Automatic power on/off
- ◆ Data output(cable code: 100-03 or 100-04)
- ◆ Made of stainless steel



unit: mm



Code	Range	Accuracy
168-006-11	0-150mm/0-6"	±0.03mm

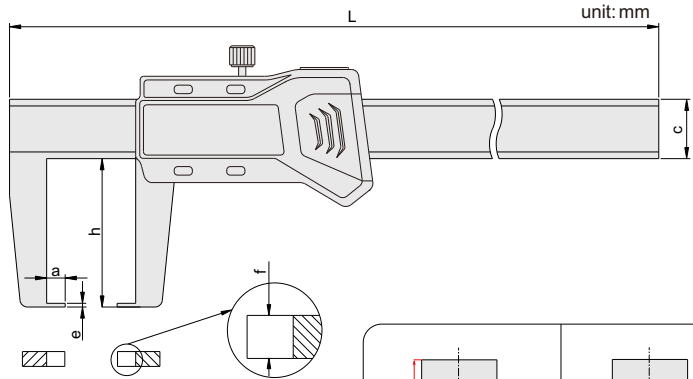
**SERIES 133**

**DIGITAL OUTSIDE NECK CALIPER**

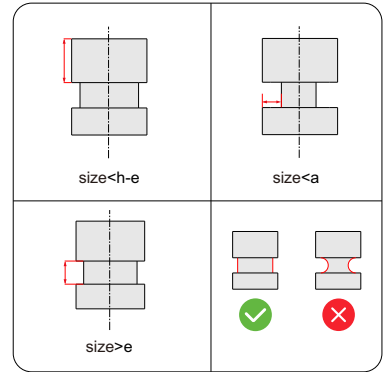
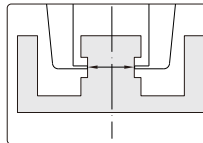


133-006-11

- ◆ Measure wall thickness and recesses
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Automatic power on/off
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Data output
- ◆ Made of stainless steel



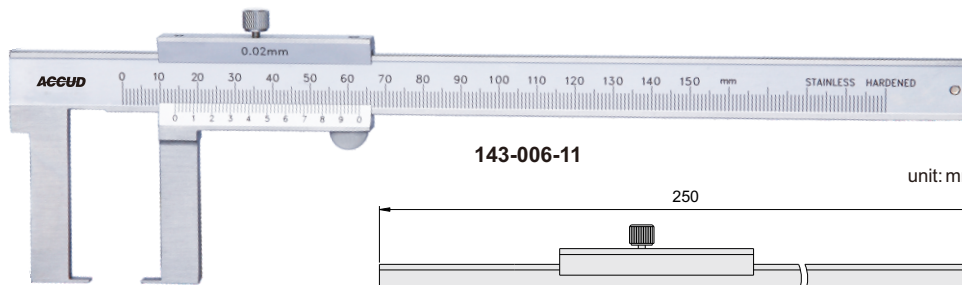
133-012-12



Code	Range	Accuracy	a	c	e	f	h	L
133-006-11	0-150mm/0-6"	±0.04mm	5	16	1	4	40	250
133-008-11	0-200mm/0-8"	±0.05mm	9	16	1.5	4	80	310
133-012-11	0-300mm/0-12"	±0.05mm	10	16	1.5	4	60	410
133-012-12	0-300mm/0-12"	±0.06mm	12	24	2	5	150	490

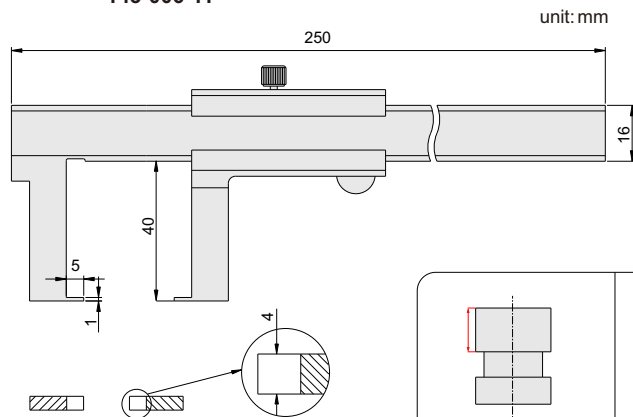
**SERIES 143**

**OUTSIDE NECK VERNIER CALIPER**



143-006-11

- ◆ Measure wall thickness and recesses
- ◆ Made of stainless steel
- ◆ Satin chrome plated reading surface

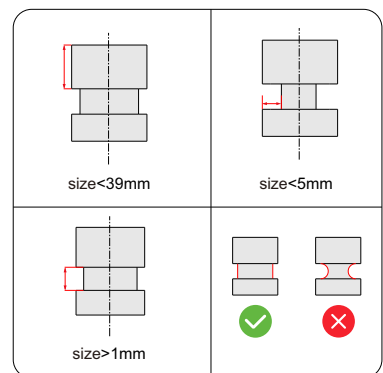
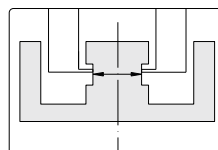


**Graduation 0.02mm**

Code	Range	Accuracy
143-006-11	0-150mm	±0.04mm

**Graduation 0.05mm**

Code	Range	Accuracy
143-006-13	0-150mm	±0.05mm



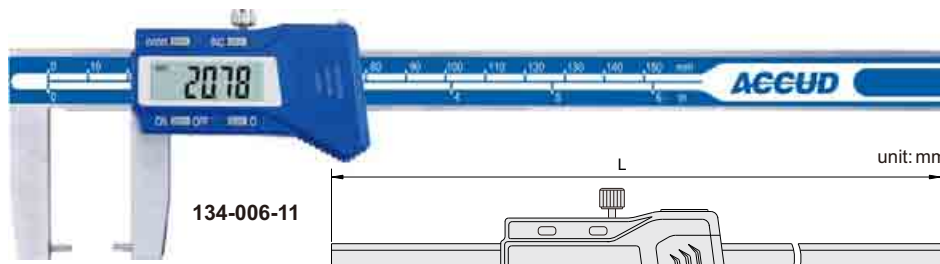


## SERIES 134

## DIGITAL OUTSIDE POINT CALIPER

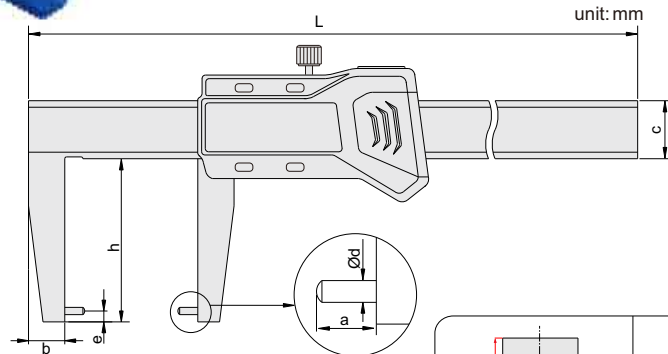


VIDEO

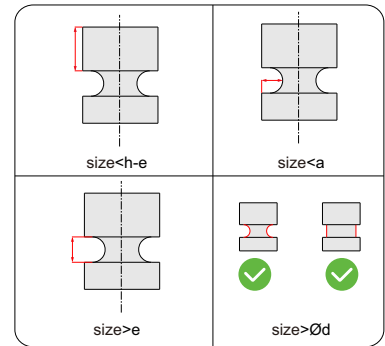
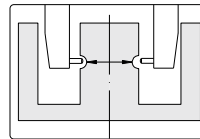


134-006-11

- ◆ Measure wall thickness of inside bores and recesses
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Automatic power on/off
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Data output
- ◆ Made of stainless steel



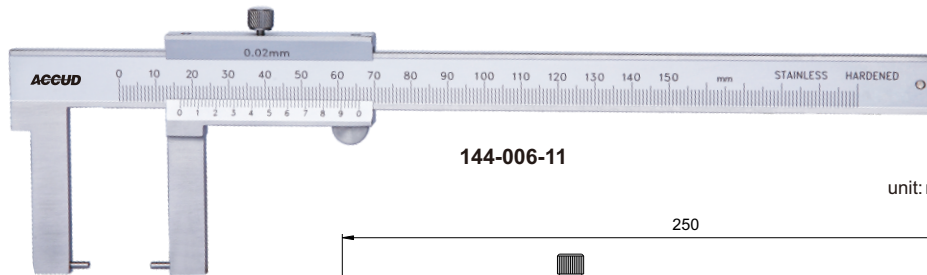
For range 300mm



Code	Range	Accuracy	a	b	c	Ød	e	h	L
134-006-11	0-150mm/0-6"	±0.04mm	5	10	16	2	2	40	250
134-008-11	0-200mm/0-8"	±0.05mm	9	14	16	3	3	80	310
134-012-12	0-300mm/0-12"	±0.06mm	12	20	24	3	3	150	490

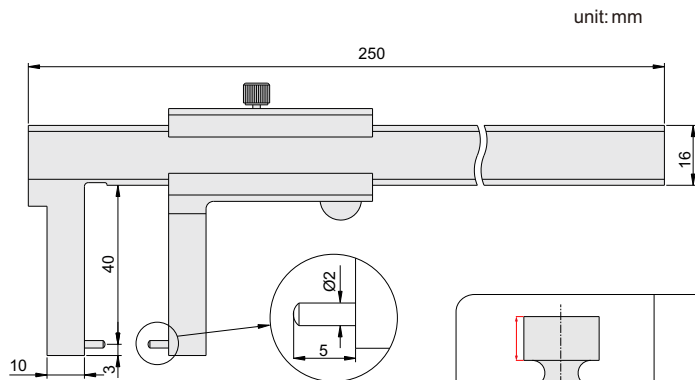
## SERIES 144

## OUTSIDE POINT VERNIER CALIPER



144-006-11

- ◆ Measure wall thickness of inside bores and recesses
- ◆ Made of stainless steel
- ◆ Satin chrome plated reading surface

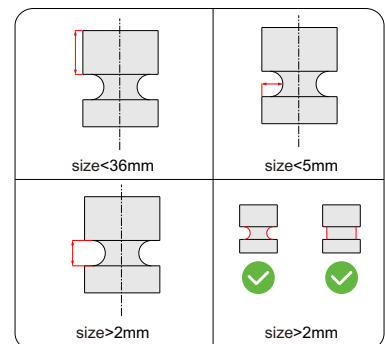
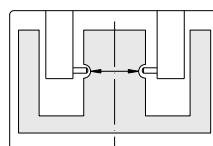


Graduation 0.02mm

Code	Range	Accuracy
144-006-11	0-150mm	±0.04mm

Graduation 0.05mm

Code	Range	Accuracy
144-006-13	0-150mm	±0.05mm

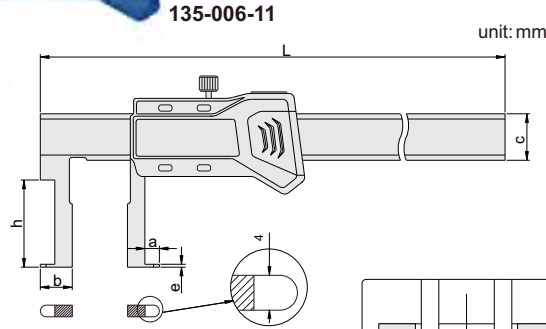
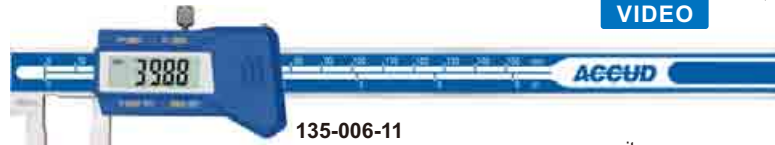


**SERIES 135**

**DIGITAL INSIDE NECK CALIPER**



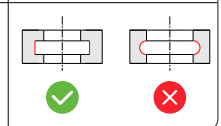
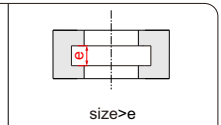
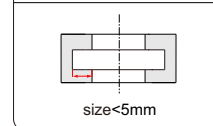
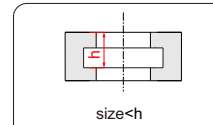
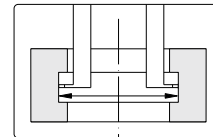
- ◆ Measure the grooves
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Automatic power on/off
- ◆ Buttons: mm/in, SET, preset(P+,P-)
- ◆ Preset: 2b, don't need to add the width of the jaws on the reading
- ◆ Data output
- ◆ Made of stainless steel



Preset buttons

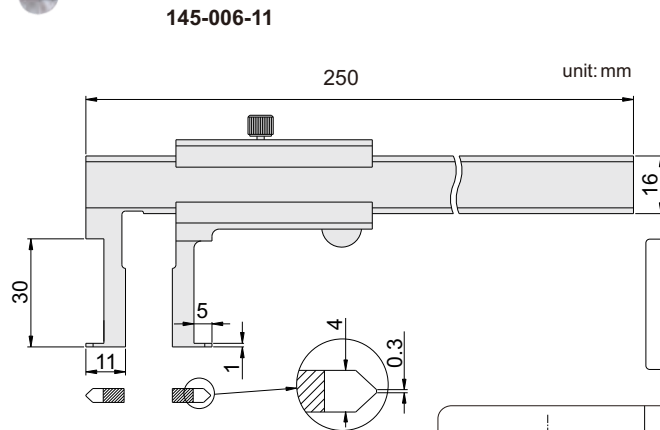
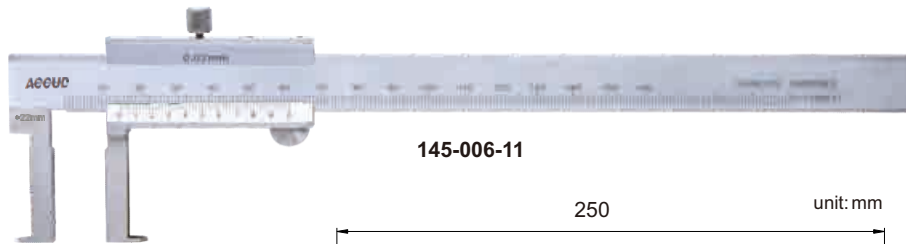


Code	Range	Accuracy	a	b	c	e	h	L
135-006-11	22-150mm	±0.04mm	5	11	16	1	30	250
135-008-11	25-200mm	±0.04mm	5	12.5	16	1	40	310
135-012-11	30-300mm	±0.05mm	5	15	17	1.5	50	410
135-020-11	80-500mm	±0.07mm	16	40	24	4	90	680
135-006-12	35-150mm	±0.06mm	6	17.5	16	1.5	60	250
135-008-12	40-200mm	±0.06mm	7	20	16	1.5	70	310
135-012-12	50-300mm	±0.07mm	8	25	16	1.5	80	410
135-020-12	80-500mm	±0.08mm	16	40	24	5	150	680



**SERIES 145**

**INSIDE NECK VERNIER CALIPER**



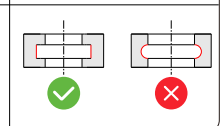
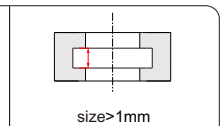
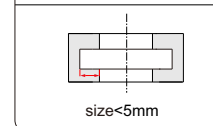
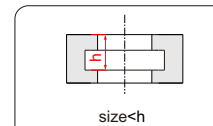
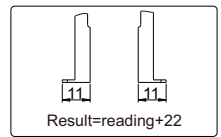
- ◆ Measure the grooves
- ◆ Made of stainless steel
- ◆ Satin chrome plated reading surface

**Graduation 0.02mm**

Code	Range	Accuracy
145-006-11	22-150mm	±0.04mm

**Graduation 0.05mm**

Code	Range	Accuracy
145-006-13	22-150mm	±0.05mm

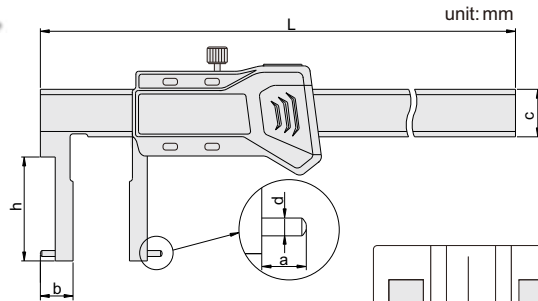


## SERIES 136

## DIGITAL INSIDE POINT CALIPER



- ◆ Measure the grooves
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Automatic power on/off
- ◆ Buttons: mm/in, SET, preset(P+,P-)
- ◆ Preset: 2b, don't need to add the width of the jaws on the reading
- ◆ Data output
- ◆ Made of stainless steel



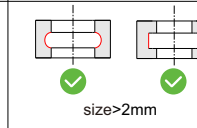
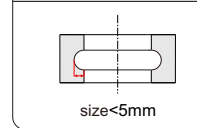
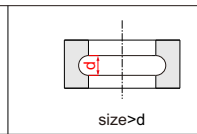
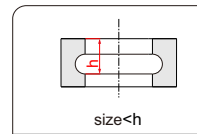
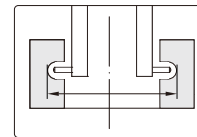
For range 500mm



Preset buttons

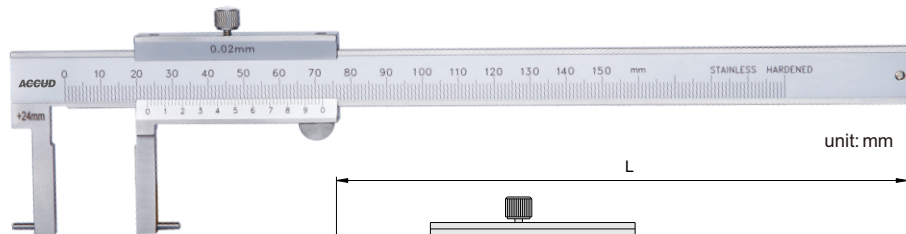


Code	Range	Accuracy	a	b	c	d	h	L
136-006-11	24-150mm	±0.04mm	5	12	16	∅2	30	250
136-008-11	25-200mm	±0.04mm	5	12.5	16	∅2	40	310
136-012-11	50-300mm	±0.07mm	8	25	17	∅3	80	410
136-020-11	80-500mm	±0.07mm	16	40	24	∅3	90	680
136-006-12	35-150mm	±0.05mm	6	17.5	16	∅2	60	250
136-008-12	40-200mm	±0.05mm	7	20	16	∅2	70	310
136-012-12	30-300mm	±0.05mm	5	15	16	∅3	50	410
136-020-12	80-500mm	±0.08mm	16	40	24	∅3	150	680



## SERIES 146

## INSIDE POINT VERNIER CALIPER



146-006-11

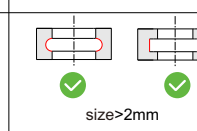
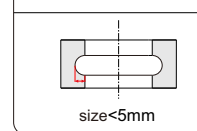
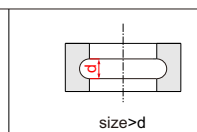
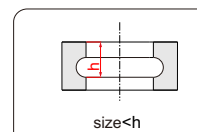
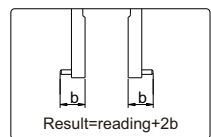
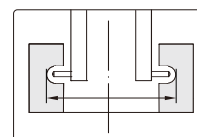
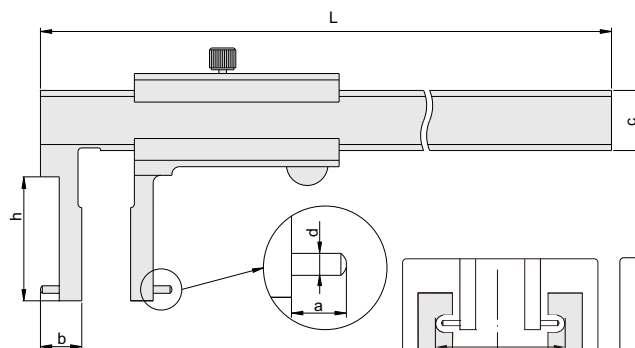
- ◆ Measure the grooves
- ◆ Made of stainless steel
- ◆ Satin chrome plated reading surface

Graduation 0.02mm

Code	Range	Accuracy	a	b	c	d	h	L
146-006-11	24-150mm	±0.04mm	5	12	16	∅2	30	250
146-012-11	50-300mm	±0.06mm	8	25	17	∅3	80	410

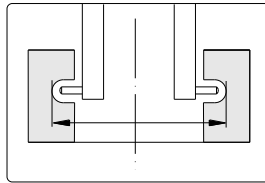
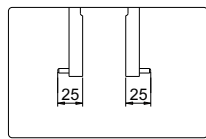
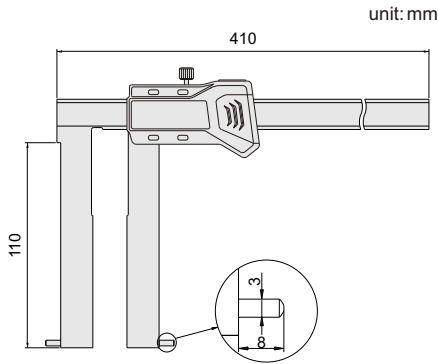
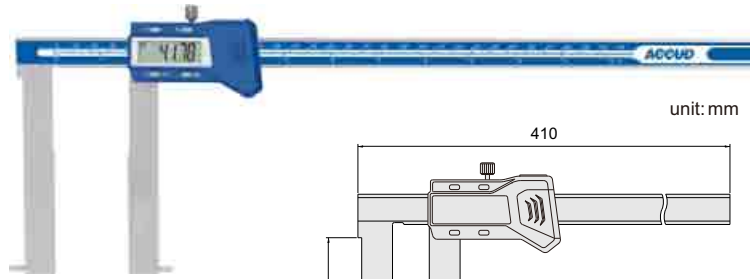
Graduation 0.05mm

Code	Range	Accuracy	a	b	c	d	h	L
146-006-13	24-150mm	±0.05mm	5	12	16	∅2	30	250
146-012-13	50-300mm	±0.08mm	8	25	17	∅3	80	410

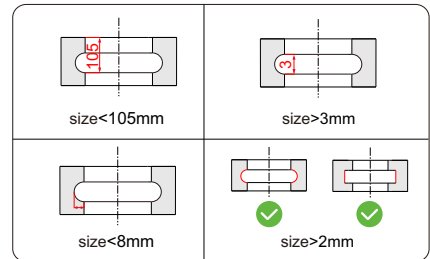


136

DIGITAL INSIDE POINT CALIPER



Preset buttons

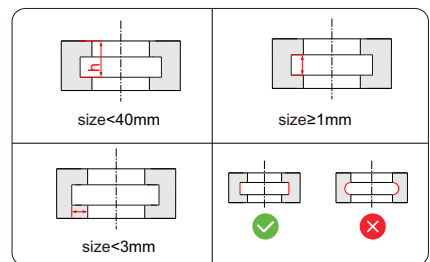
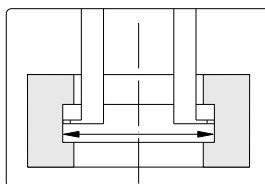
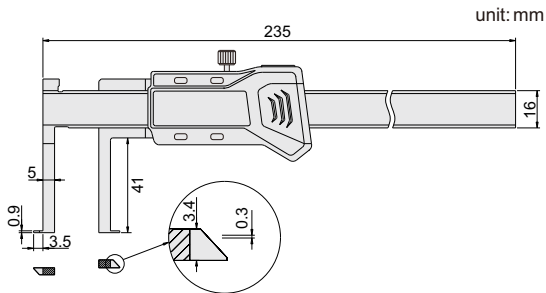


- ◆ Measure the grooves
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Automatic power on/off
- ◆ Buttons: mm/in, SET, preset(P+,P-)
- ◆ Preset: 50mm, don't need to add the width of the jaws on the reading
- ◆ Data output (cable code: 100-03 or 100-04)
- ◆ Made of stainless steel

Code	Range	Accuracy
136-012-13S	50-300mm	±0.06mm

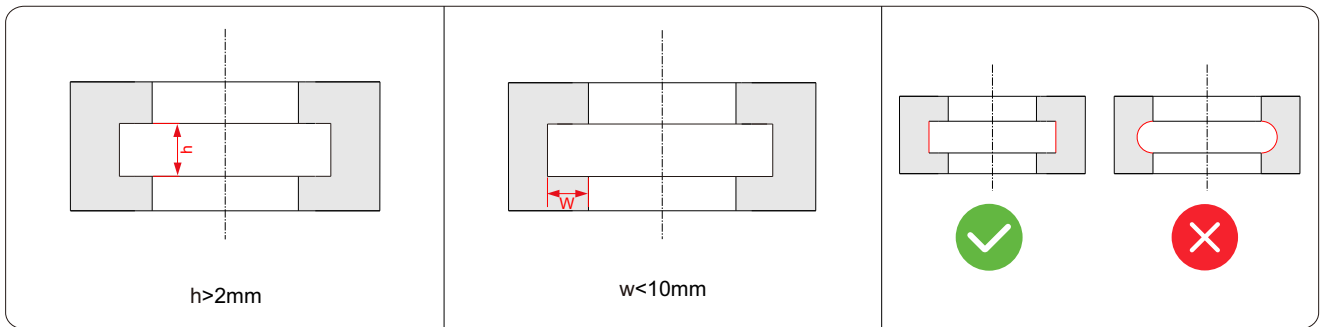
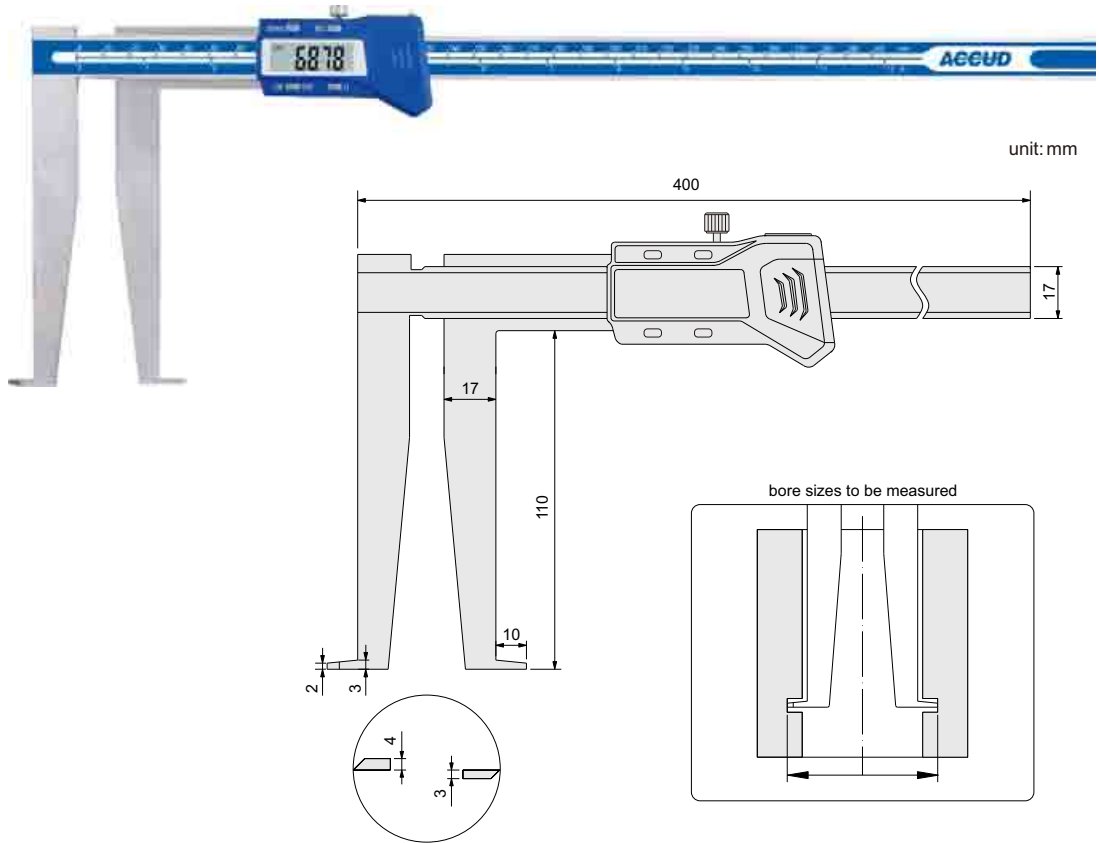
132

DIGITAL INSIDE GROOVE CALIPER



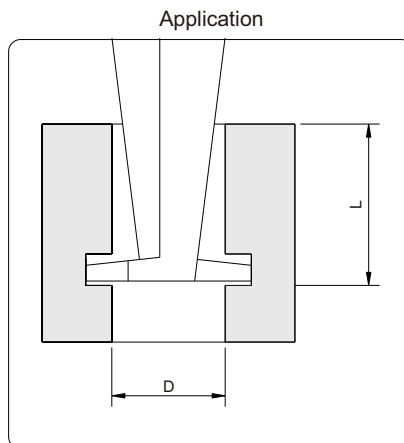
- ◆ Measure diameter of grooves inside small bores
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Automatic power on/off
- ◆ Data output(cable code: 100-03 or 100-04)
- ◆ Made of stainless steel

Code	Range	Accuracy
132-006-21	10-150mm/0.39-6"	±0.04mm



- ◆ Measure diameter of grooves inside bores
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Automatic power on/off
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Data output(cable code: 100-03 or 100-04)
- ◆ Made of stainless steel

Code	Range	Accuracy
132-012-11	25-300mm	±0.05mm



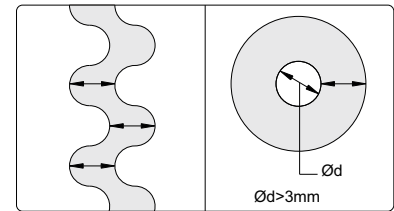
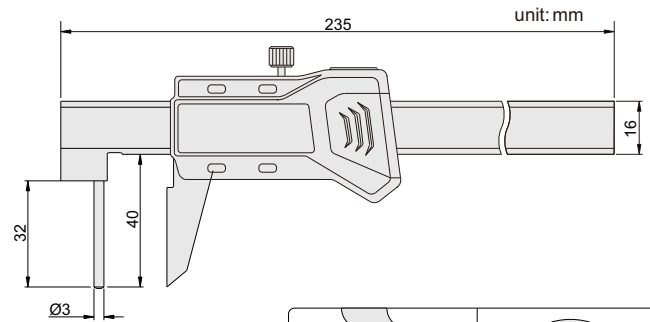
D	L
Ø25	<50mm
Ø26	<60mm
Ø27~300	<110mm

137

DIGITAL TUBE THICKNESS CALIPER



- ◆ Measure the wall thickness
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Automatic power on/off
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Data output(cable code: 100-03 or 100-04)
- ◆ Made of stainless steel



Code	Range	Accuracy
137-006-11	0-150mm/0-6"	±0.05mm

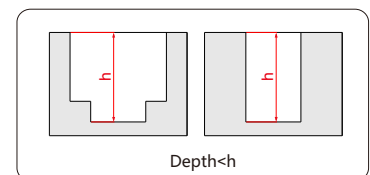
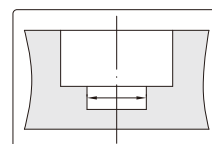
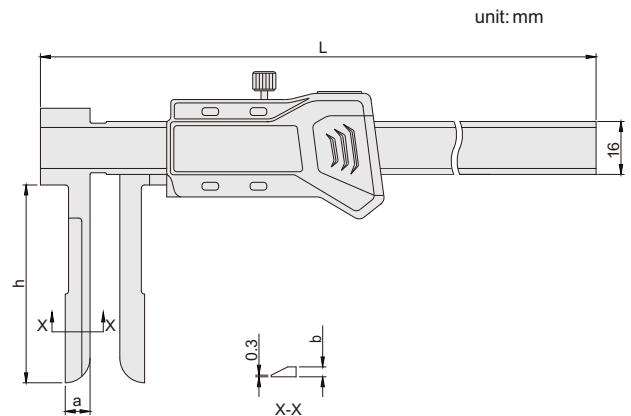
SERIES 139

DIGITAL INSIDE KNIFE-EDGE CALIPER



139-006-11

- ◆ Measure the diameter of deep holes or grooves
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Automatic power on/off
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Data output(cable code: 100-03 or 100-04)
- ◆ Made of stainless steel



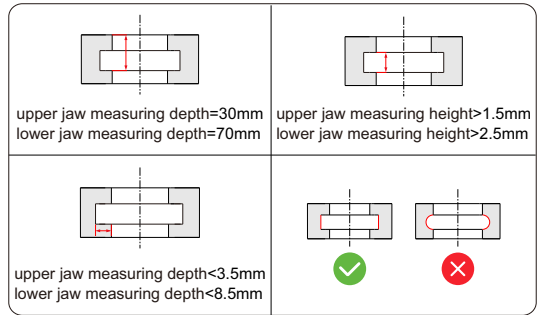
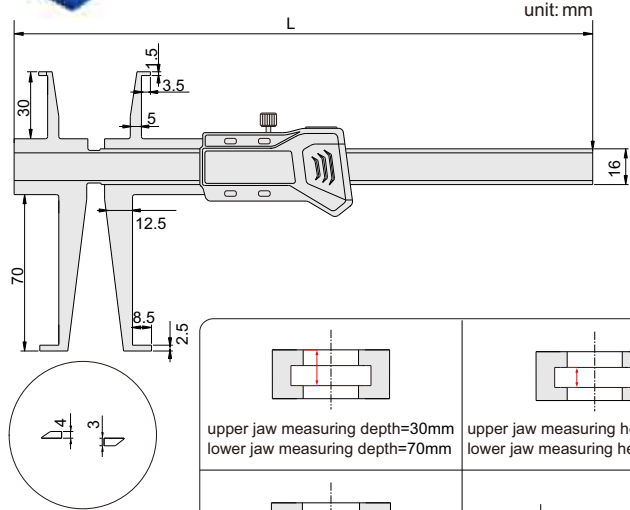
Code	Range	Accuracy	L	h	a	b
139-006-11	15-150mm	±0.05mm	250	60	12	3
139-008-11	20-200mm	±0.05mm	310	90	15	4
139-012-11	20-300mm	±0.06mm	410	90	16	4

## SERIES 159

## DIGITAL INSIDE GROOVE CALIPER



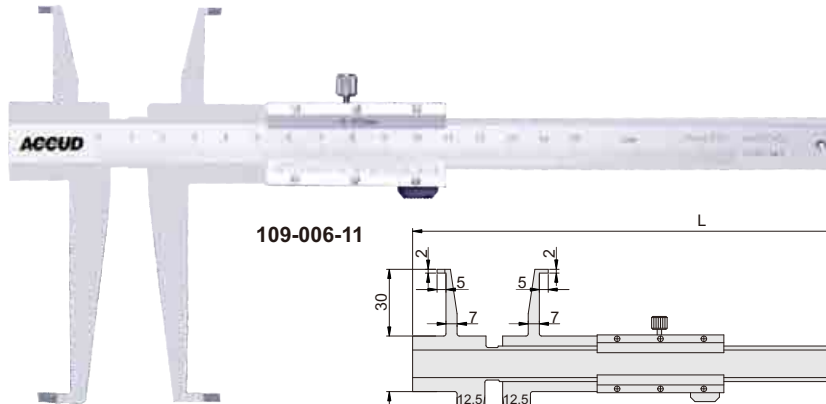
- ◆ Measure diameter of grooves inside bores
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Automatic power on/off
- ◆ Data output(cable code: 100-03 or 100-04)
- ◆ Made of stainless steel



Code	Range of upper jaw	Range of lower jaw	Accuracy	L
159-006-11	9-150mm	15-150mm	±0.04mm	260
159-008-11	9-200mm	15-200mm	±0.06mm	310

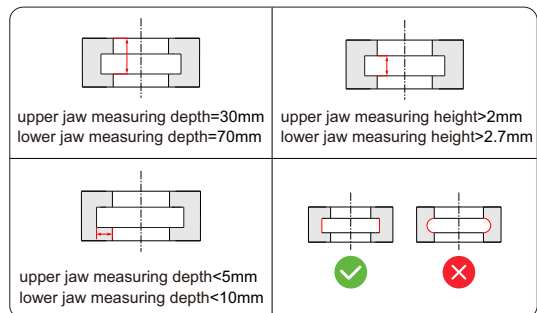
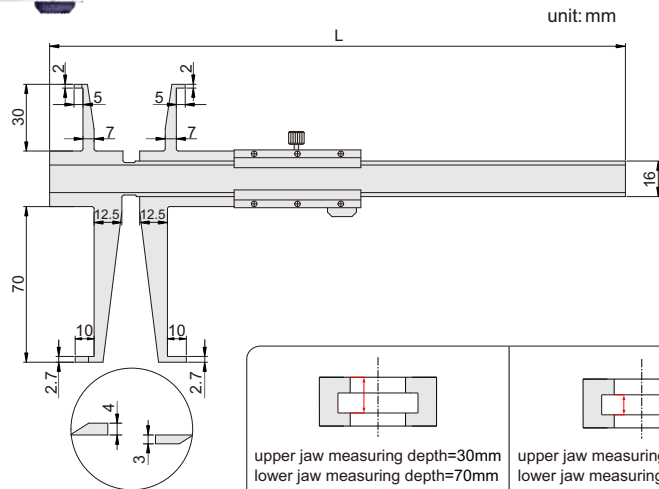
## SERIES 109

## INSIDE GROOVE CALIPER



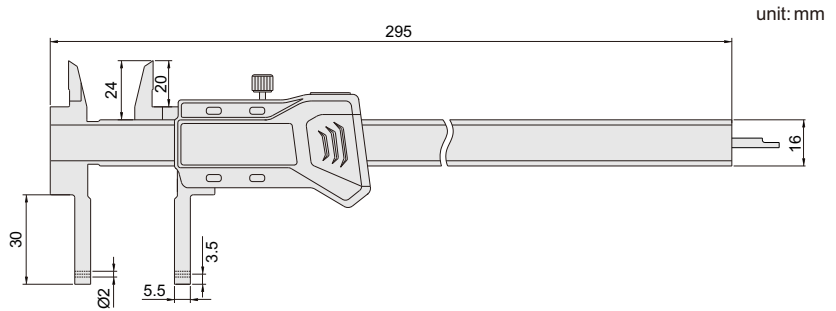
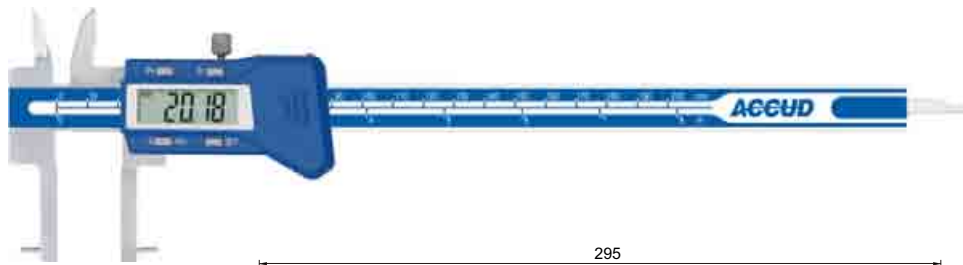
- ◆ Measure diameter of grooves inside bores
- ◆ Graduation: 0.02mm
- ◆ Made of stainless steel
- ◆ Satin chrome plated reading surface

109-006-11



Code	Range of upper jaw	Range of lower jaw	Accuracy	L
109-006-11	9-150mm	16-150mm	±0.04mm	260
109-008-11	9-200mm	16-200mm	±0.06mm	310
109-012-11	9-300mm	16-300mm	±0.06mm	415

**DIGITAL CALIPER WITH INTERCHANGEABLE POINTS**

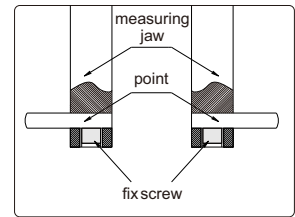


- ◆ Supplied with 3 pairs of points and one zero setting block for external measurement
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: mm/in, SET, preset(P+,P-)
- ◆ Automatic power on/off
- ◆ Data output (cable code: 100-03 or 100-04)
- ◆ Made of stainless steel

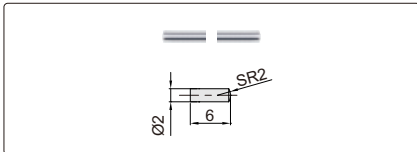
Preset buttons



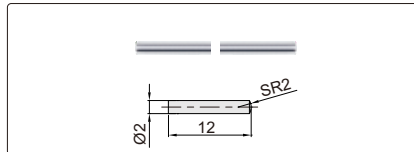
Install points



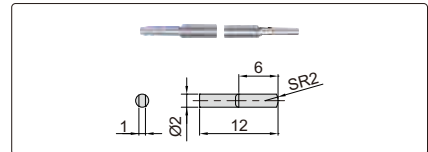
Short spherical points (included)



Long spherical/flat points (included)



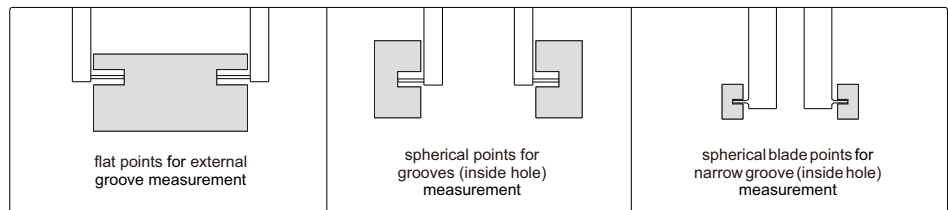
Short spherical blade points (included)



Zero setting block for external measurement (included)

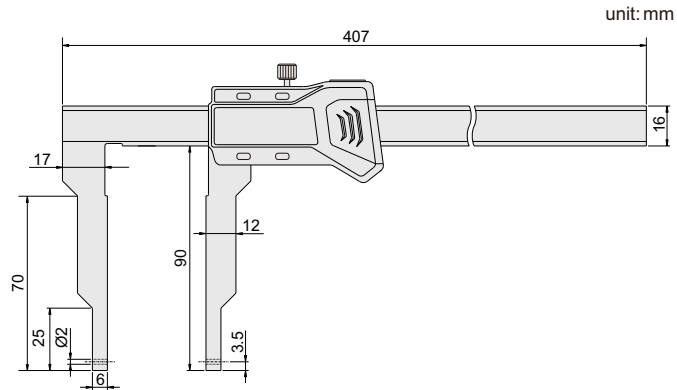
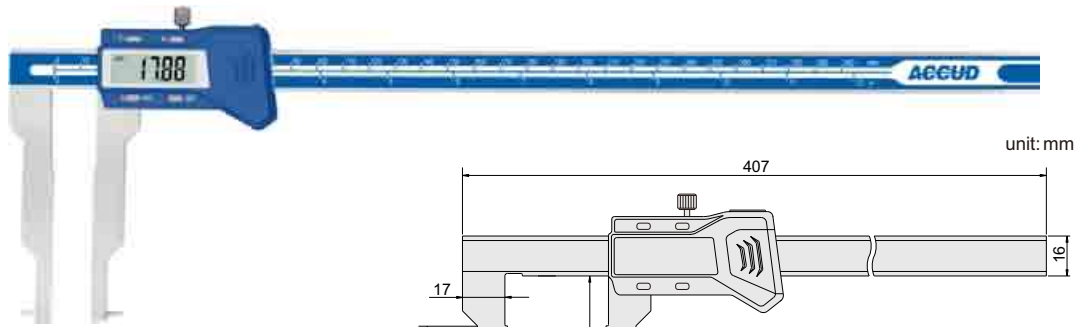


Measure internal and external grooves



Code	Point	Range	Accuracy	Application
149-008-11	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



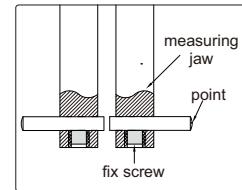


- ◆ Supplied with 4 pairs of points and one zero setting block for external measurement
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: mm/in, SET, preset(P+,P-)
- ◆ Automatic power on/off
- ◆ Data output(cable code: 100-03 or 100-04)
- ◆ Made of stainless steel

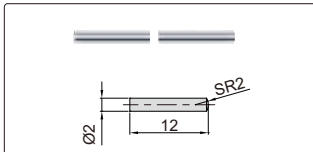
Preset buttons



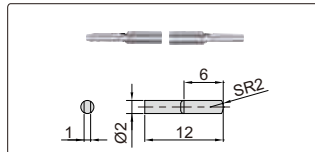
Install points



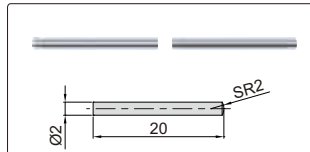
Short spherical/flat points



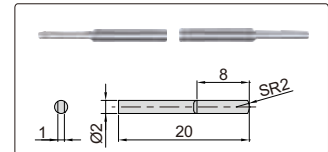
Short spherical blade points



Long spherical/flat points



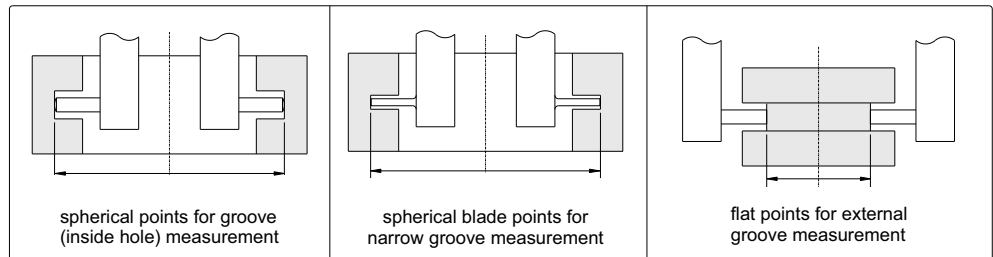
Long spherical blade points



Zero setting block for external measurement (included)



Measure internal and external grooves

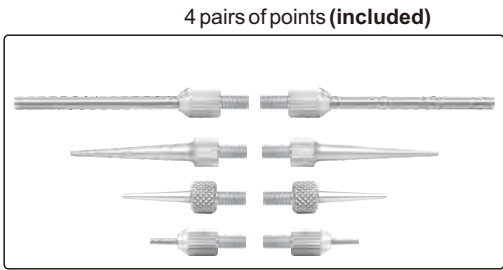
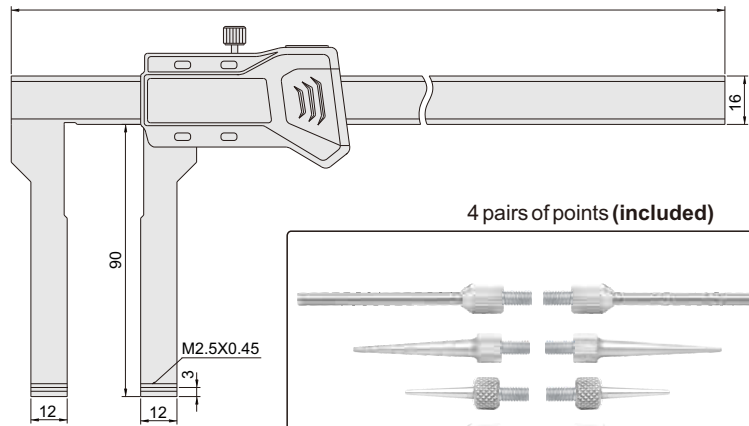


Code	Point	Range	Accuracy	Application
149-012-11	short spherical/flat points	24-324mm/1-12.7"(internal) 0-288mm/0-11.3"(external)	±0.04mm	spherical points for grooves/inside hole, (small hole) flat points for external grooves
	long spherical/flat points	40-340mm/1.5-13.3"(internal) 0-272mm/0-10.7"(external)	±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 (small hole)
	long spherical blade points	40-340mm/1.5-13.3"(internal) 0-272mm/0-10.7"(external)	±0.04mm	for narrow grooves (large hole)



unit: mm

- ◆ Supplied with 4 pairs of points  
(Cylindrical needle point: 270-006-16 2pc,  
Cylindrical needle point: 270-006-04 2pc,  
Conical needle point: 270-006-21 2pc,  
Conical needle point: 270-006-23 2pc)
- ◆ Zero setting block for external measurement
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: mm/in, SET, preset(P+,P-)
- ◆ Automatic power on/off
- ◆ Data output (cable code: 100-03 or 100-04)
- ◆ Made of stainless steel



Points (optional)



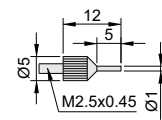
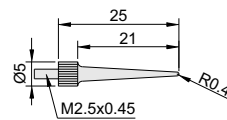
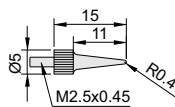
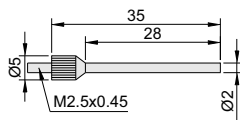
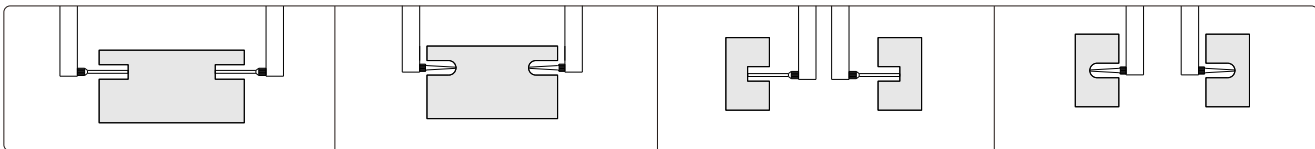
Zero setting block for external measurement (included)



Preset buttons



Measure internal and external grooves



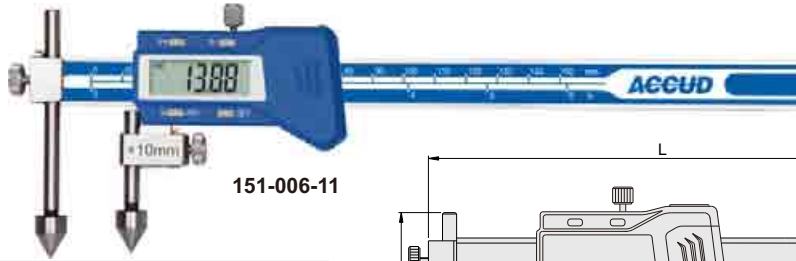
Code	Range	Accuracy
149-012-21	0-300mm/0-12"	±0.04mm

## SERIES 151

## DIGITAL OFFSET CENTERLINE CALIPER

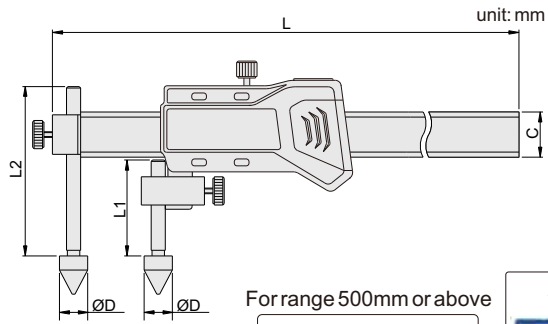


VIDEO



151-006-11

- ◆ Measure the hole center-to-center distance in same plane, or between offset planes
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Automatic power on/off
- ◆ Buttons: mm/in, SET, preset(P+,P-)
- ◆ Data output
- ◆ Made of stainless steel



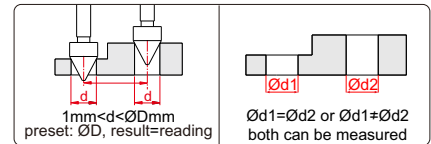
unit: mm

Preset buttons

For range 500mm or above

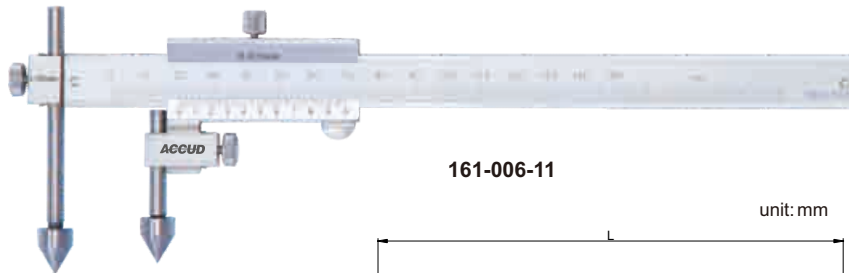


Code	Range	Accuracy	c	ØD	L1	L2	L
151-006-11	10-150mm/0.4-6"	±0.05mm	16	10	32	65	236
151-008-11	10-200mm/0.4-8"	±0.07mm	16	10	32	65	306
151-012-11	10-300mm/0.4-12"	±0.09mm	16	10	32	65	396
151-020-11	20-500mm/0.8-20"	±0.09mm	24	20	48	88	686
151-040-11	30-1000mm/1.2-40"	±0.12mm	31	30	42	88	1242



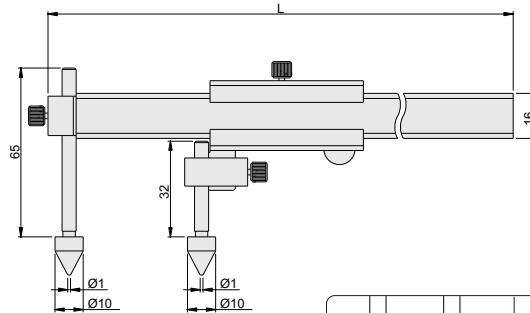
## SERIES 161

## OFFSET CENTERLINE VERNIER CALIPER



161-006-11

unit: mm



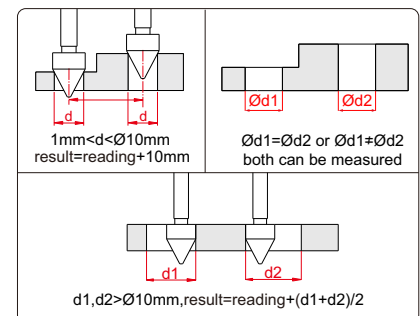
Graduation 0.02mm

Code	Range	Accuracy	L
161-006-11	10-150mm	±0.05mm	236
161-008-11	10-200mm	±0.07mm	306
161-012-11	10-300mm	±0.09mm	396

Graduation 0.05mm

Code	Range	Accuracy	L
161-006-13	10-150mm	±0.05mm	236
161-008-13	10-200mm	±0.07mm	306
161-012-13	10-300mm	±0.09mm	396

- ◆ Measure the hole center-to-center distance in same plane, or between offset planes
- ◆ Made of stainless steel
- ◆ Satin chrome plated reading surface



**SERIES 141**

**DIGITAL BACK-JAW CENTERLINE CALIPER**

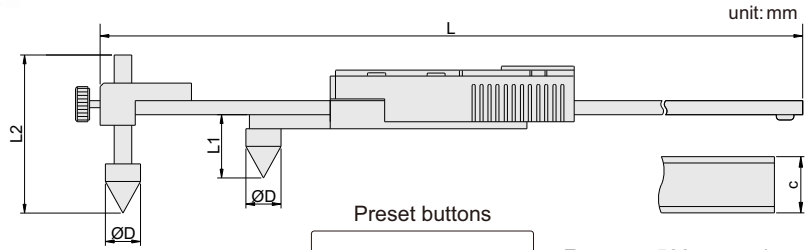


VIDEO



141-008-11

- ◆ Measure hole center distance in the same or offset planes
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: mm/in, SET, preset(P+,P-)
- ◆ Data output
- ◆ Automatic power on/off
- ◆ Made of stainless steel



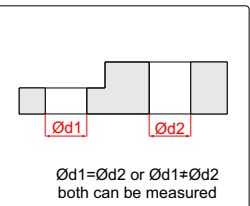
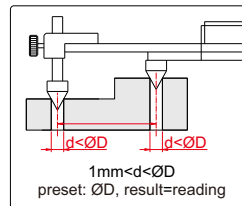
Preset buttons



For range 500mm or above



Code	Range	Accuracy	ØD	c	L1	L2	L
141-008-11	10-200mm/0.4-8"	±0.1mm	10	16	18	45	310
141-012-11	10-300mm/0.4-12"	±0.1mm	10	16	18	45	410
141-020-11	20-500mm/0.8-20"	±0.1mm	20	24	26	70	692
141-040-11	30-1000mm/1.2-40"	±0.12mm	30	31	39	70	1242
141-060-11	30-1500mm/1.2-60"	±0.15mm	30	31	39	70	1745



**SERIES 147**

**BACK-JAW DIGITAL EDGE TO CENTER CALIPER**

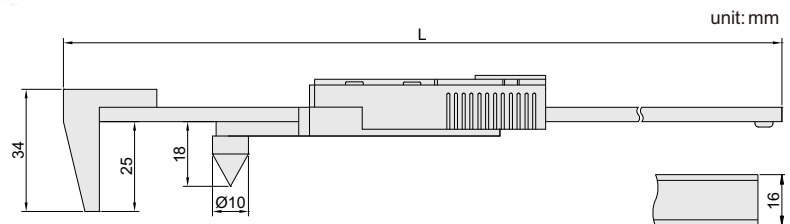


VIDEO



147-008-11

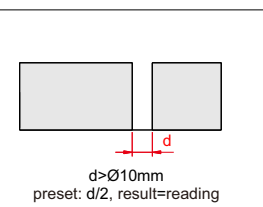
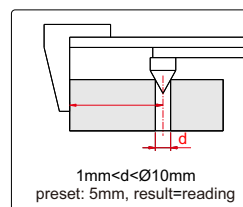
- ◆ Measure edge to hole center distance
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: mm/in, SET, preset(P+,P-)
- ◆ Data output(cable code: 100-03 or 100-04)
- ◆ Automatic power on/off
- ◆ Made of stainless steel



Preset buttons

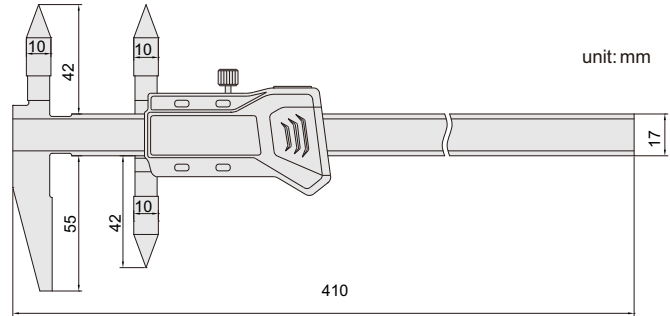
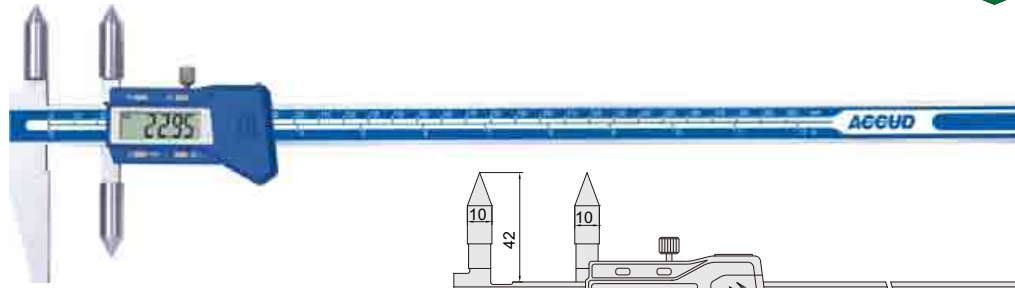


Measure edge to hole center distance



Code	Range	Accuracy	L
147-008-11	5-200mm/0.2-8"	±0.1mm	310
147-012-11	5-300mm/0.2-12"	±0.1mm	410

**DIGITAL CENTERLINE/EDGE TO CENTER CALIPER**

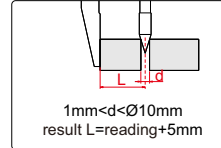


- ◆ Measure hole center distance or edge to hole center distance
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: mm/in, SET, preset(P+,P-)
- ◆ Data output(cable code: 100-03 or 100-04)
- ◆ Automatic power on/off
- ◆ Made of stainless steel

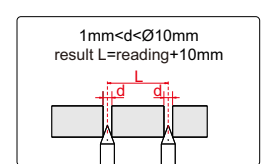
Preset buttons



Measure edge to hole center distance



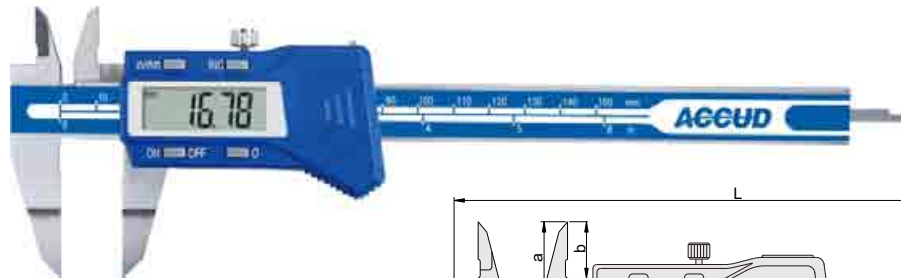
Measure hole center distance



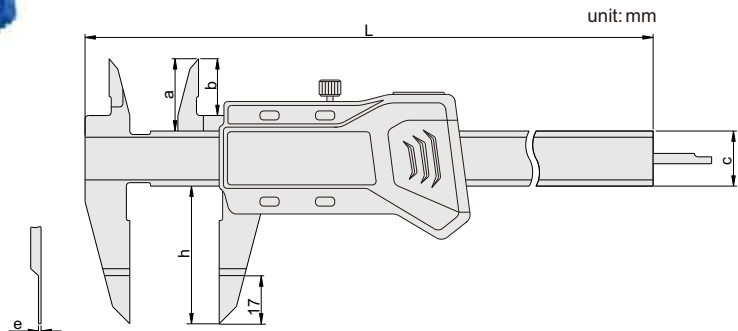
Code	Range of upper jaw (center to center)	Range of lower jaw (edge to center)	Accuracy
148-012-11	10-300mm/0.4-12"	5-300mm/0.2-12"	±0.08mm

**SERIES 153**

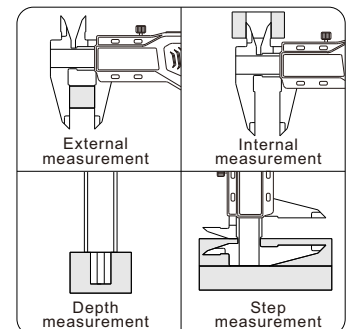
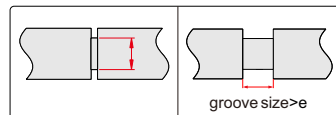
**DIGITAL BLADE CALIPER**



153-006-11



- ◆ Measure small grooves
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Automatic power on/off
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Data output(cable code: 100-03 or 100-04)
- ◆ Made of stainless steel



Code	Range	Accuracy	a	b	c	h	e	L
153-006-11	0-150mm/0-6"	±0.03mm	21	16	16	40	0.75	235
153-008-11	0-200mm/0-8"	±0.03mm	24	19	16	50	0.75	297
153-012-11	0-300mm/0-12"	±0.04mm	26	20.5	16	60	1.00	390

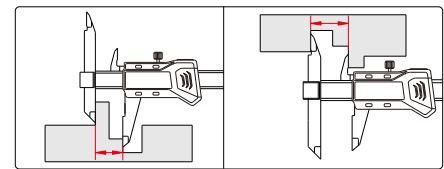
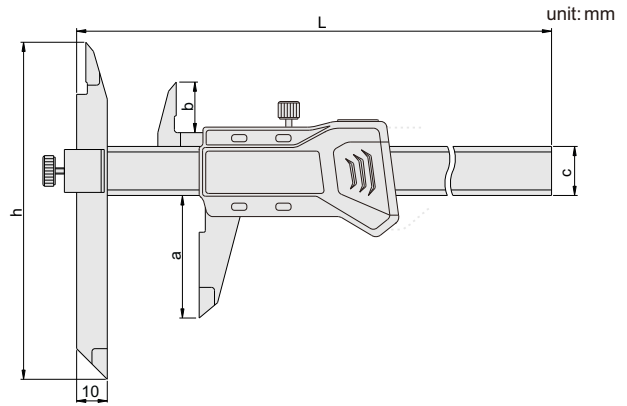
**SERIES 152**

**DIGITAL OFFSET CALIPER**



152-006-11

- ◆ Adjust the beam-mounted jaw to facilitate measurement of stepped sections and hard-to reach workpiece
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Automatic power on/off
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Data output(cable code: 100-03 or 100-04)
- ◆ Made of stainless steel

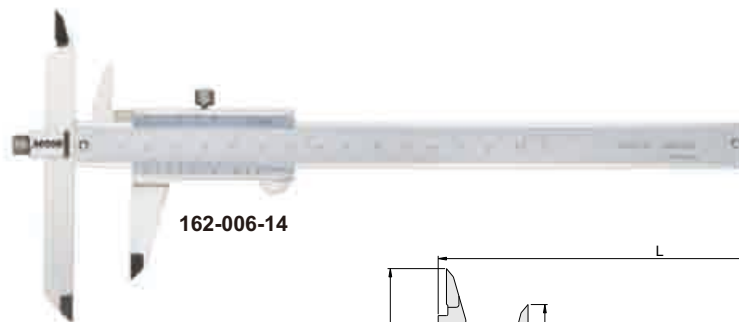


Code	Range	Accuracy	a	b	c	h	L
152-006-11	0-150mm/0-6"	±0.04mm	40	16.5	16	110	239
152-008-11	0-200mm/0-8"	±0.04mm	50	19.5	16	120	289
152-012-11	0-300mm/0-12"	±0.05mm	60	20.5	17	130	389

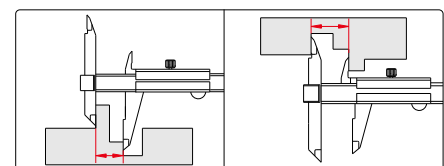
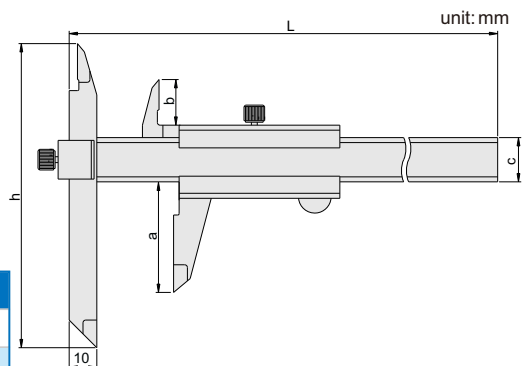
**SERIES 162**

**OFFSET VERNIER CALIPER**

- ◆ Adjust the beam-mounted jaw to facilitate measurement of stepped sections and hard-to reach workpiece
- ◆ Made of stainless steel
- ◆ Satin chrome plated reading surface



162-006-14



Graduation 0.02mm/0.001"

Code	Range	Accuracy	a	b	c	h	L
162-006-12	0-150mm/0-6"	±0.04mm	40	16.5	16	110	239
162-008-12	0-200mm/0-8"	±0.04mm	50	19.5	16	120	289
162-012-12	0-300mm/0-12"	±0.05mm	60	20.5	17	130	389

Graduation 0.05mm/1/128"

Code	Range	Accuracy	a	b	c	h	L
162-006-14	0-150mm/0-6"	±0.04mm	40	16.5	16	110	239
162-008-14	0-200mm/0-8"	±0.04mm	50	19.5	16	120	289
162-012-14	0-300mm/0-12"	±0.05mm	60	20.5	17	130	389

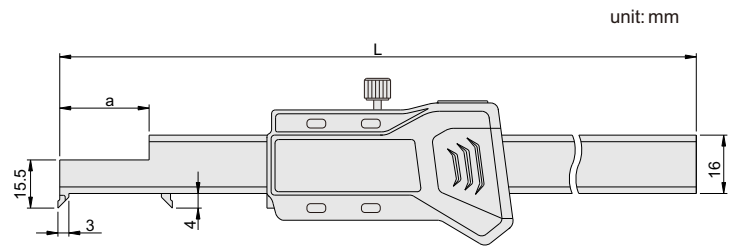
## SERIES 154

## DIGITAL HOOK CALIPER

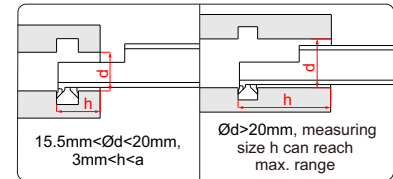
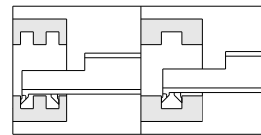


154-005-11

- ◆ Measure width of groove inside bores
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Automatic power on/off
- ◆ Data output(cable code: 100-03 or 100-04)
- ◆ Made of stainless steel



Code	Range	Accuracy	a	L
154-005-11	3-125mm	±0.04mm	24	250
154-008-11	3-200mm	±0.04mm	34	310
154-012-11	3-300mm	±0.05mm	86	460

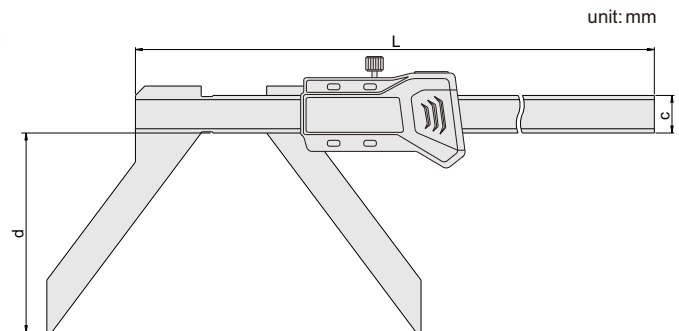


## SERIES 169

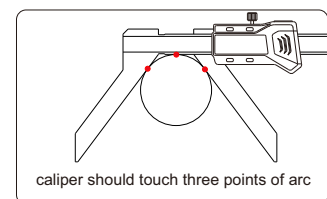
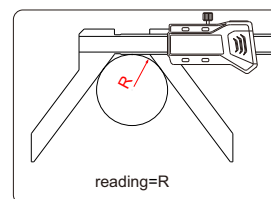
## DIGITAL ARC RADIUS CALIPER

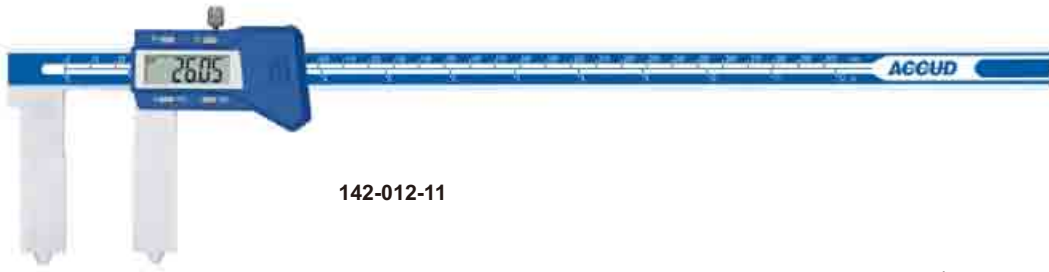


- ◆ Measure the radius of arc less than half round
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Automatic power on/off
- ◆ Data output(cable code: 100-03 or 100-04)
- ◆ Made of stainless steel



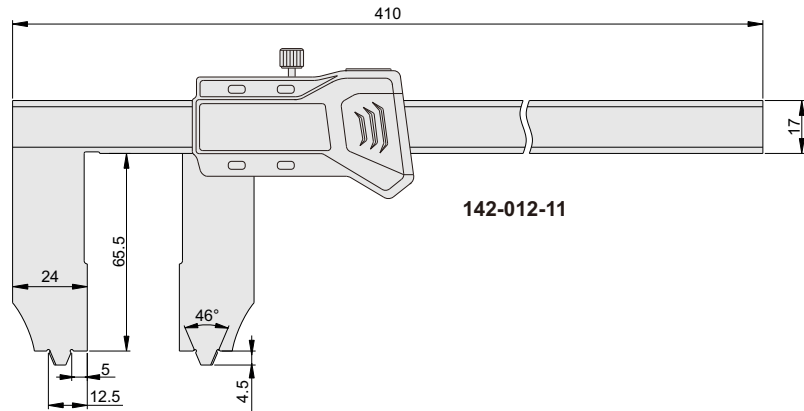
Code	Range(R)	Accuracy	c	d	L
169-006-11	5-150mm/0.2-6"	±0.05mm	16	65	263
169-008-11	5-200mm/0.2-8"	±0.07mm	16	85	313



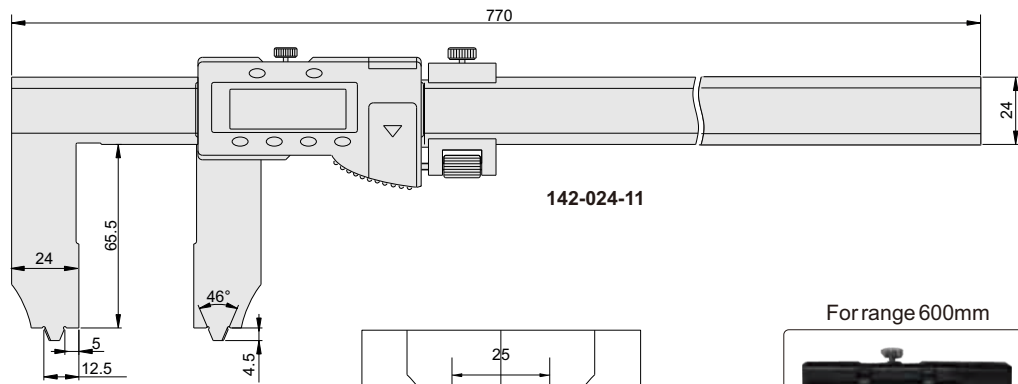


142-012-11

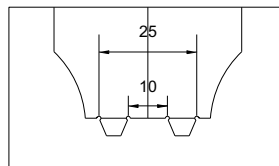
unit: mm



142-012-11



142-024-11

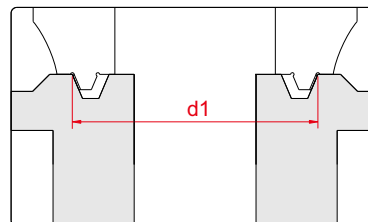


For range 600mm

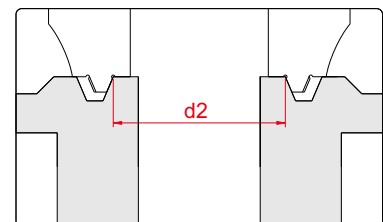


- ◆ Measure ring grooves of flange
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Automatic power on/off
- ◆ Buttons: mm/in, SET, preset(P+,P-)
- ◆ Preset: 25mm, don't need to add the width of the jaws on the reading
- ◆ Data output
- ◆ Made of stainless steel

Measure outside diameter of RTJ ring groove



Measure inside diameter of RTJ ring groove



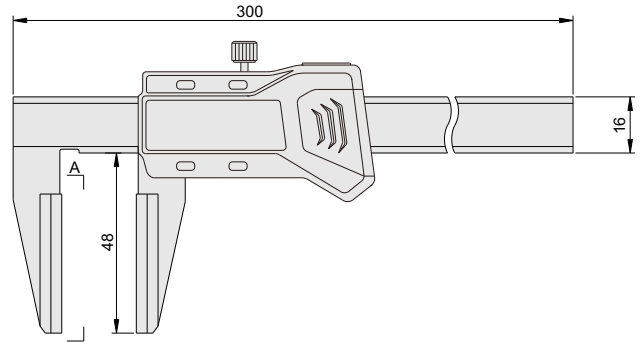
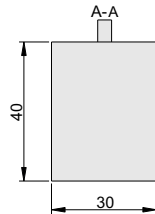
Code	Range (inside diameter of RTJ ring groove)	Range (outside diameter of RTJ ring groove)	Angle of RTJ ring groove	Accuracy
142-012-11	10-300mm/0.4-12"	25-300mm/1-12"	23°	±0.06mm
142-024-11	10-600mm/0.4-24"	25-600mm/1-24"	23°	±0.07mm



**DIGITAL CALIPER WITH LARGE MEASURING FACES**



unit: mm

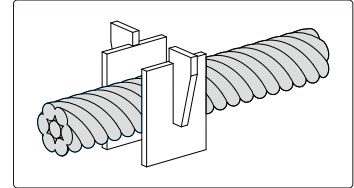


- ◆ Measure diameter of wire ropes, and thickness of soft materials like rubber, etc.
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Automatic power on/off
- ◆ Data output(cable code: 100-03 or 100-04)
- ◆ Made of stainless steel

Measure thickness of rubber



Measure diameter of wire ropes



Code	Range	Accuracy
167-008-11	0-200mm/0-8"	±0.07mm



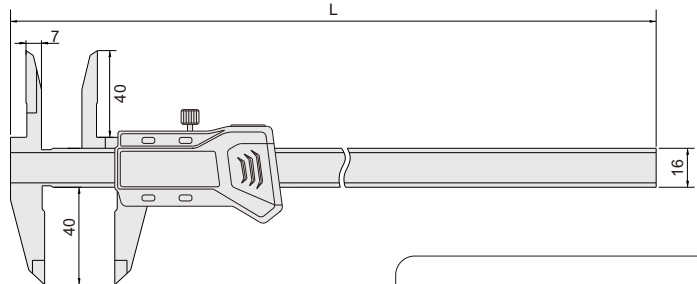
**SERIES 107**

**DIGITAL CALIPER WITH LONG UPPER JAWS**

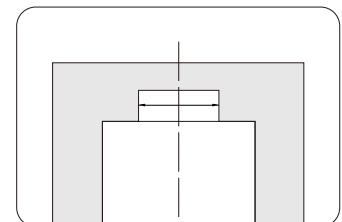


107-008-11

unit: mm



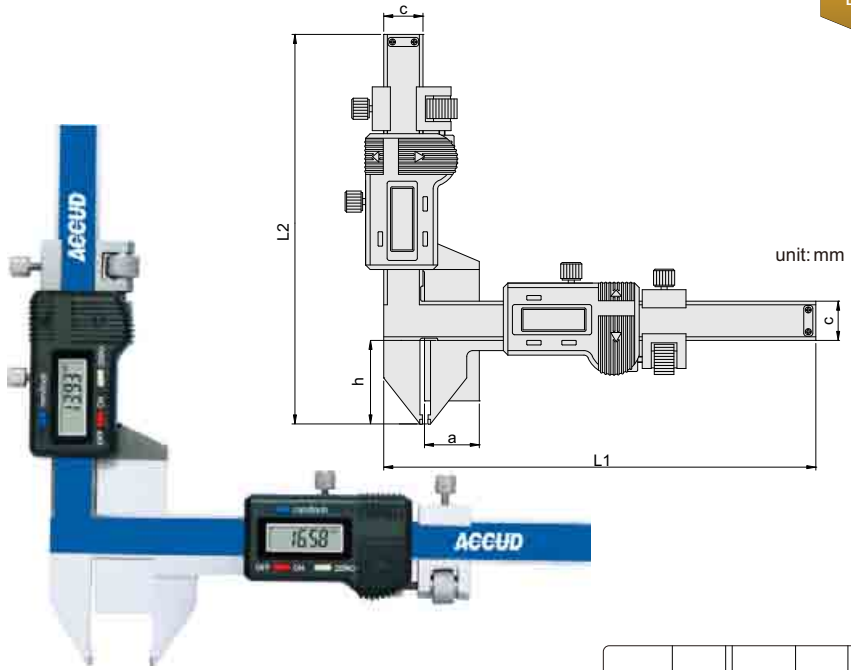
- ◆ Non waterproof
- ◆ Long upper jaws for measuring diameter of deep holes
- ◆ Resolution: 0.01 mm/0.0005"
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Automatic power off, move the digital unit to turn on power
- ◆ Data output(cable code: 100-03 or 100-04)
- ◆ Made of stainless steel



Code	Range	Accuracy	L
107-006-11	0-150mm/0-6"	±0.04mm	236
107-008-11	0-200mm/0-8"	±0.04mm	286

**SERIES 156**

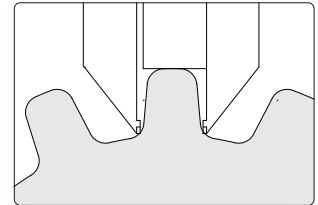
**DIGITAL GEAR TOOTH CALIPER**



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

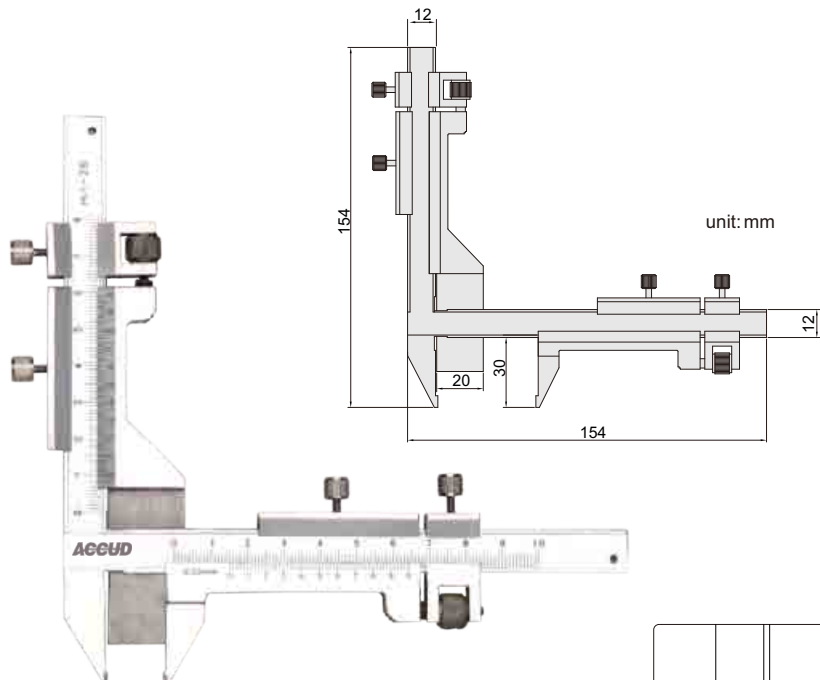
156-001-11

Code	Range	Accuracy	L1	L2	a	c	h
156-001-11	M1-25mm	±0.04mm	170	165.5	21	16	30.5
156-002-11	M5-50mm	±0.04mm	220	190	50.5	16	55



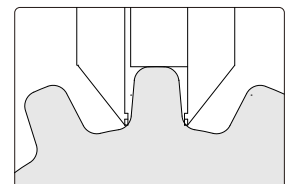
**166**

**VERNIER GEAR TOOTH CALIPER**



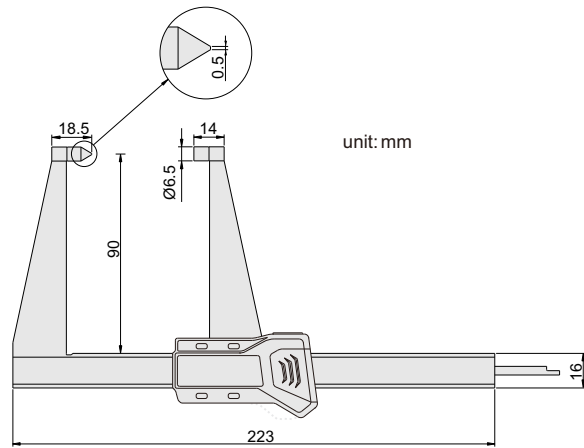
- ◆ Graduation: 0.02mm
- ◆ Made of stainless steel

Code	Range	Accuracy
166-001-11	M1-26mm	±0.04mm





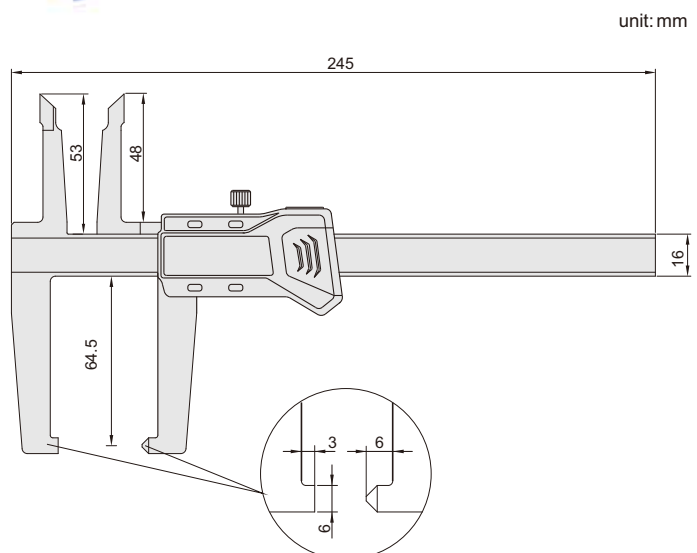
- ◆ Measure thickness of disk brakes
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Automatic power on/off
- ◆ Data output(cable code: 100-03 or 100-04)
- ◆ Made of stainless steel



Code	Range	Accuracy
157-005-11	0-125mm/0-5"	±0.05mm



- ◆ Measure thickness of disk brakes and pad wear
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Automatic power on/off
- ◆ Data output(cable code: 100-03 or 100-04)
- ◆ Made of stainless steel



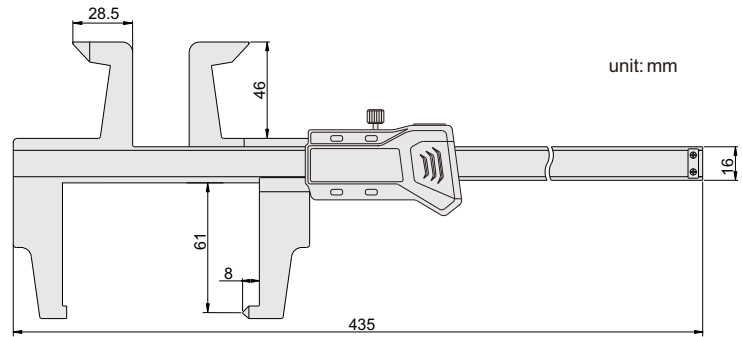
Code	Range	Accuracy
165-006-11	0-150mm/0-6"	±0.07mm

158

DIGITAL DRUM BRAKE CALIPER



- ◆ Measure internal and external diameter of drum brakes
- ◆ Resolution 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Automatic power on/off
- ◆ Data output(cable code: 100-03 or 100-04)
- ◆ Made of stainless steel



Code	Range	Accuracy
158-012-11	0-300mm/0-12"	±0.07mm

880

CALIPER END GRINDING MACHINE

- ◆ Used for grinding the depth measuring surface of the end of calipers



Application



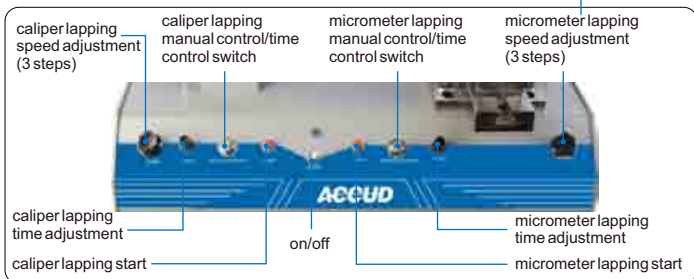
Code	Power supply	Dimension (LxWxH)	Weight
880-000-11	220V, 50/60Hz	370x200x 160mm	15kg



881

**CALIPER/MICROMETER LAPPING MACHINE**

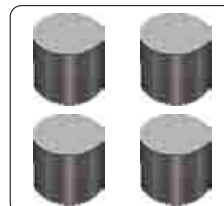
- ◆ For lapping measuring surfaces of caliper lower jaws and outside micrometer
- ◆ Suitable for 0-300mm range calipers and 0-100mm range outside micrometers



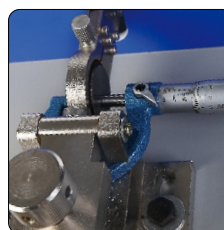
Caliper lapping block (included)



Micrometer lapping block (optional)



Lapping measuring surfaces of outside micrometer



lapping measuring surfaces of caliper lower jaws



Code	Power supply	Dimension (L x W x H)	Weight
881-002-11	220V, 50/60Hz	430x400x210mm	28kg

**SERIES 179**

**ACCESSORY FOR CALIPER**

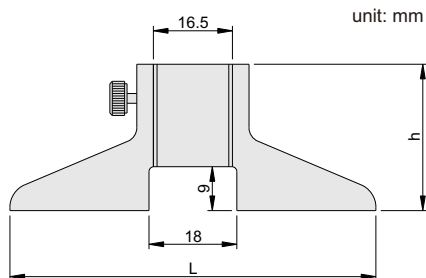


179-000-00



179-000-01

- ◆ For caliper to increase the stability of depth measurement
- ◆ For all calipers which range is 150mm and 200mm and beam width is 16mm
- ◆ Made of stainless steel



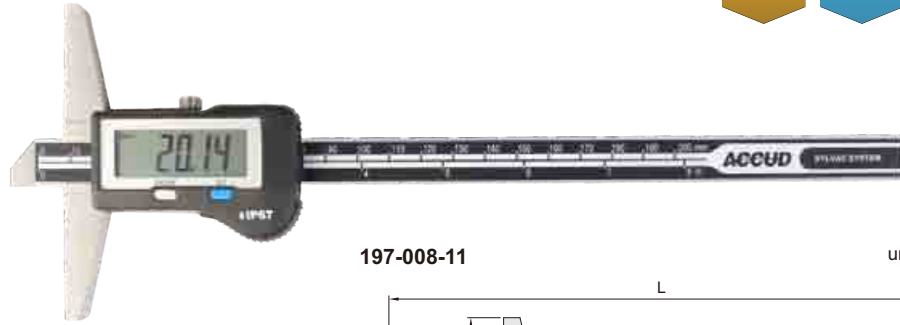
Application



Code	h	L
179-000-00	30	75
179-000-01	32	100

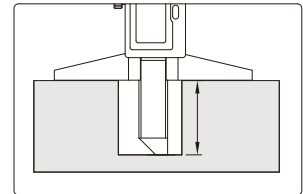
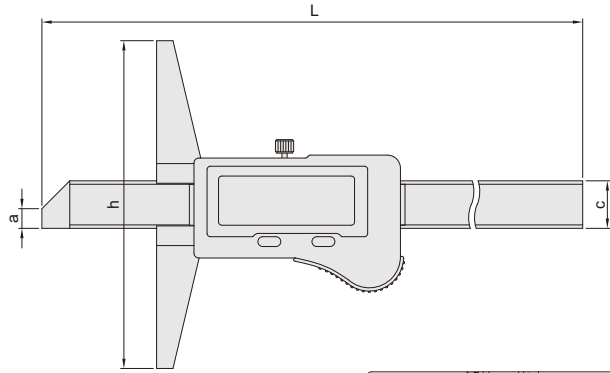
**SERIES 197**

**IP67 WATERPROOF DIGITAL DEPTH CALIPER**



197-008-11

unit: mm



- ◆ IP67 protection level
- ◆ Absolute measuring system
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Automatic power off
- ◆ Buttons: zero, mm/inch, data preset
- ◆ Made of stainless steel

Code	Range	Accuracy	a	c	h	L
197-006-11	0-150mm/0-6"	±0.02mm	5	14.5	100	232
197-008-11	0-200mm/0-8"	±0.02mm	5	14.5	100	285
197-012-11	0-300mm/0-12"	±0.03mm	5	14.5	150	390

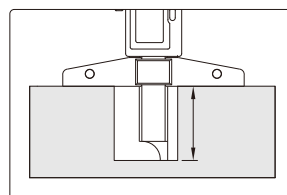
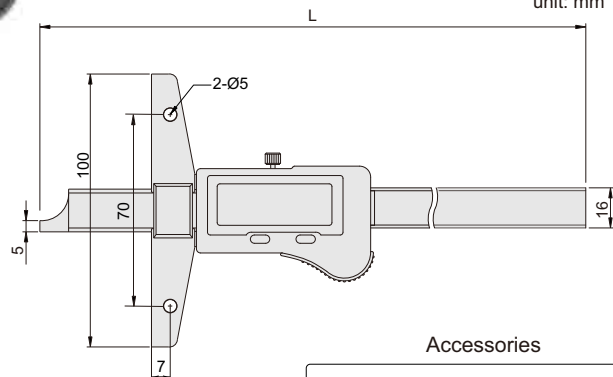
**SERIES 197**

**IP67 WATERPROOF DIGITAL DEPTH CALIPER WITH HOLES**



197-006-21

unit: mm



Accessories



- ◆ IP67 protection level
- ◆ Absolute measuring system
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Automatic power off
- ◆ Buttons: zero, mm/inch, data preset
- ◆ Made of stainless steel
- ◆ Optional accessory: series 170 extension base

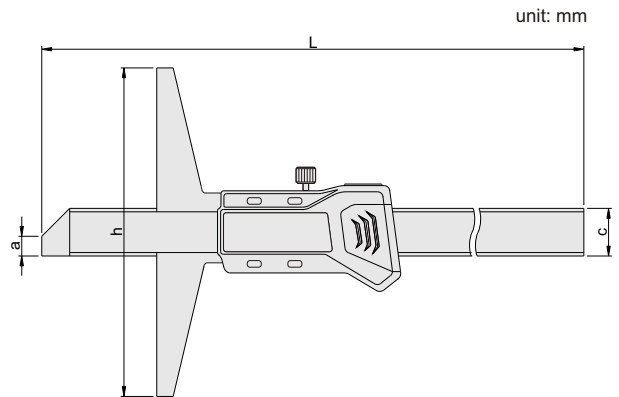
Code	Range	Accuracy	L
197-006-21	0-150mm/0-6"	±0.02mm	237
197-008-21	0-200mm/0-8"	±0.02mm	287
197-012-21	0-300mm/0-12"	±0.03mm	403

## SERIES 171

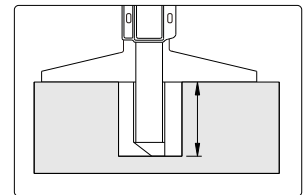
## DIGITAL DEPTH CALIPER



- ◆ Resolution: 0.01mm/0.0005"
- ◆ Automatic power on/off
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Data output(cable code: 100-03 or 100-04)
- ◆ Made of stainless steel



Code	Range	Accuracy	a	c	h	L
171-006-11	0-150mm/0-6"	±0.03mm	6	14.5	100	230
171-008-11	0-200mm/0-8"	±0.03mm	6	14.5	100	280
171-012-11	0-300mm/0-12"	±0.04mm	6	14.5	150	380
171-020-11	0-500mm/0-20"	±0.05mm	7	15	150	585



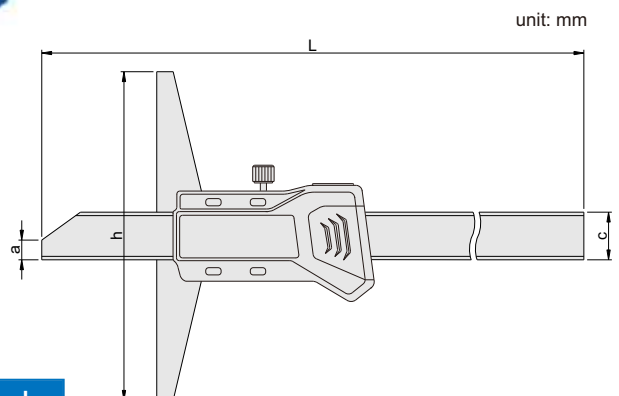
## SERIES 171

## DIGITAL DEPTH CALIPER

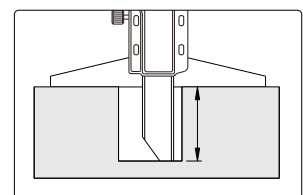


- ◆ Resolution: 0.01mm/0.0005"
- ◆ Automatic power on/off
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Data output(cable code: 100-03 or 100-04)
- ◆ Made of stainless steel

171-006-61P



Code	Range	Accuracy	a	c	h	L
171-006-61P	0-150mm/0-6"	±0.03mm	6	14.5	100	230
171-008-61P	0-200mm/0-8"	±0.03mm	6	14.5	100	280
171-012-61P	0-300mm/0-12"	±0.04mm	6	14.5	150	380
171-020-61P	0-500mm/0-20"	±0.05mm	7	16	150	585
171-024-61P	0-600mm/0-24"	±0.05mm	7	16	150	685



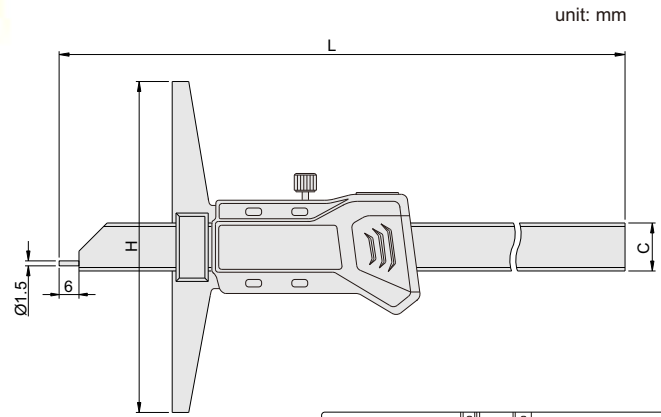
**SERIES 172**

**DIGITAL PIN DEPTH CALIPER**

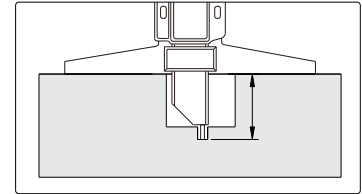


172-008-11

- ◆ Measure the depth of small holes or grooves
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Automatic power on/off
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Data output(cable code: 100-03 or 100-04)
- ◆ Made of stainless steel



unit: mm



Code	Range	Accuracy	H	L	C
172-008-11	0-200mm/0-8"	±0.03mm	100	291	14.5
172-012-11	0-300mm/0-12"	±0.04mm	150	395	15

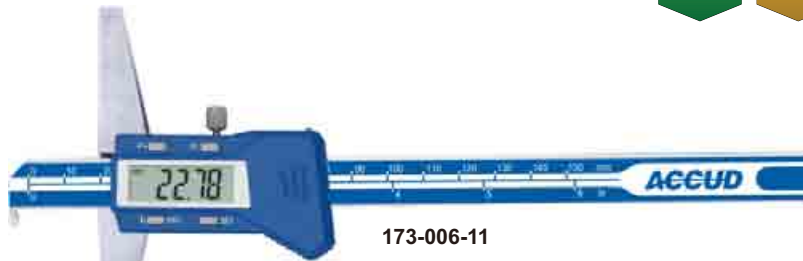
**SERIES 173**

**DIGITAL HOOK DEPTH CALIPER**

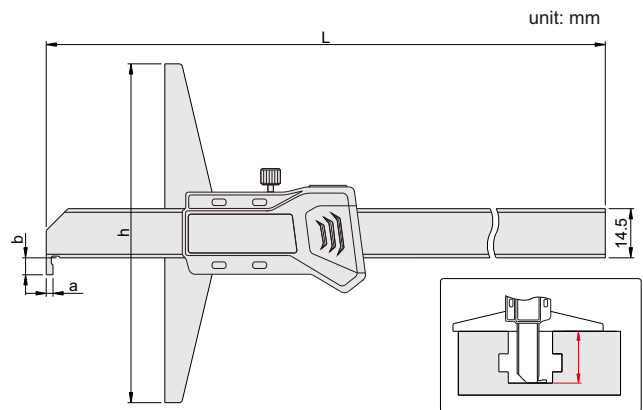


VIDEO

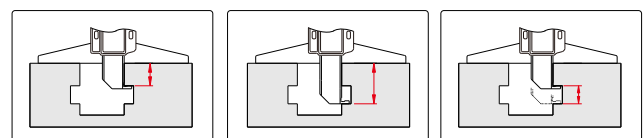
- ◆ Measure the depth of grooves
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Automatic power on/off
- ◆ Buttons: mm/in, SET, preset(P+,P-)
- ◆ Data output(cable code: 100-03 or 100-04)
- ◆ Made of stainless steel



173-006-11



unit: mm



Code	Range	Accuracy	a	b	h	L
173-006-11	0-150mm/0-6"	±0.04mm	2	5	100	235
173-008-11	0-200mm/0-8"	±0.04mm	2	5	100	285
173-012-11	0-300mm/0-12"	±0.05mm	2	5	150	390
173-020-11	0-500mm/0-20"	±0.05mm	3	8	150	585
173-006-21	0-150mm/0-6"	±0.04mm	1	4	100	235
173-008-21	0-200mm/0-8"	±0.04mm	1	4	100	285
173-012-21	0-300mm/0-12"	±0.05mm	1	4	150	390
173-020-21	0-500mm/0-20"	±0.05mm	3	8	200	585



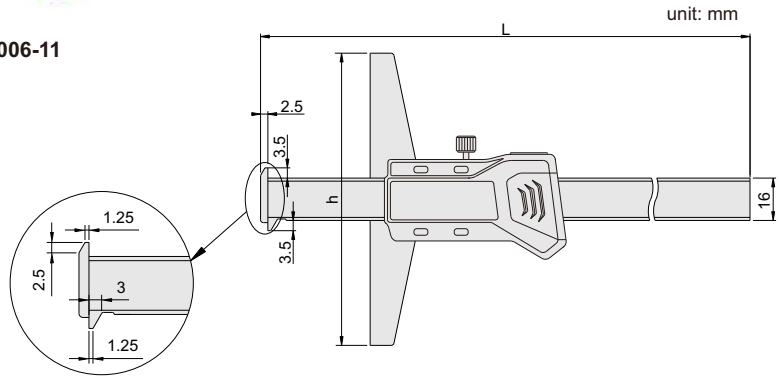
## SERIES 174

## DIGITAL DOUBLE HOOK DEPTH CALIPER

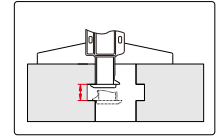
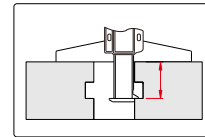
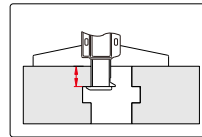


174-006-11

- ◆ Measure the depth of grooves
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Automatic power on/off
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Data output(cable code:100-03 or 100-04)
- ◆ Made of stainless steel



Code	Range	Accuracy	h	L
174-006-11	0-150mm/0-6"	±0.03mm	100	233
174-008-11	0-200mm/0-8"	±0.03mm	100	283
174-012-11	0-300mm/0-12"	±0.04mm	150	383



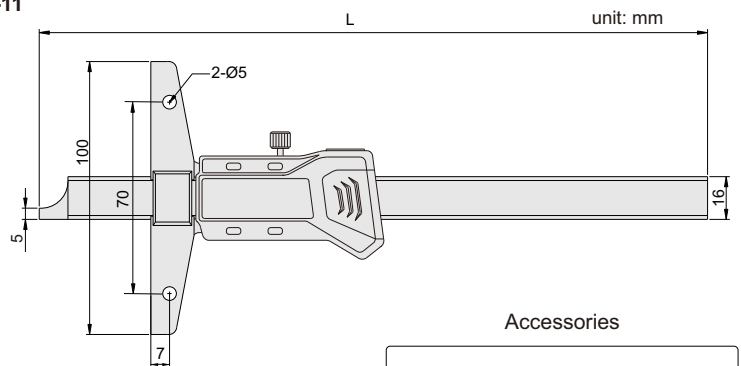
## SERIES 191

## DIGITAL DEPTH CALIPER WITH HOLES



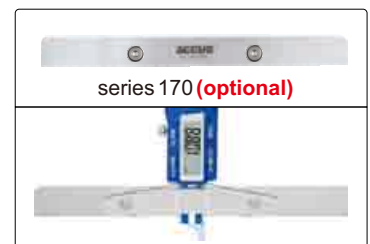
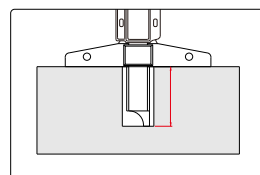
191-006-11

- ◆ With hole, for mounting the extension base
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Automatic power on/off
- ◆ Data output(cable code:100-03 or 100-04)
- ◆ Made of stainless steel
- ◆ Optional accessory: series 170 extension base



### Accessories

Code	Range	Accuracy	L
191-006-11	0-150mm/0-6"	±0.03mm	237
191-008-11	0-200mm/0-8"	±0.03mm	287
191-012-11	0-300mm/0-12"	±0.04mm	403



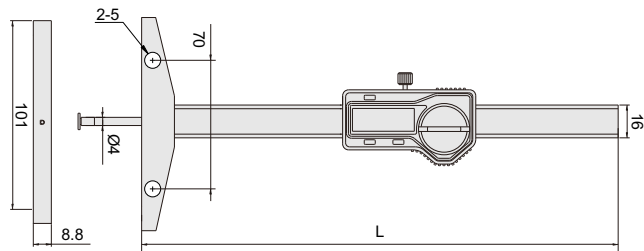
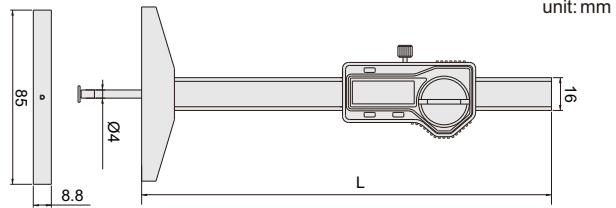
## SERIES 193

## DIGITAL DEPTH CALIPER WITH ROUND DEPTH BAR



193-004-11

- ◆ Resolution: 0.01mm/0.0005"
- ◆ Supplied with three interchangeable points (flat, spherical, disk)
- ◆ Buttons: on/off, set, mm/inch
- ◆ Automatic power off
- ◆ Data output (cable code: 100-11 or 100-12)
- ◆ Made of stainless steel



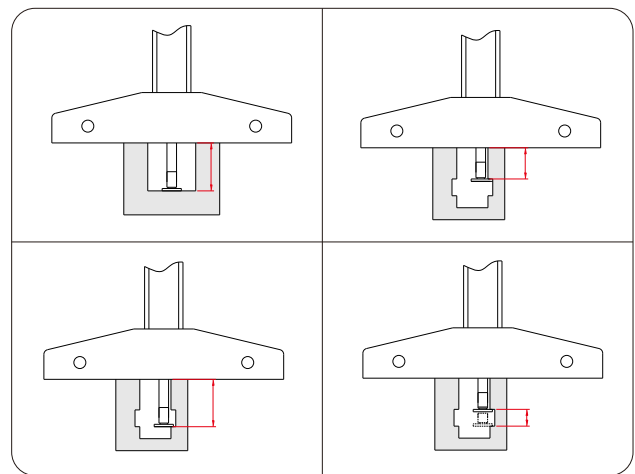
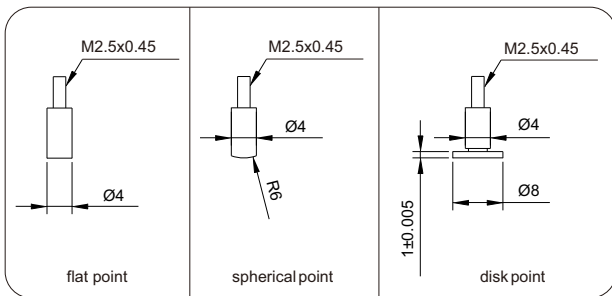
193-006-11, 193-008-11 and 193-012-11

### Accessory application



170 series (optional)

### points (include)

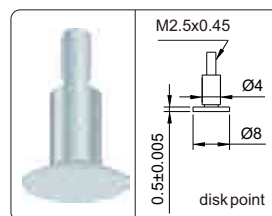


Code	Range	Accuracy	L
193-004-11	0-100mm/0-4"	±0.02mm	200
193-006-11	0-150mm/0-6"	±0.03mm	300
193-008-11	0-200mm/0-8"	±0.03mm	300
193-012-11	0-300mm/0-12"	±0.04mm	400

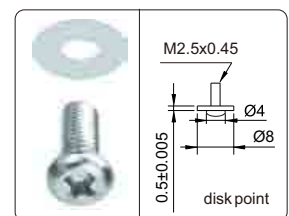
### OPTIONAL ACCESSORIES

Code	Description	Remark
193-T04	0.5mm disk point	for grooves inside blind hole
193-T05	0.5mm disk point	for narrow grooves

### 193-T04 (optional)



### 193-T05 (optional)

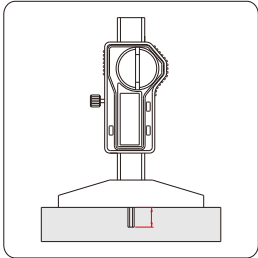


## SERIES 194

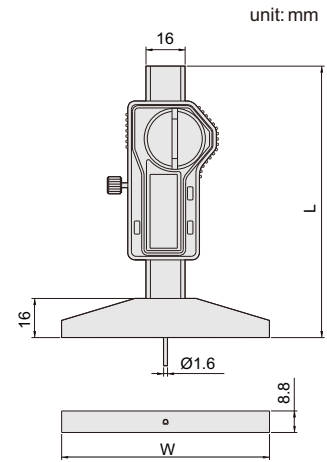
## DIGITAL DEPTH CALIPER WITH ROUND DEPTH BAR



- ◆ Measure depth of small groove and hole
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, set, mm/inch
- ◆ Automatic power off
- ◆ Data output (cable code: 100-11 or 100-12)
- ◆ Made of stainless steel



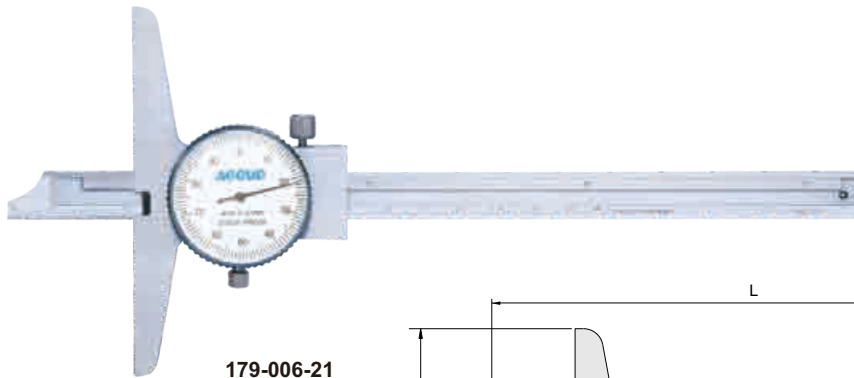
194-002-11



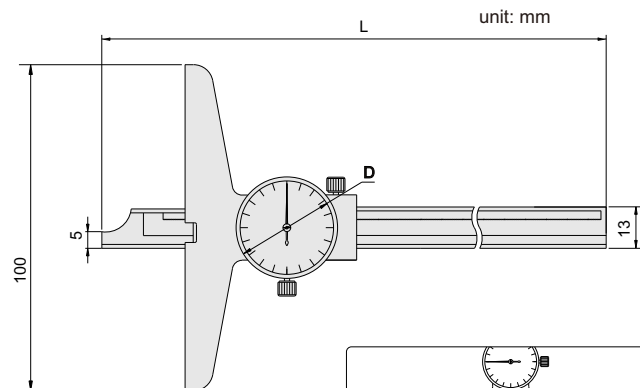
Code	Range	Accuracy	L	W
194-001-11	0-25mm/0-1"	±0.02mm	110	85
194-002-11	0-50mm/0-2"	±0.02mm	135	85
194-006-11	0-150mm/0-6"	±0.03mm	235	100

## SERIES 179

## DIAL DEPTH CALIPER

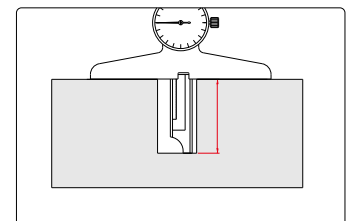


179-006-21



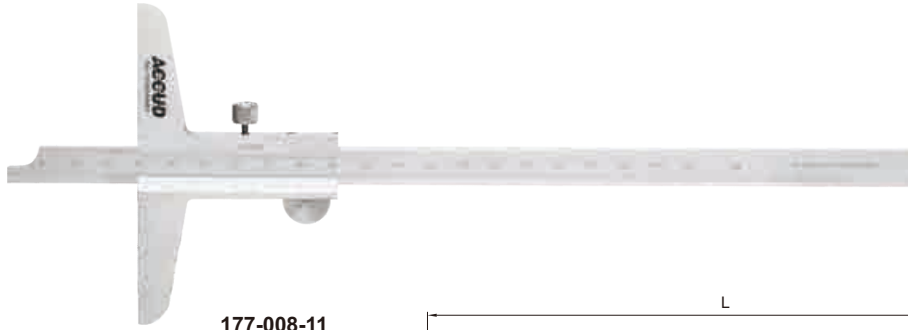
- ◆ Shockproof dial indicator
- ◆ Graduation: 0.02mm
- ◆ Made of stainless steel

Code	Range	Accuracy	D	L
179-006-21	0-150mm	±0.03mm	Ø39	235
179-008-21	0-200mm	±0.03mm	Ø39	285
179-012-21	0-300mm	±0.04mm	Ø39	308



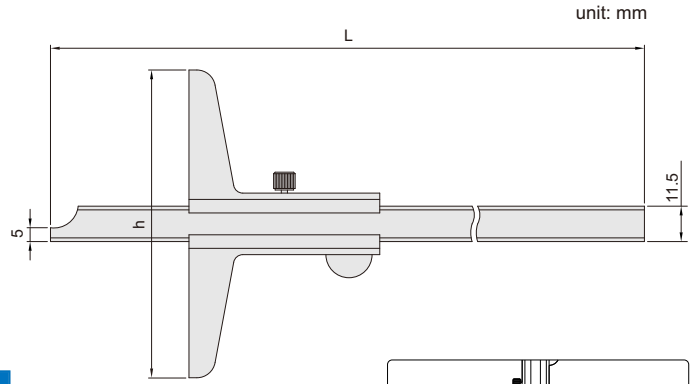
**SERIES 177**

**VERNIER DEPTH CALIPER**

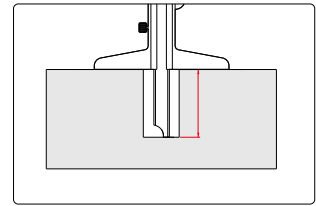


177-008-11

- ◆ Graduation: 0.02mm
- ◆ Made of stainless steel
- ◆ Satin chrome plated reading surface



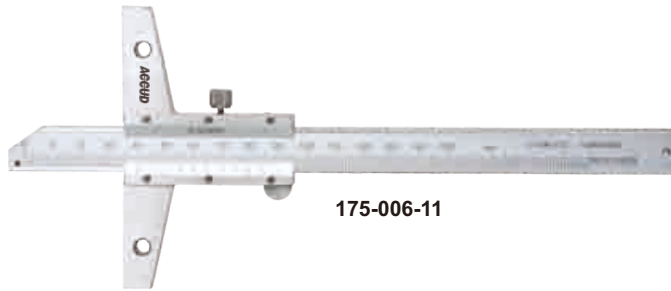
unit: mm



Code	Range	Accuracy	h	L
177-006-11	0-150mm	±0.03mm	100	245
177-008-11	0-200mm	±0.03mm	100	282
177-012-11	0-300mm	±0.04mm	100	382
177-020-11	0-500mm	±0.05mm	150	585

**SERIES 175**

**VERNIER DEPTH CALIPER**



175-006-11

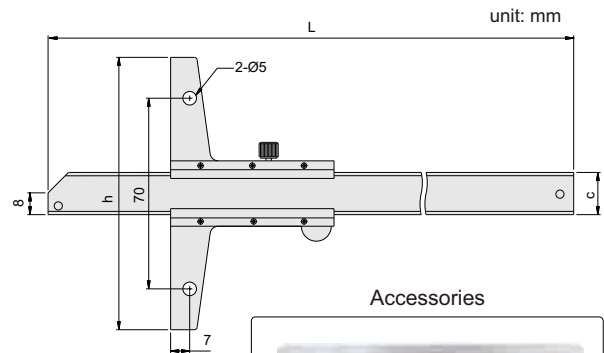
- ◆ Made of stainless steel
- ◆ Satin chrome plating finish on reading surface
- ◆ Optional accessory: series 170 extension base

Graduation 0.02mm

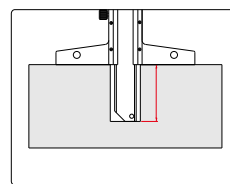
Code	Range	Accuracy	c	h	L
175-006-11	0-150mm	±0.03mm	16	100	240
175-008-11	0-200mm	±0.03mm	16	100	290
175-012-11	0-300mm	±0.04mm	16	100	390
175-024-11	0-600mm	±0.05mm	16	150	704
175-040-11	0-1000mm	±0.07mm	18	200	1124

Graduation 0.05mm

Code	Range	Accuracy	c	h	L
175-006-13	0-150mm	±0.05mm	16	100	240
175-008-13	0-200mm	±0.05mm	16	100	290
175-012-13	0-300mm	±0.08mm	16	100	390
175-024-13	0-600mm	±0.10mm	16	150	704
175-040-13	0-1000mm	±0.15mm	18	200	1124



unit: mm

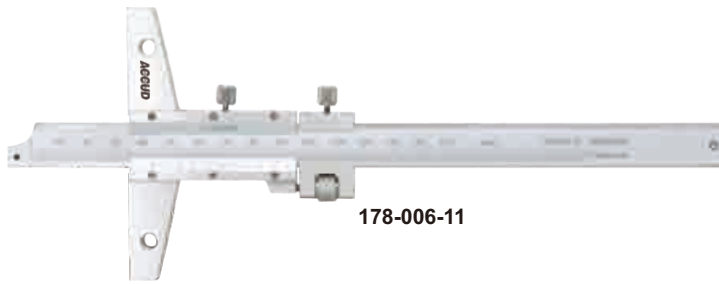


Accessories

series 170 (optional)

**SERIES 178**

**VERNIER DEPTH CALIPER**



178-006-11

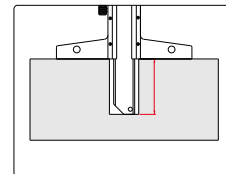
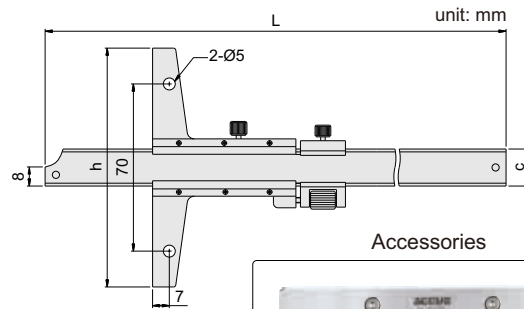
- ◆ With fine adjustment
- ◆ Made of stainless steel
- ◆ Satin chrome plating finish on reading surface
- ◆ Optional accessory: series 170 extension base

**Graduation 0.02mm**

Code	Range	Accuracy	c	h	L
178-006-11	0-150mm	±0.03mm	16	100	256
178-008-11	0-200mm	±0.03mm	16	100	306
178-012-11	0-300mm	±0.04mm	16	100	406
178-024-11	0-600mm	±0.05mm	16	150	720
178-040-11	0-1000mm	±0.07mm	18	200	1140

**Graduation 0.05mm**

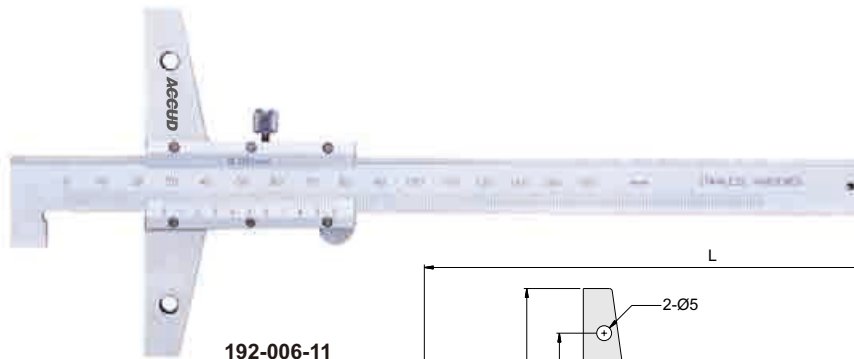
Code	Range	Accuracy	c	h	L
178-006-13	0-150mm	±0.05mm	16	100	256
178-008-13	0-200mm	±0.05mm	16	100	306
178-012-13	0-300mm	±0.08mm	16	100	406
178-024-13	0-600mm	±0.10mm	16	150	720
178-040-13	0-1000mm	±0.15mm	18	200	1140



DEPTH

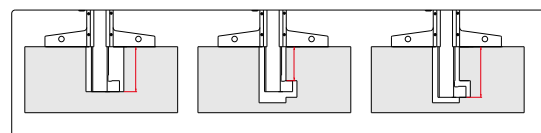
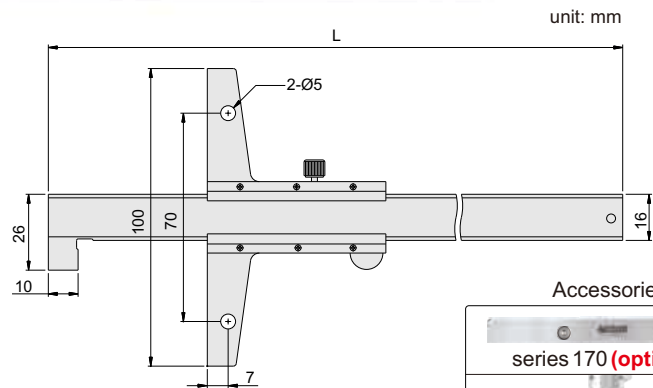
**SERIES 192**

**VERNIER HOOK DEPTH CALIPER**



192-006-11

- ◆ Graduation: 0.02mm
- ◆ Made of stainless steel
- ◆ Satin chrome plating finish on reading surface
- ◆ Optional accessory: series 170 extension base



Code	Range	Accuracy	L
192-006-11	0-150mm	±0.03mm	245
192-008-11	0-200mm	±0.03mm	295
192-012-11	0-300mm	±0.04mm	395

**SERIES 170**

**EXTENSION BASE FOR DEPTH CALIPER**

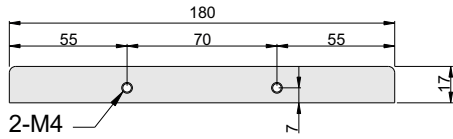


VIDEO

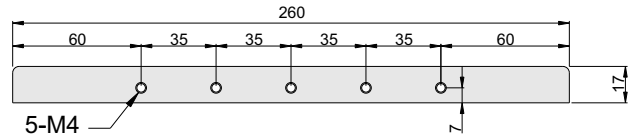


170-260-01

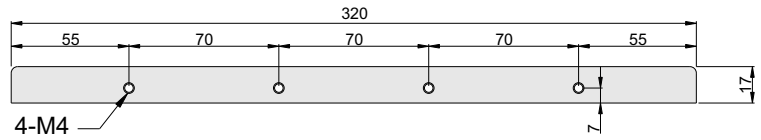
unit: mm



170-180-01



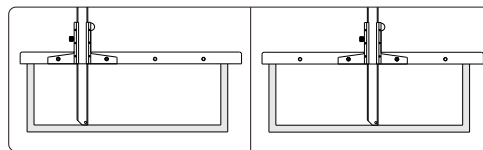
170-260-01



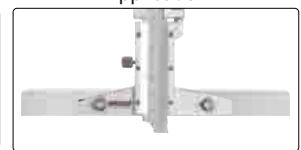
170-320-01

- ◆ Add extension base to measure large hole or gap
- ◆ For depth caliper 175, 178, 191, 192, 197-xxx-21 series and 193(range 150, 200, 300mm) series

Code	Length
170-180-01	180mm
170-260-01	260mm
170-320-01	320mm



Application



**176**

**DIGITAL DEPTH CALIPER**



- ◆ Measure the depth of grooves, small holes and tire thread
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Automatic power on/off
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Data output(cable code: 100-03 or 100-04)
- ◆ Made of stainless steel

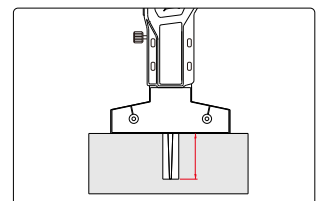
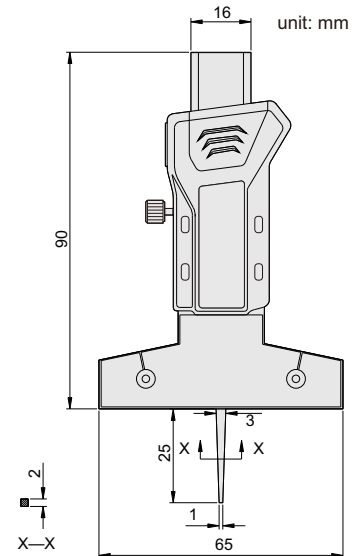
Set zero



Measure tire thread



Zero setting block (included)

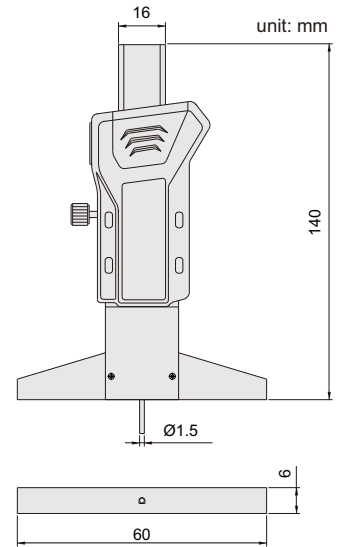
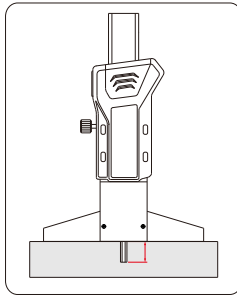


Code	Range	Accuracy
176-001-11	0-25mm/0-1"	±0.03mm

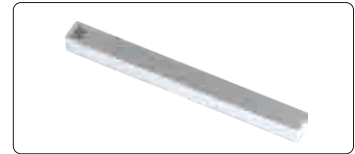


- ◆ Measure depth of small groove and hole
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Automatic power off
- ◆ Data output (cable code: 100-03 or 100-04)
- ◆ Made of stainless steel

Set zero



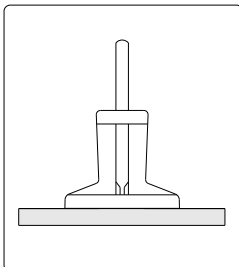
Zero setting block (included)



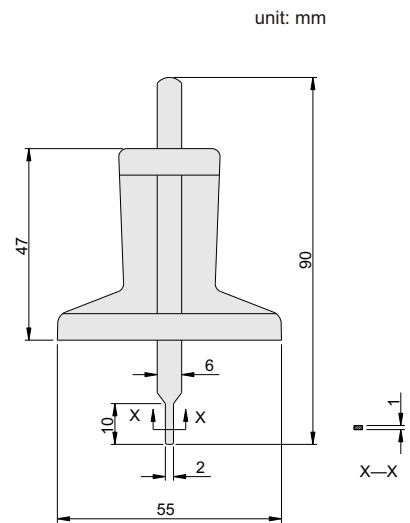
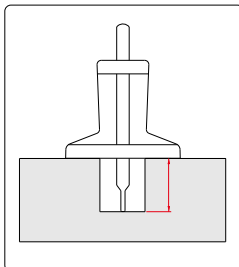
Code	Range	Accuracy
176-001-21	0-30mm/0-1.2"	±0.03mm

- ◆ Measure the depth of grooves, small holes and tire thread
- ◆ Graduation: 0.1mm
- ◆ Made of stainless steel

Set zero



Measure



Code	Range	Accuracy
176-030-12	0-30mm	±0.10mm

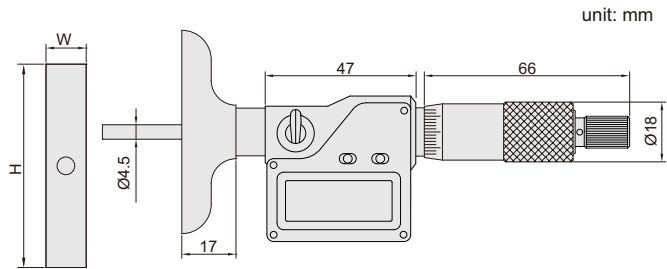


VIDEO

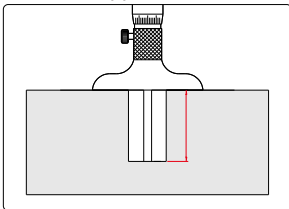


395-002-01

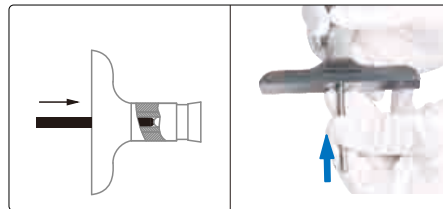
- ◆ Resolution: 0.001mm/0.00005"
- ◆ Micrometer head accuracy:  $\pm 3\mu\text{m}$   
Rod accuracy:  $\pm(2+L/75)\mu\text{m}$ , L is the measuring range in mm
- ◆ Button: on/off, set, mm/inch, ABS/INC, data output
- ◆ IP65 protection level
- ◆ Data output
- ◆ Automatic power off
- ◆ Rods with flat end
- ◆ Ratchet stop



Application



Install rod



Rod (included)



Code	Range	Base(HxW)	Rod
395-001-01	0-25mm/0-1"	101x17mm	1pc
395-002-01	0-50mm/0-2"	101x17mm	2pcs
395-004-01	0-100mm/0-4"	101x17mm	4pcs
395-006-01	0-150mm/0-6"	101x17mm	6pcs
395-008-01	0-200mm/0-8"	101x17mm	8pcs
395-012-01	0-300mm/0-12"	101x17mm	12pcs
395-001-02	0-25mm/0-1"	63x17mm	1pc
395-002-02	0-50mm/0-2"	63x17mm	2pcs
395-004-02	0-100mm/0-4"	63x17mm	4pcs
395-006-02	0-150mm/0-6"	63x17mm	6pcs
395-008-02	0-200mm/0-8"	63x17mm	8pcs
395-012-02	0-300mm/0-12"	63x17mm	12pcs





**SERIES 391**

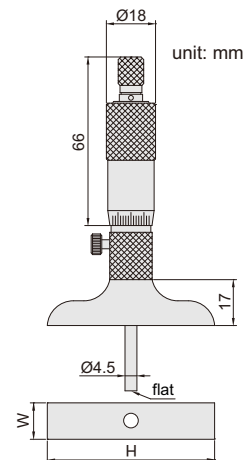
**DEPTH MICROMETER**

- ◆ Micrometer head accuracy:  $\pm 3\mu\text{m}$
- ◆ Rod accuracy:  $\pm(2+L/75)\mu\text{m}$ ,  
L is the measuring range in mm
- ◆ Supplied with rods
- ◆ Ratchet stop

Code	Range	Base (HxW)	Rod
391-001-01	0-25mm	101.5x17mm	1pc
391-002-01	0-50mm	101.5x17mm	2pcs
391-003-01	0-75mm	101.5x17mm	3pcs
391-004-01	0-100mm	101.5x17mm	4pcs
391-006-01	0-150mm	101.5x17mm	6pcs
391-008-01	0-200mm	101.5x17mm	8pcs
391-012-01	0-300mm	101.5x17mm	12pcs
391-001-02	0-25mm	63x17mm	1pc
391-002-02	0-50mm	63x17mm	2pcs
391-003-02	0-75mm	63x17mm	3pcs
391-004-02	0-100mm	63x17mm	4pcs
391-006-02	0-150mm	63x17mm	6pcs
391-008-02	0-200mm	63x17mm	8pcs
391-012-02	0-300mm	63x17mm	12pcs



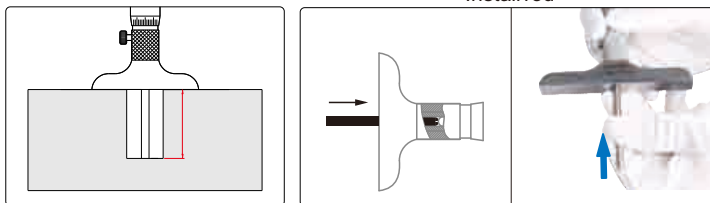
391-001-01



Rod (included)



Install rod



**SERIES 392**

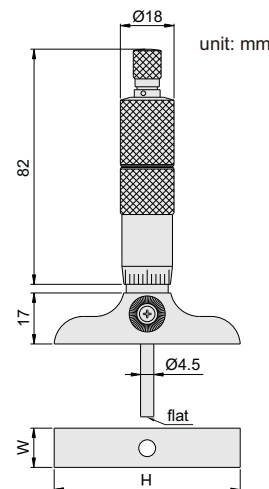
**DEPTH MICROMETER**

- ◆ Micrometer head accuracy:  $\pm 3\mu\text{m}$
- ◆ Rod accuracy:  $\pm(2+L/75)\mu\text{m}$ ,  
L is the measuring range in mm
- ◆ Supplied with rods
- ◆ Ratchet stop

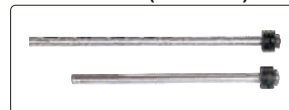
Code	Range	Base (HxW)	Rod
392-001-01	0-25mm	101.5x17mm	1pc
392-002-01	0-50mm	101.5x17mm	2pcs
392-003-01	0-75mm	101.5x17mm	3pcs
392-004-01	0-100mm	101.5x17mm	4pcs
392-006-01	0-150mm	101.5x17mm	6pcs
392-008-01	0-200mm	101.5x17mm	8pcs
392-012-01	0-300mm	101.5x17mm	12pcs
392-001-02	0-25mm	63x17mm	1pc
392-002-02	0-50mm	63x17mm	2pcs
392-003-02	0-75mm	63x17mm	3pcs
392-004-02	0-100mm	63x17mm	4pcs
392-006-02	0-150mm	63x17mm	6pcs
392-008-02	0-200mm	63x17mm	8pcs
392-012-02	0-300mm	63x17mm	12pcs



392-001-01

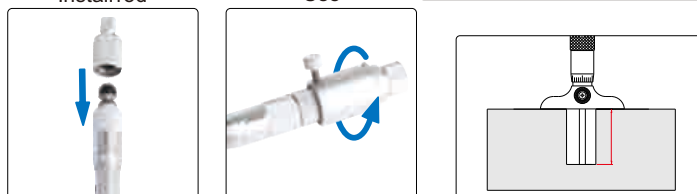


Rod (included)



Install rod

Use

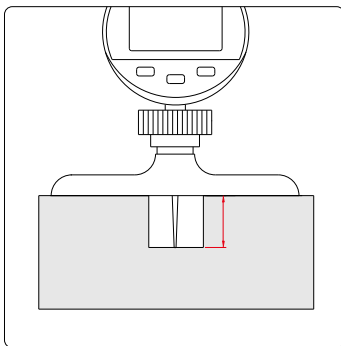
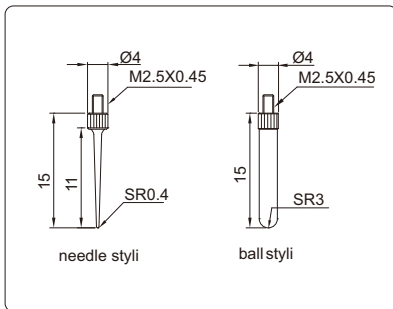




- ◆ Button: tolerance set, data preset, inch/mm conversion, measuring direction set, max./min./range measurement, absolute/incremental measurement
- ◆ Data output (cable code: 200-03 or 200-04)
- ◆ Automatic power off
- ◆ Stainless steel base
- ◆ Supplied with pointed tip and ball tip

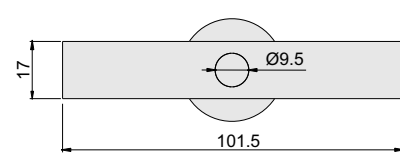
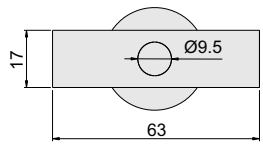
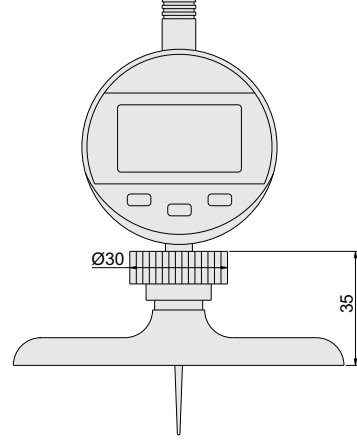
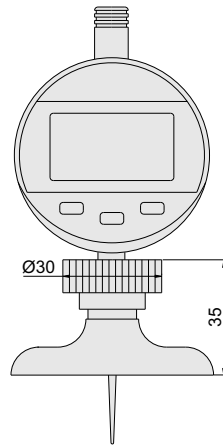


### Styli (included)



unit: mm

293-010-12



293-010-01 and 293-010-11

293-010-02 and 293-010-12

### Resolution 0.001mm/0.00005"

Code	Range	Accuracy	Digital indicator stroke	Base
293-010-01	0-10mm/0-0.4"	±5µm	12.7mm/0.5"	63x17mm
293-010-02	0-10mm/0-0.4"	±5µm	12.7mm/0.5"	101.5x17mm

### Resolution 0.01mm/0.0005"

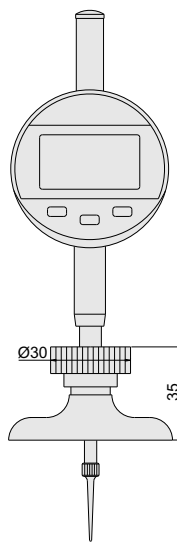
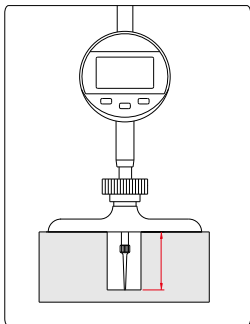
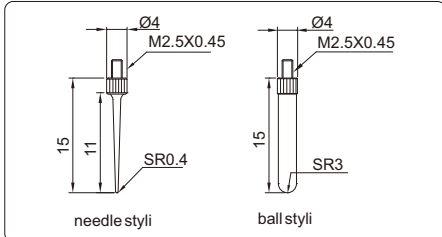
Code	Range	Accuracy	Digital indicator stroke	Base
293-010-11	0-10mm/0-0.4"	±0.03mm	12.7mm/0.5"	63x17mm
293-010-12	0-10mm/0-0.4"	±0.03mm	12.7mm/0.5"	101.5x17mm



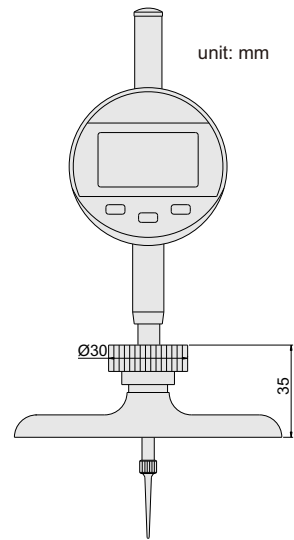
- ◆ Button: tolerance set, data preset, inch/mm conversion, measuring direction set, max./min./range measurement, absolute/incremental measurement
- ◆ Data output(cable code:200-03 or 200-04)
- ◆ Automatic power off
- ◆ Stainless steel base
- ◆ Supplied with pointed tip and ball tip



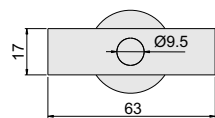
**Styli (included)**



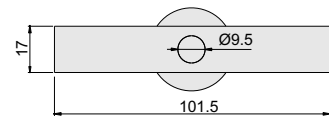
**293-025-12**



unit: mm



293-025-01 and 293-025-11



293-025-02 and 293-025-12

**Resolution 0.001mm/0.00005"**

Code	Range	Accuracy	Digital indicator stroke	Base
293-025-01	0-25mm/0-1"	±5µm	25.4mm/1"	63x17mm
293-025-02	0-25mm/0-1"	±5µm	25.4mm/1"	101.5x17mm

**Resolution 0.01mm/0.0005"**

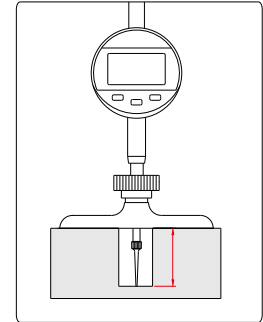
Code	Range	Accuracy	Digital indicator stroke	Base
293-025-11	0-25mm/0-1"	±0.03mm	25.4mm/1"	63x17mm
293-025-12	0-25mm/0-1"	±0.03mm	25.4mm/1"	101.5x17mm

**DEPTH**

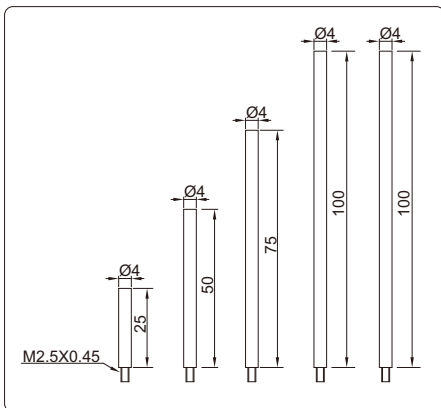


VIDEO

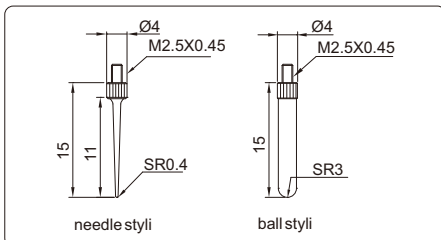
- ◆ Button: tolerance set, data preset, inch/mm conversion, measuring direction set, max./min./range measurement, absolute/incremental measurement
- ◆ Data output(cable code:200-03 or 200-04)
- ◆ Automatic power off
- ◆ Stainless steel base
- ◆ Supplied with pointed tip and ball tip



### Extension rods (included)



### Styli (included)

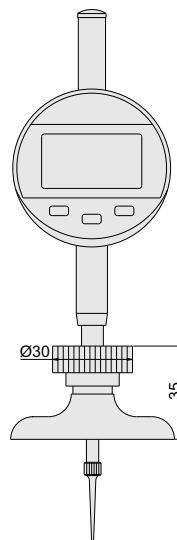


needle styli

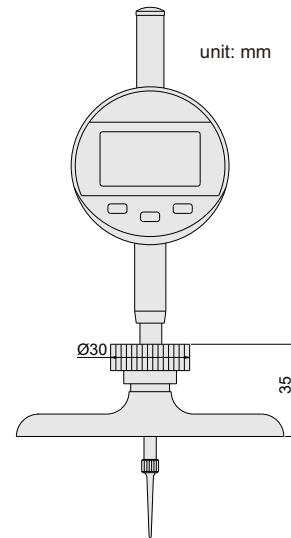
ball styli

293-300-12

unit: mm



293-300-11 and 293-300-01



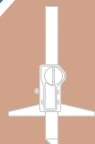
293-300-12 and 293-300-02

### Resolution 0.001mm/0.00005"

Code	Range	Accuracy	Digital indicator stroke	Base
293-300-01	0-300mm/0-12"	±5µm	25.4mm/1"	63x17mm
293-300-02	0-300mm/0-12"	±5µm	25.4mm/1"	101.5x17mm

### Resolution 0.01mm/0.0005"

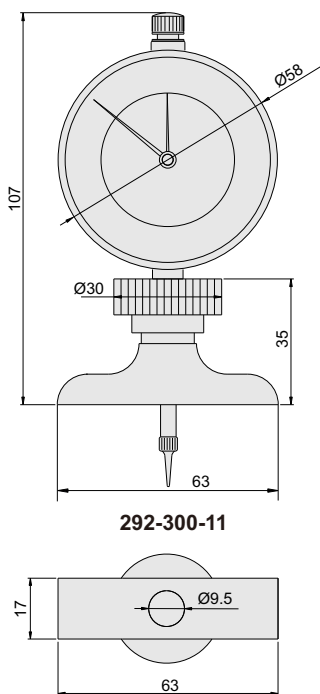
Code	Range	Accuracy	Digital indicator stroke	Base
293-300-11	0-300mm/0-12"	±0.03mm	25.4mm/1"	63x17mm
293-300-12	0-300mm/0-12"	±0.03mm	25.4mm/1"	101.5x17mm



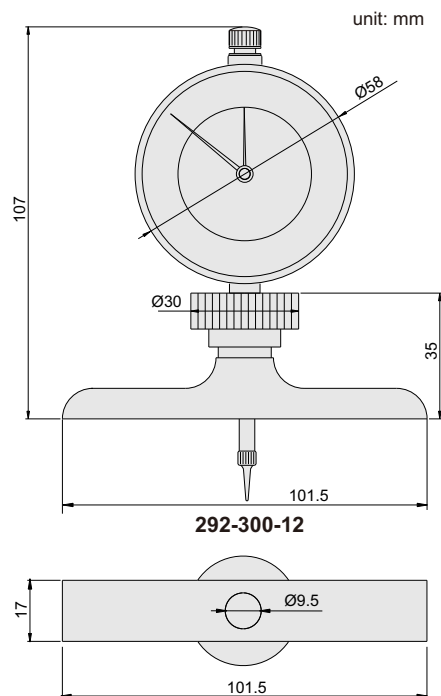
- ◆ Graduation: 0.01mm
- ◆ Indicator travel: 30mm
- ◆ Accuracy:  $\pm 0.03\text{mm}$
- ◆ Stainless steel base
- ◆ With needle and ball styli
- ◆ Extension rod: 25mm (1pc), 50mm (1pc), 75mm (1pc), 100mm (2pcs)



292-300-12



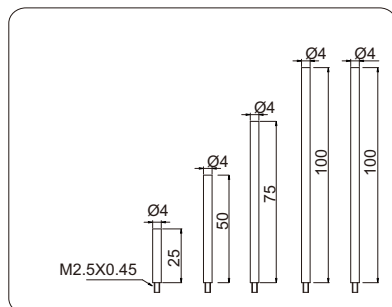
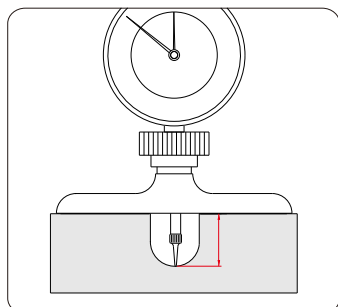
292-300-11



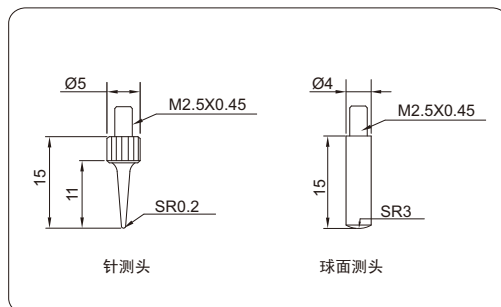
292-300-12

unit: mm

Extension rods



Styli (included)



Code	Range	Base
292-300-11	0-300mm	63x17mm
292-300-12	0-300mm	101.5x17mm

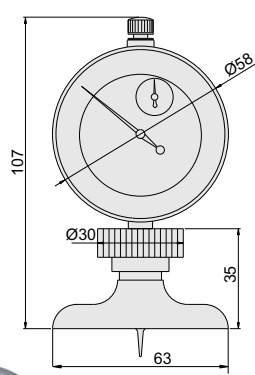
**SERIES 291**

**DIAL DEPTH INDICATOR**

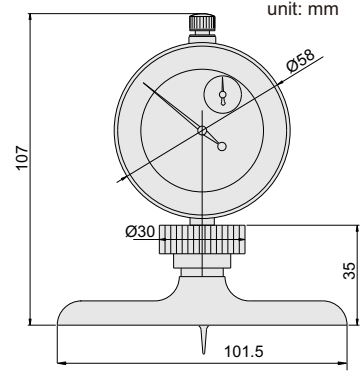
- ◆ Graduation: 0.01mm
- ◆ Indicator travel: 10mm
- ◆ Accuracy:  $\pm 0.03\text{mm}$
- ◆ Stainless steel base
- ◆ With needle and ball styli



291-010-12



291-010-11

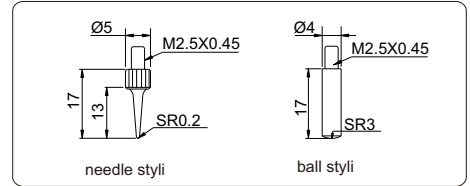
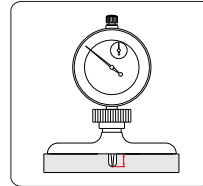


291-010-12

unit: mm

Code	Range	Base
291-010-11	0-10mm	63x17mm
291-010-12	0-10mm	101.5x17mm

**Styli (included)**



needle styli

ball styli

**SERIES 295**

**DIAL DEPTH INDICATOR**

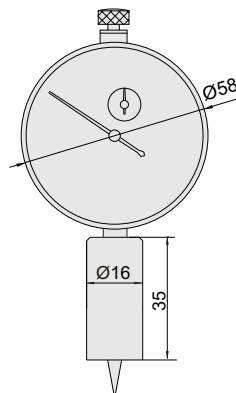
- ◆ Stainless steel base
- ◆ Pointed tip



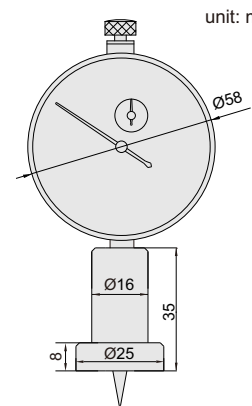
295-010-12



295-010-11



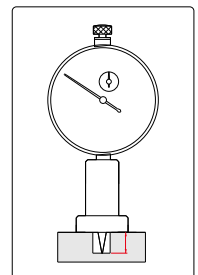
295-010-11



295-010-12

unit: mm

Code	Range	Accuracy	Dial indicator stroke	Dial indicator graduation	Base
295-010-11	0-10mm	17 $\mu\text{m}$	10mm	0.01mm	Ø16mm
295-010-12	0-10mm	17 $\mu\text{m}$	10mm	0.01mm	Ø25mm



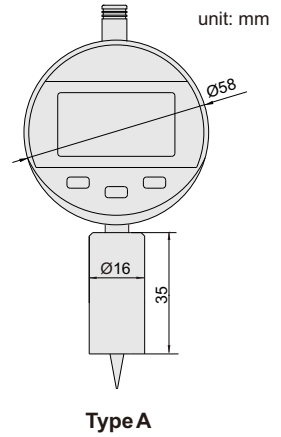
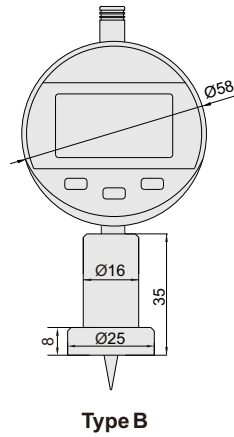
## SERIES 299

## DIGITAL DEPTH INDICATOR



- ◆ Button: on/off, zero, mm/inch, ABS, data preset, change measuring direction
- ◆ Data output(cable code:200-03 or 200-04)
- ◆ Automatic power off
- ◆ Stainless steel base
- ◆ Pointed tip

299-010-02



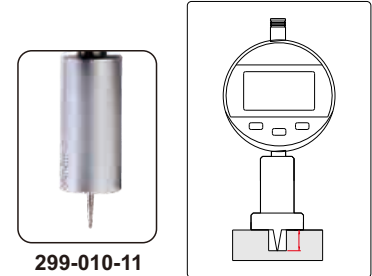
unit: mm

Resolution 0.01mm/0.0005"

Code	Range	Accuracy	Digital indicator stroke	Base	Type
299-010-11	0-12.7mm/0-0.5"	±20µm	12.7mm/0.5"	Ø16mm	A
299-010-12	0-12.7mm/0-0.5"	±20µm	12.7mm/0.5"	Ø25mm	B

Resolution 0.001mm/0.00005"

Code	Range	Accuracy	Digital indicator stroke	Base	Type
299-010-01	0-12.7mm/0-0.5"	±5µm	12.7mm/0.5"	Ø16mm	A
299-010-02	0-12.7mm/0-0.5"	±5µm	12.7mm/0.5"	Ø25mm	B



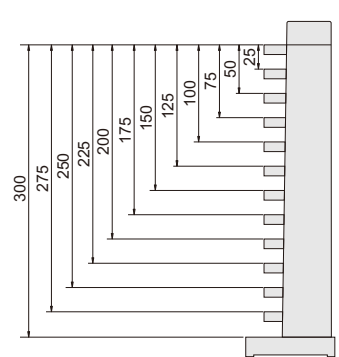
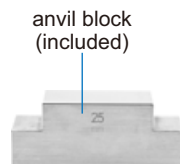
## SERIES 399

## DEPTH MICROMETER CHECKERS

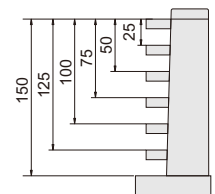


- ◆ To check depth micrometers and set zero
- ◆ Constructed with steel gage blocks
- ◆ Supplied with anvil block

Application



unit: mm



399-006-01

Code	Size	Range	Accuracy
399-006-01	0-150mm	25, 50, 75, 100, 125, 150mm	±2µm
399-012-01	0-300mm	25, 50, 75, 100, 125, 150, 175, 200, 225, 250, 275, 300mm	±3µm

With manufacturer inspection certificate



- ◆ The instrument is suitable for One-Dimensional as well as Two-Dimensional measurements
- ◆ Programming, for batch quantities measurements
- ◆ Color LCD screen
- ◆ The probe moves up and down automatically
- ◆ Low and high limits with judgement
- ◆ Built-in air compressor provides smooth movement on granite surface plate.
- ◆ With re-chargeable battery, for 10 hours working
- ◆ With manufacturer inspection certificate

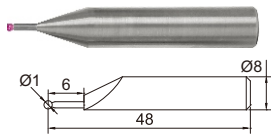


**AccuGage700**

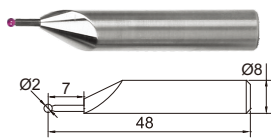
### Optional Accessories

unit: mm

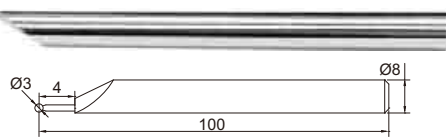
Ø1mm concentric ruby ball probe(code:**R1HC**)



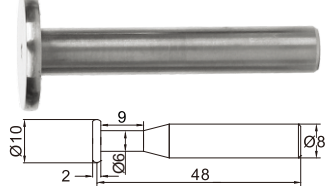
Ø2mm eccentric ruby ball probe(code:**R2H**)



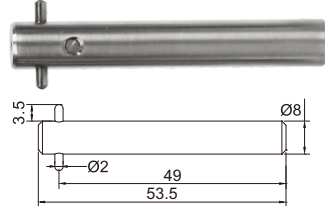
Ø3mm eccentric ruby ball probe(code:**R3H100**)



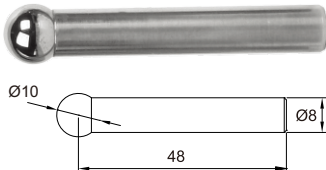
Ø10mm disc probe (code:**DS10H**)



Ø2mm depth probe(code:**DP2H**)



Ø10 carbide ball probe(code:**SR10H**)



Depth hole probe(code:**DP80H**)



Ø4mm carbide ball probe

Squareness probe  
(Optional, Code:**SQ10**)





















# AccuGage700/1000

## 2D HEIGHT GAGE

### Basic Measurement

-  1 Contacting a plane from above
-  2 Contacting a shaft from above/bore below
-  3 Measuring a shaft diameter and center
-  4 Measuring groove width and center
-  5 Measuring MIN-MAX-DELTA
-  6 Measuring job squareness
-  7 Contacting a plane from below
-  8 Contacting a shaft from below/ bore above
-  9 Measuring bore diameter and center
-  0 Measuring ledge width and center
-  +/- Difference key
-  +/- Set references



### 2D Measurement

-  ♦ Measure pitch circle diameter(PCD)
-  ♦ Measure distance between two points
- ♦ Measure angles
- ♦ Preset coordinates

Programming and replay, for batch quantities measurements



### Calculation

-  Calculate height difference
-  Calculate height center

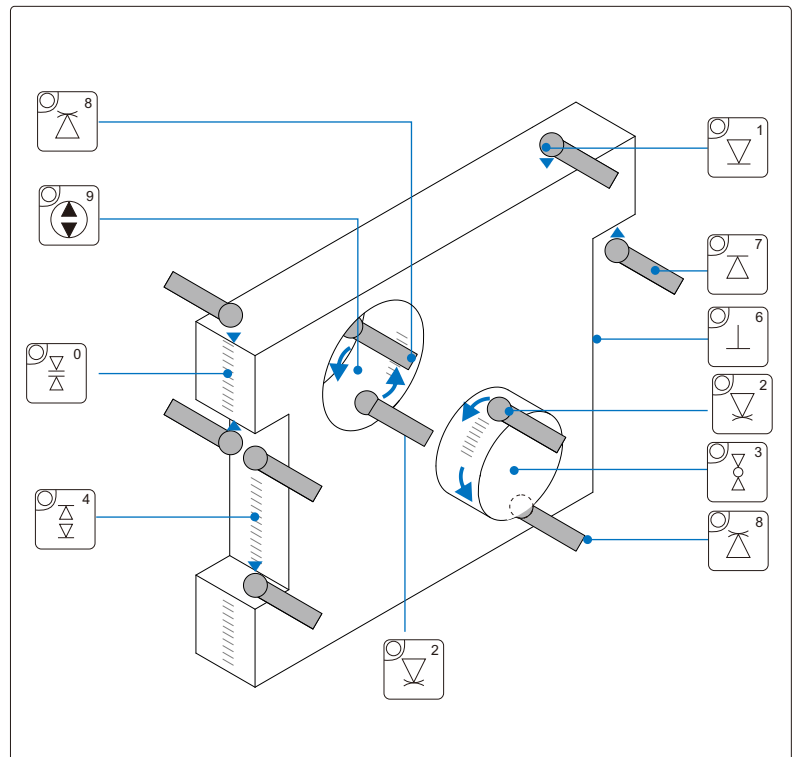
### SPECIFICATION

Code	AccuGage700	AccuGage1000
Range	0-700mm	0-1000mm
Expandable range	1015mm	1315mm
Squareness	6μm	10μm
Resolutions	0.5μm, 1μm	
Accuracy	2+L/330μm, L is measuring length in mm (working temperature is 20±1°C)	
Repeatability (with standard probe)	0.001 mm on plane and 0.002 mm on bore	
Measuring force	1±0.2N	
Output	USB or RS232	
Power supply	Rechargeable battery	
Working temperature	10°C - 40°C	
Weight	25kg	

### INCLUDED ACCESSORIES

Main unit	1pc
Ø4x48mm ruby ball probe	1pc
Calibration block	1pc
Software and USB cable	1pc each
Allen key	1set
AC/DC Adapter	1pc

### Application Demo





- ◆ The instrument is only suitable for One-Dimensional measurement
- ◆ The probe moves up and down automatically
- ◆ Low and high limits with judgement
- ◆ Built-in air compressor provides smooth movement on granite surface plate.
- ◆ With re-chargeable battery, for 10 hours working
- ◆ With manufacturer inspection certificate

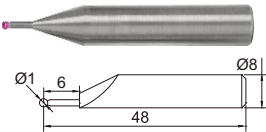


**AccuHite700**

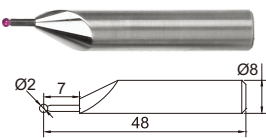
### Optional Accessories

unit: mm

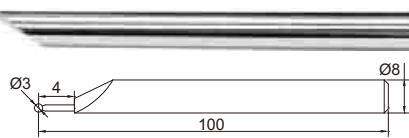
Ø1mm concentric ruby ball probe(code:**R1HC**)



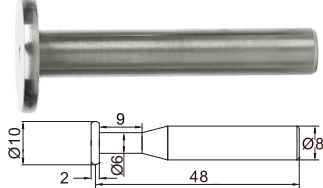
Ø2mm eccentric ruby ball probe(code:**R2H**)



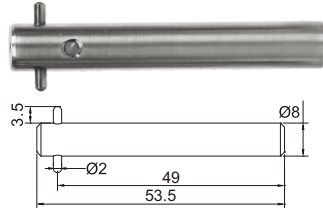
Ø3mm eccentric ruby ball probe(code:**R3H100**)



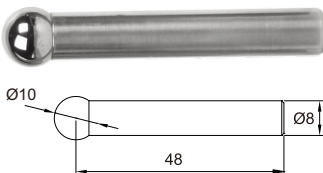
Ø10mm disc probe (code:**DS10H**)



Ø2mm depth probe(code:**DP2H**)

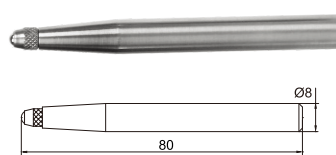


Ø10 carbide ball probe(code:**SR10H**)



Ø4mm carbide ball probe













Depth hole probe(code:**DP80H**)



Squareness probe  
(Optional, Code:**SQ10**)



### Basic Measurement

-  1 Contacting a plane from above
-  2 Contacting a shaft from above/bore below
-  3 Measuring a shaft diameter and center
-  4 Measuring groove width and center
-  5 Contacting a plane from below
-  6 Contacting a shaft from below/bore above
-  7 Measuring bore diameter and center
-  8 Measuring ledge width and center
-  9 Measuring MIN-MAX-DELTA
-  0 Difference key
-  4 Measuring job squareness
-  ++ Set references

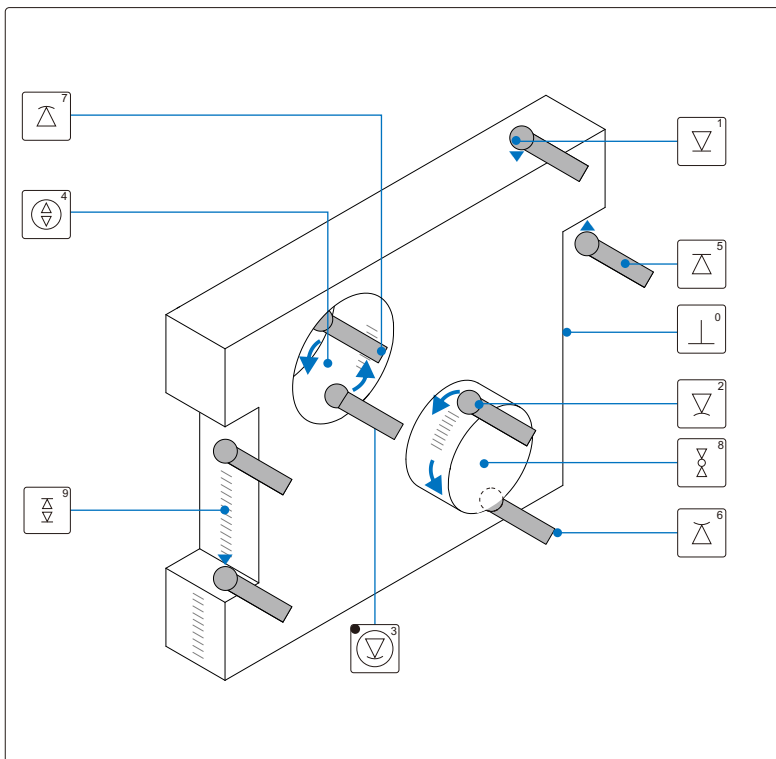
### SPECIFICATION

Code	AccuHite700	AccuHite1000
Range	0-700mm	0-1000mm
Expandable range	1015mm	1315mm
Squareness	10µm	12µm
Resolutions	0.5µm, 1µm, 10µm	
Accuracy	3+L/250µm, L is measuring length in mm (working temperature is 20±1°C)	
Repeatability (with standard probe)	0.0015 mm on plane and 0.003 mm on bore	
Measuring force	1±0.2N	
Output	USB or RS232	
Power supply	Rechargeable battery	
Working temperature	10°C - 40°C	
Weight	21kg	

### INCLUDED ACCESSORIES

Main unit	1pc
Ø4x48mm carbide ball probe	1pc
Calibration block	1pc
Software and USB cable	1pc each
Allen key	1set
AC/DC Adapter	1pc

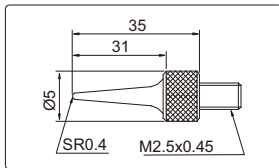
### Demo Application



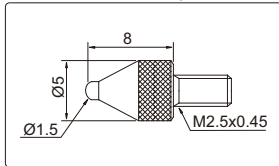


- ◆ Working table is made of ceramic
- ◆ Response speed: max.5000mm/sec
- ◆ Easy convert between metric and inch 8 bits
- ◆ Highlight green LED
- ◆ Power off automatically
- ◆ Data output (USB port)
- ◆ Optional accessories series 270

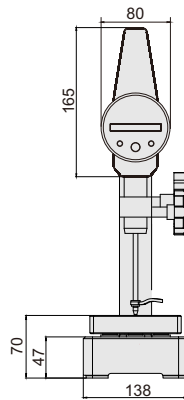
Needle contact point



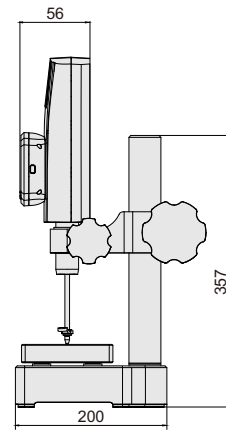
Ball contact point



HG100E



unit:mm



### SPECIFICATION

Code	HG50E	HG100E	HG50S	HG100S
Measuring range	0-50mm	0-100mm	0-50mm	0-100mm
Accuracy	2µm*	3µm*	3µm*	4µm*
Resolution	0.5µm/1µm(adjustable)		1µm	
Repeatability	0.5µm	1µm	1µm	2µm
Tip force	≤1.2N	≤1.6N	≤1.2N	≤1.6N
Dimension of working table	130x130mm			
Flatness of working table	1.5µm			
Power supply	5V/1A adapter			
Working temperature	0°C - 40°C			
Weight	11.6kg			

\*Working temperature is 20±1°C

### INCLUDED ACCESSORIES

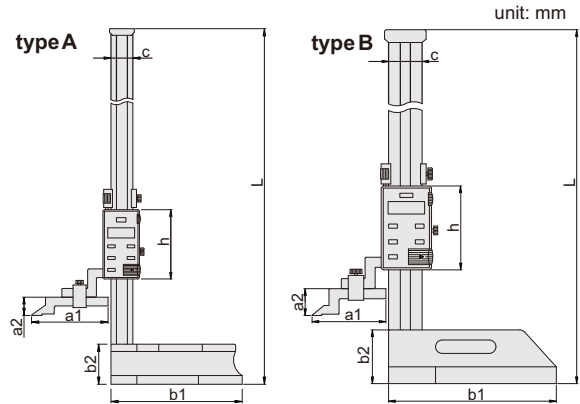
Main unit	1pc
Stand with ceramic table	1pc
Needle contact point	1pc
Ball contact point	1pc
AD/DC adapter	1pc
Spindle lift knob	2pcs

**SERIES 181**

**DIGITAL HEIGHT GAGE**



- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, inch/mm, ABS/INC, data hold, tolerance measurement, data preset, set data
- ◆ Carbide tipped scriber
- ◆ Made of stainless steel (except the base)
- ◆ Data output (cable code: 100-03L or 100-04L)
- ◆ With clamps (Ø8mm holder)



Clamp (included)

Carbide tipped jaws



181-024-11

Application with clamps (optional)



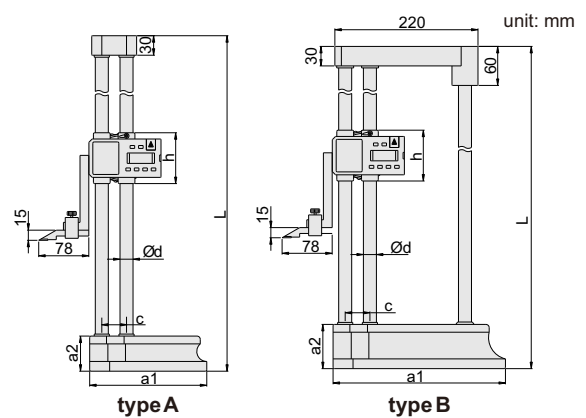
Code	Range	Type	Accuracy	a1	a2	b1	b2	c	h	L
181-012-11	0-300mm/0-12"	A	±0.04mm	76	25	135	45	23	80	470
181-020-11	0-500mm/0-20"	A	±0.05mm	103	25	180	55	30	95	720
181-024-11	0-600mm/0-24"	A	±0.05mm	103	25	180	55	30	95	820
181-040-11	0-1000mm/0-40"	B	±0.07mm	110	39	250	80	50	125	1275
181-060-11	0-1500mm/0-60"	B	±0.11mm	110	39	280	80	50	125	1790
181-080-11	0-2000mm/0-80"	B	±0.15mm	110	39	280	80	50	125	2290

**SERIES 182**

**DIGITAL HEIGHT GAGE**



- ◆ Resolution: 0.01mm/0.001"
- ◆ Buttons: on/off, inch/mm, ABS/INC, data preset, set data
- ◆ Carbide tipped scriber
- ◆ Made of stainless steel beam
- ◆ With driving wheel
- ◆ Optional accessory: 267 series clamps



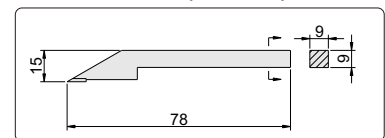
Application with clamps (optional)



182-012-11

Carbide tipped jaws

Scriber (included)



Code	Range	Type	Accuracy	a1	a2	c	Ød	h	L
182-012-11	0-300mm/0-12"	A	±0.04mm	135	43	33	15	84	475
182-018-11	0-450mm/0-18"	A	±0.05mm	180	54	38	20	88	660
182-024-11	0-600mm/0-24"	A	±0.05mm	180	54	38	20	88	810
182-040-11	0-1000mm/0-40"	B	±0.05mm	265	68	38	20	88	1230

Driving wheel



**SERIES 184**

**DIGITAL HEIGHT GAGE WITH DRIVING WHEEL**



- ◆ Buttons: on/off, zero, mm/inch, ABS/INC, hold
- ◆ Automatic power off, move the digital unit to turn on power
- ◆ Carbide tipped scriber
- ◆ Made of stainless steel
- ◆ Data output(cable code: 100-15)
- ◆ Optional accessories: dial test indicator holder (267-050-01)

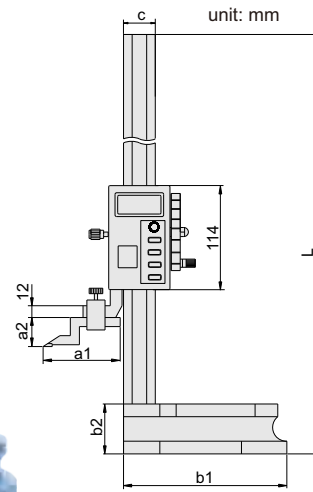
Application with clamps(optional)



Carbide tipped jaws

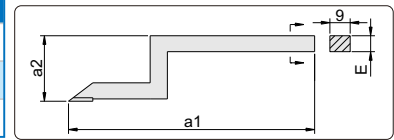


184-012-11



Code	Range	Accuracy	Resolution	b1	b2	L	c	a1	a2	E
184-012-11	0-300mm/0-12"	±0.03mm	0.01mm/0.0005"	180	55	515	32	80	30	9
184-024-11	0-600mm/0-24"	±0.05mm	0.01mm/0.0005"	180	55	815	32	80	30	9
184-040-11	0-1000mm/0-40"	±0.07mm	0.01mm/0.001"	265	70	1220	40	92	48	12

Scriber (included)



**SERIES 185**

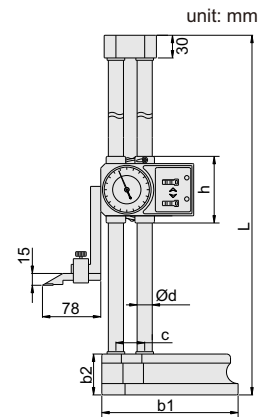
**DIAL HEIGHT GAGE**

- ◆ Indicator graduation: 0.01mm
- ◆ Carbide tipped scriber
- ◆ Made of stainless steel (except the base)
- ◆ With driving wheel
- ◆ Optional accessory: 267 series clamps

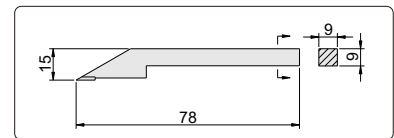
Application with clamps(optional)



185-012-11



Scriber (included)



Carbide tipped jaws

Driving wheel



Code	Range	Accuracy	b1	b2	c	Ød	h	L
185-012-11	0-300mm	±0.04mm	135	43	33	15	84	475
185-018-11	0-450mm	±0.05mm	180	54	38	20	88	660
185-024-11	0-600mm	±0.05mm	180	54	38	20	88	810

**SERIES 186**

**VERNIER HEIGHT GAGE**

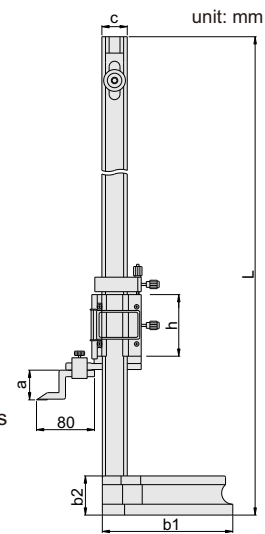
- ◆ Graduation: 0.02mm/0.001"
- ◆ Move main scale to set zero
- ◆ Carbide tipped scriber
- ◆ Made of stainless steel (except the base)
- ◆ Satin chrome plated scale
- ◆ With magnifier
- ◆ Optional accessory: 267 series clamps

Application with clamps (optional)



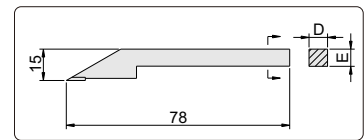
186-012-11

Carbide tipped jaws



Code	Range	Accuracy	a	b1	b2	c	h	D	E	L
186-012-11	0-300mm/0-12"	±0.04mm	30	135	43	28	75	9	9	545
186-018-11	0-450mm/0-18"	±0.05mm	41	180	54	35	85	9	9	720
186-024-11	0-600mm/0-24"	±0.05mm	41	180	54	35	85	9	9	870
186-040-11	0-1000mm/0-40"	±0.07mm	50	270	70	40	85	10	16	1310

Scriber (included)



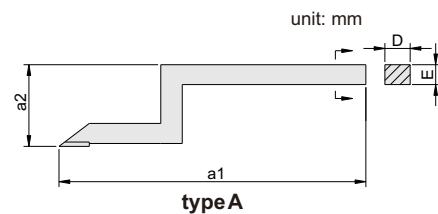
**SERIES 180**

**SCRIBER FOR HEIGHT GAGE**

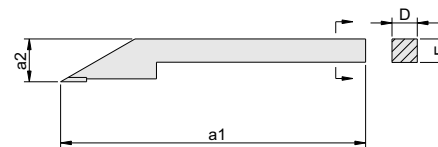


180-000-SC1

- ◆ Carbide tipped



type A



type B

Code	For height gage	Type	a1	a2	D	E
180-000-SC1	181-012-11	A	76	25	6	8
180-000-SC2	181-024-11	A	103	25	10	12
180-000-SC3	181-040-11, 181-060-11, 181-080-11	A	110	39	10	15
180-000-SC4	185-012-11, 185-018-11, 185-024-11, 182-012-11, 182-018-11, 182-024-11	B	78	15	9	9
180-000-SC6	186-012-11, 184-012-11	A	80	30	9	9
180-000-SC7	186-024-11, 186-018-11, 184-024-11	A	80	41	9	9

Carbide tipped jaws



**SERIES 183**

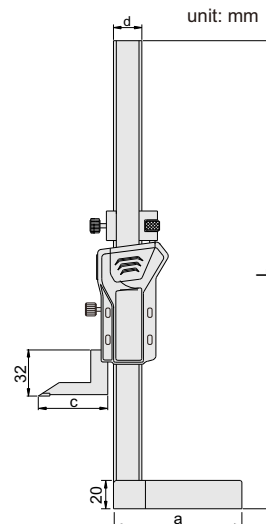
**MINI DIGITAL HEIGHT GAGE**



- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Carbide tipped scriber
- ◆ Made of stainless steel (except the base)
- ◆ Data output(cable code: 100-03 or 100-04)
- ◆ Automatic power off



183-006-11



Carbide tipped jaws



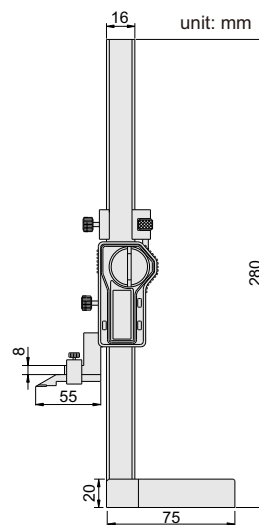
Code	Range	Accuracy	a	c	d	L
183-006-11	0-150mm/0-6"	±0.03mm	75	43	16	265
183-008-11	0-200mm/0-8"	±0.03mm	90	49	16	325
183-010-11	0-250mm/0-10"	±0.03mm	90	49	16	380

**183**

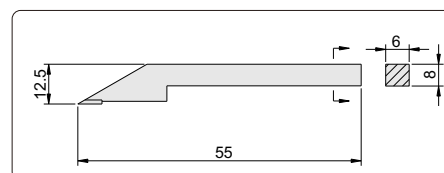
**MINI DIGITAL HEIGHT GAGE**



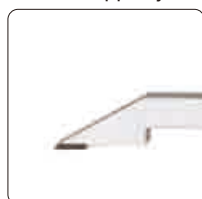
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/inch
- ◆ Carbide tipped scriber
- ◆ With fine adjustment
- ◆ Made of stainless steel (except the base)
- ◆ Data output(cable code: 100-11 or 100-12)
- ◆ Automatic power off



Scriber (included)



Carbide tipped jaws



Code	Range	Accuracy
183-006-12	0-150mm/0-6"	±0.03mm





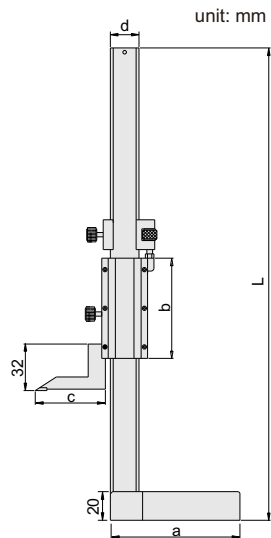
**SERIES 187**

**MINI VERNIER HEIGHT GAGE**

- ◆ Graduation 0.02mm/0.001"
- ◆ Carbide tipped scriber
- ◆ Made of stainless steel (except the base)
- ◆ Satin chrome plated scale



187-008-11



Code	Range	Accuracy	a	b	c	d	L
187-006-11	0-150mm/0-6"	±0.03mm	75	57	43	16	265
187-008-11	0-200mm/0-8"	±0.03mm	90	70	49	20	325
187-010-11	0-250mm/0-10"	±0.03mm	90	70	49	20	380

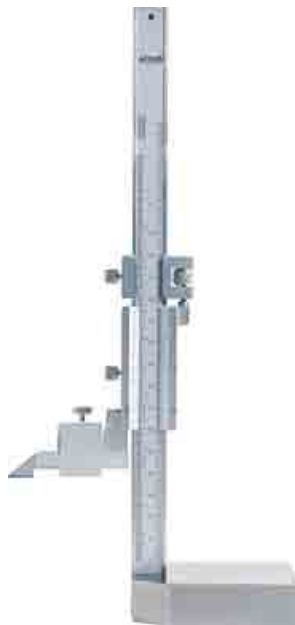
Carbide tipped jaws



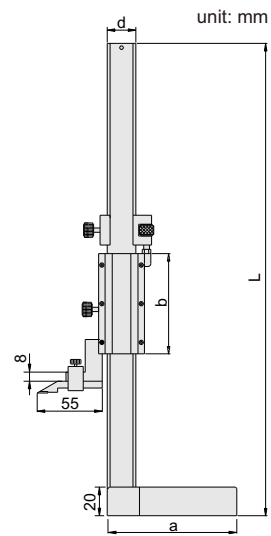
**SERIES 187**

**MINI VERNIER HEIGHT GAGE**

- ◆ Graduation: 0.02mm/0.001"
- ◆ Carbide tipped scriber
- ◆ Made of stainless steel (except the base)
- ◆ Satin chrome plated scale



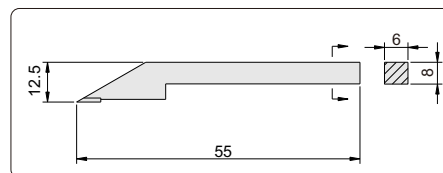
187-006-12



Carbide tipped jaws



Scriber (included)



Code	Range	Accuracy	a	b	d	L
187-006-12	0-150mm/0-6"	±0.03mm	75	57	16	265
187-008-12	0-200mm/0-8"	±0.03mm	90	70	20	325

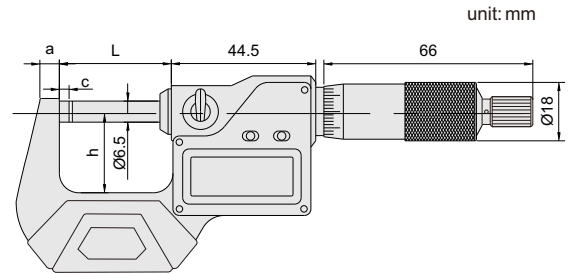
## SERIES 313

## DIGITAL OUTSIDE MICROMETER WITH DATA OUTPUT



313-001-01S

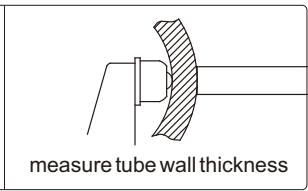
- ◆ Resolution: 0.001mm/0.00005"
- ◆ IP65 protection level
- ◆ Button: on/off, mm/inch, set, zero
- ◆ Automatic power off
- ◆ Data output
- ◆ Carbide measuring faces, ratchet stop
- ◆ Setting standards are included(except 313-001-01S)



### Setting standards (included)



### Data output interface



Code	Range	Accuracy	a	c	h	L	Setting standards(included)
313-001-01S*	0-25mm/0-1"	±2µm	6	3	25	34.5	-
313-002-01S*	25-50mm/1-2"	±2µm	8	3	32	59.5	25mm
313-003-01S*	50-75mm/2-3"	±3µm	8	3	44.5	84.5	50mm
313-004-01S*	75-100mm/3-4"	±3µm	8	3	57	109.5	75mm
313-005-01S	100-125mm/4-5"	±3µm	10	3	70	135	100mm
313-006-01S	125-150mm/5-6"	±3µm	10	3	82	160.5	125mm
313-007-01S	150-175mm/6-7"	±4µm	12	5.5	94.5	186	150mm
313-008-01S	175-200mm/7-8"	±4µm	12	5.5	107	211.5	175mm
313-009-01S	200-225mm/8-9"	±4µm	23	5.5	129.5	236	200mm
313-010-01S	225-250mm/9-10"	±4µm	23	5.5	142.5	261.5	225mm
313-011-01S	250-275mm/10-11"	±5µm	23	5.5	155	287	250mm
313-012-01S	275-300mm/11-12"	±5µm	23	5.5	167.5	312.5	275mm

### Set

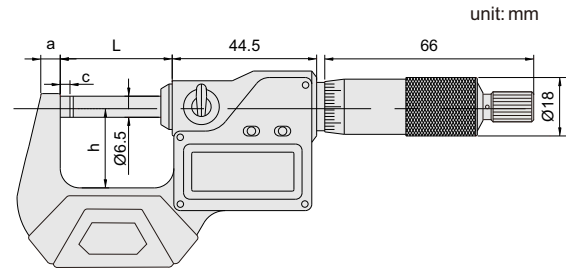
Code	Range	Total QTY.	Included micrometers	Package
313-003-03S*	0-75mm/0-3"	3pcs	0-25mm/0-1", 25-50mm/1-2", 50-75mm/2-3"	blow mould case
313-004-04S*	0-100mm/0-4"	4pcs	0-25mm/0-1", 25-50mm/1-2", 50-75mm/2-3", 75-100mm/3-4"	blow mould case
313-006-06S	0-150mm/0-6"	6pcs	0-25mm/0-1", 25-50mm/1-2", 50-75mm/2-3", 75-100mm/3-4", 100-125mm/4-5", 125-150mm/5-6"	aluminum box

\* With manufacturer inspection certificate

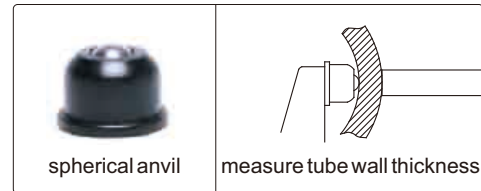


**313-001-01**

- ◆ Resolution: 0.001mm/0.00005"
- ◆ IP65 protection level
- ◆ Button: on/off, mm/inch, set, zero
- ◆ Automatic power off
- ◆ Carbide measuring faces, ratchet stop
- ◆ Setting standards are included (except 313-001-01)



Setting standards (included)



Code	Range	Accuracy	a	c	h	L	Setting standards(included)
<b>313-001-01*</b>	0-25mm/0-1"	±2µm	6	3	25	34.5	-
<b>313-002-01*</b>	25-50mm/1-2"	±2µm	8	3	32	59.5	25mm
<b>313-003-01*</b>	50-75mm/2-3"	±3µm	8	3	44.5	84.5	50mm
<b>313-004-01*</b>	75-100mm/3-4"	±3µm	8	3	57	109.5	75mm
<b>313-005-01</b>	100-125mm/4-5"	±3µm	10	3	70	135	100mm
<b>313-006-01</b>	125-150mm/5-6"	±3µm	10	3	82	160.5	125mm
<b>313-007-01</b>	150-175mm/6-7"	±4µm	12	5.5	94.5	186	150mm
<b>313-008-01</b>	175-200mm/7-8"	±4µm	12	5.5	107	211.5	175mm

Set

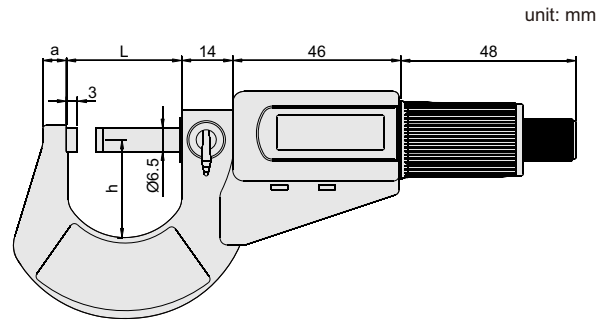
Code	Range	Total QTY.	Included micrometers	Package
<b>313-003-03*</b>	0-75mm/0-3"	3pcs	0-25mm/0-1", 25-50mm/1-2", 50-75mm/2-3"	blow mould case
<b>313-004-04*</b>	0-100mm/0-4"	4pcs	0-25mm/0-1", 25-50mm/1-2", 50-75mm/2-3", 75-100mm/3-4"	blow mould case
<b>313-006-06</b>	0-150mm/0-6"	6pcs	0-25mm/0-1", 25-50mm/1-2", 50-75mm/2-3", 75-100mm/3-4", 100-125mm/4-5", 125-150mm/5-6"	aluminum box

\* With manufacturer inspection certificate

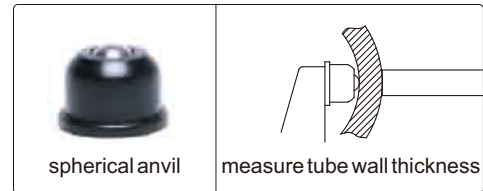


312-001-03

- ◆ Resolution: 0.001mm/0.00005"
- ◆ Button: ON/OFF/SET, ABS/INC/UNIT
- ◆ Carbide measuring faces
- ◆ Ratchet stop
- ◆ Setting standards are included (except 312-001-03)



Setting standards (included)



Code	Range	Accuracy	a	h	L	Setting standards(included)
312-001-03*	0-25mm/0-1"	±2µm	6	27.5	32	-
312-002-03*	25-50mm/1-2"	±2µm	8	37	57	25mm
312-003-03*	50-75mm/2-3"	±3µm	8	50	82	50mm
312-004-03*	75-100mm/3-4"	±3µm	10	61	107	75mm
312-005-03	100-125mm/4-5"	±3µm	10	73	132	100mm
312-006-03	125-150mm/5-6"	±3µm	10	85	157	125mm
312-007-03	150-175mm/6-7"	±4µm	21	104	182	150mm
312-008-03	175-200mm/7-8"	±4µm	21	117	207	175mm

Set

Code	Range	Total QTY.	Included micrometers	Package
312-003-33*	0-75mm/0-3"	3pcs	0-25mm/0-1", 25-50mm/1-2", 50-75mm/2-3"	blow mould case
312-004-44*	0-100mm/0-4"	4pcs	0-25mm/0-1", 25-50mm/1-2", 50-75mm/2-3", 75-100mm/3-4"	blow mould case
312-006-66	0-150mm/0-6"	6pcs	0-25mm/0-1", 25-50mm/1-2", 50-75mm/2-3", 75-100mm/3-4", 100-125mm/4-5", 125-150mm/5-6"	aluminum box

\* With manufacturer inspection certificate

## SERIES 314

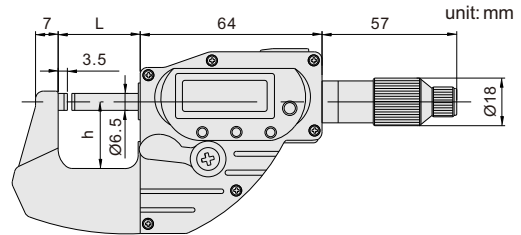
## DIGITAL SNAP MICROMETER



- ◆ Quick measurement with lever
- ◆ Resolution: 0.001mm/0.00005"
- ◆ IP65 protection level
- ◆ Button: on/off, mm/inch, origin, ABS/zero
- ◆ Automatic power off
- ◆ Carbide measuring faces
- ◆ Setting standards are included (except 314-001-02)



314-001-02



Code	Range	Accuracy	h	L	Setting standards (included)
314-001-02	0-25mm/0-1"	3µm	25	31	-
314-002-02	25-50mm/1-2"	3µm	32	57	25mm
314-003-02	50-75mm/2-3"	4µm	44.5	82	50mm
314-004-02	75-100mm/3-4"	4µm	57	107	75mm

Setting standards (included)



Quick movement



## SERIES 390

## OUTSIDE MICROMETER WITH COUNTER

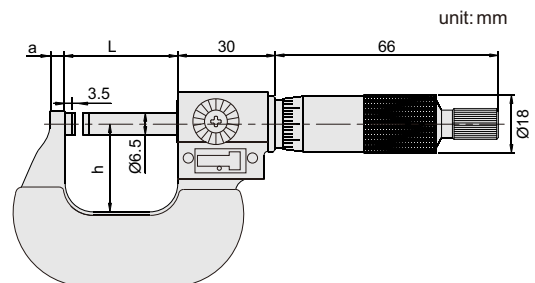


- ◆ Counter resolution: 0.01mm
- ◆ Thimble graduation: 0.01mm
- ◆ Carbide measuring faces
- ◆ Meet DIN863-1
- ◆ Ratchet stop
- ◆ Setting standards are included (except 0-25mm)



390-001-01

Code	Range	Accuracy	a	h	L	Setting standards (included)
390-001-01*	0-25mm	4µm	6	26	32	-
390-002-01*	25-50mm	4µm	8	32	57	25mm
390-003-01*	50-75mm	5µm	8	44.5	82	50mm
390-004-01*	75-100mm	5µm	8	57	107	75mm
390-005-01	100-125mm	6µm	17	71.5	132.5	100mm
390-006-01	125-150mm	6µm	17	84	157.5	125mm
390-007-01	150-175mm	7µm	20	98.5	185	150mm
390-008-01	175-200mm	7µm	20	111	210.5	175mm
390-009-01	200-225mm	8µm	20	124	236	200mm
390-010-01	225-250mm	8µm	20	136.5	261	225mm
390-011-01	250-275mm	9µm	20	149	287	250mm
390-012-01	275-300mm	9µm	20	162	312	275mm



Setting standards (included)



\* With manufacturer inspection certificate



**SERIES 321**

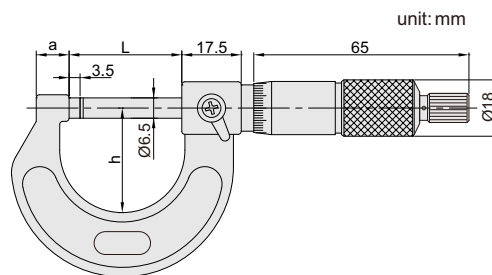
**OUTSIDE MICROMETER**



- ◆ Graduation: 0.01mm
- ◆ Carbide measuring faces
- ◆ Ratchet stop
- ◆ Setting standards are included (except 321-001-01)



321-001-01



Setting standards(included)



Code	Range	Accuracy	a	h	L	Setting standards (included)
321-001-01*	0-25mm	4µm	9	29	32	-
321-002-01*	25-50mm	4µm	9	39	58	25mm
321-003-01*	50-75mm	5µm	10	53	83	50mm
321-004-01*	75-100mm	5µm	10	65	109	75mm
321-005-01	100-125mm	6µm	11.5	76	133	100mm
321-006-01	125-150mm	6µm	11.5	88	159	125mm
321-007-01	150-175mm	7µm	11.5	101	185	150mm
321-008-01	175-200mm	7µm	11.5	114	210	175mm
321-009-01	200-225mm	8µm	11.5	126	235	200mm
321-010-01	225-250mm	8µm	12	139	260	225mm
321-011-01	250-275mm	9µm	12.5	151	286	250mm
321-012-01	275-300mm	9µm	12.5	164	311	275mm



321-006-06



321-012-06

Code	Range	Total QTY.	Included micrometers	Setting standards(included)	Package
321-003-03*	0-75mm	3pcs	0-25, 25-50, 50-75mm	25, 50mm	blow mould case
321-004-04*	0-100mm	4pcs	0-25, 25-50, 50-75, 75-100mm	25, 50, 75mm	blow mould case
321-006-06	0-150mm	6pcs	0-25, 25-50, 50-75, 75-100, 100-125, 125-150mm	25, 50, 75, 100, 125mm	blow mould case
321-012-06	150-300mm	6pcs	150-175, 175-200, 200-225, 225-250, 250-275, 275-300mm	150, 175, 200, 225, 250, 275mm	aluminum box
321-012-12	0-300mm	12pcs	0-25, 25-50, 50-75, 75-100, 100-125, 125-150, 150-175, 175-200, 200-225, 225-250, 250-275, 275-300mm	25, 50, 75, 100, 125, 150, 175, 200, 225, 250, 275mm	aluminum box

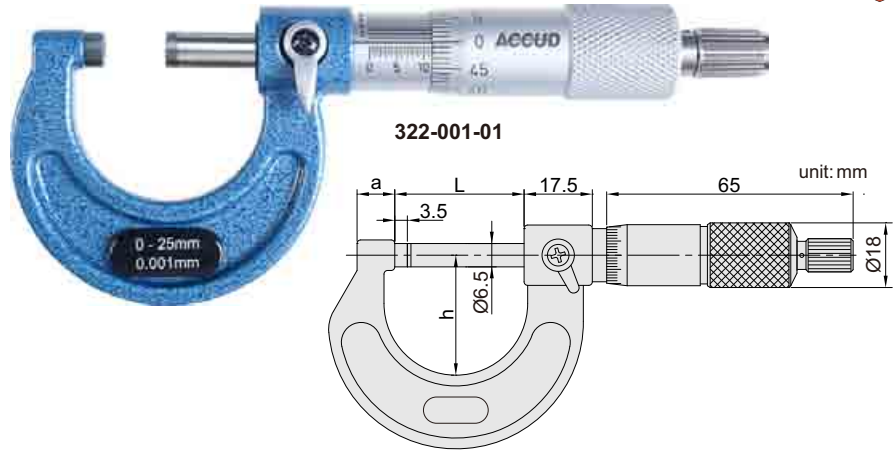
\* With manufacturer inspection certificate

## SERIES 322

## MICRO GRADUATION OUTSIDE MICROMETER



- ◆ Graduation: 0.001mm
- ◆ Carbide measuring faces
- ◆ Ratchet stop
- ◆ Setting standards are included (except 322-001-01)



Code	Range	Accuracy	a	h	L	Setting standards(included)
322-001-01*	0-25mm	4μm	9	29	32	-
322-002-01*	25-50mm	4μm	9	39	58	25mm
322-003-01*	50-75mm	5μm	10	53	83	50mm
322-004-01*	75-100mm	5μm	10	65	109	75mm
322-005-01	100-125mm	6μm	11.5	76	133	100mm
322-006-01	125-150mm	6μm	11.5	88	159	125mm
322-007-01	150-175mm	7μm	11.5	101	185	150mm
322-008-01	175-200mm	7μm	11.5	114	210	175mm

\* With manufacturer inspection certificate

Setting standards (included)

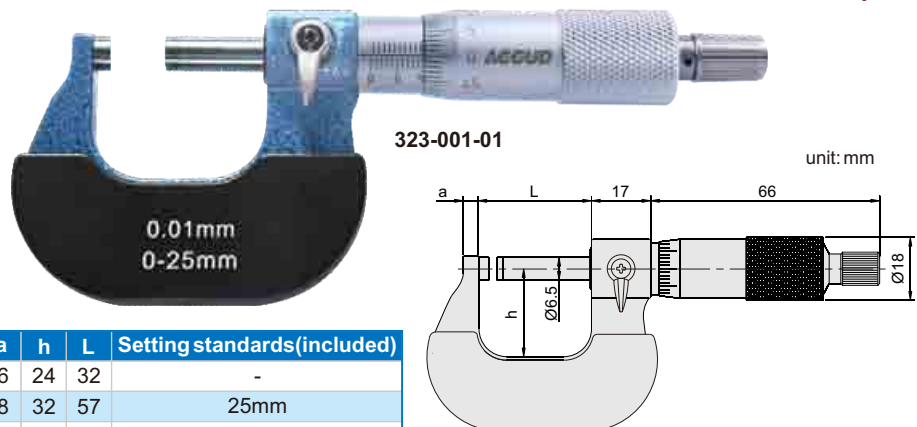


## SERIES 323

## OUTSIDE MICROMETER



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



Code	Range	Accuracy	a	h	L	Setting standards(included)
323-001-01*	0-25mm	4μm	6	24	32	-
323-002-01*	25-50mm	4μm	8	32	57	25mm
323-003-01*	50-75mm	5μm	8	45	82	50mm
323-004-01*	75-100mm	5μm	8	57	107	75mm
323-005-01	100-125mm	6μm	8	70	133	100mm
323-006-01	125-150mm	6μm	8	82	125	125mm
323-007-01	150-175mm	7μm	8	95	183	150mm
323-008-01	175-200mm	7μm	8	107	209	175mm

Set

Code	Range	Total QTY.	Included micrometers
323-003-03*	0-75mm	3pcs	0-25mm, 25-50mm/, 50-75mm
323-004-04*	0-100mm	4pcs	0-25mm, 25-50mm, 50-75mm, 75-100mm
323-006-06	0-150mm	6pcs	0-25mm, 25-50mm, 50-75mm, 75-100mm, 100-125mm, 125-150mm

\* With manufacturer inspection certificate



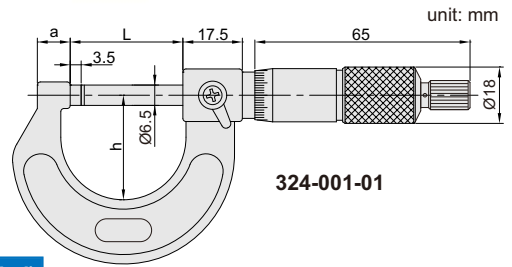
**SERIES 324**

**OUTSIDE MICROMETER**

- ◆ Graduation: 0.0001in
- ◆ Carbide measuring faces
- ◆ Ratchet stop
- ◆ Setting standards are included (except 324-001-01)



324-003-01



324-001-01

Code	Range	Accuracy	a	h	L	Setting standards (included)
324-001-01	0-1"	±0.00016"	9	29	32	-
324-002-01	1-2"	±0.00016"	14	39	58	1"
324-003-01	2-3"	±0.0002"	15	53	83	2"
324-004-01	3-4"	±0.0002"	15	65	109	3"
324-005-01	4-5"	±0.00024"	16.5	76	133	4"
324-006-01	5-6"	±0.00024"	16.5	88	159	5"
324-007-01	6-7"	±0.00028"	19.4	101	32	6"
324-008-01	7-8"	±0.00028"	19.4	114	58	7"
324-009-01	8-9"	±0.00031"	19.4	126	83	8"
324-010-01	9-10"	±0.00031"	19.4	139	109	9"
324-011-01	10-11"	±0.00035"	19.4	151	133	10"
324-012-01	11-12"	±0.00035"	19.4	164	159	11"

Setting standards (included)



324-006-06



324-012-06

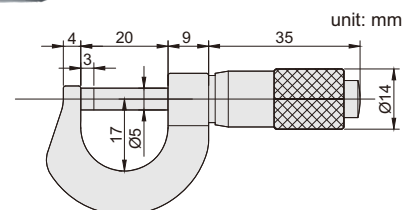
**MICROMETER SET**

Code	Range	Total quantity	Included micrometers	Setting standards(included)	Package
324-003-03	0-3"	3pcs	0-1", 1-2", 2-3"	1", 2"	blow mould case
324-004-04	0-4"	4pcs	0-1", 1-2", 2-3", 3-4"	1", 2", 3"	blow mould case
324-006-06	0-6"	6pcs	0-1", 1-2", 2-3", 3-4", 4-5", 5-6"	1", 2", 3", 4", 5"	blow mould case
324-012-06	6-12"	6pcs	6-7", 7-8", 8-9", 9-10", 10-11", 11-12"	6", 7", 8", 9", 10", 11"	aluminum box
324-012-12	0-12"	12pcs	0-1", 1-2", 2-3", 3-4", 4-5", 5-6", 6-7", 7-8", 8-9", 9-10", 10-11", 11-12"	1", 2", 3", 4", 5", 6", 7", 8", 9", 10", 11"	aluminum box

**320**

**MINI OUTSIDE MICROMETER**

- ◆ Chrome plated frame
- ◆ Pocket size, easy to carry



Code	Range	Graduation
320-015-01	0-15mm	0.01mm





- ◆ Resolution 0.001mm/0.0001" (resolution of **315-004-01** and **315-006-01** is 0.001mm/0.00005")
- ◆ IP65 protection level
- ◆ Button: on/off, set, mm/inch, ABS/INC, data output
- ◆ Automatic power off
- ◆ Data output
- ◆ Carbide measuring faces
- ◆ Supplied with setting standards

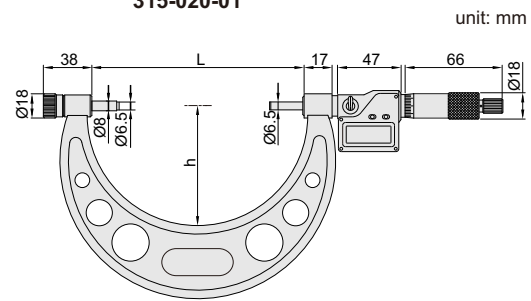


**315-004-01**

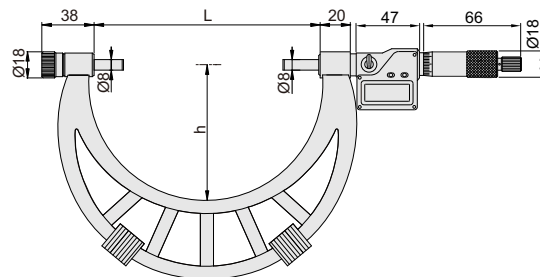


**315-020-01**

**Setting standards (included)**



**type A**



**type B**

Code	Range	Accuracy	L	h	Type	Setting standards (included)
<b>315-004-01</b>	0-100mm/0-4"	±5µm	105	57	A	25,50,75mm
<b>315-006-01</b>	0-150mm/0-6"	±6µm	155	82	A	25,50,75,100,125mm
<b>315-012-01</b>	150-300mm/6-12"	±8µm	305	165	A	150,175,200,225,250,275mm
<b>315-012-02</b>	200-300mm/8-12"	±8µm	305	165	A	200,225,250,275mm
<b>315-016-01</b>	300-400mm/12-16"	±9µm	405	224	B	325,375mm
<b>315-020-01</b>	400-500mm/16-20"	±11µm	505	275	B	425,475mm
<b>315-024-01</b>	500-600mm/20-24"	±12µm	605	321	B	525,575mm
<b>315-028-01</b>	600-700mm/24-28"	±13µm	705	371	B	625,675mm
<b>315-032-01</b>	700-800mm/28-32"	±15µm	805	426	B	725,775mm
<b>315-036-01</b>	800-900mm/32-36"	±16µm	905	476	B	825,875mm
<b>315-040-01</b>	900-1000mm/36-40"	±17µm	1005	576	B	925,975mm

## SERIES 325

## OUTSIDE MICROMETER WITH INTERCHANGEABLE ANVILS

- ◆ Graduation: 0.01mm
- ◆ Ratchet stop
- ◆ Carbide measuring faces
- ◆ Supplied with setting standards



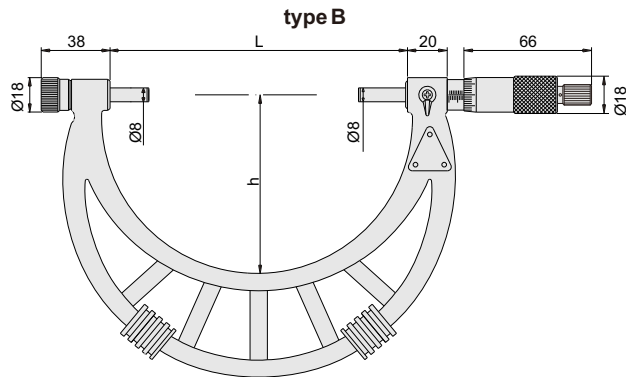
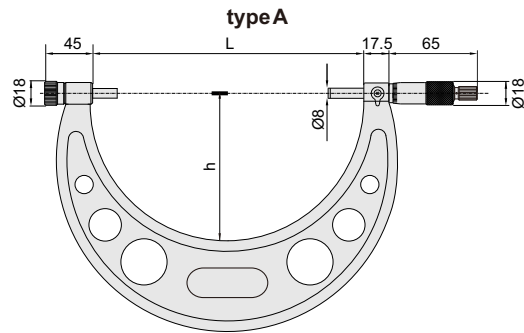
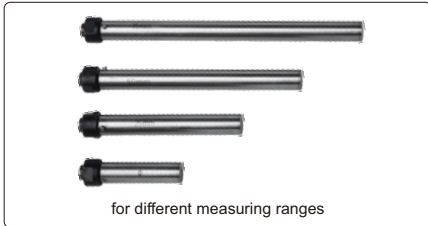
325-006-01

unit:mm

### Setting standards (included)



### Interchangeable anvils (included)



Code	Range	Type	Accuracy	L	h	Setting standards(included)
325-002-01	0-50mm	A	4μm	58	35	25mm
325-004-01	0-100mm	A	5μm	108	57	25,50,75mm
325-006-01	0-150mm	A	6μm	158	82	25,50,75,100,125mm
325-008-01	100-200mm	A	7μm	208	114	100,125,150,175mm
325-012-01	150-300mm	A	9μm	308	165	150,175,200,225,250,275mm
325-006-02	50-150mm	A	6μm	158	82	50,75,100,125mm
325-012-02	200-300mm	A	9μm	308	165	200,225,250,275mm
325-016-02	300-400mm	B	11μm	409	224	325,375mm
325-020-02	400-500mm	B	13μm	509	275	425,475mm
325-024-02	500-600mm	B	14μm	609	321	525,575mm
325-028-02	600-700mm	B	16μm	709	371	625,675mm
325-032-02	700-800mm	B	18μm	809	426	725,775mm
325-036-02	800-900mm	B	20μm	909	476	825,875mm
325-040-02	900-1000mm	B	22μm	1009	576	925,975mm

## SERIES 325

## OUTSIDE MICROMETER WITH INTERCHANGEABLE ANVILS

- ◆ Graduation: .0001" (within 12")  
.001" (over 12")
- ◆ Ratchet stop
- ◆ Carbide measuring faces
- ◆ Supplied with setting standards

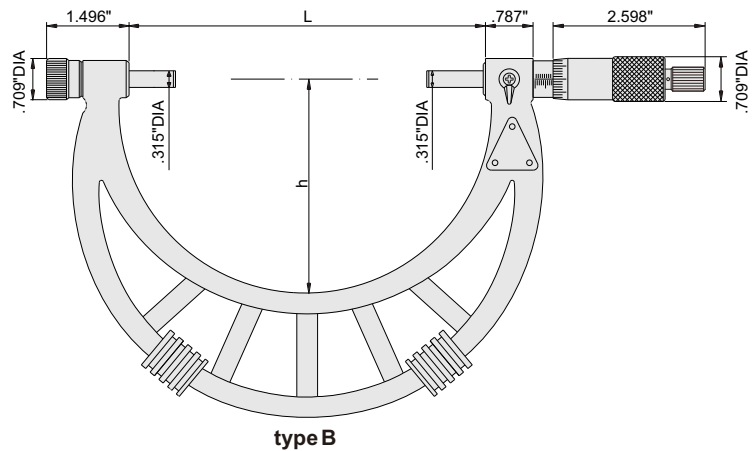
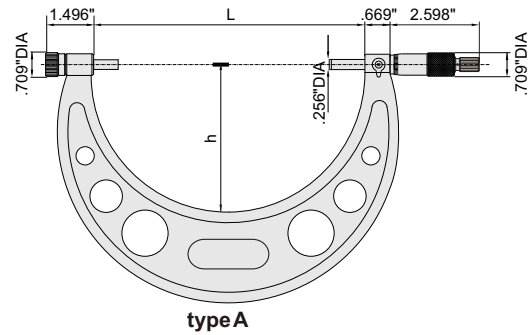
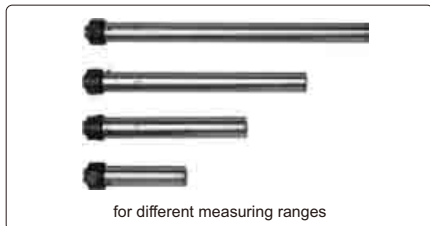


325-006-E01

Setting standards (included)



Interchangeable anvils (included)



Code	Range	Type	Accuracy	L	h	Setting standards (included)
325-002-E01	0-2"	A	.00015"	2.283"	1.378"	1"
325-004-E01	0-4"	A	.00020"	4.252"	2.244"	1", 2", 3"
325-006-E01	0-6"	A	.00025"	6.220"	3.228"	1", 2", 3", 4", 5"
325-008-E01	4-8"	A	.00030"	8.189"	4.488"	4", 5", 6", 7"
325-012-E01	6-12"	A	.00035"	12.126"	6.496"	6", 7", 8", 9", 10", 11"
325-016-E02	12-16"	B	.00045"	16.102"	8.819"	13", 15"
325-020-E02	16-20"	B	.00050"	20.039"	10.827"	17", 19"
325-024-E02	20-24"	B	.00055"	23.976"	12.638"	21", 23"
325-028-E02	24-28"	B	.00065"	27.913"	14.606"	25", 27"
325-032-E02	28-32"	B	.00070"	31.850"	16.772"	29", 31"
325-036-E02	32-36"	B	.00080"	35.787"	18.740"	33", 35"
325-040-E02	36-40"	B	.00085"	39.724"	22.677"	37", 39"



## SERIES 329

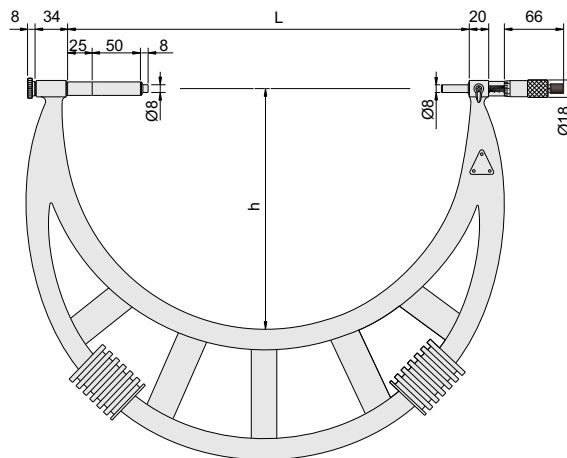
## OUTSIDE MICROMETER WITH EXTENSION ANVIL

- ◆ Adjust collars for different measuring ranges
- ◆ Graduation 0.01mm
- ◆ Ratchet stop
- ◆ Carbide measuring faces
- ◆ Supplied with setting standards

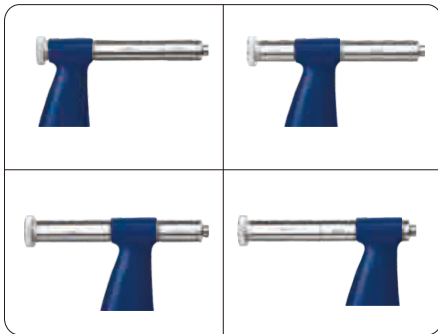


329-016-01

unit: mm



Adjust collars for different measuring ranges



Setting standards(included)



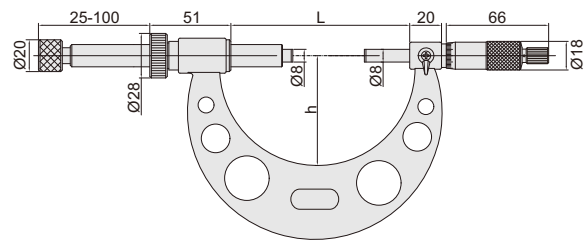
Code	Range	Accuracy	L	h	Setting standards(included)
329-016-01	300-400mm	11µm	410	250	325,375mm
329-020-01	400-500mm	13µm	510	275	425,475mm
329-024-01	500-600mm	14µm	610	320	525,575mm
329-028-01	600-700mm	16µm	710	370	625,675mm
329-032-01	700-800mm	18µm	810	425	725,775mm
329-036-01	800-900mm	20µm	910	475	825,875mm
329-040-01	900-1000mm	22µm	1010	575	925,975mm
329-048-01	1000-1200mm	22µm	1210	645	1050,1150mm
329-056-01	1200-1400mm	24µm	1410	745	1250,1350mm
329-064-01	1400-1600mm	28µm	1610	845	1450,1550mm
329-072-01	1600-1800mm	31µm	1810	945	1650,1750mm
329-080-01	1800-2000mm	34µm	2010	1045	1850,1950mm



**430-012-01**

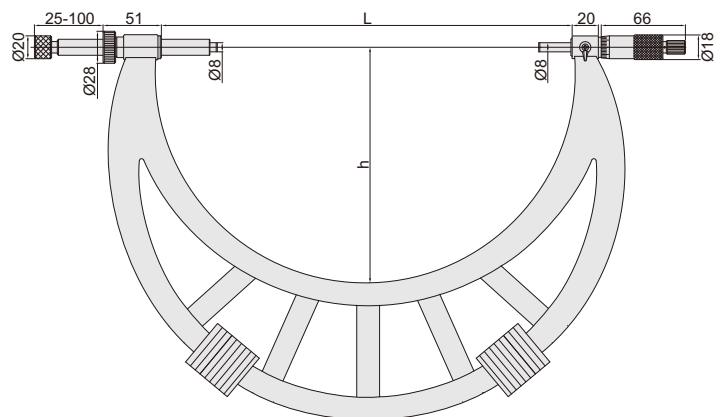
- ◆ Meet DIN863-3
- ◆ Graduation 0.01 mm
- ◆ Ratchet stop
- ◆ Carbide measuring faces
- ◆ Supplied with setting standards
- ◆ Optional accessory: dial indicators or digital indicators

unit: mm



**Type A**

**Optional indicators(optional)**



**Type B**

Code	Range	Type	Accuracy	L	h
430-004-01	0-100mm	A	6µm	115	68
430-008-01	100-200mm	A	7µm	215	120
430-012-01	200-300mm	A	8µm	315	170
430-016-01	300-400mm	B	9µm	415	225
430-020-01	400-500mm	B	10µm	515	275
430-024-01	500-600mm	B	11µm	615	325
430-028-01	600-700mm	B	12µm	715	375
430-032-01	700-800mm	B	13µm	815	430
430-036-01	800-900mm	B	14µm	915	480
430-040-01	900-1000mm	B	15µm	1015	530

**Setting standards(included)**



**SERIES 316**

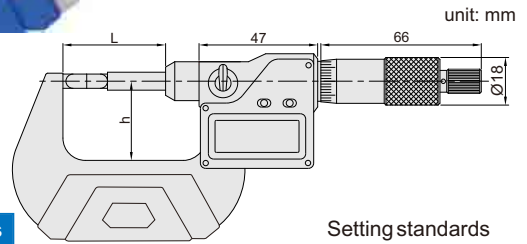
**DIGITAL BLADE MICROMETER**



- ◆ Measure the groove diameter of shafts and keyways
- ◆ Resolution 0.001mm/0.00005"
- ◆ Non-rotating spindle
- ◆ Button: on/off, set, mm/inch, ABS/INC
- ◆ Automatic power off
- ◆ Data output
- ◆ Ratchet stop
- ◆ Supplied with setting standards(except 0-25mm/0-1")

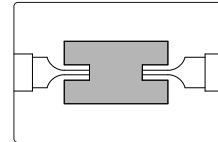


316-001-01

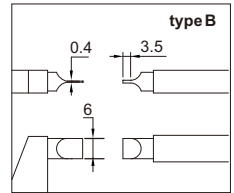
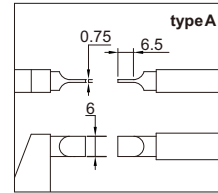


Code	Range	Accuracy	Type	h	L	Setting standards (included)
316-001-01	0-25mm/0-1"	±4µm	A	32	57	-
316-002-01	25-50mm/1-2"	±4µm	A	44.5	82	25mm
316-003-01	50-75mm/2-3"	±5µm	A	57	107	50mm
316-004-01	75-100mm/3-4"	±5µm	A	70	133	75mm
316-005-01	100-125mm/4-5"	±6µm	A	82	158	100mm
316-006-01	125-150mm/5-6"	±6µm	A	94.5	183.4	125mm
316-007-01	150-175mm/6-7"	±7µm	A	107	208.8	150mm
316-001-02	0-25mm/0-1"	±4µm	B	32	57	-
316-002-02	25-50mm/1-2"	±4µm	B	44.5	82	25mm

Application



Setting standards (included)



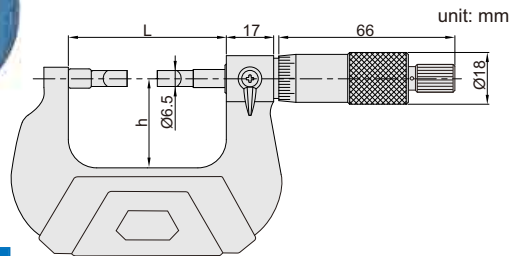
**SERIES 326**

**BLADE MICROMETER**

- ◆ Measure the small groove diameter
- ◆ Graduation: 0.01mm
- ◆ Non-rotating spindle
- ◆ Ratchet stop
- ◆ Setting standards are included (except 0-25mm)



326-001-03

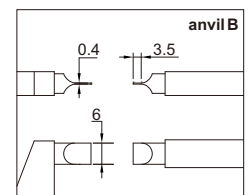
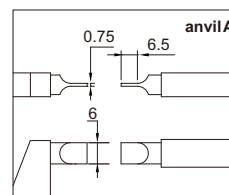
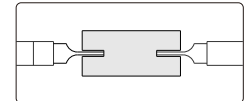


Code	Range	Anvil	Accuracy	h	L	Setting standards (included)
326-001-03	0-25mm	A	4µm	35	57	-
326-002-03	25-50mm	A	4µm	46	82	25mm
326-003-03	50-75mm	A	5µm	58	107	50mm
326-004-03	75-100mm	A	5µm	70	133	75mm
326-005-03	100-125mm	A	6µm	83	158	100mm
326-006-03	125-150mm	A	6µm	96	183	125mm
326-007-03	150-175mm	A	7µm	109	209	150mm
326-001-04	0-25mm	B	4µm	35	57	-
326-002-04	25-50mm	B	4µm	46	82	25mm

Setting standards (included)



Application



## SERIES 317

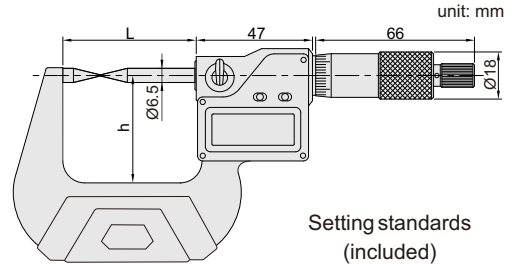
## DIGITAL POINT MICROMETER



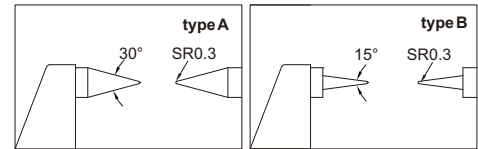
- ◆ Measure the web thickness of drills, small grooves and keyways
- ◆ Resolution 0.001mm/0.00005"
- ◆ IP65 protection level
- ◆ Button: on/off, set, mm/inch, ABS/INC, data output
- ◆ Automatic power off
- ◆ Data output
- ◆ Ratchet stop
- ◆ Carbide tips
- ◆ Supplied with setting standards (except 0-25mm/0-1")



317-002-02



Setting standards (included)



Code	Range	Accuracy	Type	h	L	Setting standards (included)
317-001-01	0-25mm/0-1"	±4μm	A	32	57	-
317-002-01	25-50mm/1-2"	±4μm	A	44.5	82	25mm
317-003-01	50-75mm/2-3"	±5μm	A	57	107	50mm
317-004-01	75-100mm/3-4"	±5μm	A	70	133	75mm
317-001-02	0-25mm/0-1"	±4μm	B	32	57	-
317-002-02	25-50mm/1-2"	±4μm	B	44.5	82	25mm
317-003-02	50-75mm/2-3"	±5μm	B	57	107	50mm
317-004-02	75-100mm/3-4"	±5μm	B	70	133	75mm

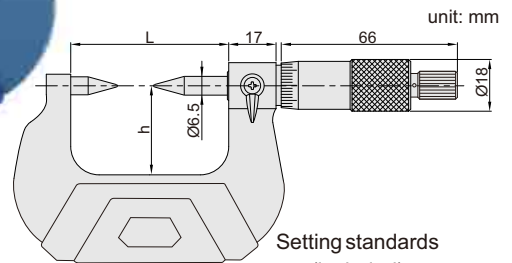
## SERIES 327

## POINT MICROMETER

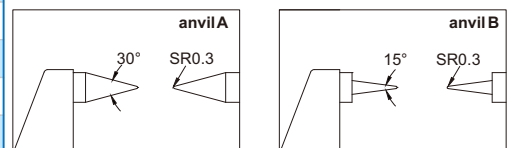
- ◆ Measure the thickness of drills, small grooves and keyways
- ◆ Graduation: 0.01mm
- ◆ Ratchet stop
- ◆ Carbide measuring faces
- ◆ Setting standards are included (except 0-25mm)



327-002-03



Setting standards (included)



Code	Range	Anvil	Accuracy	h	L	Setting standards (included)
327-001-03	0-25mm	A	4μm	39	58	-
327-002-03	25-50mm	A	4μm	53	83	25mm
327-003-03	50-75mm	A	5μm	65	109	50mm
327-004-03	75-100mm	A	5μm	76	133	75mm
327-001-04	0-25mm	B	4μm	39	58	-
327-002-04	25-50mm	B	4μm	53	83	25mm
327-003-04	50-75mm	B	5μm	65	109	50mm
327-004-04	75-100mm	B	5μm	76	133	75mm

**SERIES 318**

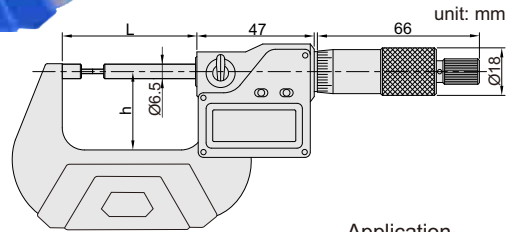
**DIGITAL SPLINE MICROMETER**



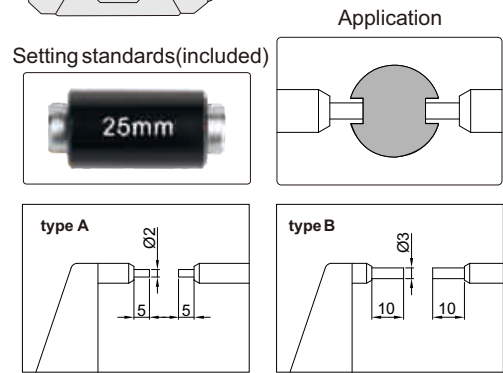
- ◆ Measure splined shafts, slots and keyways
- ◆ Resolution 0.001mm/0.00005"
- ◆ IP65 protection level
- ◆ Button: on/off, set, mm/inch, ABS/INC, data output
- ◆ Automatic power off
- ◆ Data output
- ◆ Ratchet stop
- ◆ Carbide measuring faces
- ◆ Supplied with setting standards (except 0-25mm/0-1")



318-001-02



Code	Range	Accuracy	Type	h	L	Setting standards (included)
318-001-01	0-25mm/0-1"	±4µm	A	32	57	-
318-002-01	25-50mm/1-2"	±4µm	A	44.5	82	25mm
318-003-01	50-75mm/2-3"	±5µm	A	57	107	50mm
318-004-01	75-100mm/3-4"	±5µm	A	70	133	75mm
318-001-02	0-25mm/0-1"	±4µm	B	32	57	-
318-002-02	25-50mm/1-2"	±4µm	B	44.5	82	25mm
318-003-02	50-75mm/2-3"	±5µm	B	57	107	50mm
318-004-02	75-100mm/3-4"	±5µm	B	70	133	75mm



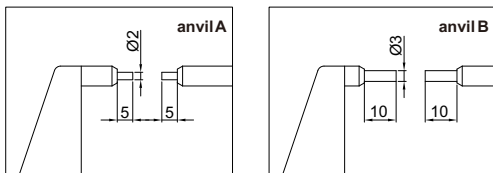
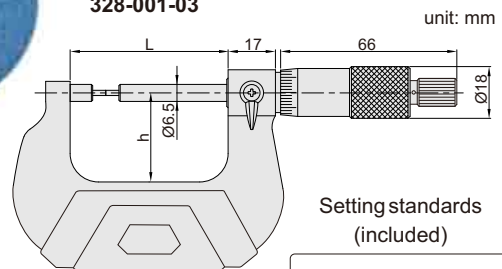
**SERIES 328**

**SPLINE MICROMETER**

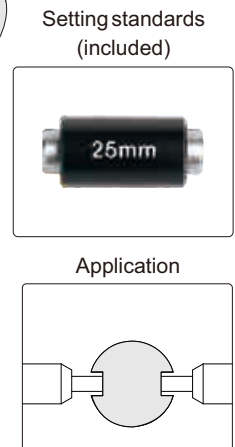
- ◆ Measure grooves and sharped parts
- ◆ Graduation: 0.01mm
- ◆ Carbide measuring faces
- ◆ Ratchet stop
- ◆ Setting standards are included (except 0-25mm)



328-001-03



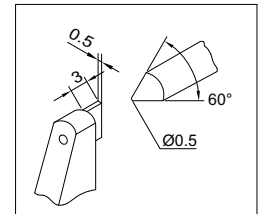
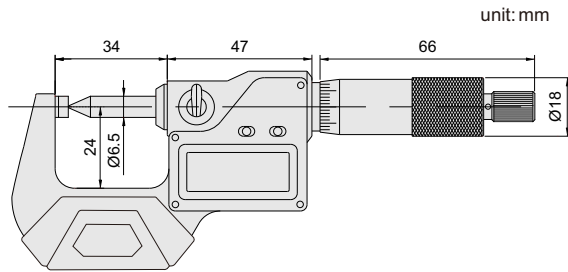
Code	Range	Anvil	Accuracy	h	L	Setting standards(included)
328-001-03	0-25mm	B	4µm	39	58	-
328-002-03	25-50mm	B	4µm	53	83	25mm
328-003-03	50-75mm	B	5µm	65	109	50mm
328-004-03	75-100mm	B	5µm	76	133	75mm
328-005-03	100-125mm	B	6µm	82	158	100mm
328-006-03	125-150mm	B	6µm	94.5	183.4	125mm
328-007-03	150-175mm	B	7µm	107	208.8	150mm
328-001-04	0-25mm	A	4µm	39	58	-







- ◆ Measure the height of crimp contact
- ◆ Resolution 0.001mm/0.00005"
- ◆ IP65 protection level
- ◆ Button: on/off, set, mm/inch, ABS/INC, data output
- ◆ Automatic power off
- ◆ Data output
- ◆ Ratchet stop



Code	Range	Accuracy
319-001-01	0-25mm/0-1"	±4µm

SERIES 346

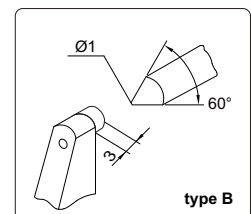
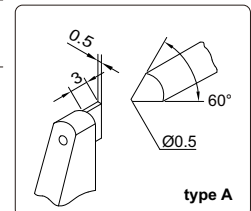
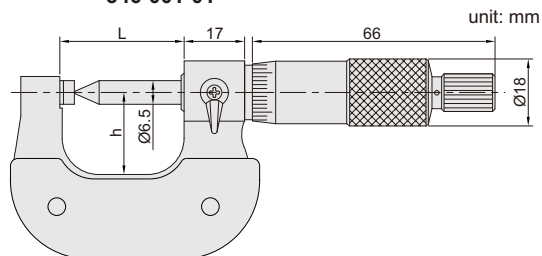
CRIMP HEIGHT MICROMETER

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



346-001-01

Setting standards(included)



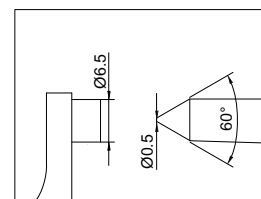
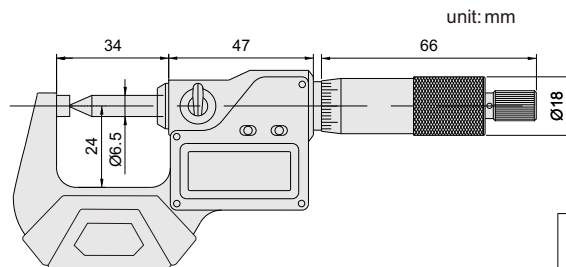
Code	Range	Accuracy	Type	L	h	Setting standards (included)
346-001-01	0-25mm	4µm	A	34	24	-
346-001-02	0-25mm	4µm	B	34	24	-
346-002-02	25-50mm	4µm	B	59	32	25
346-003-02	50-75mm	5µm	B	85	45	50
346-004-02	75-100mm	5µm	B	110	57	75

319

DIGITAL POINT MICROMETER



- ◆ Measure the height of crimp contact
- ◆ Resolution 0.001mm/0.00005"
- ◆ IP65 protection level
- ◆ Button: on/off, set, mm/inch, ABS/INC, data output
- ◆ Automatic power off
- ◆ Data output
- ◆ Ratchet stop



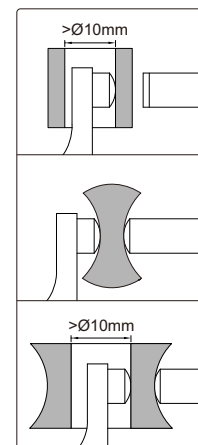
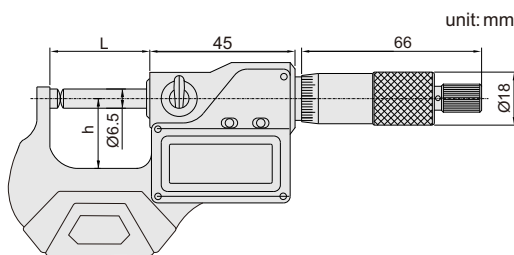
Code	Range	Accuracy
319-001-21	0-25mm/0-1"	±4µm

SERIES 331

DIGITAL SPHERICAL ANVIL TUBE MICROMETER

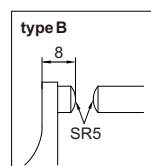
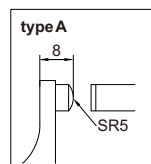


- ◆ Measure wall thickness of tubes
- ◆ Resolution 0.001mm/0.00005"
- ◆ IP65 protection level
- ◆ Button: on/off, set, mm/inch, ABS/INC, data output
- ◆ Automatic power off
- ◆ Data output
- ◆ Ratchet stop
- ◆ Carbide measuring faces
- ◆ Supplied with setting standards (except 0-25mm/0-1")



Code	Range	Accuracy	Type	L	h	Setting standards(included)
331-001-01	0-25mm/0-1"	4µm	A	32	24	-
331-002-01	25-50mm/1-2"	4µm	A	57	32	25mm
331-003-01	50-75mm/2-3"	5µm	A	82	44.5	50mm
331-004-01	75-100mm/3-4"	5µm	A	107	57	75mm
331-001-02	0-25mm/0-1"	4µm	B	32	24	100mm
331-002-02	25-50mm/1-2"	4µm	B	57	32	125mm
331-003-02	50-75mm/2-3"	5µm	B	82	44.5	150mm
331-004-02	75-100mm/3-4"	5µm	B	107	57	175mm

Setting standards (included)



**SERIES 340**

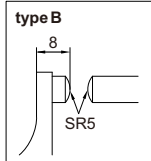
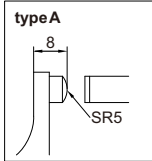
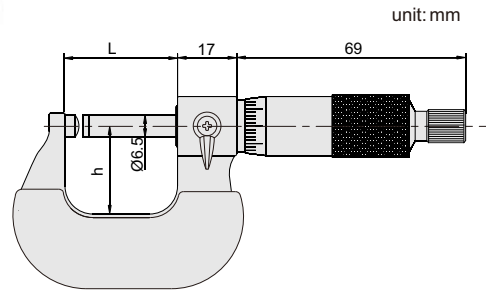
**SPHERICAL ANVIL TUBE MICROMETER**

- ◆ Measure wall thickness of tubes
- ◆ Graduation: 0.01mm
- ◆ Carbide measuring faces
- ◆ Ratchet stop
- ◆ Setting standards are included (except 0-25mm)

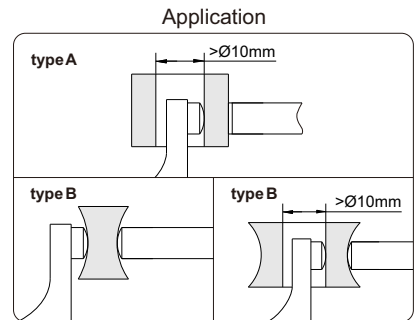


Setting standards (included)

340-001-01



Code	Range	Type	Accuracy	L	h	Setting standards (included)
340-001-01	0-25mm	A	4μm	32	24	-
340-002-01	25-50mm	A	4μm	57	32	25mm
340-003-01	50-75mm	A	5μm	82	44.5	50mm
340-004-01	75-100mm	A	5μm	107	57	75mm
340-005-01	100-125mm	A	6μm	133	70	100mm
340-006-01	125-150mm	A	6μm	158	82	125mm
340-007-01	150-175mm	A	7μm	183	95	150mm
340-001-02	0-25mm	B	4μm	32	24	-
340-002-02	25-50mm	B	4μm	57	32	25mm
340-003-02	50-75mm	B	5μm	82	44.5	50mm
340-004-02	75-100mm	B	5μm	107	57	75mm
340-005-02	100-125mm	B	6μm	133	70	100mm
340-006-02	125-150mm	B	6μm	158	82	125mm
340-007-02	150-175mm	B	7μm	183	95	150mm



**SERIES 380**

**DIGITAL CYLINDRICAL ANVIL TUBE MICROMETER**

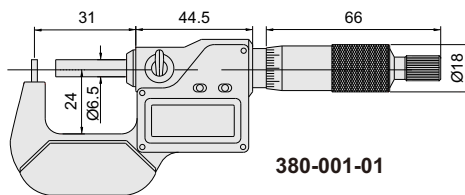


- ◆ Measure wall thickness of tubes
- ◆ Resolution 0.001mm/0.00005"
- ◆ IP65 protection level
- ◆ Button: on/off, set, mm/inch, ABS/INC, data output
- ◆ Automatic power off
- ◆ Data output
- ◆ Ratchet stop
- ◆ Carbide spindle tip

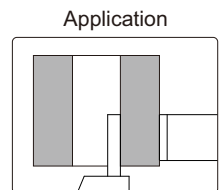


380-001-04

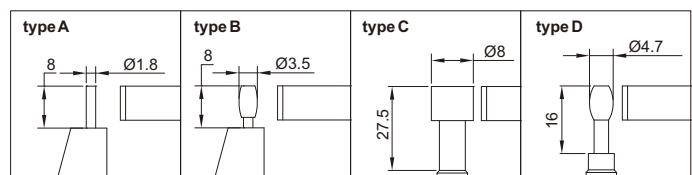
unit: mm



380-001-01



Code	Range	Accuracy	Type
380-001-01	0-25mm/0-1"	±6μm	A
380-001-02	0-25mm/0-1"	±6μm	B
380-001-03	0-25mm/0-1"	±6μm	C
380-001-04	0-25mm/0-1"	±6μm	D

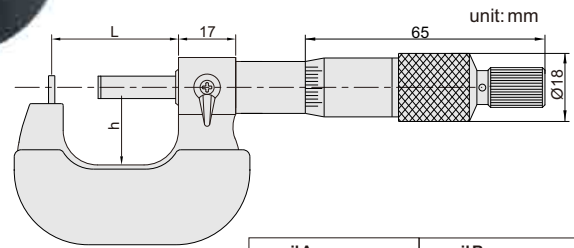


**SERIES 341 TUBE MICROMETER**

- ◆ Measure the wall thickness of tube, bearing and rings
- ◆ Graduation: 0.01mm
- ◆ Carbide measuring faces
- ◆ Ratchet stop
- ◆ Setting standards are included (except 0-25mm)



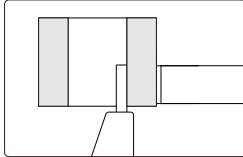
341-001-01



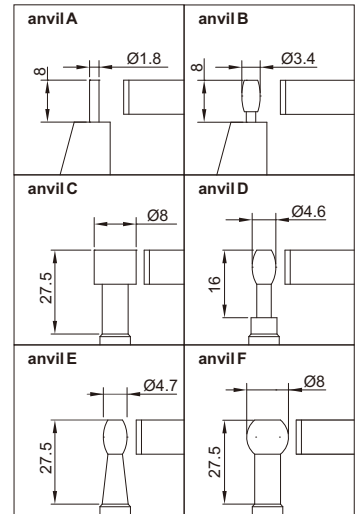
Setting standards(included)



Application



Code	Range	Anvil	Accuracy	h	L	Setting standards (included)
341-001-01	0-25mm	A	6µm	24	32	-
341-002-01	25-50mm	A	6µm	32	57	25mm
341-001-02	0-25mm	B	6µm	24	34	-
341-002-02	25-50mm	B	6µm	32	57	25mm
341-001-03	0-25mm	C	6µm	24	31	-
341-002-03	25-50mm	C	6µm	32	61	25mm
341-001-04	0-25mm	D	6µm	24	30	-
341-002-04	25-50mm	D	6µm	32	61	25mm
341-001-05	0-25mm	E	6µm	25	30	-
341-002-05	25-50mm	E	6µm	32	61	25mm
341-001-06	0-25mm	F	6µm	25	31	-
341-002-06	25-50mm	F	6µm	32	61	25mm



**332**

**DIGITAL NON ROTATING SPINDLE DISK MICROMETER**

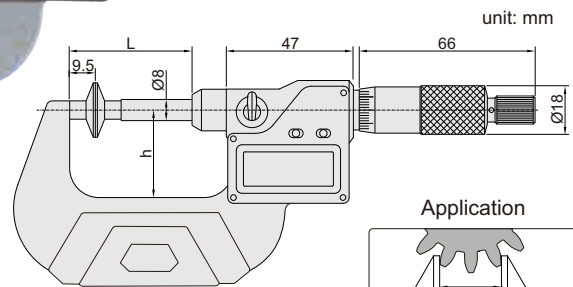


- ◆ Measure root tangent length of gear
- ◆ Resolution 0.001mm/0.00005"
- ◆ Non-rotating spindle
- ◆ Button: on/off, set, mm/inch, ABS/INC, data output
- ◆ Automatic power off
- ◆ Data output
- ◆ Ratchet stop
- ◆ Supplied with setting standards (except 332-001-01)

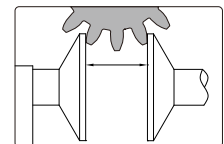


332-001-01

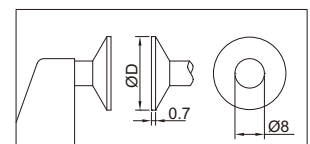
Setting standards(included)



Application



Code	Range	Accuracy	L	h	ØD	Setting standards (included)
332-001-01	0-25mm/0-1"	±4µm	43	32	20	-
332-002-01	25-50mm/1-2"	±4µm	68	44.5	20	25mm
332-003-01	50-75mm/2-3"	±5µm	93	57	20	50mm
332-004-01	75-100mm/3-4"	±5µm	118.5	70	20	75mm
332-005-01	100-125mm/4-5"	±6µm	144	82	30	100mm
332-006-01	125-150mm/5-6"	±6µm	169.5	94.5	30	125mm





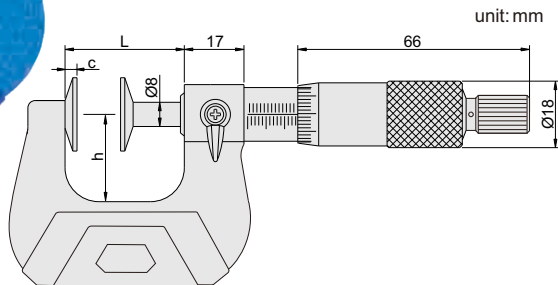
**SERIES 342**

**DISK MICROMETER**

- ◆ Measure root tangent length of gear
- ◆ Graduation 0.01mm
- ◆ Ratchet stop
- ◆ Supplied with setting standards (except 0-25mm)



342-002-02

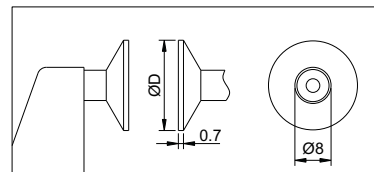
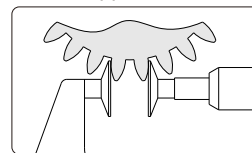


Setting standards(included)



Code	Range	Accuracy	L	h	c	ØD	Setting standards (included)
342-001-02	0-25mm	4µm	34	24	3.3	20	-
342-002-02	25-50mm	4µm	59	32	3.3	20	25mm
342-003-02	50-75mm	5µm	85	45	3.3	20	50mm
342-004-02	75-100mm	5µm	110	57	3.3	20	75mm
342-005-02	100-125mm	6µm	138	70	4.3	30	100mm
342-006-02	125-150mm	6µm	163	82	4.3	30	125mm
342-007-02	150-175mm	7µm	188	95	4.3	30	150mm
342-008-02	175-200mm	7µm	214	107	4.3	30	175mm

Application



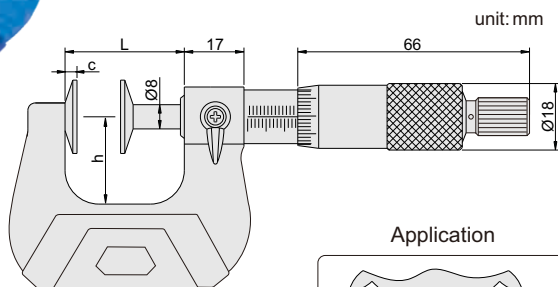
**SERIES 342**

**NON-ROTATING SPINDLE DISK MICROMETER(ECONOMIC TYPE)**

- ◆ Measure root tangent length of gear
- ◆ Graduation 0.01mm
- ◆ Non-rotating spindle
- ◆ Ratchet stop
- ◆ Supplied with setting standards (except 0-25mm)



342-002-01

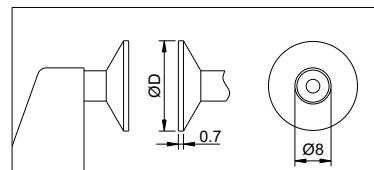
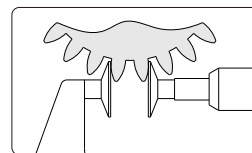


Setting standards(included)



Code	Range	Accuracy	Parallelism	L	h	c	ØD	Setting standards (included)
342-001-01	0-25mm	4µm	5µm	34	24	3.3	20	-
342-002-01	25-50mm	4µm	5µm	59	32	3.3	20	25mm
342-003-01	50-75mm	5µm	5µm	85	45	3.3	20	50mm
342-004-01	75-100mm	5µm	5µm	110	57	3.3	20	75mm
342-005-01	100-125mm	6µm	5µm	138	70	4.3	30	100mm
342-006-01	125-150mm	6µm	5µm	163	82	4.3	30	125mm

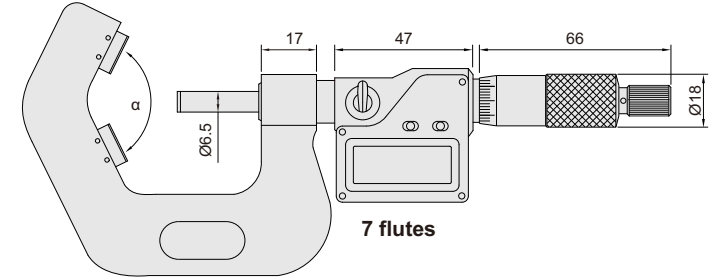
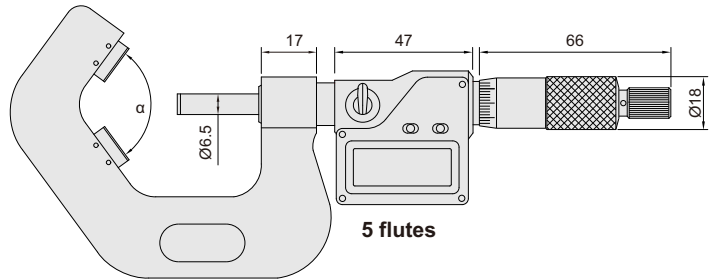
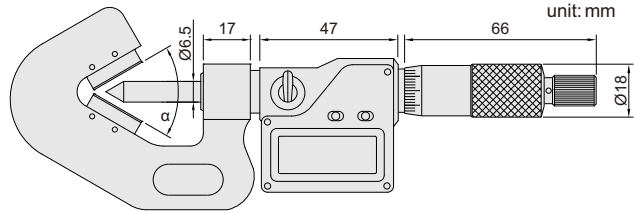
Application



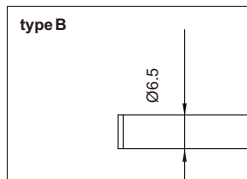
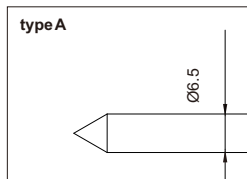


334-020-01

- ◆ Measure the diameter of parts or cutting tools with odd grooves such as taps, reamers and end mills
- ◆ Resolution: 0.001mm/0.00005"
- ◆ Button: on/off, set, mm/inch, ABS/INC, data output
- ◆ Automatic power off, Ratchet stop
- ◆ Data output
- ◆ Carbide measuring faces



Setting standards (included)

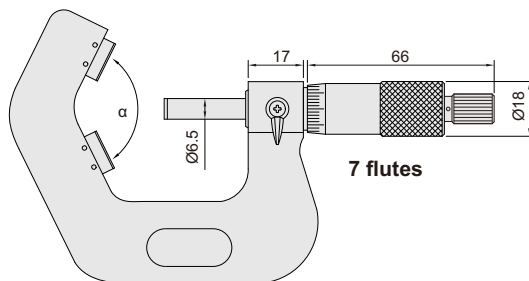
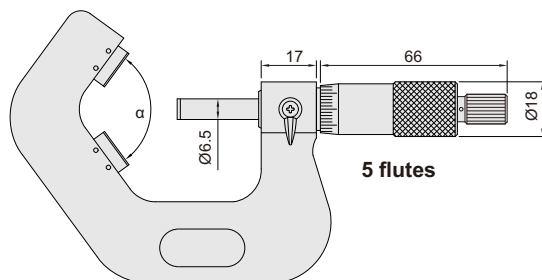
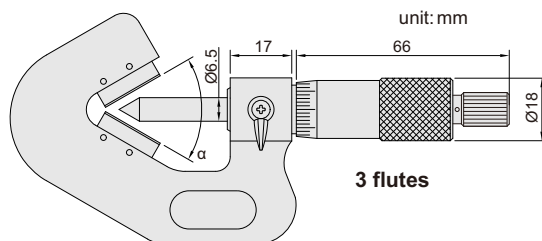


Code	Range	Accuracy	Flutes	$\alpha$	Type	Setting standards (included)
334-015-01	1-15mm/0.04-0.6"	$\pm 4\mu\text{m}$	3	$60^\circ$	A	5mm
334-020-01	5-20mm/0.2-0.8"	$\pm 4\mu\text{m}$	3	$60^\circ$	B	5mm
334-035-01	20-35mm/0.8-1.4"	$\pm 5\mu\text{m}$	3	$60^\circ$	B	20mm
334-050-01	35-50mm/1.4-2.0"	$\pm 5\mu\text{m}$	3	$60^\circ$	B	35mm
334-065-01	50-65mm/2.0-2.6"	$\pm 6\mu\text{m}$	3	$60^\circ$	B	50mm
334-080-01	65-80mm/2.6-3.2"	$\pm 6\mu\text{m}$	3	$60^\circ$	B	65mm
334-095-01	80-95mm/3.2-3.6"	$\pm 6\mu\text{m}$	3	$60^\circ$	B	80mm
334-025-55	5-25mm/0.2-1.0"	$\pm 4\mu\text{m}$	5	$108^\circ$	B	5mm
334-045-55	25-45mm/1.0-1.8"	$\pm 5\mu\text{m}$	5	$108^\circ$	B	25mm
334-065-55	45-65mm/1.8-2.6"	$\pm 6\mu\text{m}$	5	$108^\circ$	B	50mm
334-085-55	65-85mm/2.6-3.4"	$\pm 6\mu\text{m}$	5	$108^\circ$	B	65mm
334-105-55	85-105mm/3.3-4.2"	$\pm 6\mu\text{m}$	5	$108^\circ$	B	85mm
334-025-77	5-25mm/0.2-1.0"	$\pm 4\mu\text{m}$	7	$128^\circ 34' 17''$	B	5mm
334-045-77	25-45mm/1.0-1.8"	$\pm 4\mu\text{m}$	7	$128^\circ 34' 17''$	B	25mm
334-065-77	45-65mm/1.8-2.6"	$\pm 5\mu\text{m}$	7	$128^\circ 34' 17''$	B	50mm
334-085-77	65-85mm/2.6-3.4"	$\pm 5\mu\text{m}$	7	$128^\circ 34' 17''$	B	65mm

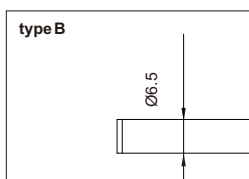
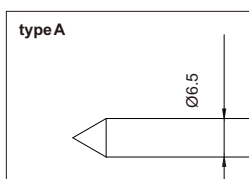


**334-006-01**

- ◆ Measure the diameter of parts or cutting tools with odd grooves such as taps, reamers and end mills
- ◆ Graduation 0.01mm
- ◆ Ratchet stop
- ◆ Carbide measuring faces
- ◆ Supplied with setting standards



Setting standards (included)



Code	Range	Accuracy	Flutes	$\alpha$	Type	Setting standards(included)
334-006-01	1-15mm	4 $\mu$ m	3	60°	A	5mm
334-008-01	5-20mm	4 $\mu$ m	3	60°	B	5mm
334-012-01	20-35mm	5 $\mu$ m	3	60°	B	20mm
334-019-01	35-50mm	5 $\mu$ m	3	60°	B	35mm
334-024-01	50-65mm	6 $\mu$ m	3	60°	B	50mm
334-032-01	65-80mm	6 $\mu$ m	3	60°	B	65mm
334-036-01	80-95mm	7 $\mu$ m	3	60°	B	80mm
334-025-05	5-25mm	4 $\mu$ m	5	108°	B	5mm
334-045-05	25-45mm	5 $\mu$ m	5	108°	B	25mm
334-065-05	45-65mm	6 $\mu$ m	5	108°	B	50mm
334-085-05	65-85mm	7 $\mu$ m	5	108°	B	65mm
334-025-07	5-25mm	4 $\mu$ m	7	128°34'17"	B	5mm
334-045-07	25-45mm	5 $\mu$ m	7	128°34'17"	B	25mm
334-065-07	45-65mm	6 $\mu$ m	7	128°34'17"	B	50mm
334-085-07	65-85mm	7 $\mu$ m	7	128°34'17"	B	65mm

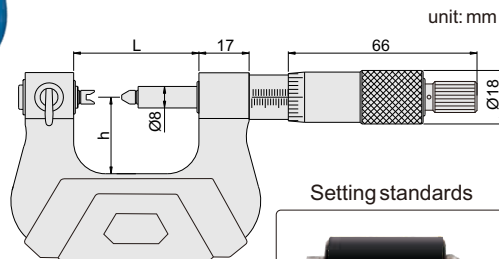
**SERIES 343**

**SCREW THREAD MICROMETER**

- ◆ Measure pitch diameter of screw threads
- ◆ Graduation 0.01mm
- ◆ Non-rotating spindle
- ◆ Ratchet stop
- ◆ Supplied with 60° setting standards (except 0-25mm)
- ◆ Optional accessory: 55° setting standards, measuring tips



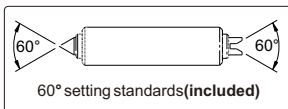
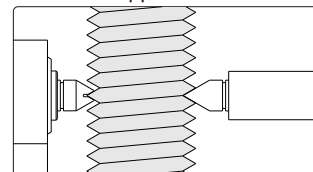
343-001-02



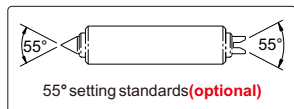
Setting standards



Application



60° setting standards (included)



55° setting standards (optional)

Code	Range	Micrometer head accuracy	L	h	Setting standards (included)
343-001-02	0-25mm	4µm	42	26	-
343-002-02	25-50mm	4µm	67	38	25mm
343-003-02	50-75mm	5µm	92	50	50mm
343-004-02	75-100mm	5µm	118	62	75mm
343-005-02	100-125mm	6µm	143	70	100mm
343-006-02	125-150mm	6µm	168	82	125mm
343-007-02	150-175mm	7µm	192	94.5	150mm
343-008-02	175-200mm	7µm	217	107	175mm
343-009-02	200-225mm	8µm	242	130	200mm
343-010-02	225-250mm	8µm	267	142	225mm
343-011-02	250-275mm	9µm	291	155	250mm
343-012-02	275-300mm	9µm	317	167	275mm

Accuracy of micrometers with tips

Pitch	Range (mm)							
	0-25	25-50	50-75	75-100	100-125	125-200	200-225	225-300
0.4-0.5	±0.01	-	-	-	-	-	-	-
0.6-0.8	±0.01	±0.013	-	-	-	-	-	-
1-1.25	±0.012	±0.015	±0.017	±0.017	-	-	-	-
1.5-2.0	±0.014	±0.017	±0.019	±0.019	±0.020	±0.023	±0.025	±0.028
2.5-3.5	±0.016	±0.019	±0.021	±0.021	±0.023	±0.025	±0.028	±0.031
4.0-7.0	-	±0.021	±0.023	±0.023	±0.025	±0.028	±0.031	±0.033

**SERIES 343**

**MEASURING TIPS FOR SCREW THREAD MICROMETER**

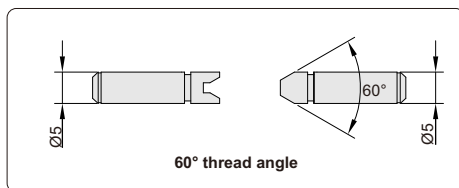
- ◆ For series 343 screw thread micrometer



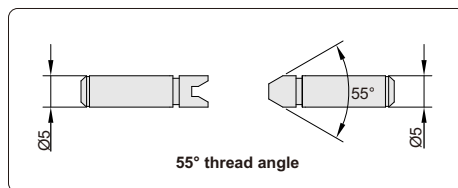
343-000-01

Whitworth thread (55° thread angle)

Code	Pitch
343-000-11	60-48TPI
343-000-12	48-40TPI
343-000-13	40-32TPI
343-000-14	32-24TPI
343-000-15	24-18TPI
343-000-16	18-14TPI
343-000-17	14-10TPI
343-000-18	10-7TPI
343-000-19	7-4.5TPI
343-000-20	4.5-3.5TPI
343-000-2TS	10 pairs/set, including all above tips



60° thread angle

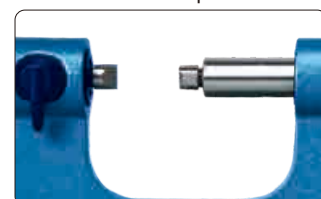


55° thread angle

Metric and unified thread (60° thread angle)

Code	Pitch
343-000-01	0.4-0.5mm/64-48TPI
343-000-02	0.6-0.9mm/44-28TPI
343-000-03	1-1.75mm/24-14TPI
343-000-04	2-3mm/13-9TPI
343-000-05	3.5-5mm/8-5TPI
343-000-06	5.5-7mm/4.5-3.5TPI
343-000-TS	6 pairs/set, including all above tips

Install tips







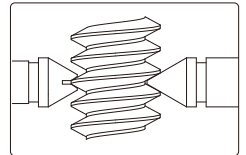
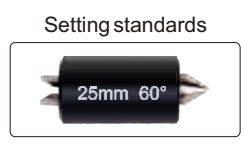
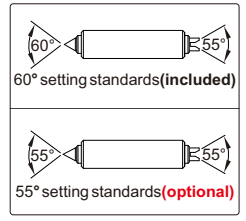
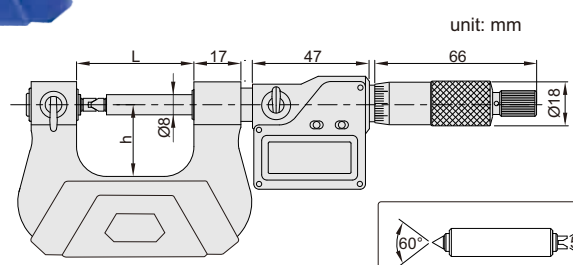
**SERIES 333**

**DIGITAL SCREW THREAD MICROMETER**

- ◆ Measure pitch diameter of screw threads
- ◆ Resolution 0.001mm/0.00005"
- ◆ Button: on/off, set, mm/inch, ABS/INC, data output
- ◆ Automatic power off
- ◆ Data output
- ◆ Non-rotating spindle
- ◆ Ratchet stop
- ◆ Supplied with 60° setting standards (except 333-001-01)
- ◆ Optional accessory: 55° setting standards



333-001-01



Code	Range	Micrometer head accuracy	L	h	Setting standards (included)
333-001-01	0-25mm/0-1"	±4µm	42	26	-
333-002-01	25-50mm/1-2"	±4µm	67	38	25mm
333-003-01	50-75mm/2-3"	±5µm	92	50	50mm
333-004-01	75-100mm/3-4"	±5µm	117.6	62	75mm
333-005-01	100-125mm/4-5"	±6µm	143	70	100mm
333-006-01	125-150mm/5-6"	±6µm	168	82	125mm
333-007-01	150-175mm/6-7"	±7µm	192	94.5	150mm
333-008-01	175-200mm/7-8"	±7µm	217	107	175mm
333-009-01	200-225mm/8-9"	±8µm	242	130	200mm
333-010-01	225-250mm/9-10"	±8µm	267	142	225mm
333-011-01	250-275mm/10-11"	±9µm	291	155	250mm
333-012-01	275-300mm/11-12"	±9µm	317	167	275mm

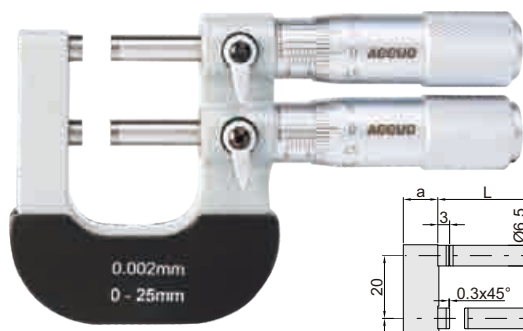
Accuracy of micrometers with tips

Pitch	Range (mm)							
	0-25	25-50	50-75	75-100	100-125	125-200	200-225	225-300
0.4-0.5	±0.01	-	-	-	-	-	-	-
0.6-0.8	±0.01	±0.013	-	-	-	-	-	-
1-1.25	±0.012	±0.015	±0.017	±0.017	-	-	-	-
1.5-2.0	±0.014	±0.017	±0.019	±0.019	±0.020	±0.023	±0.025	±0.028
2.5-3.5	±0.016	±0.019	±0.021	±0.021	±0.023	±0.025	±0.028	±0.031
4.0-7.0	-	±0.021	±0.023	±0.023	±0.025	±0.028	±0.031	±0.033

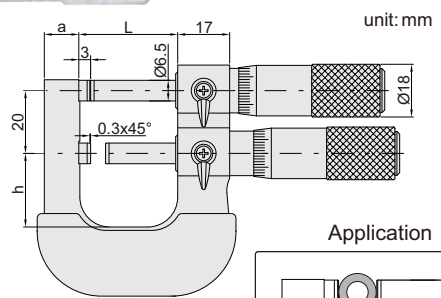
**SERIES 335**

**LIMIT MICROMETER**

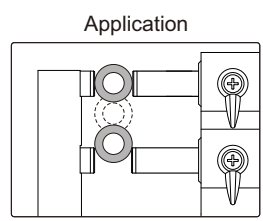
- ◆ Used as Go/No-Go gauge by setting upper and lower limits
- ◆ Graduation 0.002mm
- ◆ Carbide measuring faces
- ◆ Supplied with setting standard (except 335-001-01)



335-001-01



Setting standards (included)



Code	Range	Accuracy	L	a	h	Setting standards (included)
335-001-01	0-25mm	4µm	32	12	24	-
335-002-01	25-50mm	4µm	57	15	32	25mm

**SERIES 350**

**DIGITAL SHEET METAL MICROMETER**



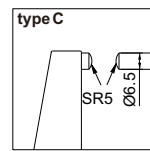
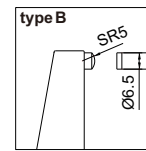
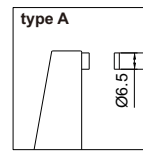
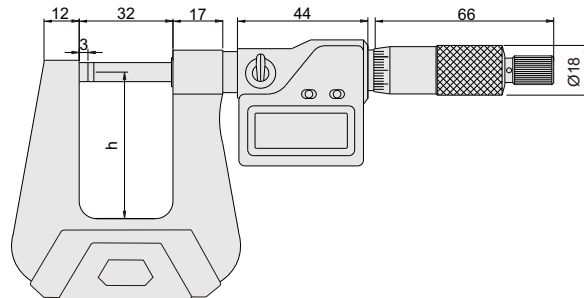
- ◆ Deep frame suitable for sheet metal, paper and plastic
- ◆ Resolution: 0.001mm/0.00005"
- ◆ IP65 protection level
- ◆ Button: on/off, mm/inch, set, zero, ABS/INC, date output
- ◆ Automatic power off
- ◆ Data output
- ◆ Carbide measuring faces, ratchet stop



350-001-11

unit: mm

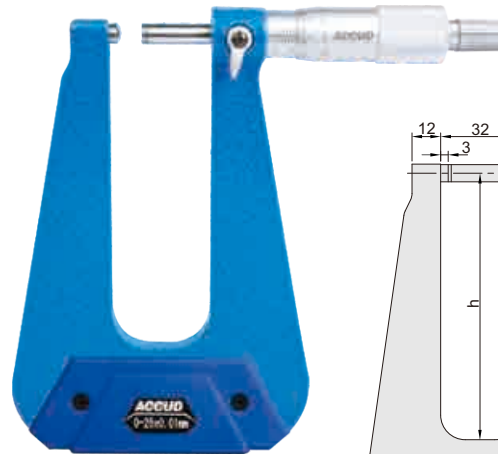
Code	Range	Accuracy	Type	h
350-001-11	0-25mm/0-1"	±3µm	A	50
350-001-12	0-25mm/0-1"	±5µm	A	100
350-001-13	0-25mm/0-1"	±7µm	A	150
350-001-21	0-25mm/0-1"	±3µm	B	50
350-001-22	0-25mm/0-1"	±5µm	B	100
350-001-23	0-25mm/0-1"	±7µm	B	150
350-001-24	0-25mm/0-1"	±10µm	B	310
350-001-31	0-25mm/0-1"	±3µm	C	50
350-001-32	0-25mm/0-1"	±5µm	C	100
350-001-33	0-25mm/0-1"	±7µm	C	150



**SERIES 336**

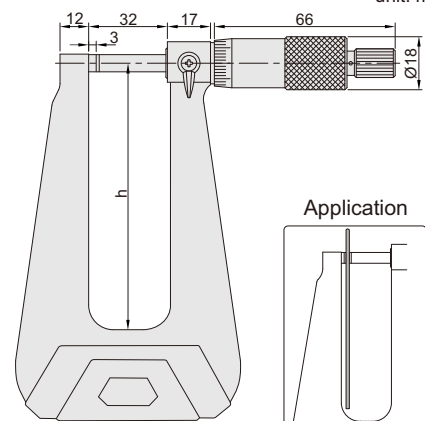
**SHEET METAL MICROMETER**

- ◆ Deep frame suitable for sheet metal, paper and plastic
- ◆ Graduation 0.01mm
- ◆ Ratchet stop
- ◆ Carbide measuring faces

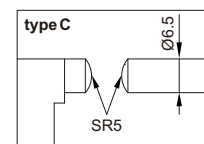
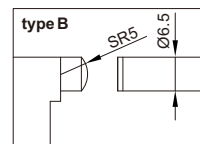
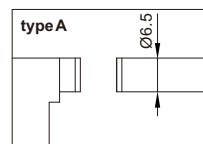


336-001-01

unit: mm



Code	Range	Accuracy	Type	h
336-001-11	0-25mm	4µm	A	50
336-001-21	0-25mm	4µm	B	50
336-001-31	0-25mm	4µm	C	50
336-001-01	0-25mm	7µm	B	100
336-001-02	0-25mm	7µm	A	155
336-001-03	0-25mm	7µm	B	155
336-001-04	0-25mm	7µm	C	155
336-001-05	0-25mm	10µm	B	310





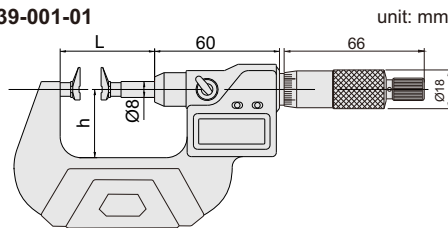
**SERIES 339**

**DIGITAL JAW TYPE MICROMETER**

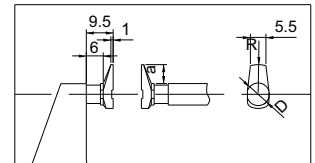
- ◆ Resolution: 0.001mm/0.00005"
- ◆ Buttons: on/off, set, mm/inch, ABS/INC data output
- ◆ Automatic power off
- ◆ Data output
- ◆ Non-rotating spindle
- ◆ Supplied with setting standards (except 339-001-01)



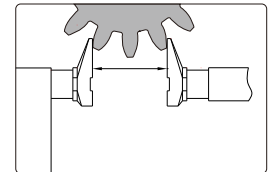
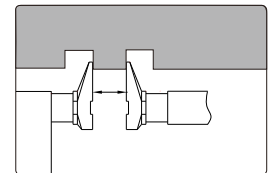
339-001-01



Setting standards(included)



Application



Code	Range	Accuracy	L	a	h	R	D	Setting standards(included)
339-001-01	0-25mm/0-1"	4μm	43	6.5	32	10	8	-
339-002-01	25-50mm/1-2"	4μm	85	6.5	44.5	10	8	25mm
339-003-01	50-75mm/2-3"	5μm	110	6.5	57	10	8	50mm
339-004-01	75-100mm/3-4"	5μm	135	6.5	70	10	8	75mm
339-005-01	100-125mm/4-5"	6μm	160	11.5	86	15	12	100mm
339-006-01	125-150mm/5-6"	6μm	186	11.5	94.5	15	12	125mm
339-007-01	150-175mm/6-7"	7μm	211	11.5	107	15	12	150mm
339-008-01	175-200mm/7-8"	7μm	236	11.5	120	15	12	175mm

**SERIES 330**

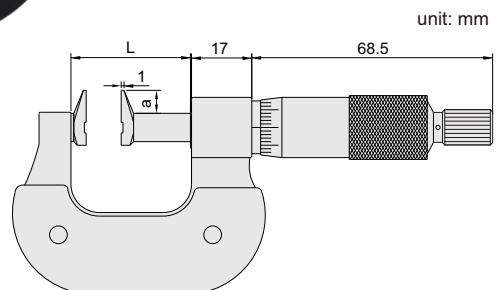
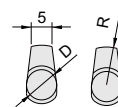
**JAW TYPE MICROMETER**

- ◆ Graduation :0.01mm
- ◆ Non-rotating spindle, painted frame,
- ◆ Ratchet stop
- ◆ Supplied with setting standards (except 330-001-01)

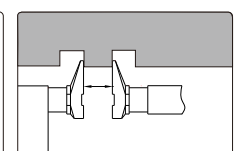
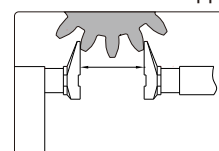


330-001-01

Setting standards(included)



Application



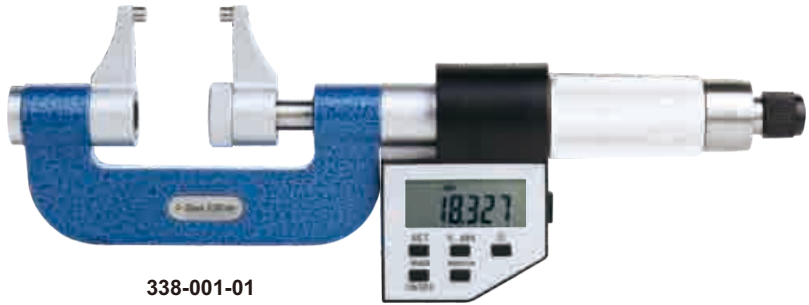
Code	Range	Accuracy	L	a	R	D	Setting standards (included)
330-001-01	0-25mm	4μm	34	6	10	8	-
330-002-01	25-50mm	4μm	59	6	10	8	25mm
330-003-01	50-75mm	5μm	85	6	10	8	50mm
330-004-01	75-100mm	5μm	110	6	10	8	75mm
330-005-01	100-125mm	6μm	138	9	15	12	100mm
330-006-01	125-150mm	6μm	163	9	15	12	125mm
330-007-01	150-175mm	7μm	188	9	15	12	150mm
330-008-01	175-200mm	7μm	214	9	15	12	175mm

## SERIES 338

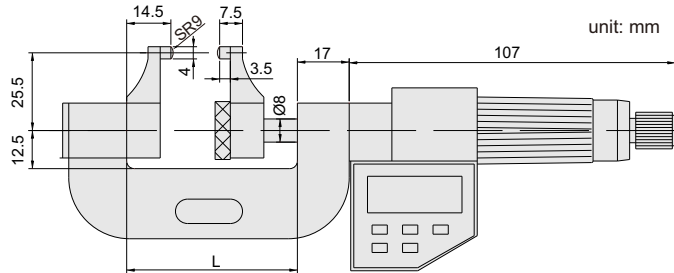
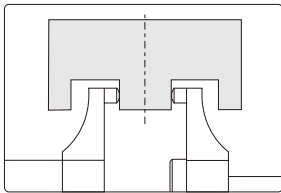
## DIGITAL CALIPER TYPE MICROMETER



- ◆ Resolution: 0.001mm/0.00005"
- ◆ Buttons: on/off, set, mm/inch, ABS/INC data output
- ◆ Automatic power off
- ◆ Date output
- ◆ Supplied with setting standards (except 338-001-01)



338-001-01



Code	Range	Accuracy	L	Setting standards(included)
338-001-01	0-25mm/0-1"	10μm	56	-
338-002-01	25-50mm/1-2"	10μm	81	25mm
338-003-01	50-75mm/2-3"	11μm	106	50mm
338-004-01	75-100mm/3-4"	11μm	131	75mm

Setting standards(included)



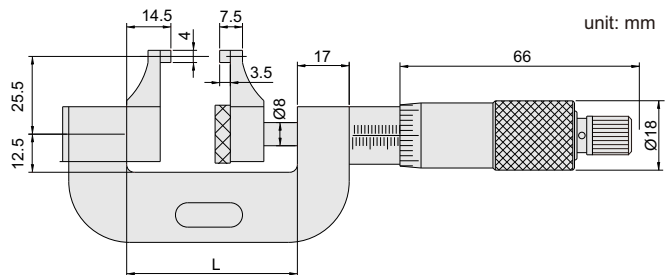
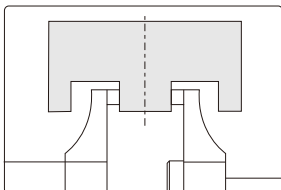
## SERIES 378

## CALIPER TYPE MICROMETER

- ◆ Graduation 0.01mm
- ◆ Non-rotating spindle
- ◆ Ratchet stop
- ◆ Carbide measuring faces
- ◆ Supplied with setting standards (except 378-001-01)



378-001-01



Code	Range	Accuracy	L	Setting standards(included)
378-001-01	0-25mm	10μm	56	-
378-002-01	25-50mm	10μm	81	25mm
378-003-01	50-75mm	11μm	106	50mm
378-004-01	75-100mm	11μm	131	75mm

Setting standards(included)





**SERIES 337**

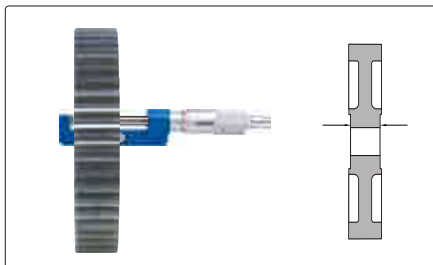
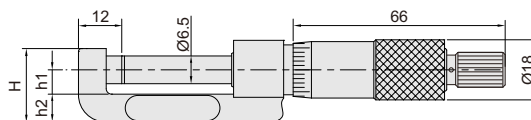
**HUB MICROMETER**

- ◆ Measure hub thickness and shoulder inside a bore
- ◆ Graduation 0.01mm
- ◆ Ratchet stop
- ◆ Carbide measuring faces
- ◆ Supplied with setting standards (except 337-001-01)



337-002-01

unit: mm



Code	Range	Accuracy	h1	h2	H	Setting standards(included)
337-001-01	0-25mm	4µm	6	9	18.7	-
337-002-01	25-50mm	4µm	6.5	11	21.2	25mm
337-003-01	50-75mm	5µm	6.5	11	21.2	50mm
337-004-01	75-100mm	5µm	6.5	11	21.2	75mm

Setting standards(included)



**SERIES 308**

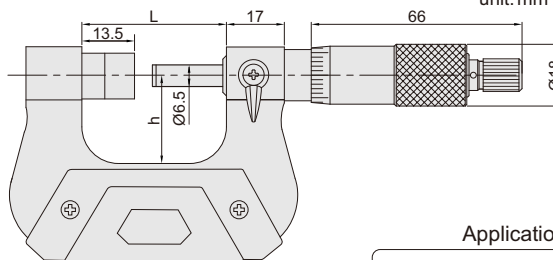
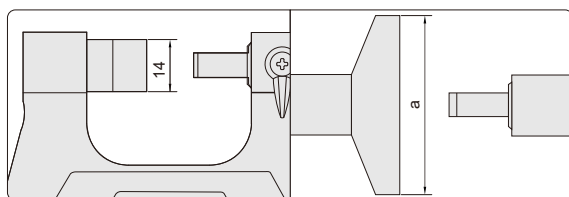
**LARGE ANVIL MICROMETER**

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

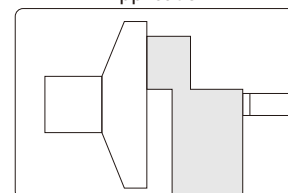


308-001-01

unit: mm



Application



Code	Range	Accuracy	a	h	L
308-001-01	0-25mm	4µm	50	26	42
308-002-01	25-50mm	4µm	60	38	67

## SERIES 302

## DIGITAL UNIVERSAL MICROMETER



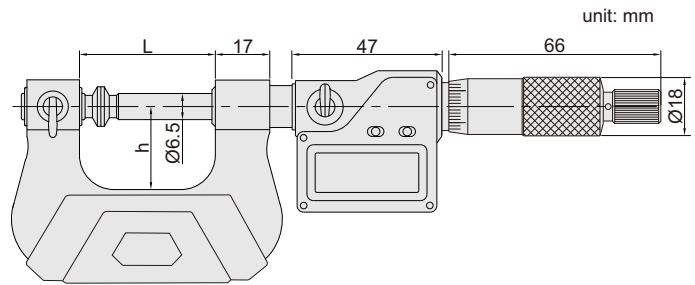
- ◆ Resolution 0.001mm/0.00005"
- ◆ Button: on/off, set, mm/inch, ABS/INC, data output
- ◆ Automatic power off
- ◆ Data output
- ◆ Ratchet stop
- ◆ Supplied with 7 pairs of anvil/spindle tips
- ◆ Setting standards are included (except 0-25mm/0-1")
- ◆ Optional accessory: 55° anvil/spindle tip



302-001-01

### Standard anvil/spindle tip

Flat		
Spherical		
Spline		
Disk		
Blade		
Knife-edge		
Point		



### Optional 55° anvil/spindle tip

301-000-01 Knife-edge		
301-000-02 Point		

Code	Range	Accuracy	L	h	Setting standards(included)
302-001-01	0-25mm/0-1"	4μm	42	26	-
302-002-01	25-50mm/1-2"	4μm	67	38	25mm
302-003-01	50-75mm/2-3"	5μm	92	50	50mm
302-004-01	75-100mm/3-4"	5μm	118	62	75mm
302-005-01	100-125mm/4-5"	6μm	143	70	100mm
302-006-01	125-150mm/5-6"	6μm	168	82	125mm
302-007-01	150-175mm/6-7"	7μm	192	95	150mm
302-008-01	175-200mm/7-8"	7μm	217	107	175mm

Setting standards(included)



- ◆ Graduation 0.01mm
- ◆ Non-rotating spindle
- ◆ Ratchet stop
- ◆ Supplied with 7 pairs of anvil/spindle tips
- ◆ Setting standards are included (except 0-25mm)
- ◆ Optional accessory: 55° anvil/spindle tip

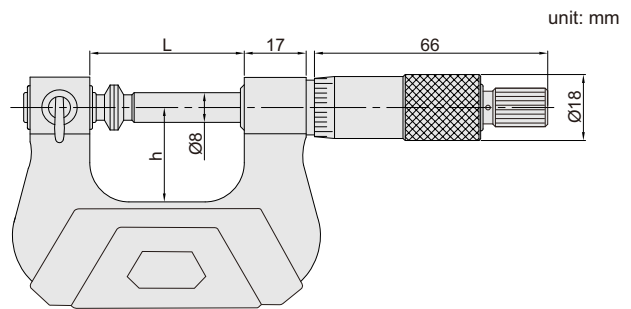


301-001-01



**Standard anvil/spindle tip**

<b>Flat</b>		
<b>Spherical</b>		
<b>Spline</b>		
<b>Disk</b>		
<b>Blade</b>		
<b>Knife-edge</b>		
<b>Point</b>		



unit: mm

**Optional 55° anvil/spindle tip**

<b>301-000-01</b> Knife-edge		
<b>301-000-02</b> Point		

Code	Range	Accuracy	L	h	Setting standards(included)
301-001-01	0-25mm	4µm	42	26	-
301-002-01	25-50mm	4µm	67	38	25mm
301-003-01	50-75mm	5µm	92	50	50mm
301-004-01	75-100mm	5µm	118	62	75mm
301-005-01	100-125mm	6µm	143	70	100mm
301-006-01	125-150mm	6µm	168	82	125mm
301-007-01	150-175mm	7µm	192	95	150mm
301-008-01	175-200mm	7µm	217	107	175mm

Setting standards(included)

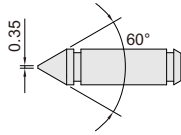


**SERIES 301**

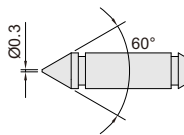
**UNIVERSAL MICROMETER TIPS**



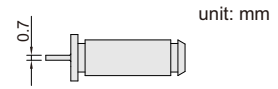
301-000-11



301-000-12



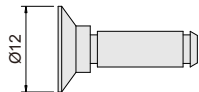
301-000-13



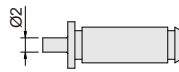
unit: mm



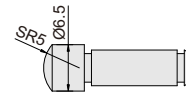
301-000-14



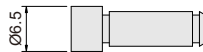
301-000-15



301-000-16



301-000-17



Code	Name
301-000-11	Knife-edge
301-000-12	Point
301-000-13	Blade
301-000-14	Disk
301-000-15	Spline
301-000-16	Spherical
301-000-17	Flat
301-000-TS	7pairs/set, including all above tips

◆ For series 301 non rotating spindle universal micrometer and series 302 digital universal micrometer

**SERIES 310**

**OUTSIDE MICROMETER FOR LEFT OR RIGHT HAND**

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



front side

310-001-01

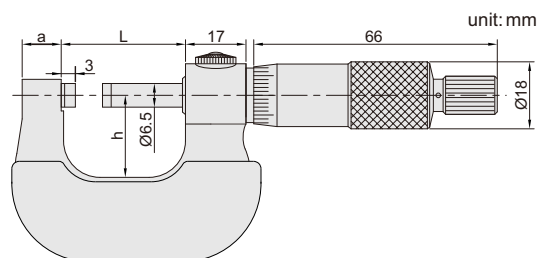


reverse side

Setting standards (included)



Code	Range	Accuracy	a	h	L	Setting standards (included)
310-001-01	0-25mm	4µm	6	24	32	-
310-002-01	25-50mm	4µm	8	32	57	25mm
310-003-01	50-75mm	5µm	8	45	82	50mm
310-004-01	75-100mm	5µm	8	57	107	75mm
310-005-01	100-125mm	6µm	8	70	133	100mm
310-006-01	125-150mm	6µm	8	82	158	125mm
310-007-01	150-175mm	7µm	8	95	183	150mm
310-008-01	175-200mm	7µm	8	107	209	175mm



unit: mm



**SERIES 397**

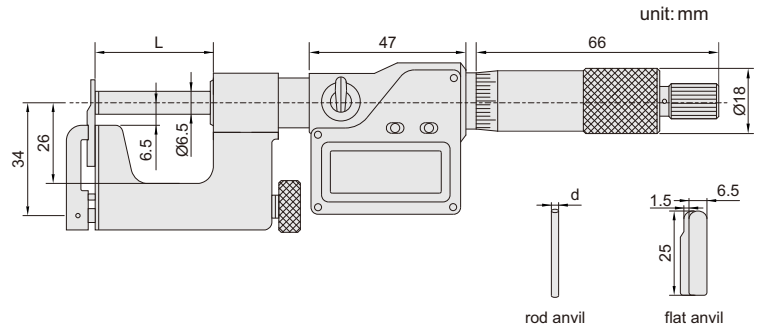
**DIGITAL INTERCHANGEABLE ANVIL MICROMETER**



- ◆ Measure tube thickness, shoulder edge distance, rivet head height, etc.
- ◆ Supplied with flat anvil and rod anvil
- ◆ Resolution 0.001mm/0.00005"
- ◆ IP65 dust/waterproof
- ◆ Button function: on/off, set, mm/inch, data transmit
- ◆ Automatic power off
- ◆ Data output
- ◆ Ratchet stop
- ◆ Carbide spindle tip
- ◆ Setting standards are included (except 0-25mm/0-1")



397-001-01

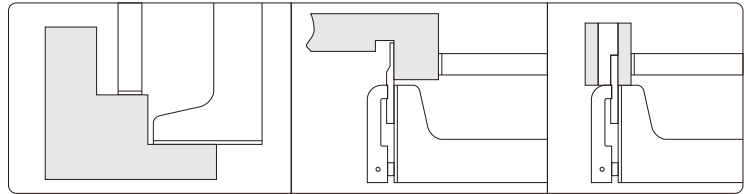


Setting standards (included)



Code	Range	Accuracy	L	d
397-001-01	0-25mm/0-1"	±4µm	28.5	Ø3
397-002-01	25-50mm/1-2"	±4µm	53.5	Ø5

Application



**SERIES 377**

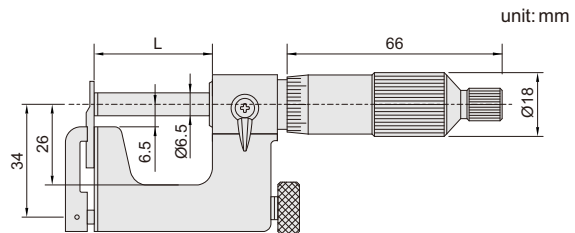
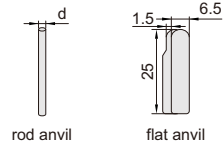
**INTERCHANGEABLE ANVIL MICROMETER**

- ◆ Measure tube thickness, shoulder edge distance, rivet head height, etc.
- ◆ Supplied with flat anvil and rod anvil
- ◆ Graduation 0.01mm
- ◆ Ratchet stop
- ◆ Carbide spindle tip
- ◆ Setting standards are included (except 0-25mm)

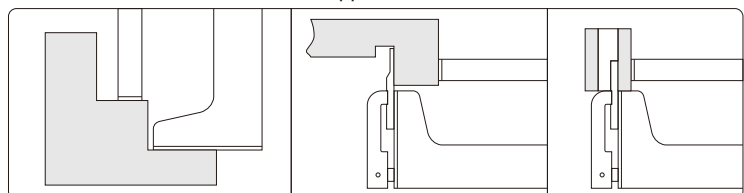


377-001-01

Setting standards (included)



Application



Code	Range	Accuracy	L	d
377-001-01	0-25mm	4µm	28.5	Ø3
377-002-01	25-50mm	4µm	53.5	Ø5

**SERIES 304**

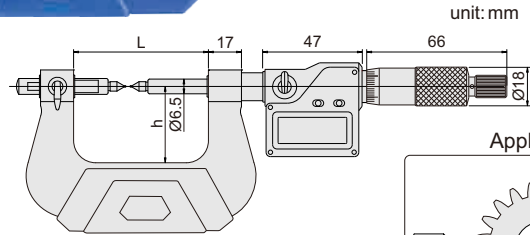
**DIGITAL GEAR TOOTH MICROMETER**



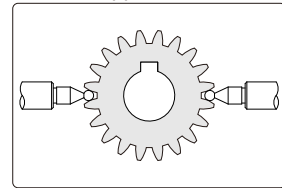
- ◆ Measure over-pin diameter of gears
- ◆ Resolution 0.001mm/0.00005"
- ◆ IP65 dust/waterproof
- ◆ Button function: on/off, set, mm/inch, ABS/INC
- ◆ Data output (cable code: 300-03 or 300-04)
- ◆ Automatic power off
- ◆ Ratchet stop
- ◆ Supplied with setting standards (except **304-001-01**)
- ◆ Optional accessory: ball tips (code: series **345-000-XX**)



**304-002-01**



Application



Install points



Setting standards (included)

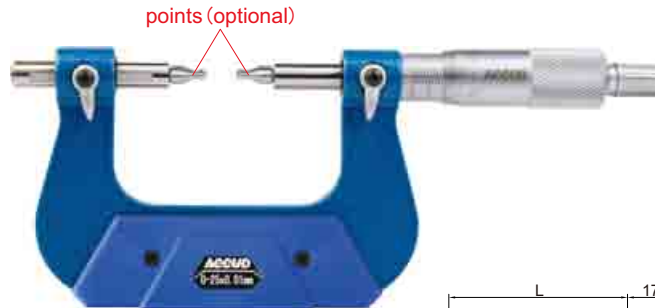


Code	Range	Accuracy	L	h	Setting standards (included)
<b>304-001-01</b>	0-25mm/0-1"	4µm	67	38	-
<b>304-002-01</b>	25-50mm/1-2"	4µm	92.4	50	25mm
<b>304-003-01</b>	50-75mm/2-3"	5µm	117.6	62	50mm
<b>304-004-01</b>	75-100mm/3-4"	5µm	143	70	75mm
<b>304-005-01</b>	100-125mm/4-5"	6µm	168.2	82	100mm
<b>304-006-01</b>	125-150mm/5-6"	6µm	192	94.5	125mm
<b>304-007-01</b>	150-175mm/6-7"	7µm	217	107	150mm

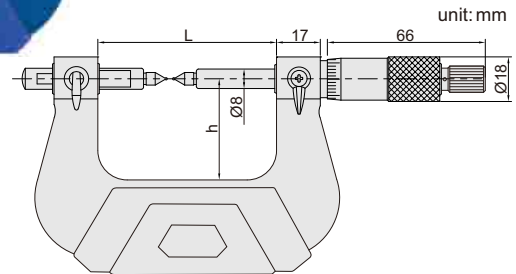
**SERIES 345**

**GEAR TOOTH MICROMETER**

- ◆ Measure over-pin diameter of gears
- ◆ Graduation 0.01mm
- ◆ Ratchet stop
- ◆ Supplied with setting standards (except **345-001-01**)
- ◆ Optional accessory: ball tips



**345-001-01**

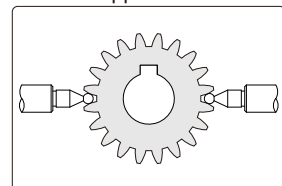


Setting standards (included)



Code	Range	Accuracy	L	h	Setting standards(included)
<b>345-001-01</b>	0-25mm	4µm	67	38	-
<b>345-002-01</b>	25-50mm	4µm	92.4	50	25mm
<b>345-003-01</b>	50-75mm	5µm	117.6	62	50mm
<b>345-004-01</b>	75-100mm	5µm	143	70	75mm
<b>345-005-01</b>	100-125mm	6µm	168.2	82	100mm
<b>345-006-01</b>	125-150mm	6µm	192	94.5	125mm
<b>345-007-01</b>	150-175mm	7µm	217	107	150mm

Application





## SERIES 345

## BALL TIPS FOR GEAR TOOTH MICROMETER

◆ Supplied in pair



345-000-01

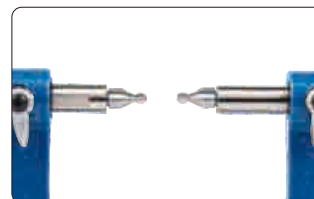
unit: mm



Code	Ball dia.(D)
345-000-01	SØ1mm
345-000-02	SØ1.5mm
345-000-03	SØ2.0mm
345-000-04	SØ2.5mm
345-000-05	SØ3.0mm
345-000-06	SØ3.5mm

Code	Ball dia.(D)
345-000-07	SØ4.0mm
345-000-08	SØ4.5mm
345-000-09	SØ5.0mm
345-000-10	SØ6.0mm
345-000-TS	10 pairs/set, including all above tips

Install points



## SERIES 344

## GROOVE MICROMETER

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



344-004-01



344-002-11

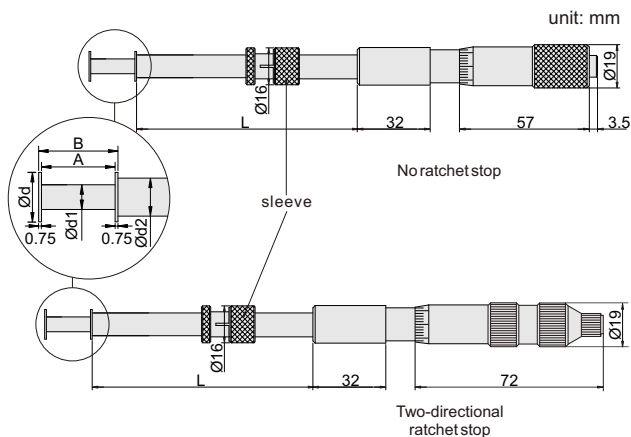
### Two-directional ratchet stop

Code	Range (outside B)	Range (inside A)	Accuracy	Ød	Ød1	Ød2	L
344-001-11	0-25mm	1.6-26.5mm	10µm	13	6.5	10	120
344-002-11	25-50mm	26.5-51.5mm	10µm	13	6.5	10	120
344-003-11	50-75mm	51.5-76.5mm	10µm	13	6.5	10	120
344-004-11	75-100mm	76.5-101.5mm	10µm	13	6.5	10	120
344-001-12	0-25mm	1.6-26.5mm	10µm	6.5	3	5	90

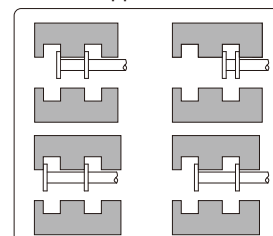
### No ratchet stop

Code	Range (outside B)	Range (inside A)	Accuracy	Ød	Ød1	Ød2	L
344-001-01	0-25mm	1.6-26.5mm	10µm	13	6.5	10	120
344-002-01	25-50mm	26.5-51.5mm	10µm	13	6.5	10	120
344-003-01	50-75mm	51.5-76.5mm	10µm	13	6.5	10	120
344-004-01	75-100mm	76.5-101.5mm	10µm	13	6.5	10	120
344-001-02	0-25mm	1.6-26.5mm	10µm	6.5	3	5	90

\*344-001-02 and 344-001-12 do not have sleeve.



Application



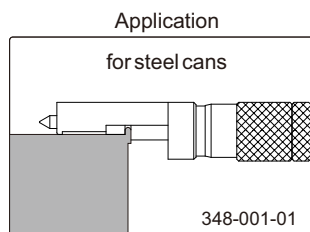
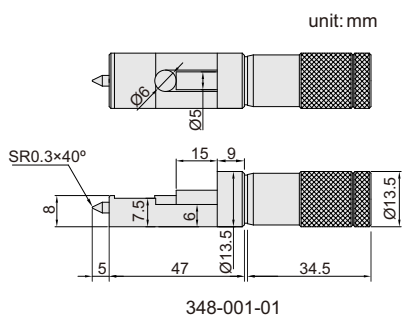
## SERIES 348

## CAN SEAM MICROMETER

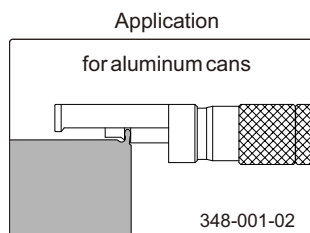
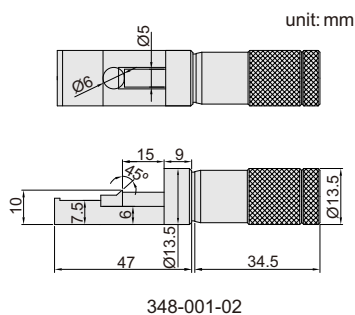
- ◆ Measure the width, height and depth of can seams
- ◆ Graduation 0.01mm



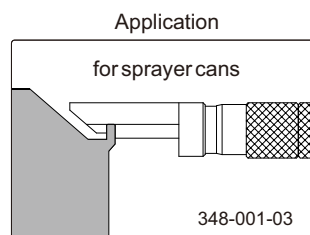
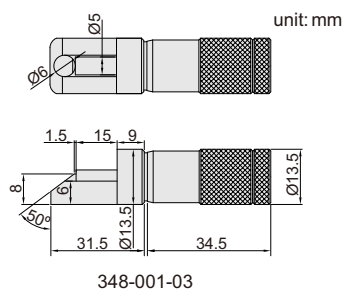
348-001-01



348-001-02



348-001-03



Code	Range	Accuracy
348-001-01	0-13mm	4µm
348-001-02	0-13mm	4µm
348-001-03	0-13mm	4µm

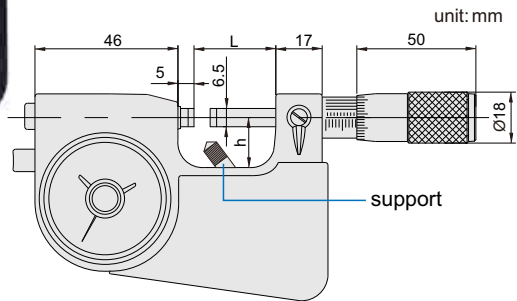


**SERIES 349**

**INDICATING MICROMETER**



349-001-01



- ◆ Dial indicator: range 40µm, graduation 0.001mm, accuracy 0.001mm
- ◆ Carbide measuring faces
- ◆ Supplied with setting standards (except 0-25mm)

Code	Micrometer head range	Micrometer head graduation	Micrometer head accuracy	L	h	Setting standards (included)	Support
349-001-01	0-25mm	0.002mm	3µm	28.5	19	-	with
349-002-01	25-50mm	0.002mm	3µm	53.5	30	25mm	with
349-003-01	50-75mm	0.002mm	5µm	78.5	45	50mm	without
349-004-01	75-100mm	0.002mm	5µm	103.5	57	75mm	without
349-005-01	100-125mm	0.002mm	5µm	128.5	69	100mm	without
349-006-01	125-150mm	0.002mm	5µm	153.5	82	125mm	without
349-007-01	150-175mm	0.002mm	5µm	178.5	94	150mm	without

Setting standards(included)



**SERIES 349**

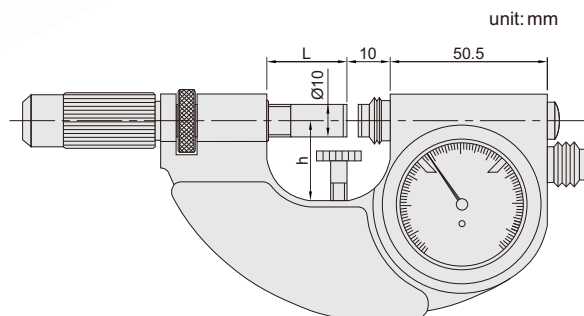
**DIAL SNAP GAUGE**



- ◆ Quick measurement for mass production
- ◆ Dial indicator: range ±0.04mm, graduation 0.001mm, accuracy 0.001mm
- ◆ IP54 dust/waterproof
- ◆ Measuring force: 5-10N
- ◆ Carbide measuring faces



349-001-21



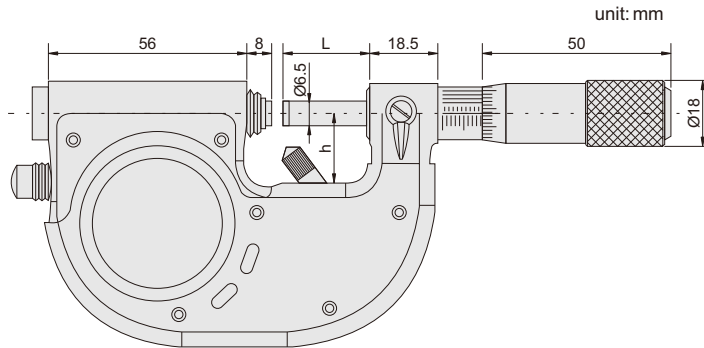
Code	Range	h	L
349-001-21	0-25mm	25	28.5
349-002-22	25-50mm	35	53.5
349-003-23	50-75mm	47.5	78.5
349-004-24	75-100mm	60	103.5

MICROMETER



389-001-02WF

- ◆ Indicator: range  $\pm 0.04\text{mm}$ , accuracy  $\pm 1\mu\text{m}$
- ◆ IP54 protection level
- ◆ Buttons: zero, on/off, data output, mm/inch, tolerance monitoring on/off, display interface setting, wireless transmission setting, selection of wireless transmission modes
- ◆ Automatic power off
- ◆ Power: rechargeable battery, for 20 hours continuous working (full charge)
- ◆ Supplied with setting standards (except 0-25mm)



Cable (included)



Reverse side



Setting standards (included)



Indicator resolution 0.5 $\mu\text{m}$

Code	Micrometer head range	Micrometer head graduation	Micrometer head accuracy	L	h	Setting standards (included)	Remark
389-001-05	0-25mm	0.002mm	3 $\mu\text{m}$	28	19	-	without data transmission
389-002-05	25-50mm	0.002mm	3 $\mu\text{m}$	53	35	25mm	
389-003-05	50-75mm	0.002mm	4 $\mu\text{m}$	79	47	50mm	
389-004-05	75-100mm	0.002mm	4 $\mu\text{m}$	104	60	75mm	

Indicator resolution 0.2 $\mu\text{m}$

Code	Micrometer head range	Micrometer head graduation	Micrometer head accuracy	L	h	Setting standards (included)	Remark
389-001-02WF	0-25mm	0.002mm	3 $\mu\text{m}$	28	19	-	with data transmission (by USB or blue-tooth)
389-002-02WF	25-50mm	0.002mm	3 $\mu\text{m}$	53	35	25mm	
389-003-02WF	50-75mm	0.002mm	4 $\mu\text{m}$	79	47	50mm	
389-004-02WF	75-100mm	0.002mm	4 $\mu\text{m}$	104	60	75mm	



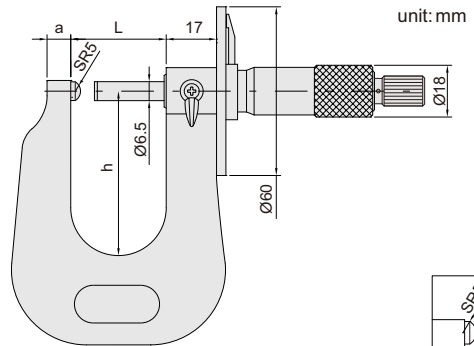
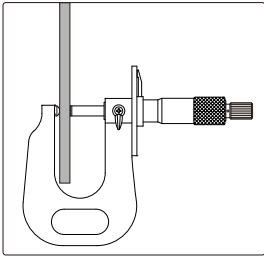
347

SHEET METAL MICROMETER

- ◆ Measure thickness of sheet metal, paper, plastic and rubber parts
- ◆ Graduation 0.01mm
- ◆ Ratchet stop
- ◆ Carbide measuring faces



Application



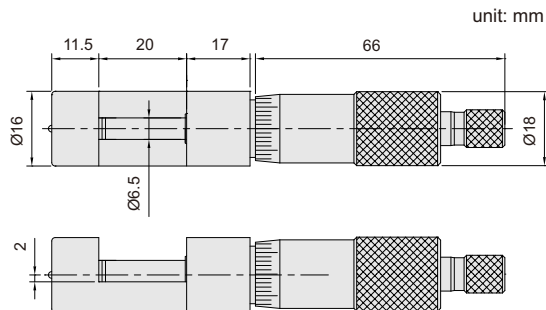
unit: mm

Code	Range	Accuracy	a	h	L
347-015-01	0-15mm	4µm	8	50	22
347-001-01	0-25mm	4µm	8	50	32
347-002-01	0-50mm	5µm	12	100	57

370

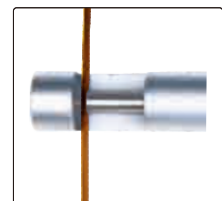
WIRE MICROMETER

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



unit: mm

Code	Range	Accuracy
370-010-01	0-10mm	4µm



**SERIES 305**

**NON MAGNETIC MICROMETER**

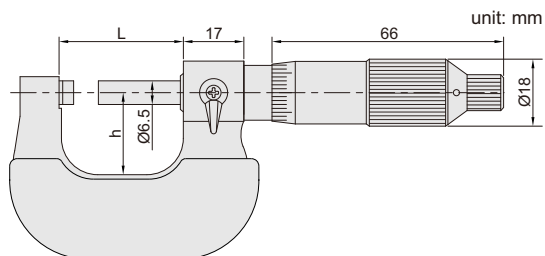


- ◆ Suitable for magnetic materials
- ◆ Graduation: 0.01 mm
- ◆ Non magnetic carbide measuring faces
- ◆ Ratchet stop
- ◆ Supplied with setting standards (except 0-25mm)



305-001-01

Setting standards(included)



Code	Range	Accuracy	L	h	Setting standards (included)
305-001-01	0-25mm	4µm	32	24	-
305-002-01	25-50mm	4µm	57	32	25
305-003-01	50-75mm	5µm	82	45	50
305-004-01	75-100mm	5µm	105	57	75

**SERIES 307**

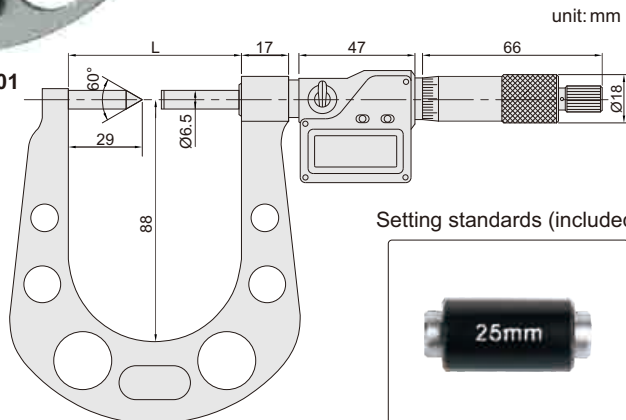
**DIGITAL DISK BRAKE MICROMETER**



- ◆ Measure thickness of disk brakes
- ◆ Resolution: 0.001mm/0.00005"
- ◆ IP65 protection level
- ◆ Button: on/off, mm/inch, set, zero
- ◆ Data output
- ◆ Automatic power off
- ◆ Ratchet stop
- ◆ Carbide measuring faces
- ◆ Supplied with setting standards



307-001-01



Setting standards (included)



Code	Range	Accuracy	L	Setting standards (included)
307-001-01	7.6-33mm	±5µm	64.5	25mm
307-002-01	25-50mm	±5µm	82	25mm





**SERIES 306**

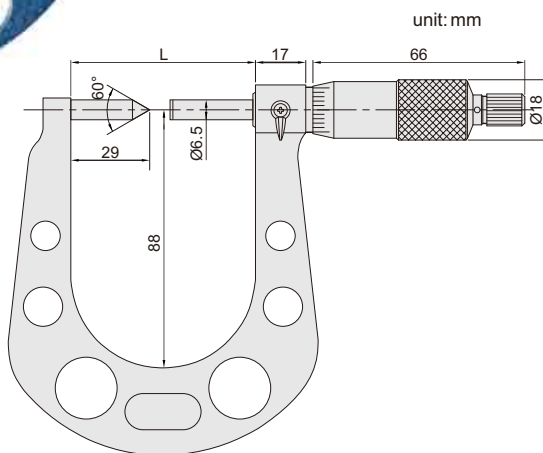
**DISK BRAKE MICROMETER**

- ◆ Measure thickness of disk brakes
- ◆ Graduation: 0.01mm
- ◆ Ratchet stop
- ◆ Carbide measuring faces
- ◆ Supplied with setting standards



306-001-01

Setting standards (included)

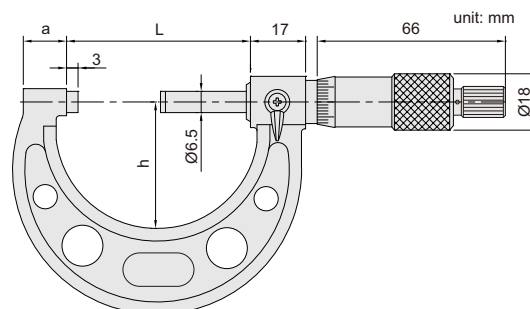


Code	Range	Accuracy	L	Setting standards (included)
306-001-01	7.6-33mm	5µm	64.5	25mm
306-002-01	25-50mm	5µm	82	25mm

**379**

**LONG SPINDLE OUTSIDE MICROMETER**

- ◆ Graduation 0.01mm
- ◆ Ratchet stop
- ◆ Carbide measuring faces



Code	Range	Accuracy	L	a	h
379-001-01	0-25mm	4µm	57	14	38

**SERIES 376**

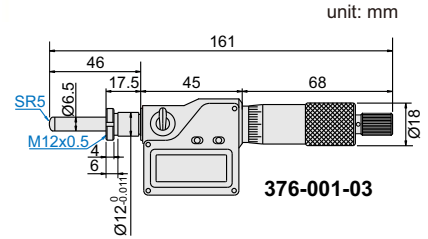
**DIGITAL MICROMETER HEAD**



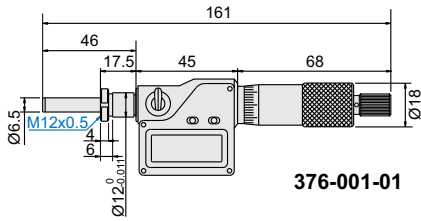
- ◆ Resolution 0.001mm/0.00005"
- ◆ IP65 protection level
- ◆ Button: on/off, set, mm/inch, ABS/INC, data output
- ◆ Automatic power off
- ◆ Data output
- ◆ Ratchet stop



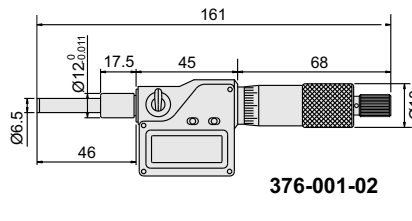
376-001-04



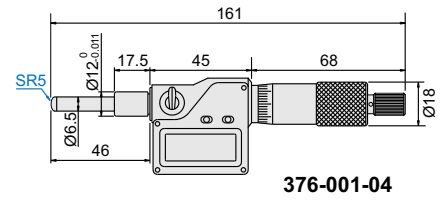
376-001-03



376-001-01



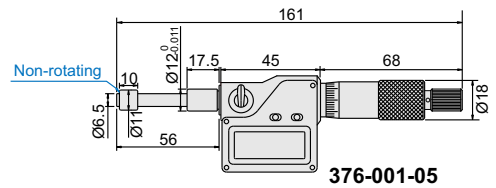
376-001-02



376-001-04

**Rotating spindle**

Code	Range	Accuracy	Stem	Spindle tip
376-001-01	0-25mm/0-1"	±2µm	with clamp nut	flat(carbide)
376-001-02	0-25mm/0-1"	±2µm	plain	flat(carbide)
376-001-03	0-25mm/0-1"	±2µm	with clamp nut	spherical(SR5)
376-001-04	0-25mm/0-1"	±2µm	plain	spherical(SR5)



376-001-05

**Non-rotating spindle**

Code	Range	Accuracy	Stem	Spindle tip
376-001-05	0-25mm/0-1"	±2µm	plain	flat(carbide)

**SERIES 376**

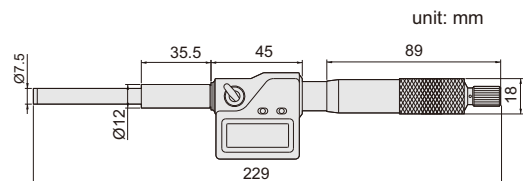
**DIGITAL MICROMETER HEAD**



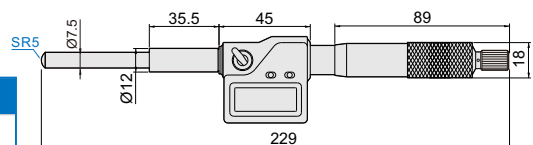
- ◆ Resolution 0.001mm/0.00005"
- ◆ IP65 protection level
- ◆ Button: on/off, set, mm/inch, ABS/INC, data output
- ◆ Automatic power off
- ◆ Data output
- ◆ Ratchet stop



376-002-03



376-002-03



376-002-04

Code	Range	Accuracy	Stem	Spindle tip
376-002-03	0-50mm/0-2"	4µm	plain	flat(carbide)
376-002-04	0-50mm/0-2"	4µm	plain	spherical(SR5)

# SERIES 371

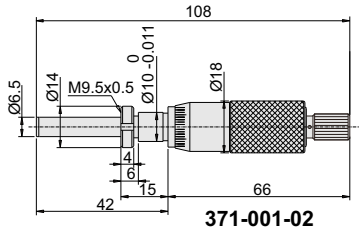
# MICROMETER HEAD



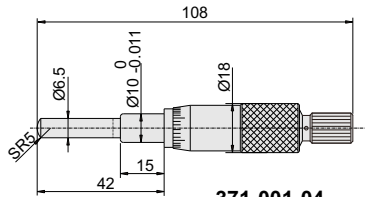
- ◆ Graduation: 0.01mm
- ◆ Carbide measuring faces
- ◆ Ratchet stop



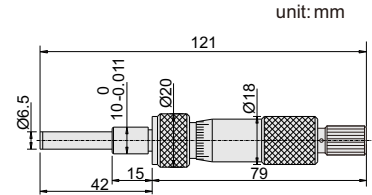
371-001-02



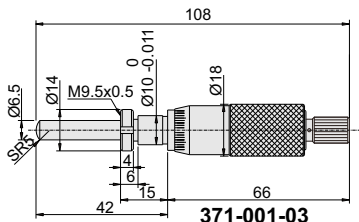
371-001-02



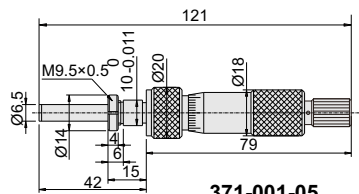
371-001-04



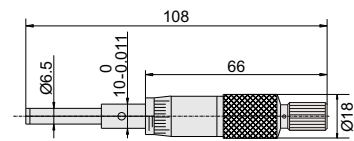
371-001-06



371-001-03



371-001-05

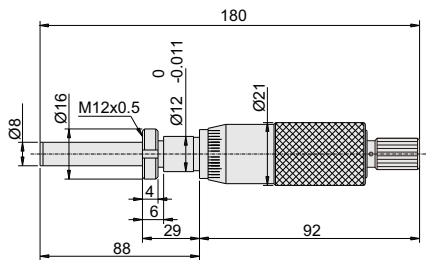


371-001-11

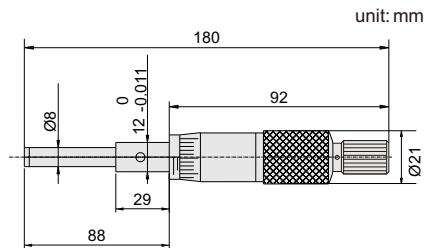
Code	Range	Accuracy	Stem	Spindle tip	Remark
371-001-02	0-25mm	3µm	with clamp nut	flat (carbide)	
371-001-03	0-25mm	3µm	with clamp nut	spherical (SR5)	
371-001-04	0-25mm	3µm	plain	spherical (SR5)	
371-001-05	0-25mm	3µm	with clamp nut	flat (carbide)	with spindle lock
371-001-06	0-25mm	3µm	plain	flat (carbide)	with spindle lock
371-001-11	0-25mm	3µm	plain	flat (carbide)	



371-002-11



371-002-02



371-002-11

Code	Range	Accuracy	Stem	Spindle tip
371-002-02	0-50mm	5µm	with clamp nut	flat (carbide)
371-002-11	0-50mm	5µm	plain	flat (carbide)

**SERIES 373**

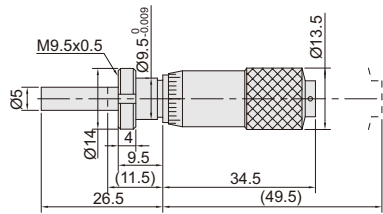
**MICROMETER HEAD**

◆ Graduation 0.01mm

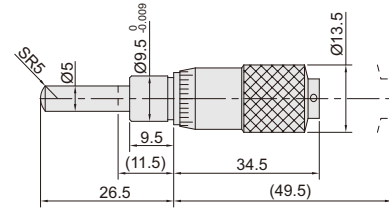


373-001-01

unit: mm



373-001-01



373-001-04

Code	Range	Accuracy	Stem	Spindle tip
373-001-01	0-15mm	3µm	with clamp nut	flat (carbide)
373-001-02	0-15mm	3µm	plain	flat (carbide)
373-001-03	0-15mm	3µm	with clamp nut	spherical (SR5)
373-001-04	0-15mm	3µm	plain	spherical (SR5)

**SERIES 373**

**MICROMETER HEAD**

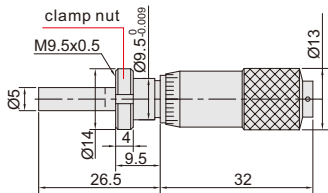


373-013-02

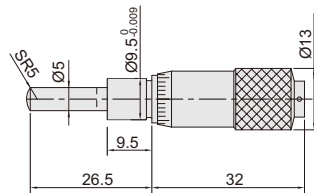


373-013-05

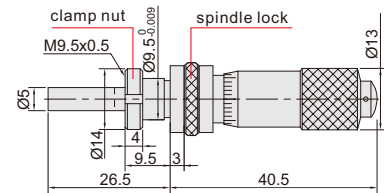
unit: mm



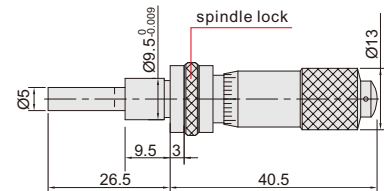
373-013-01



373-013-04



373-013-05



373-013-06

Code	Range	Accuracy	Stem	Spindle tip	Remark
373-013-01	0-13mm	3µm	with clamp nut	flat (carbide)	
373-013-02	0-13mm	3µm	plain	flat (carbide)	
373-013-03	0-13mm	3µm	with clamp nut	spherical (SR5)	
373-013-04	0-13mm	3µm	plain	spherical (SR5)	
373-013-05	0-13mm	3µm	with clamp nut	flat (carbide)	with spindle lock
373-013-06	0-13mm	3µm	plain	flat (carbide)	with spindle lock

◆ Meet DIN863-2  
◆ Graduation 0.01mm

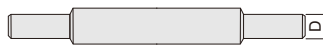


◆ For standard value setting



**321-004-ST**

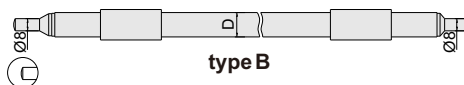
unit: mm



**type A**



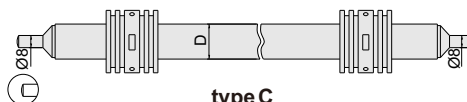
**321-015-ST**



**type B**



**321-042-ST**



**type C**

Code	Length	Accuracy	D	Type
321-001-ST	25mm	±1.5µm	Ø7mm	A
321-002-ST	50mm	±2µm	Ø7mm	A
321-003-ST	75mm	±2.5µm	Ø7mm	A
321-004-ST	100mm	±3µm	Ø8mm	A
321-005-ST	125mm	±3.5µm	Ø8mm	A
321-006-ST	150mm	±4µm	Ø8mm	A
321-007-ST	175mm	±4.5µm	Ø8mm	A
321-008-ST	200mm	±5µm	Ø8mm	A
321-009-ST	225mm	±5.5µm	Ø8mm	A
321-010-ST	250mm	±6µm	Ø8mm	A
321-011-ST	275mm	±6.5µm	Ø8mm	A
321-012-ST	300mm	±7µm	Ø16mm	B
321-013-ST	325mm	±7.5µm	Ø16mm	B
321-014-ST	350mm	±8µm	Ø16mm	B
321-015-ST	375mm	±8.5µm	Ø16mm	B
321-016-ST	400mm	±9µm	Ø16mm	B
321-017-ST	425mm	±9.5µm	Ø16mm	B
321-018-ST	450mm	±10µm	Ø16mm	B
321-019-ST	475mm	±10.5µm	Ø16mm	B
321-020-ST	500mm	±11µm	Ø16mm	B
321-021-ST	525mm	±11.5µm	Ø16mm	B
321-022-ST	550mm	±12µm	Ø16mm	B
321-023-ST	575mm	±12.5µm	Ø16mm	B
321-024-ST	600mm	±13µm	Ø16mm	B
321-025-ST	625mm	±13.5µm	Ø16mm	B
321-026-ST	650mm	±14µm	Ø16mm	B
321-027-ST	675mm	±14.5µm	Ø16mm	B

Code	Length	Accuracy	D	Type
321-028-ST	700mm	±15µm	Ø16mm	B
321-029-ST	725mm	±15.5µm	Ø16mm	B
321-030-ST	750mm	±16µm	Ø16mm	B
321-031-ST	775mm	±16.5µm	Ø16mm	B
321-032-ST	800mm	±17µm	Ø16mm	B
321-033-ST	825mm	±17.5µm	Ø16mm	B
321-034-ST	850mm	±18µm	Ø16mm	B
321-035-ST	875mm	±18.5µm	Ø16mm	B
321-036-ST	900mm	±19µm	Ø16mm	B
321-037-ST	925mm	±19.5µm	Ø16mm	B
321-038-ST	950mm	±20µm	Ø16mm	B
321-039-ST	975mm	±20.5µm	Ø16mm	B
321-040-ST	1000mm	±21µm	Ø16mm	B
321-042-ST	1050mm	±22µm	Ø23mm	C
321-046-ST	1150mm	±24µm	Ø23mm	C
321-050-ST	1250mm	±26µm	Ø23mm	C
321-054-ST	1350mm	±28µm	Ø23mm	C
321-058-ST	1450mm	±30µm	Ø23mm	C
321-062-ST	1550mm	±32µm	Ø23mm	C
321-066-ST	1650mm	±34µm	Ø23mm	C
321-070-ST	1750mm	±36µm	Ø23mm	C
321-074-ST	1850mm	±38µm	Ø23mm	C
321-078-ST	1950mm	±40µm	Ø23mm	C

**SERIES 324**

**INCH MICROMETER SETTING STANDARD**

◆ For standard value setting



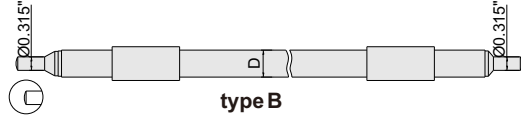
324-004-ST



type A



324-012-ST



type B

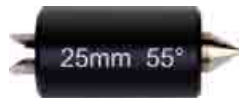
Code	Length	Accuracy	D	Type
324-001-ST	1"	±0.00006"	Ø0.276"	A
324-002-ST	2"	±0.00008"	Ø0.276"	A
324-003-ST	3"	±0.00010"	Ø0.276"	A
324-004-ST	4"	±0.00012"	Ø0.315"	A
324-005-ST	5"	±0.00014"	Ø0.315"	A
324-006-ST	6"	±0.00016"	Ø0.315"	A
324-007-ST	7"	±0.00018"	Ø0.315"	A
324-008-ST	8"	±0.00020"	Ø0.315"	A
324-009-ST	9"	±0.00022"	Ø0.315"	A
324-010-ST	10"	±0.00024"	Ø0.315"	A
324-011-ST	11"	±0.00026"	Ø0.315"	A
324-012-ST	12"	±0.00028"	Ø0.630"	B
324-013-ST	13"	±0.00030"	Ø0.630"	B
324-014-ST	14"	±0.00032"	Ø0.630"	B
324-015-ST	15"	±0.00034"	Ø0.630"	B
324-016-ST	16"	±0.00036"	Ø0.630"	B
324-017-ST	17"	±0.00038"	Ø0.630"	B
324-018-ST	18"	±0.00040"	Ø0.630"	B
324-019-ST	19"	±0.00042"	Ø0.630"	B
324-020-ST	20"	±0.00044"	Ø0.630"	B

Code	Length	Accuracy	D	Type
324-021-ST	21"	±0.00046"	Ø0.630"	B
324-022-ST	22"	±0.00048"	Ø0.630"	B
324-023-ST	23"	±0.00050"	Ø0.630"	B
324-024-ST	24"	±0.00052"	Ø0.630"	B
324-025-ST	25"	±0.00054"	Ø0.630"	B
324-026-ST	26"	±0.00056"	Ø0.630"	B
324-027-ST	27"	±0.00058"	Ø0.630"	B
324-028-ST	28"	±0.00060"	Ø0.630"	B
324-029-ST	29"	±0.00062"	Ø0.630"	B
324-030-ST	30"	±0.00064"	Ø0.630"	B
324-031-ST	31"	±0.00066"	Ø0.630"	B
324-032-ST	32"	±0.00068"	Ø0.630"	B
324-033-ST	33"	±0.00070"	Ø0.630"	B
324-034-ST	34"	±0.00072"	Ø0.630"	B
324-035-ST	35"	±0.00074"	Ø0.630"	B
324-036-ST	36"	±0.00076"	Ø0.630"	B
324-037-ST	37"	±0.00078"	Ø0.630"	B
324-038-ST	38"	±0.00080"	Ø0.630"	B
324-039-ST	39"	±0.00082"	Ø0.630"	B
324-040-ST	40"	±0.00084"	Ø0.630"	B

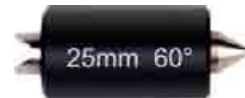
**SERIES 343**

**SCREW THREAD MICROMETER SETTING STANDARD**

◆ For screw thread micrometer (series 333 or 343)

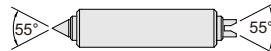


343-001-ST



343-001-ST1

unit: mm



55° thread angle



60° thread angle

Code	Length	Accuracy
343-001-ST	25mm	±3µm
343-002-ST	50mm	±3.5µm
343-003-ST	75mm	±4µm
343-004-ST	100mm	±4.5µm
343-005-ST	125mm	±5µm
343-006-ST	150mm	±5.5µm
343-007-ST	175mm	±6µm
343-008-ST	200mm	±6µm

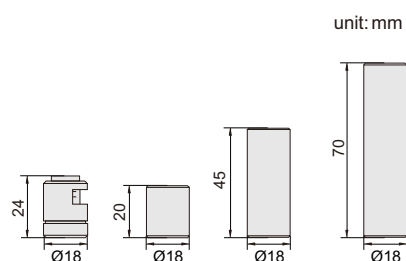
Code	Length	Accuracy
343-001-ST1	25mm	±3µm
343-002-ST1	50mm	±3.5µm
343-003-ST1	75mm	±4µm
343-004-ST1	100mm	±4.5µm
343-005-ST1	125mm	±5µm
343-006-ST1	150mm	±5.5µm
343-007-ST1	175mm	±6µm
343-008-ST1	200mm	±6µm



387

**MICROMETER MEASURING FORCE DETECTOR**

- ◆ For outside micrometers  
0-25mm, 25-50mm, 50-75mm  
and 75-100mm



Code	Measuring force
387-000-00	5-12N

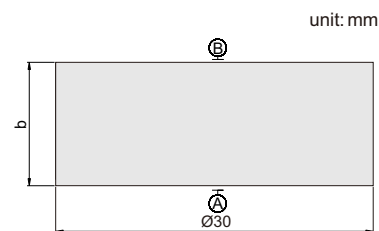
**SERIES 551**

**OPTICAL PARALLEL**

- ◆ Check the flatness and parallelism of measuring faces of micrometer
- ◆ Flatness of A and B  $\leq 0.1\mu\text{m}$
- ◆ Parallelism between A and B  $\leq 0.6\mu\text{m}$



551-001-02



MICROMETER

Application



Code	Parallels included
551-001-02	12, 12.12, 12.25, 12.37mm
551-002-02	25, 25.12, 25.25, 25.37mm

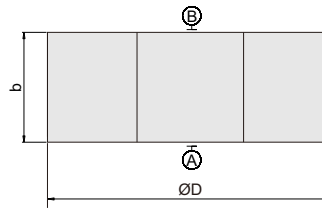
**SERIES 551**

**OPTICAL PARALLELS**



551-001-01

unit: mm



- ◆ Check the flatness and parallelism of measuring faces of micrometer
- ◆ Flatness of A and B: 0.03µm
- ◆ Parallelism between A and B: 0.6µm

Application



Code	Parallels included (b)	ØD	Applicable micrometer
551-001-01	15.62mm, 15.75mm, 15.87mm, 16.00mm	30	0-25mm
551-002-01	40.62mm, 40.75mm, 40.87mm, 41.00mm	30	25-50mm
551-003-01	65.62mm, 65.75mm, 65.87mm, 66.00mm	40	50-75mm
551-004-01	90.62mm, 90.75mm, 90.87mm, 91.00mm	50	75-100mm

**SERIES 553**

**OPTICAL FLAT**

- ◆ Check the flatness of measuring faces



553-045-01

unit: mm



Code	Flatness	Parallels included(h)	ØD
553-045-01	0.1µm	15mm	45
553-060-01	0.1µm	20mm	60





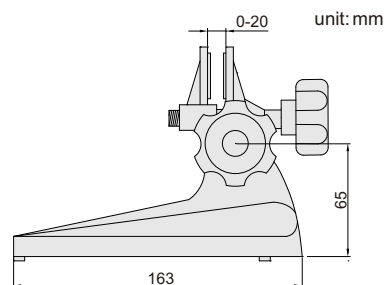
**381**

**MICROMETER STAND**

◆ For micrometers which measuring range is less than 100mm



Application



**Code**

**381-000-00**

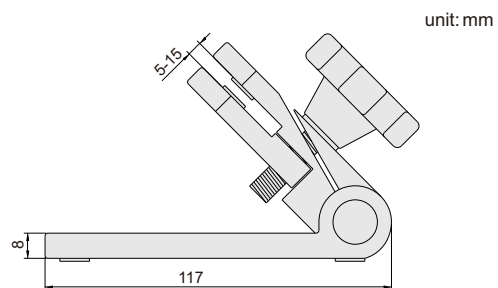
**383**

**MICROMETER STAND**

◆ For micrometers which measuring range is less than 100mm



Application



**Code**

**383-000-00**

## SERIES 361

## DIGITAL THREE POINTS INSIDE MICROMETER



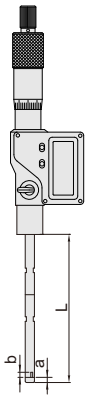
- ◆ Resolution: 0.001mm/0.00005"
- ◆ IP65 protection level
- ◆ Button: on/off, set, mm/inch, ABS/INC, data output
- ◆ Automatic power off
- ◆ Data output
- ◆ Ratchet stop
- ◆ Carbide measuring faces (over 12mm series)
- ◆ Extension rod are included
- ◆ Setting rings are included (Range<100mm)



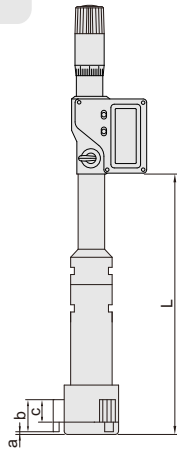
361-002-01



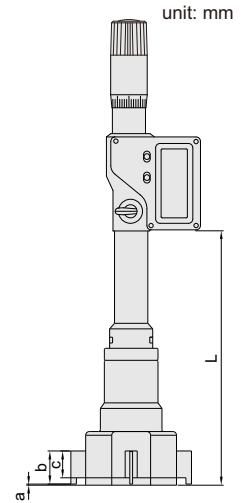
361-007-01



Range 6-20mm



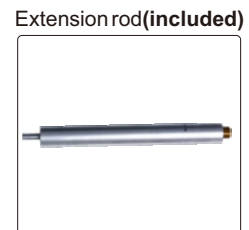
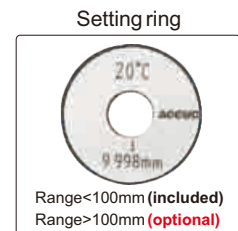
Range 20-50mm



Range 50-300mm

unit: mm

Code	Range	Accuracy	Setting ring	Extension rod	a	b	c	L
361-001-01*	6-8mm/0.24-0.31"	4μm	Ø6mm(included)	100mm	1.5	2.5	/	57
361-002-01*	8-10mm/0.31-0.39"	4μm	Ø8mm(included)	100mm	1.5	2.5	/	57
361-003-01*	10-12mm/0.39-0.47"	4μm	Ø10mm(included)	100mm	1.5	2.5	/	57
361-004-01*	12-16mm/0.47-0.63"	4μm	Ø16mm(included)	150mm	0.5	6	4.5	72
361-005-01*	16-20mm/0.63-0.79"	4μm	Ø16mm(included)	150mm	0.5	6	4.5	72
361-006-01*	20-25mm/0.79-0.98"	4μm	Ø25mm(included)	150mm	0.5	8	6	105
361-007-01*	25-30mm/0.98-1.18"	4μm	Ø25mm(included)	150mm	0.5	8	6	105
361-008-01*	30-40mm/1.18-1.57"	4μm	Ø40mm(included)	150mm	0.5	14	12	110
361-009-01*	40-50mm/1.57-1.97"	5μm	Ø40mm(included)	150mm	0.5	14	12	110
361-010-01*	50-63mm/1.97-2.48"	5μm	Ø62mm(included)	150mm	0.5	17.5	14.5	127
361-011-01*	62-75mm/2.44-2.95"	5μm	Ø62mm(included)	150mm	0.5	17.5	14.5	127
361-012-01*	75-88mm/2.95-3.46"	5μm	Ø87mm(included)	150mm	0.5	17.5	14.5	127
361-013-01*	87-100mm/3.43-3.94"	5μm	Ø87mm(included)	150mm	0.5	17.5	14.5	127
361-014-01	100-125mm/3.94-4.92"	6μm	optional	150mm	0.9	29	25	175
361-015-01	125-150mm/4.92-5.91"	6μm	optional	150mm	0.9	29	25	175
361-016-01	150-175mm/5.91-6.89"	7μm	optional	150mm	0.9	29	25	175
361-017-01	175-200mm/6.89-7.87"	7μm	optional	150mm	0.9	29	25	175
361-018-01	200-225mm/7.87-8.86"	8μm	optional	150mm	0.9	29	25	175
361-019-01	225-250mm/8.86-9.84"	8μm	optional	150mm	0.9	29	25	175
361-020-01	250-275mm/9.84-10.83"	9μm	optional	150mm	0.9	29	25	175
361-024-01	275-300mm/10.83-11.81"	9μm	optional	150mm	0.9	29	25	175



\* With manufacturer inspection certificate

**SERIES 361**

**DIGITAL TWO POINTS INSIDE MICROMETER**

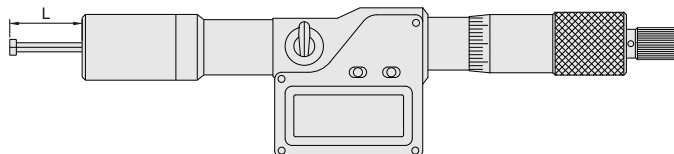


- ◆ Resolution: 0.001mm/0.00005"
- ◆ IP65 protection level
- ◆ Button: on/off, set, mm/inch, ABS/INC, data output
- ◆ Automatic power off
- ◆ Data output
- ◆ Ratchet stop
- ◆ Carbide measuring faces
- ◆ Setting rings are included



361-000-50

unit: mm



Code	Range	Accuracy	Setting ring	L
361-000-25	2-2.5mm/0.08-0.10"	6μm	Ø2.5mm	12
361-000-30	2.5-3mm/0.10-0.12"	6μm	Ø2.5mm	12
361-000-40	3-4mm/0.12-0.16"	6μm	Ø4mm	22
361-000-50	4-5mm/0.16-0.20"	6μm	Ø5mm	22
361-000-60	5-6mm/0.20-0.24"	6μm	Ø6mm	22

Setting ring(included)



**SERIES 361**

**DIGITAL TWO/THREE POINTS INSIDE MICROMETER SET**



Extension rod(included)

Setting ring(included)



Digital two points inside micrometer set

Code	Range	Micrometers included	Setting ring
361-000-02	2-3mm/0.08-0.12"	2-2.5mm, 2.5-3mm	Ø2.5mm
361-000-03	3-6mm/0.12-0.24"	3-4mm, 4-5mm, 5-6mm	Ø4mm, Ø5mm, Ø6mm

Digital three points inside micrometer set

Code	Range	Micrometers included	Setting ring	Extension rod
361-103-03	6-12mm	6-8, 8-10, 10-12mm	Ø6, Ø8, Ø10mm	100mm
361-305-03	12-20mm	12-16, 16-20mm	Ø16mm	150mm
361-509-05	20-50mm	20-25, 25-30, 30-40, 40-50mm	Ø25mm, Ø40mm	150mm
361-913-05	50-100mm	50-63, 62-75, 75-88, 87-100mm	Ø62mm, Ø87mm	150mm

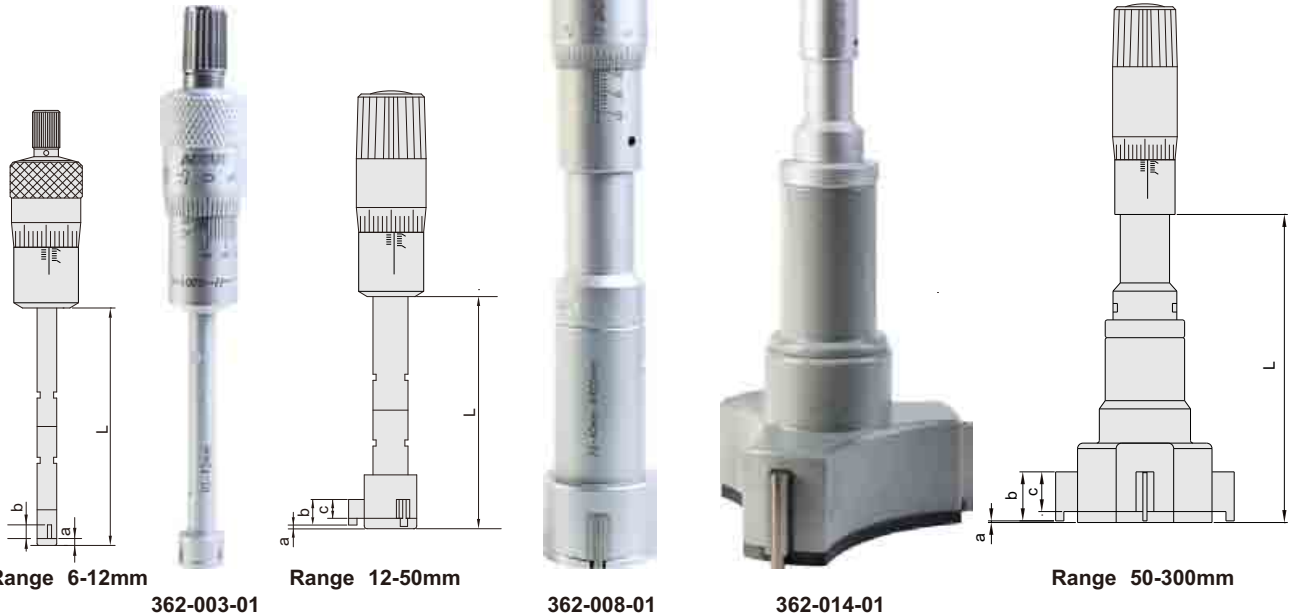


361-103-03

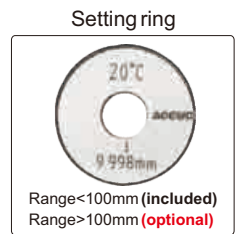
INSIDE/OUTSIDE MEASUREMENT



- ◆ 6-12mm graduation: 0.001mm  
Steel measuring faces
- ◆ 12-300mm graduation: 0.005mm  
Carbide measuring faces
- ◆ Ratchet stop
- ◆ Extension rod are included
- ◆ Setting rings are included (Range<100mm)



Code	Range	Accuracy	Setting ring	Extension rod	a	b	c	L
362-001-01*	6-8mm	4μm	Ø6mm(included)	100mm	1.5	2.5	/	54.5
362-002-01*	8-10mm	4μm	Ø8mm(included)	100mm	1.5	2.5	/	54.5
362-003-01*	10-12mm	4μm	Ø10mm(included)	100mm	1.5	2.5	/	54.5
362-004-01*	12-16mm	4μm	Ø16mm(included)	150mm	0.5	6	4.5	80
362-005-01*	16-20mm	4μm	Ø16mm(included)	150mm	0.5	6	4.5	80
362-006-01*	20-25mm	4μm	Ø25mm(included)	150mm	0.5	8	6	90
362-007-01*	25-30mm	4μm	Ø25mm(included)	150mm	0.5	8	6	90
362-008-01*	30-40mm	4μm	Ø40mm(included)	150mm	0.5	14	12	97
362-009-01*	40-50mm	5μm	Ø40mm(included)	150mm	0.5	14	12	97
362-010-01*	50-63mm	5μm	Ø62mm(included)	150mm	0.5	17.5	14.5	114
362-011-01*	62-75mm	5μm	Ø62mm(included)	150mm	0.5	17.5	14.5	114
362-012-01*	75-88mm	5μm	Ø87mm(included)	150mm	0.5	17.5	14.5	114
362-013-01*	87-100mm	5μm	Ø87mm(included)	150mm	0.5	17.5	14.5	114
362-014-01	100-125mm	6μm	optional	150mm	0.9	29	25	140
362-015-01	125-150mm	6μm	optional	150mm	0.9	29	25	140
362-016-01	150-175mm	7μm	optional	150mm	0.9	29	25	140
362-017-01	175-200mm	7μm	optional	150mm	0.9	29	25	140
362-018-01	200-225mm	8μm	optional	150mm	0.9	29	25	140
362-019-01	225-250mm	8μm	optional	150mm	0.9	29	25	140
362-020-01	250-275mm	9μm	optional	150mm	0.9	29	25	140
362-024-01	275-300mm	9μm	optional	150mm	0.9	29	25	140



\* With manufacturer inspection certificate



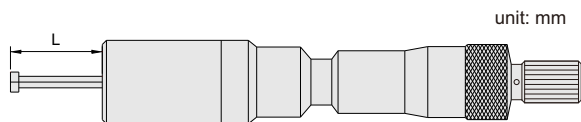
**SERIES 362**

**TWO POINTS INSIDE MICROMETER**

- ◆ Graduation: 0.001mm
- ◆ Carbide measuring faces
- ◆ Ratchet stop
- ◆ Setting rings are included



362-000-25



Code	Range	Accuracy	Setting ring	L
362-000-25	2-2.5mm	6μm	Ø2.5mm	12
362-000-30	2.5-3mm	6μm	Ø2.5mm	12
362-000-40	3-4mm	6μm	Ø4mm	22
362-000-50	4-5mm	6μm	Ø5mm	22
362-000-60	5-6mm	6μm	Ø6mm	22

Setting ring(included)



**SERIES 362**

**TWO/THREE POINTS INSIDE MICROMETER SET**



362-913-05

Two points inside micrometer set

Code	Range	Micrometers included	Setting ring
362-000-02	2-3mm	2-2.5mm, 2.5-3mm	Ø2.5mm
362-000-03	3-6mm	3-4mm, 4-5mm, 5-6mm	Ø4mm, Ø5mm, Ø6mm

Three points inside micrometer set

Code	Range	Micrometers included	Setting ring	Extension rod
362-103-03	6-12mm	6-8, 8-10, 10-12mm	Ø6, Ø8, Ø10mm	100mm
362-305-03	12-20mm	12-16, 16-20mm	Ø16mm	150mm
362-509-05	20-50mm	20-25, 25-30, 30-40, 40-50mm	Ø25mm, Ø40mm	150mm
362-913-05	50-100mm	50-63, 62-75, 75-88, 87-100mm	Ø62mm, Ø87mm	150mm

Extension rod(included)



Setting ring(included)



INSIDE/OUTSIDE  
MEASUREMENT

## SERIES 363

## WIDE RANGE THREE POINTS INTERNAL MICROMETER

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

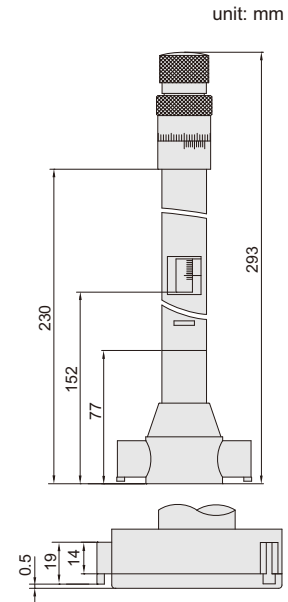
Setting ring



Code	Range	Accuracy	Setting ring
363-003-01	50-70mm	5μm	Ø50mm(included)
363-004-01	70-100mm	5μm	Ø70mm(included)
363-006-01	100-150mm	6μm	Ø100mm(included)
363-010-01	150-250mm	8μm	Ø150mm(included)
363-012-01	200-300mm	9μm	Ø200mm(optional)



363-003-01



## SERIES 364

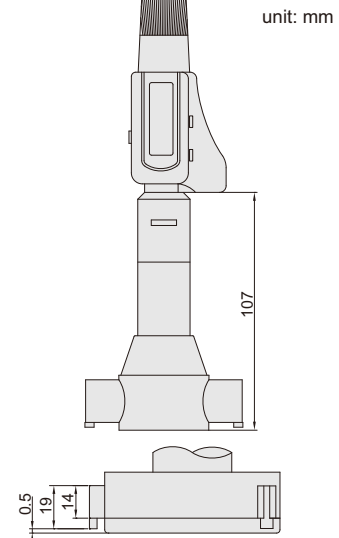
## DIGITAL WIDE RANGE THREE POINTS INTERNAL MICROMETER



- ◆ Resolution: 0.001mm/0.00005"
- ◆ IP54 protection level
- ◆ Buttons: on/off, set, mm/inch, ABS/INC
- ◆ Data output
- ◆ Automatic power off
- ◆ Carbide measuring faces
- ◆ Ratchet stop
- ◆ Supplied with extension rods
- ◆ Setting rings are included(except 200-300mm)



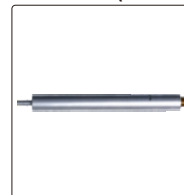
364-003-01



INSIDE/OUTSIDE MEASUREMENT

Code	Range	Accuracy	Setting ring	Extension rod
364-003-01	50-70mm/1.97-2.76"	5μm	Ø50mm(included)	150mm
364-004-01	70-100mm/2.76-3.94"	5μm	Ø70mm(included)	150mm
364-006-01	100-150mm/3.94-5.91"	6μm	Ø100mm(included)	150mm
364-010-01	150-250mm/5.91-9.84"	8μm	Ø150mm(included)	150mm
364-012-01	200-300mm/7.87-11.81"	9μm	Ø200mm(optional)	150mm

Extension rod(included)



Setting ring



# SERIES 365

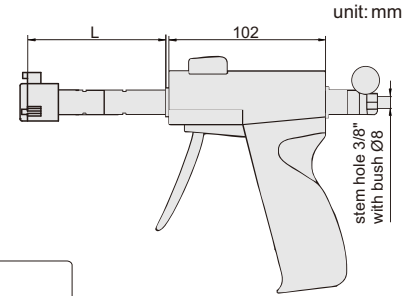
# PISTOL GRIP THREE POINTS BORE GAUGE



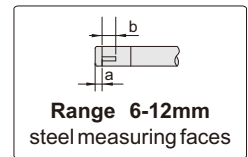
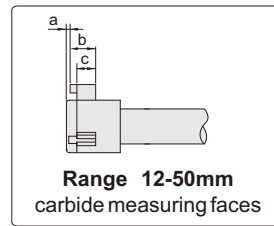
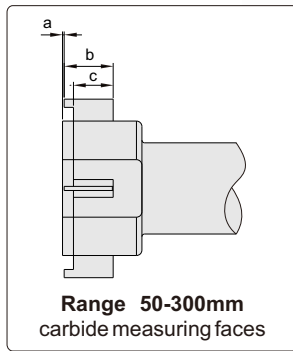
- Optional accessory:  
digital indicator (code: series 211 or 216)  
setting ring (code: series 531)



**216-010-01**  
digital indicator  
is optional



**365-007-01**

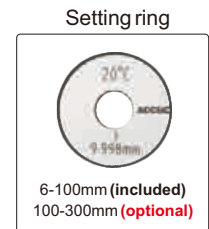


Extension rod (included)



### INDIVIDUAL

Code	Range	Accuracy	Setting ring	Extension rod	a	b	c	L
365-001-01	6-8mm/0.275-0.35"	4µm	Ø6mm (included)	100mm	1.5	2.5	/	50
365-002-01	8-10mm/0.35-0.425"	4µm	Ø8mm (included)	100mm	1.5	2.5	/	50
365-003-01	10-12mm/0.425-0.5"	4µm	Ø10mm (included)	100mm	1.5	2.5	/	50
365-004-01	12-16mm/0.5-0.65"	4µm	Ø16mm (included)	150mm	0.5	6	4.5	65
365-005-01	16-20mm/0.65-0.8"	4µm	Ø16mm (included)	150mm	0.5	6	4.5	65
365-006-01	20-25mm/0.8-1"	4µm	Ø25mm (included)	150mm	0.5	8	6	91
365-007-01	25-30mm/1-1.2"	4µm	Ø25mm (included)	150mm	0.5	8	6	91
365-008-01	30-40mm/1.2-1.6"	4µm	Ø40mm (included)	150mm	0.5	14	12	97
365-009-01	40-50mm/1.6-2"	5µm	Ø40mm (included)	150mm	0.5	14	12	97
365-010-01	50-63mm/2-2.5"	5µm	Ø62mm (included)	150mm	0.5	17.5	14.5	112
365-011-01	62-75mm/2.5-3"	5µm	Ø62mm (included)	150mm	0.5	17.5	14.5	112
365-012-01	75-88mm/3-3.5"	5µm	Ø87mm (included)	150mm	0.5	17.5	14.5	112
365-013-01	87-100mm/3.5-4"	5µm	Ø87mm (included)	150mm	0.5	17.5	14.5	112
365-014-01	100-125mm/4-5"	6µm	optional	150mm	0.9	29	25	140
365-015-01	125-150mm/5-6"	6µm	optional	150mm	0.9	29	25	140
365-016-01	150-175mm/6-7"	7µm	optional	150mm	0.9	29	25	140
365-017-01	175-200mm/7-8"	7µm	optional	150mm	0.9	29	25	140
365-018-01	200-225mm/8-9"	8µm	optional	150mm	0.9	29	25	140
365-019-01	225-250mm/9-10"	8µm	optional	150mm	0.9	29	25	140
365-020-01	250-275mm/10-11"	9µm	optional	150mm	0.9	29	25	140
365-024-01	275-300mm/11-12"	9µm	optional	150mm	0.9	29	25	140



Indicators (optional)



### SET

Code	Range	Micrometers included	Setting ring (included)	Extension rod (included)
365-103-03	6-12mm	6-8, 8-10, 10-12mm	Ø6, Ø8, Ø10mm	100mm
365-305-03	12-20mm	12-16, 16-20mm	Ø16mm	150mm
365-509-05	20-50mm	20-25, 25-30, 30-40, 40-50mm	Ø25mm, Ø40mm	150mm
365-913-05	50-100mm	50-63, 62-75, 75-88, 87-100mm	Ø62mm, Ø87mm	150mm

INSIDE/OUTSIDE  
MEASUREMENT

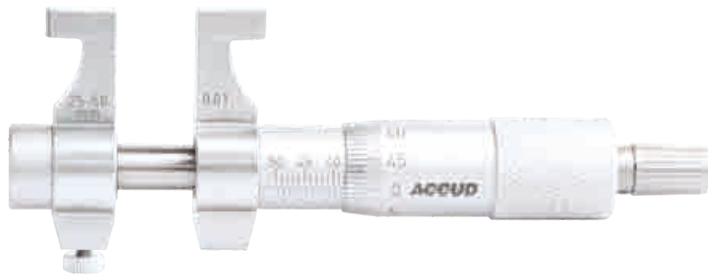
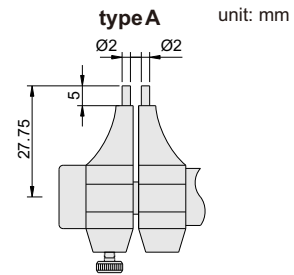
## SERIES 351

## INSIDE MICROMETER

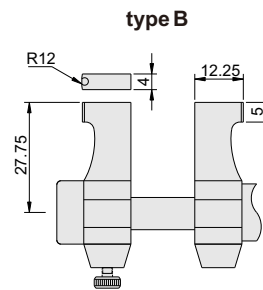
- ◆ Graduation: 0.01mm
- ◆ Carbide measuring faces
- ◆ Ratchet stop



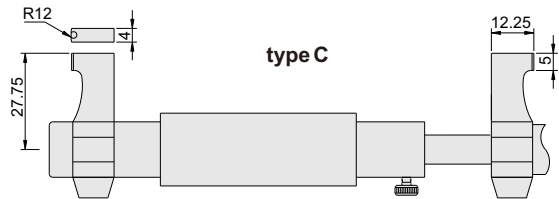
351-001-01



351-002-01



351-003-01



INSIDE/OUTSIDE MEASUREMENT

Code	Range	Accuracy	Type	Setting ring
351-001-01	5-30mm	5μm	A	5mm
351-002-01	25-50mm	6μm	B	25mm
351-003-01	50-75mm	7μm	C	optional
351-004-01	75-100mm	8μm	C	optional
351-005-01	100-125mm	9μm	C	optional
351-006-01	125-150mm	9μm	C	optional
351-007-01	150-175mm	10μm	C	optional
351-008-01	175-200mm	10μm	C	optional
351-009-01	200-225mm	11μm	C	optional
351-010-01	225-250mm	11μm	C	optional
351-011-01	250-275mm	12μm	C	optional
351-012-01	275-300mm	14μm	C	optional

Setting ring





## SERIES 356

## DIGITAL INSIDE MICROMETER

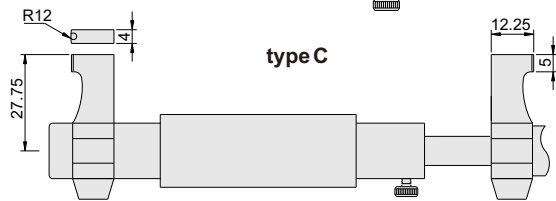
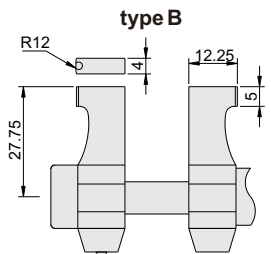
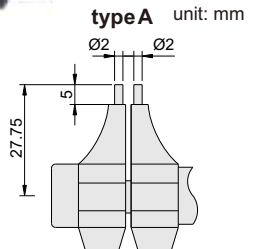
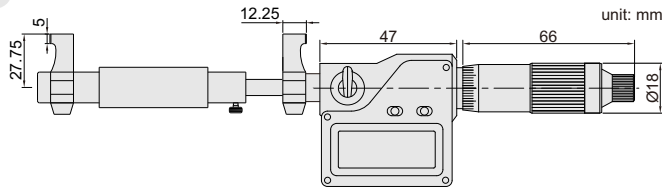
ATTENTION: LOW PARALLELISM OF TWO MEASURING FACES



- ◆ Resolution 0.001mm/0.00005"
- ◆ Button function: on/off, set, mm/inch, ABS/INC, data output
- ◆ Data output
- ◆ Automatic power off
- ◆ Ratchet stop
- ◆ Carbide measuring faces



356-003-01



Code	Range	Accuracy	Type	Setting ring
356-001-01	5-30mm/0.2-1.2"	±5μm	A	5mm
356-002-01	25-50mm/1-2"	±6μm	B	25mm
356-003-01	50-75mm/2-3"	±7μm	C	optional
356-004-01	75-100mm/3-4"	±8μm	C	optional
356-005-01	100-125mm/4-5"	±9μm	C	optional
356-006-01	125-150mm/5-6"	±9μm	C	optional
356-007-01	150-175mm/6-7"	±10μm	C	optional
356-008-01	175-200mm/7-8"	±10μm	C	optional

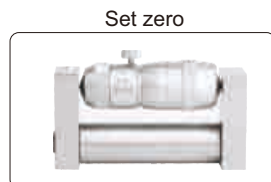
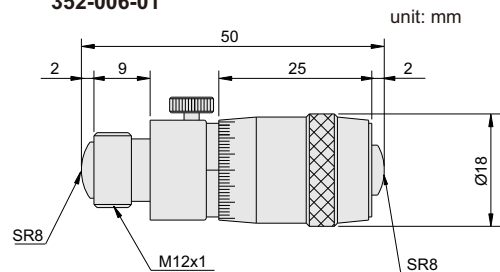
## SERIES 352

## TUBULAR INSIDE MICROMETER

- ◆ Graduation: 0.01mm
- ◆ Travel of micrometer head: 13mm
- ◆ Accuracy:  $(3+n+L/50)\mu\text{m}$ , n is number of rods, L is max. measuring length in mm
- ◆ Supplied with setting standards
- ◆ Carbide measuring faces



352-006-01



Code	Range	Extension rods (mm)
352-002-01	50-63mm	—
352-006-01	50-150mm	13, 25, 50
352-012-01	50-300mm	13, 25, 50(2pcs), 100
352-020-01	50-500mm	13, 25, 50(2pcs), 100, 200
352-024-01	50-600mm	13, 25, 50, 100, 150, 200
352-040-01	50-1000mm	13, 25, 50(2pcs), 100, 200(2pcs), 300
352-060-01	50-1500mm	13, 25, 50(2pcs), 100, 200(3pcs), 300(2pcs)

INSIDE/OUTSIDE MEASUREMENT



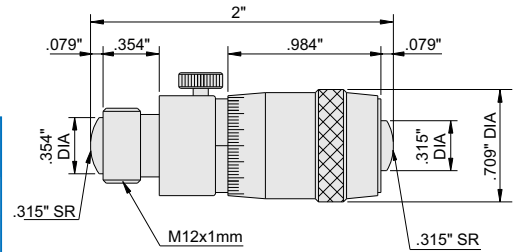
## SERIES 352

## TUBULAR INSIDE MICROMETER

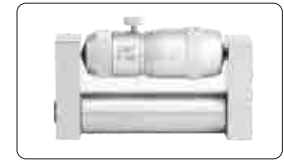
- ◆ Graduation: .001"
- ◆ Accuracy:  $[\text{.00005}(3+n+L/2)]$ ", n = number of rods, L = maximum measuring length (inch)
- ◆ Supplied with setting standards
- ◆ Carbide measuring faces



352-024-E01



Set zero



Code	Range	Travel of micrometer head	Extension rods
352-002-E01	2-2.5"	.5"	-
352-006-E01	2-6"	.5"	.5", 1", 2"
352-012-E01	2-12"	.5"	.5", 1", 2"(2pcs), 4"
352-020-E01	2-20"	.5"	.5", 1", 2"(2pcs), 4", 8"
352-024-E01	2-24"	.5"	.5", 1", 2", 4", 6", 8"
352-040-E01	2-40"	.5"	.5", 1", 2"(2pcs), 4", 8"(2pcs), 12"
352-060-E01	2-60"	.5"	.5", 1", 2"(2pcs), 4", 8"(3pcs), 12"(2pcs)

## SERIES 359

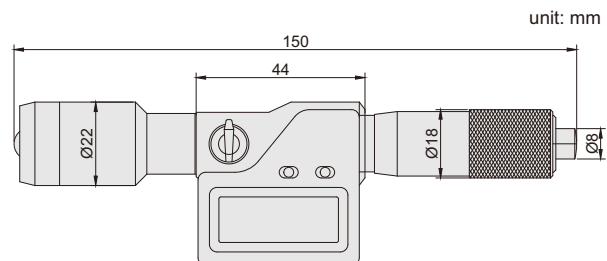
## DIGITAL TUBULAR INSIDE MICROMETER



- ◆ 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
- ◆ Automatic power off
- ◆ Supplied with setting standards



359-007-01



Set zero



Code	Range	Travel of micrometer head	Extension rods
359-007-01	150-175mm	25mm	-
359-040-01	150-1000mm	25mm	25, 50(2pcs), 100, 200, 400
359-060-01	150-1500mm	25mm	25, 50(2pcs), 100(2pcs), 200, 400(2pcs)
359-080-01	150-2000mm	25mm	25, 50(2pcs), 100, 200(2pcs), 400(3pcs)



**SERIES 353**

**TUBULAR INSIDE MICROMETER**

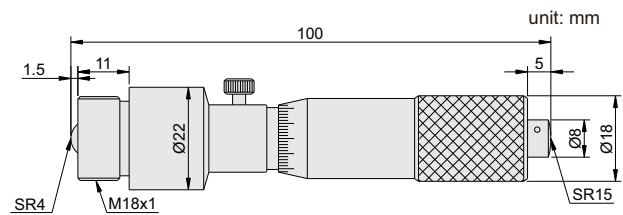
- ◆ Graduation 0.01mm
- ◆ Accuracy:  $(3+n+L/50)\mu\text{m}$   
n is number of rods, L is maximum measuring length in mm
- ◆ Travel of micrometer head: 25mm
- ◆ Supplied with setting standards
- ◆ Carbide measuring faces

Set zero



353-020-01

Code	Range	Extension rods (mm)
353-005-01	100-125mm	—
353-020-01	100-500mm	25, 50, 100, 200
353-036-01	100-900mm	25, 50, 100, 200, 400
353-052-01	100-1300mm	25, 50, 100, 200, 400(2pcs)
353-068-01	100-1700mm	25, 50, 100, 200, 400(3pcs)
353-084-01	100-2100mm	25, 50, 100, 200, 400(4pcs)

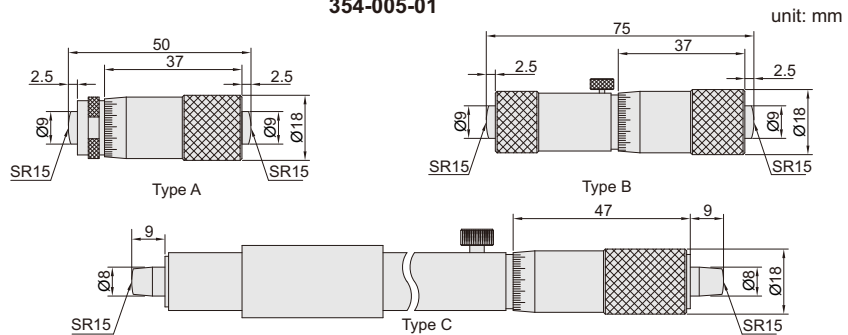


**SERIES 354**

**TUBULAR INSIDE MICROMETER**



354-005-01



- ◆ Graduation 0.01mm
- ◆ Carbide measuring faces

Code	Range	Type	Accuracy
354-003-01	50-75mm	A	5 $\mu\text{m}$
354-004-01	75-100mm	B	5 $\mu\text{m}$
354-005-01	100-125mm	C	6 $\mu\text{m}$
354-006-01	125-150mm	C	6 $\mu\text{m}$
354-007-01	150-175mm	C	7 $\mu\text{m}$
354-008-01	175-200mm	C	7 $\mu\text{m}$
354-009-01	200-225mm	C	8 $\mu\text{m}$
354-010-01	225-250mm	C	8 $\mu\text{m}$
354-011-01	250-275mm	C	9 $\mu\text{m}$

Code	Range	Type	Accuracy
354-012-01	275-300mm	C	9 $\mu\text{m}$
354-013-01	300-325mm	C	9 $\mu\text{m}$
354-014-01	325-350mm	C	9 $\mu\text{m}$
354-015-01	350-375mm	C	10 $\mu\text{m}$
354-016-01	375-400mm	C	10 $\mu\text{m}$
354-017-01	400-425mm	C	10 $\mu\text{m}$
354-018-01	425-450mm	C	10 $\mu\text{m}$
354-019-01	450-475mm	C	11 $\mu\text{m}$
354-020-01	475-500mm	C	11 $\mu\text{m}$

INSIDE/OUTSIDE MEASUREMENT

## SERIES 355

## TUBULAR INSIDE MICROMETER

- ◆ Graduation 0.01mm
- ◆ Accuracy:  $(6+L/50)\mu\text{m}$   
L=maximum measuring length(mm)
- ◆ Optional accessory: setting ring(code 531)

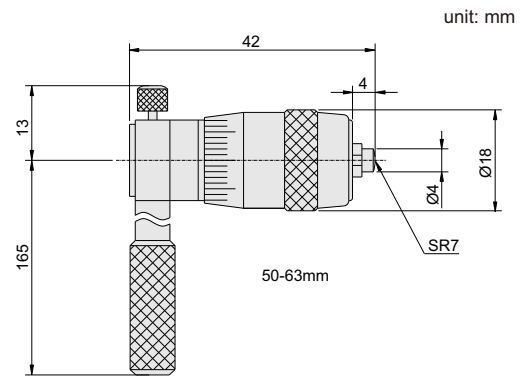


Setting ring(optional)



355-008-01

Code	Range	Extension rods	Travel of micrometer head
355-001-01	25-32mm	—	7mm
355-002-01	25-50mm	2pcs	7mm
355-003-01	50-63mm	—	13mm
355-008-01	50-200mm	6pcs	13mm
355-009-01	200-225mm	—	25mm
355-012-01	50-300mm	10pcs	13mm
355-020-01	200-500mm	3pcs	25mm
355-040-01	200-1000mm	8pcs	25mm



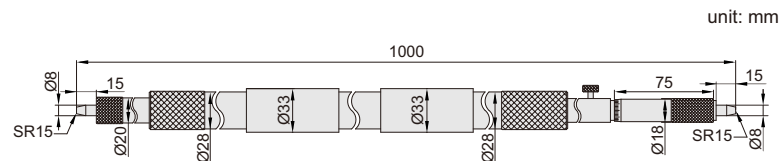
## SERIES 357

## TUBULAR INSIDE MICROMETER

- ◆ Graduation 0.01mm
- ◆ Accuracy:  $(7+n+L/50)\mu\text{m}$   
n=number of rods  
L=maximum measuring length(mm)
- ◆ Carbide measuring faces



357-080-01



Code	Range	Travel of micrometer head	Extension rods
357-080-01	1000-2000mm	50mm	50mm, 100mm(2pcs), 200mm, 500mm
357-120-01	1000-3000mm	50mm	50mm, 100mm(2pcs), 200mm, 500mm, 1000mm
357-160-01	1000-4000mm	50mm	50mm, 100mm(2pcs), 200mm, 500mm, 1000mm(2pcs)
357-200-01	1000-5000mm	50mm	50mm, 100mm(2pcs), 200mm, 500mm, 1000mm(3pcs)



**SERIES 358**

**INTERNAL SCREW THREAD MICROMETER**

◆ Graduation: 0.01mm



measuring tips for screw thread **(optional)**

358-004-01

measuring tips for screw thread **(optional)**

Measuring tips for internal screw thread micrometer **(optional)**



Code	Range
358-004-01	75-100mm
358-005-01	100-125mm
358-006-01	125-150mm

Code	Range
358-007-01	150-175mm
358-008-01	175-200mm
358-009-01	200-225mm

Code	Range
358-010-01	225-250mm
358-011-01	250-275mm
358-012-01	275-300mm

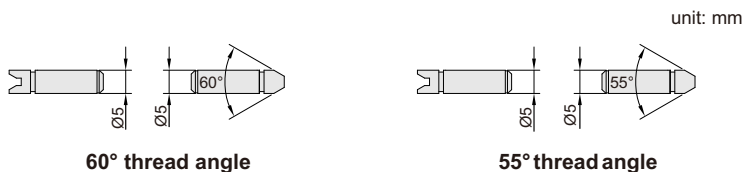
**SERIES 358**

**MEASURING TIPS FOR INTERNAL SCREW THREAD MICROMETER**

- ◆ Supplied in pair
- ◆ For 358 series micrometers



358-000-19



Metric and unified thread (60° thread angle)

Code	Pitch
358-000-01	0.4-0.5mm/ 64-48TPI
358-000-02	0.6-0.9mm/ 44-28TPI
358-000-03	1-1.75mm/ 24-14TPI
358-000-04	2-3mm/ 13-9TPI
358-000-05	3.5-5mm/ 8-5TPI
358-000-06	5.5-7mm/ 4.5-3.5TPI
358-000-TS	6 pairs/set, including all above tips

Whitworth thread (55° thread angle)

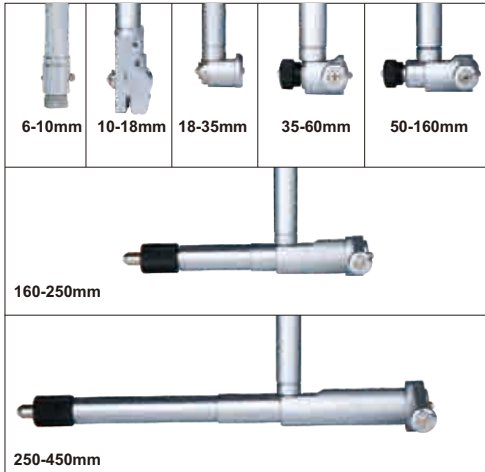
Code	Pitch
358-000-11	60-48TPI
358-000-12	48-40TPI
358-000-13	40-32TPI
358-000-14	32-24TPI
358-000-15	24-18TPI
358-000-16	18-14TPI
358-000-17	14-10TPI

Code	Pitch
358-000-18	10-7TPI
358-000-19	7-4.5TPI
358-000-20	4.5-3.5TPI
358-000-2TS	10 pairs/set, including all above tips

## SERIES 251

## DIAL BORE GAUGE SET

◆ Optional accessory: series 531 setting rings



Bore gauge setter for setting zero (optional)

Setting ring (optional)



Measuring tips (included)

Gasket (included)



Series 215 (optional)



251-046-11



251-346-13

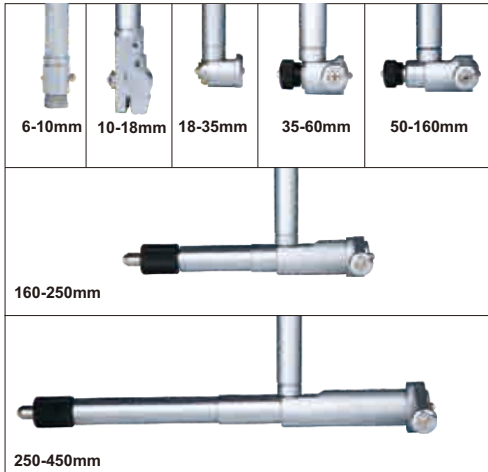
Code	Range	indicator	Accuracy	Repeatability	Bore gages included
251-046-11	35-160mm	range 10mm graduation 0.01mm	35-50mm ±0.018mm 50-160mm ±0.018mm	0.003mm	35-50mm anvil (dial indicator and handle are not included) 50-160mm bore gage
251-346-13	18-160mm	range 10mm graduation 0.01mm	18-35mm ±0.015mm 35-60mm ±0.018mm 50-160mm ±0.018mm	0.003mm	18-35mm bore gage 35-60mm (dial indicator is not included) 50-160mm (dial indicator is not included)



**SERIES 251**

**DIAL BORE GAUGE**

◆ Optional accessory: series 531 setting rings



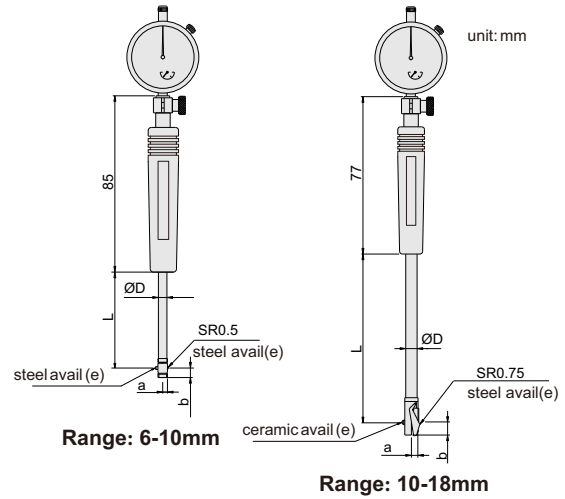
Bore gauge setter for setting zero (optional)



Setting ring (optional)

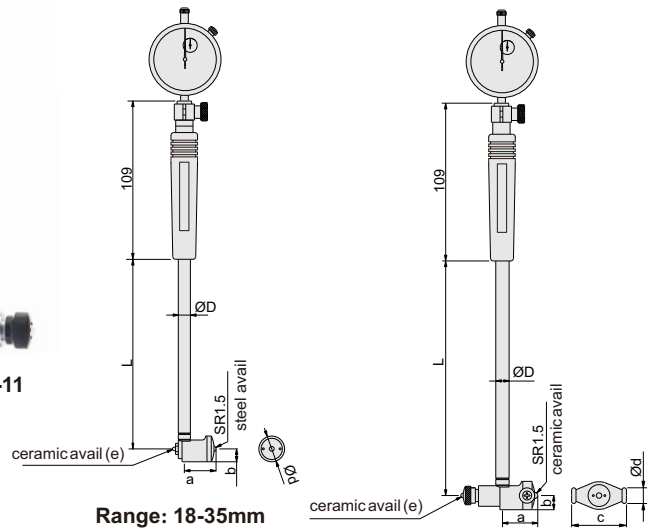


251-160-11



Range: 6-10mm

Range: 10-18mm



Range: 18-35mm

Range: 35-450mm

Measuring tips (included)



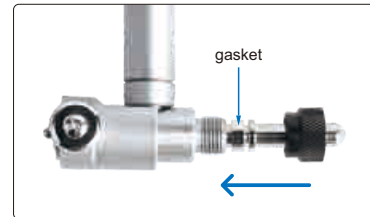
Gasket (included)



Series 215 (optional)



Install tips

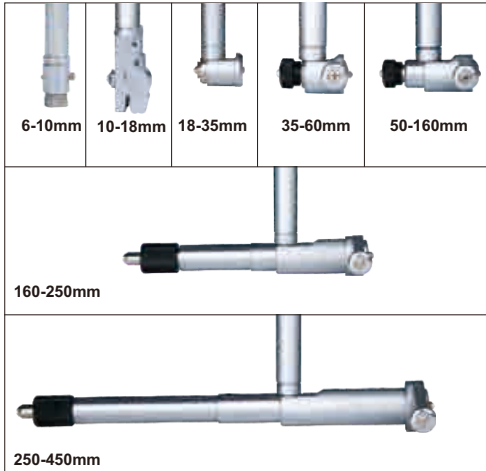


Code	Range	Dial indicator	Tips	Gasket	Accuracy	Repeatability	a	b	c	Ød	ØD	e	L
251-010-11	6-10mm	Range: 3mm graduation: 0.01mm	9pcs	2pcs	±0.012mm	3µm	3.6	5.7	/	/	4.5	SR1	48
251-018-11	10-18mm		9pcs	2pcs	±0.012mm	3µm	5.6	7.8	/	/	6	SR1	105
251-035-11	18-35mm	Range: 10mm graduation: 0.01mm	9pcs	2pcs	±0.015mm	3µm	12.2	6.4	/	12.7	9	SR1	141
251-060-11	35-60mm		6pcs	4pcs	±0.018mm	3µm	26	9	27	13	12.8	SR2	141
251-100-11	50-100mm		11pcs	4pcs	±0.018mm	3µm	26	9	35	13	12.8	SR2	141
251-160-11	50-160mm		12pcs	4pcs	±0.018mm	3µm	26	9	35	13	12.8	SR2	141
251-160-12	100-160mm		12pcs	4pcs	±0.018mm	3µm	26	9	35	13	12.8	SR2	141
251-250-11	160-250mm		5pcs	5pcs	±0.018mm	3µm	56.5	13	74.5	15	14.5	SR3.5	400
251-450-11	250-450mm		5pcs	5pcs	±0.018mm	3µm	86.5	15	101.5	15	14.5	SR3.5	400

## SERIES 251

## PRECISION DIAL BORE GAUGE

◆ Optional accessory: series 531 setting rings and long handle series 250.



Bore gauge setter for setting zero (optional)



Setting ring (optional)



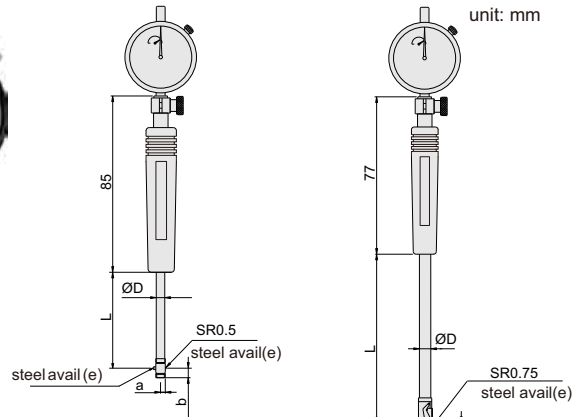
Measuring tips (included)



Gasket (included)

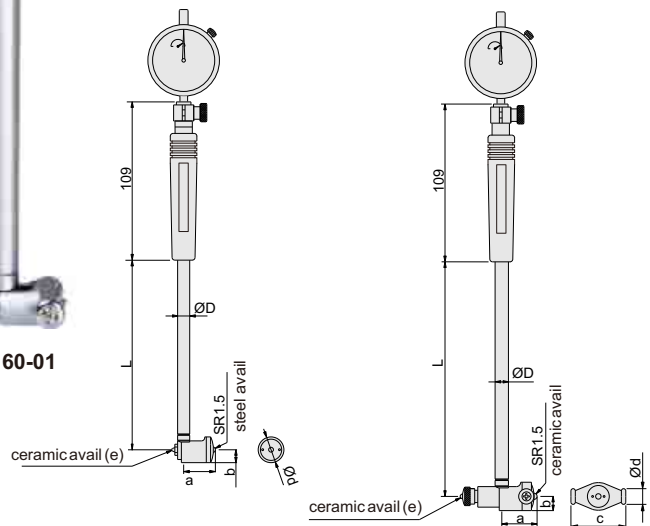


251-160-01



Range: 6-10mm

Range: 10-18mm



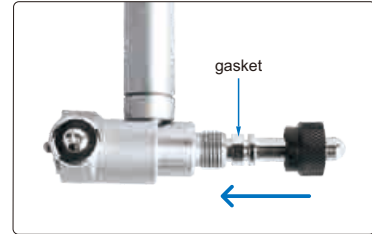
Range: 18-35mm

Range: 35-450mm

Series 215 (optional)



Install tips



Code	Range	Dial indicator	Tips	Gasket	Accuracy	Repeatability	a	b	c	Ød	ØD	e	L
251-010-01	6-10mm	Range: 1mm graduation: 0.001mm	9pcs	2pcs	±0.005mm	2µm	3.6	5.7	/	/	4.5	SR1	48
251-018-01	10-18mm		9pcs	2pcs	±0.005mm	2µm	5.6	7.8	/	/	6	SR1	105
251-035-01	18-35mm		9pcs	2pcs	±0.006mm	2µm	12.2	6.4	/	12.7	9	SR1	141
251-060-01	35-60mm		6pcs	4pcs	±0.007mm	2µm	26	9	27	13	12.8	SR2	141
251-100-01	50-100mm		11pcs	4pcs	±0.007mm	2µm	26	9	35	13	12.8	SR2	141
251-160-01	50-160mm		12pcs	4pcs	±0.007mm	2µm	26	9	35	13	12.8	SR2	141
251-160-02	100-160mm		12pcs	4pcs	±0.007mm	2µm	26	9	35	13	12.8	SR2	141
251-250-01	160-250mm		5pcs	5pcs	±0.007mm	2µm	56.5	13	74.5	15	14.5	SR3.5	400
251-450-01	250-450mm		5pcs	5pcs	±0.007mm	2µm	86.5	15	101.5	15	14.5	SR3.5	400

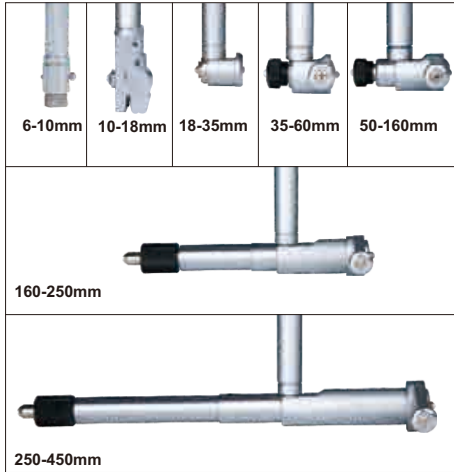


# SERIES 241

# DIGITAL PRECISION BORE GAUGE



- ◆ With min. value tracking function, get the diameter automatically
- ◆ Optional accessory: series 531 setting rings



Bore gauge setter for setting zero (optional)

Setting ring (optional)

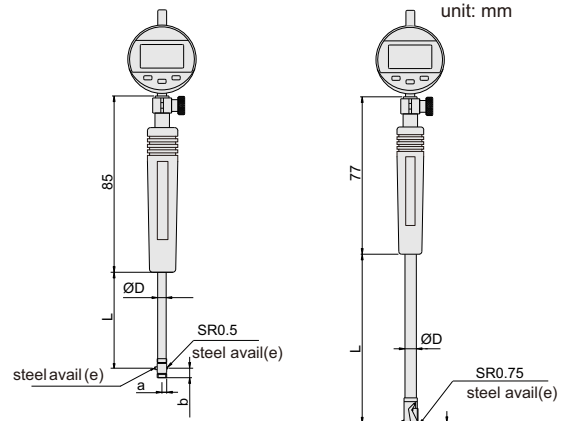


Measuring tips (included)

Gasket (included)

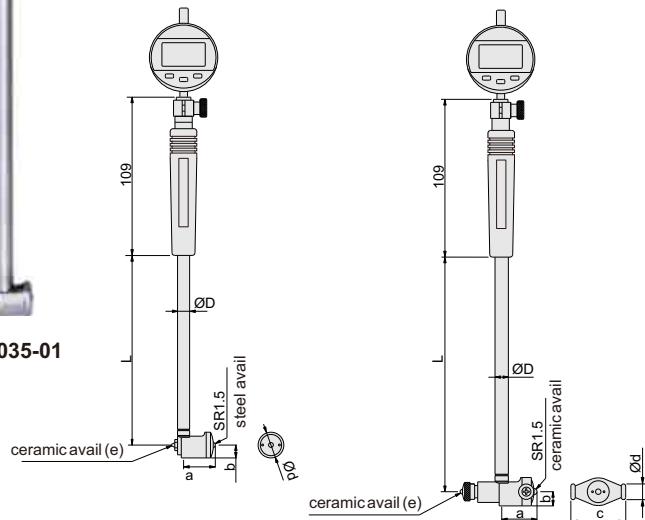


241-035-01



Range: 6-10mm

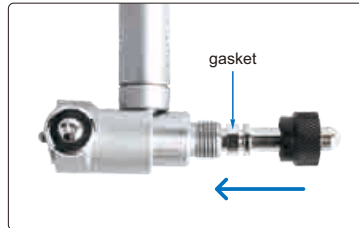
Range: 10-18mm



Range: 18-35mm

Range: 35-450mm

Install tips



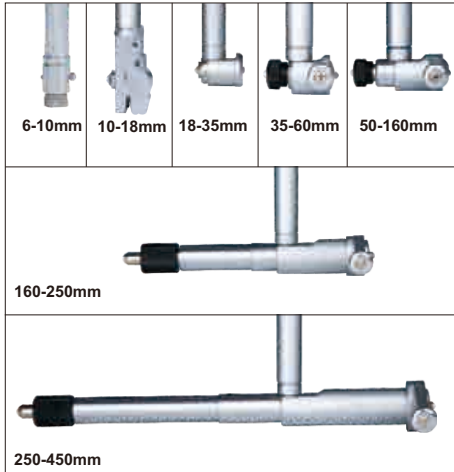
Code	Range	Digital indicator	Tips	Gasket	Accuracy	Repeatability	a	b	c	Ød	ØD	e	L
241-010-01	6-10mm	Range: 12.7mm resolution: 0.001mm	9pcs	2pcs	±0.005mm	2µm	3.6	5.7	/	/	4.5	SR1	48
241-018-01	10-18mm		9pcs	2pcs	±0.005mm	2µm	5.6	7.8	/	/	6	SR1	105
241-035-01	18-35mm		9pcs	2pcs	±0.006mm	2µm	12.2	6.4	/	12.7	9	SR1	141
241-060-01	35-60mm		6pcs	4pcs	±0.007mm	2µm	26	9	27	13	12.8	SR2	141
241-100-01	50-100mm		11pcs	4pcs	±0.007mm	2µm	26	9	35	13	12.8	SR2	141
241-160-01	50-160mm		12pcs	4pcs	±0.007mm	2µm	26	9	35	13	12.8	SR2	141
241-160-02	100-160mm		12pcs	4pcs	±0.007mm	2µm	26	9	35	13	12.8	SR2	141
241-250-01	160-250mm		5pcs	5pcs	±0.007mm	2µm	56.5	13	74.5	15	14.5	SR3.5	400
241-450-01	250-450mm		5pcs	5pcs	±0.007mm	2µm	86.5	15	101.5	15	14.5	SR3.5	400

## SERIES 241

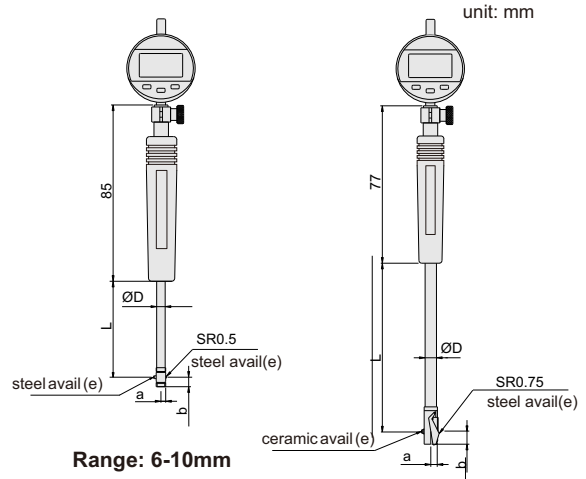
## DIGITAL BORE GAUGE



- ◆ With min. value tracking function, get the diameter automatically
- ◆ Optional accessory: series 531 setting rings

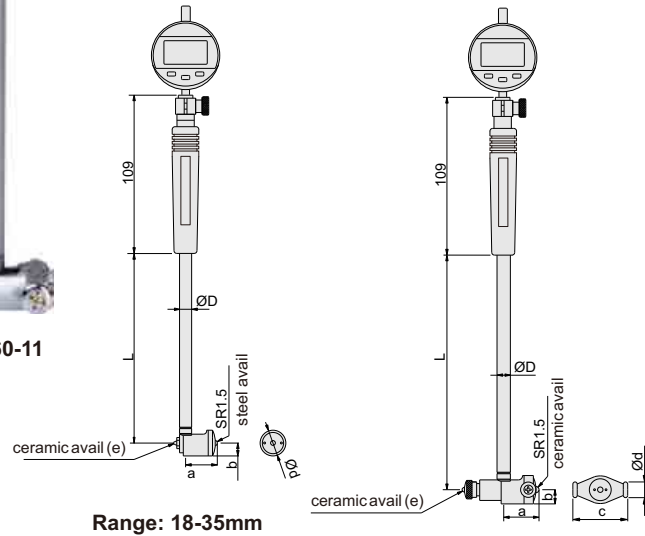


241-160-11



Range: 6-10mm

Range: 10-18mm



Range: 18-35mm

Range: 35-450mm

Bore gauge setter for setting zero (optional)

Setting ring (optional)

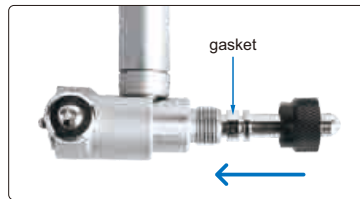


Measuring tips (included)

Gasket (included)



Install tips



Code	Range	Digital indicator	Tips	Gasket	Accuracy	Repeatability	a	b	c	Ød	ØD	e	L
241-010-11	6-10mm	Range: 12.7mm resolution: 0.002mm	9pcs	2pcs	±0.012mm	3µm	3.6	5.7	/	/	4.5	SR1	48
241-018-11	10-18mm		9pcs	2pcs	±0.012mm	3µm	5.6	7.8	/	/	6	SR1	105
241-035-11	18-35mm		9pcs	2pcs	±0.015mm	3µm	12.2	6.4	/	12.7	9	SR1	141
241-060-11	35-60mm		6pcs	4pcs	±0.018mm	3µm	12.2	9	27	13	12.8	SR2	141
241-100-11	50-100mm		11pcs	4pcs	±0.018mm	3µm	26	9	35	13	12.8	SR2	141
241-160-11	50-160mm		12pcs	4pcs	±0.018mm	3µm	26	9	35	13	12.8	SR2	141
241-160-12	100-160mm		12pcs	4pcs	±0.018mm	3µm	26	9	35	13	12.8	SR2	141
241-250-11	160-250mm		5pcs	5pcs	±0.018mm	3µm	56.5	13	74.5	15	14.5	SR3.5	400
241-450-11	250-450mm		5pcs	5pcs	±0.018mm	3µm	86.5	15	101.5	15	14.5	SR3.5	400



**SERIES 245**

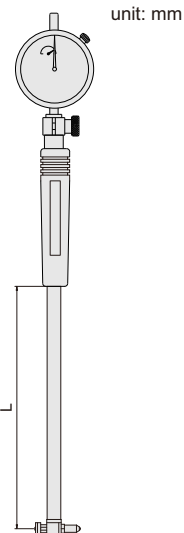
**LARGE DIAMETER DIAL BORE GAUGE**

- ◆ Carbide tipped contact point, wheel guide
- ◆ Optional accessory: series 531 setting rings

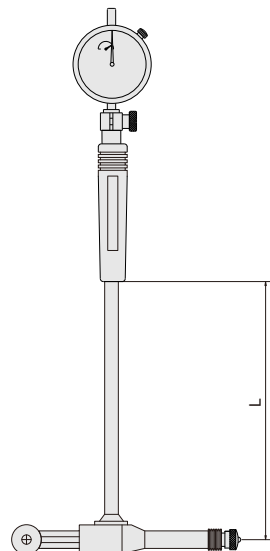
Tips style



245-050-11



Range: 18-50mm



Range: 30-1000mm

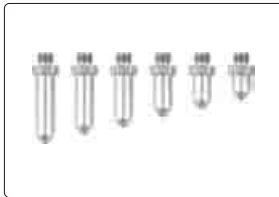
Bore gauge setter for setting zero (optional)



Setting ring (optional)



Measuring tips (included)



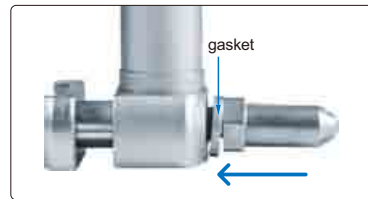
Measuring tips (included)



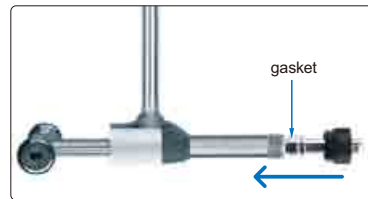
Gasket (included)



Install tips (245-050-11)



Install tips (except 245-050-11)

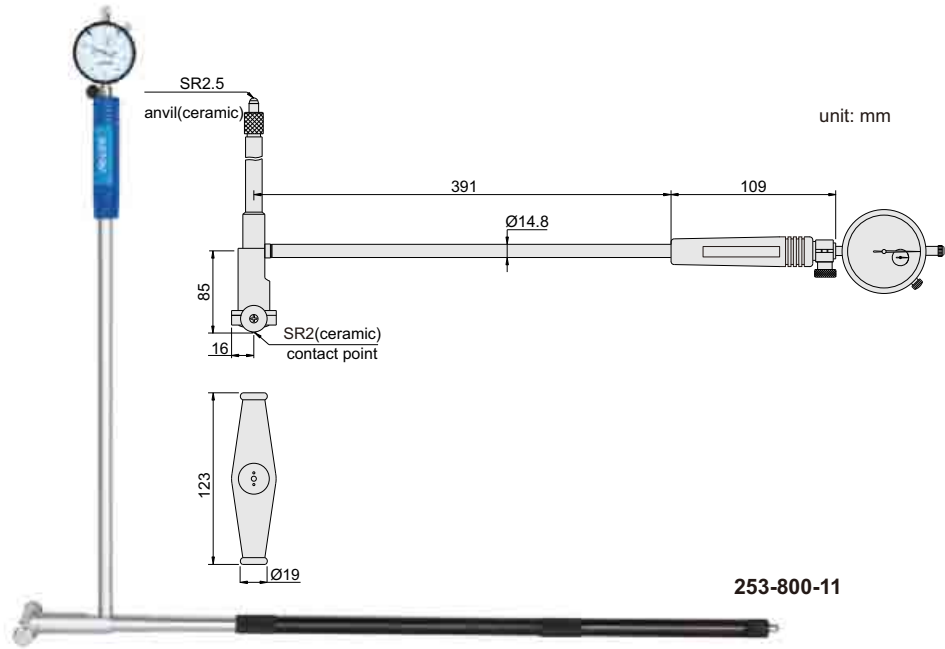


Code	Range	Dial indicator	Tips	Gasket	Probe Travel	Extension rod	L
245-050-11	18-50mm	Range: 10mm graduation: 0.01mm	8pcs	2pcs	1.5mm	1	150
245-100-11	30-100mm		5pcs	3pcs	1.8mm	2	150
245-100-12	50-100mm		10pcs	2pcs	4mm	-	200
245-160-11	100-160mm		7pcs	4pcs	4mm	-	300
245-250-11	160-250mm		6pcs	4pcs	3mm	2	250
245-300-11	100-300mm		5pcs	4pcs	4mm	2	400
245-450-11	250-450mm		5pcs	4pcs	6mm	2	500
245-700-11	450-700mm		5pcs	4pcs	8mm	4	500
245-1000-11	700-1000mm		5pcs	4pcs	8mm	5	500

243/253

BORE GAUGE

Digital indicator for 243-800-11



253-800-11

Code	Range	Accuracy	Repeatability	Indicator
253-800-11	400-800mm	±0.025mm	0.003mm	dial indicator (Code: 222-010-12) range 10mm, graduation 0.01mm
243-800-11	400-800mm	±0.025mm	0.003mm	digital indicator (Code: 215-010-12) range 12.7mm, resolution 0.002mm/0.0001"

SERIES 244/254

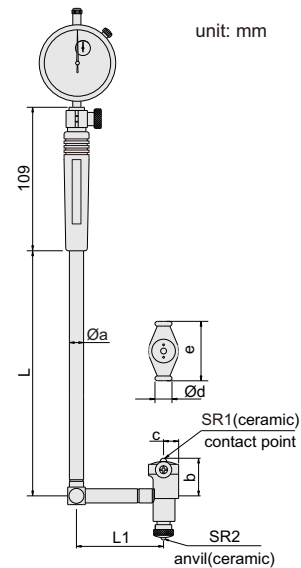
BORE GAUGE

- ◆ Accuracy: 0.018mm
- ◆ Repeatability: 0.003mm

Digital indicator for series 244



254-060-11



unit: mm

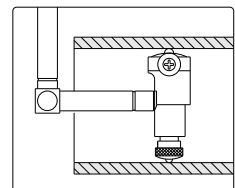
Dial type

Code	Range	Indicator
254-060-11	35-60mm	dial indicator: (Code: 222-010-12) range 10mm, graduation 0.01mm
254-160-11	50-160mm	
254-250-11	160-250mm	
254-450-11	250-450mm	

Digital type

Code	Range	Indicator
244-060-11	35-60mm	digital indicator (Code: 215-010-12) range: 12.7mm/0.5", graduation: 0.002mm/0.0001"
244-160-11	50-160mm	
244-250-11	160-250mm	
244-450-11	250-450mm	

Range	Øa	b	c	Ød	e	L	L1
35-60mm	12.8	22	9	13	27	141	75
50-160mm	12.8	28.5	9.2	13	35	141	76.2
160-250mm	14.5	62.0	12.7	15	74.5	391	100
250-450mm	14.5	91.5	15.0	15	101.5	391	100

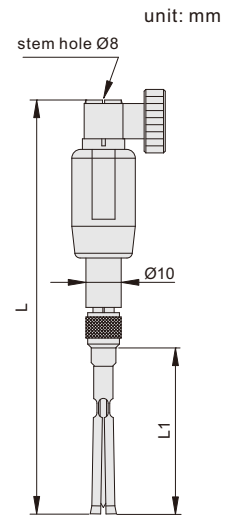


- ◆ Split type contact points
- ◆ Accuracy (without indicator): 3µm (measuring range 1.5~10mm),  
4µm (measuring range 10~20.6mm)
- ◆ Repeatability (without indicator): 1µm
- ◆ Dial indicators are optional



240-120-11M

Code	Range	Quantity of points	Measuring range of point	Measuring depth (L1)	Total length(L)	Material of points	Setting ring (optional)
240-040-11M	1.5-4.2	10	1.5-1.9	17	93	carbide	Ø1.75
			1.8-2.2	17	93	carbide	Ø2
			2.05-2.45	17	93	carbide	Ø2.25
			2.3-2.7	25	101	carbide	Ø2.5
			2.55-2.95	25	101	carbide	Ø2.75
			2.8-3.2	25	101	carbide	Ø3
			3.05-3.45	25	101	carbide	Ø3.25
			3.3-3.7	25	101	carbide	Ø3.5
			3.55-3.9	25	101	carbide	Ø3.75
			5 3.8-4.2	25	101	carbide	Ø4
240-075-11M	4.15-7.8	7	4.15-4.8	41	118	hard chromed	Ø4.5
			4.7-5.3	41	118	hard chromed	Ø5
			5.2-5.8	41	118	hard chromed	Ø5.5
			5.7-6.3	41	118	hard chromed	Ø6
			6.2-6.8	41	118	hard chromed	Ø6.5
			6.7-7.3	41	118	hard chromed	Ø7
			7.2-7.8	45	118	hard chromed	Ø7.5
240-120-11M	7.7-12.5	6	7.7-8.3	45	118	hard chromed	Ø8
			8.2-8.8	45	118	hard chromed	Ø8.5
			8.7-9.3	45	118	hard chromed	Ø9
			9.2-10.5	45	118	hard chromed	Ø10
			10.2-11.5	45	118	hard chromed	Ø11
			11.2-12.5	45	118	hard chromed	Ø12
240-200-11M	12.2-20.6	8	12.2-13.5	45	118	hard chromed	Ø13
			13.4-14.6	45	118	hard chromed	Ø14
			14.4-15.6	45	118	hard chromed	Ø15
			15.4-16.6	45	118	hard chromed	Ø16
			16.4-17.6	45	118	hard chromed	Ø17
			17.4-18.6	45	118	hard chromed	Ø18
			18.4-19.6	45	118	hard chromed	Ø19
			19.4-20.6	45	118	hard chromed	Ø20



Setting ring (optional)



Series 531

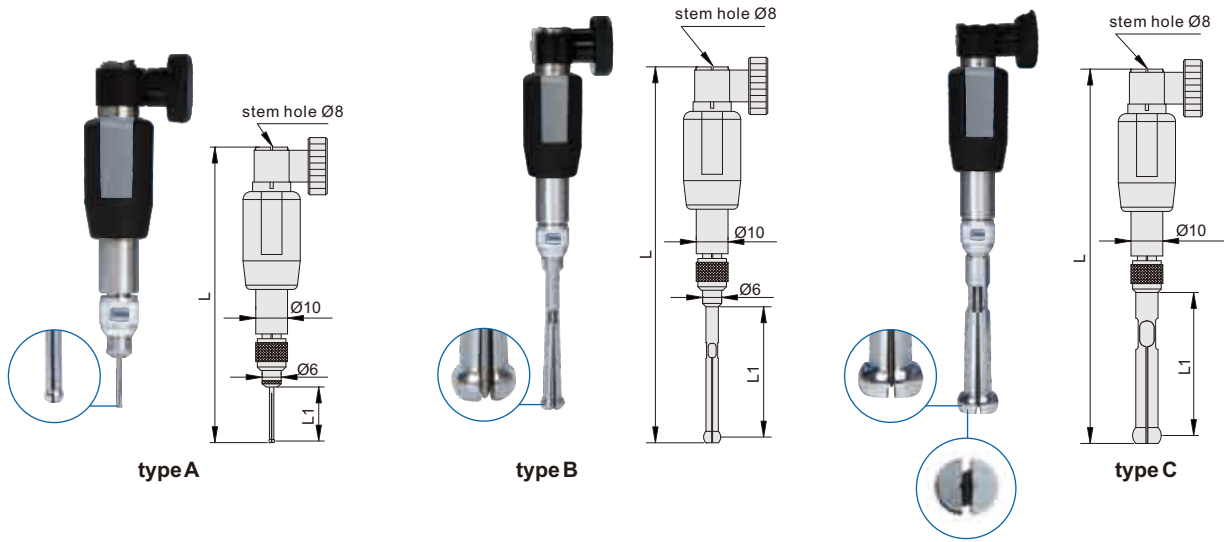
Optional indicators (optional)



Series 215

222-001-02

unit: mm



- ◆ Split type contact points
- ◆ Accuracy (without indicator):  
3 $\mu$ m (measuring range 0.95~ 10mm),  
4 $\mu$ m (measuring range 10~ 20.6mm)
- ◆ Repeatability (without indicator): 1 $\mu$ m
- ◆ Dial indicators are optional

Setting ring (optional)



Optional indicators (optional)



Code	Range	Quantity of points	Measuring range of point	Measuring depth (L1)	Total length (L)	Material of points	Type of point	Setting ring (optional)
240-014-11	0.95-1.55	5	0.95-1.15	13	89	carbide	A	Ø1
			1.07-1.25	13	89	carbide	A	Ø1.1
			1.17-1.35	13	89	carbide	A	Ø1.2
			1.27-1.45	13	89	carbide	A	Ø1.3
			1.37-1.55	13	89	carbide	A	Ø1.4
240-040-11	1.5-4.2	10	1.5-1.9	17	93	carbide	A	Ø1.75
			1.8-2.2	17	93	carbide	A	Ø2
			2.05-2.45	17	93	carbide	A	Ø2.25
			2.3-2.7	25	101	carbide	A	Ø2.5
			2.55-2.95	25	101	carbide	A	Ø2.75
			2.8-3.2	25	101	carbide	A	Ø3
			3.05-3.45	25	101	carbide	A	Ø3.25
			3.3-3.7	25	101	carbide	A	Ø3.5
			3.55-3.95	25	101	carbide	A	Ø3.75
			3.8-4.2	25	101	carbide	A	Ø4
			0.95-1.15	13	89	carbide	A	1
			1.07-1.25	13	89	carbide	A	Ø1.1
			1.17-1.35	13	89	carbide	A	Ø1.2

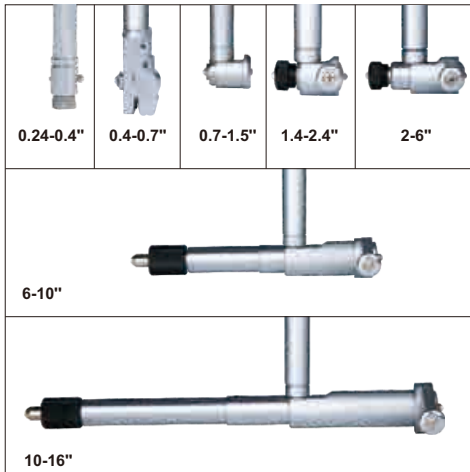


Code	Range	Quantity of points	Measuring range of point	Measuring depth (L1)	Total length (L)	Material of points	Type of point	Setting ring (optional)
240-040-12	0.95-4.2	15	1.27-1.45	13	89	carbide	A	Ø1.3
			1.37-1.55	13	89	carbide	A	Ø1.4
			1.5-1.9	17	93	carbide	A	Ø1.75
			1.8-2.2	17	93	carbide	A	Ø2
			2.05-2.45	17	93	carbide	A	Ø2.25
			2.3-2.7	25	101	carbide	A	Ø2.5
			2.55-2.95	25	101	carbide	A	Ø2.75
			2.8-3.2	25	101	carbide	A	Ø3
			3.05-3.45	25	101	carbide	A	Ø3.25
			3.3-3.7	25	101	carbide	A	Ø3.5
			3.55-3.95	25	101	carbide	A	Ø3.75
			3.8-4.2	25	101	carbide	A	Ø4
240-075-11	4.15-7.8	7	4.15-4.8	41	118	hard chromed	B	Ø4.5
			4.7-5.3	41	118	hard chromed	B	Ø5
			5.2-5.8	41	118	hard chromed	B	Ø5.5
			5.7-6.3	41	118	hard chromed	B	Ø6
			6.2-6.8	41	118	hard chromed	B	Ø6.5
			6.7-7.3	41	118	hard chromed	B	Ø7
			7.2-7.8	45	118	hard chromed	C	Ø7.5
240-120-11	7.7-12.5	6	7.7-8.3	45	118	hard chromed	C	Ø8
			8.2-8.8	45	118	hard chromed	C	Ø8.5
			8.7-9.3	45	118	hard chromed	C	Ø9
			9.2-10.5	45	118	hard chromed	C	Ø10
			10.2-11.5	45	118	hard chromed	C	Ø11
			11.2-12.5	45	118	hard chromed	C	Ø12
240-120-12	4.15-12.5	13	4.15-4.8	41	118	hard chromed	B	Ø4.5
			4.7-5.3	41	118	hard chromed	B	Ø5
			5.2-5.8	41	118	hard chromed	B	Ø5.5
			5.7-6.3	41	118	hard chromed	B	Ø6
			6.2-6.8	41	118	hard chromed	B	Ø6.5
			6.7-7.3	41	118	hard chromed	B	Ø7
			7.2-7.8	45	118	hard chromed	C	Ø7.5
			7.7-8.3	45	118	hard chromed	C	Ø8
			8.2-8.8	45	118	hard chromed	C	Ø8.5
			8.7-9.3	45	118	hard chromed	C	Ø9
			9.2-10.5	45	118	hard chromed	C	Ø10
			10.2-11.5	45	118	hard chromed	C	Ø11
			11.2-12.5	45	118	hard chromed	C	Ø12
240-200-11	12.2-20.6	8	12.2-13.5	45	118	hard chromed	C	Ø13
			13.4-14.6	45	118	hard chromed	C	Ø14
			14.4-15.6	45	118	hard chromed	C	Ø15
			15.4-16.6	45	118	hard chromed	C	Ø16
			16.4-17.6	45	118	hard chromed	C	Ø17
			17.4-18.6	45	118	hard chromed	C	Ø18
			18.4-19.6	45	118	hard chromed	C	Ø19
			19.4-20.6	45	118	hard chromed	C	Ø20

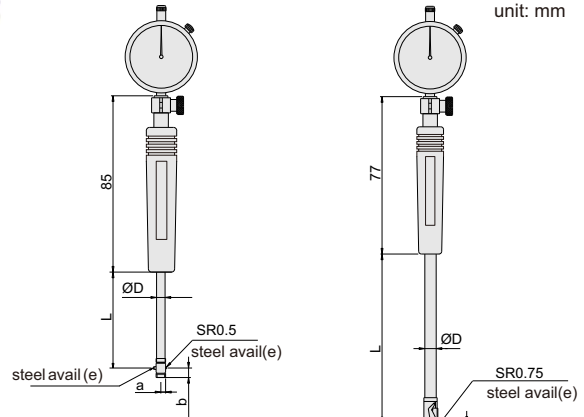
INSIDE/OUTSIDE  
MEASUREMENT

## SERIES 252 INCH DIAL BORE GAUGE

◆ Optional accessory: Long handle series 250



252-015-11



Range: 0.24-0.4"

Range: 0.4-0.7"

Bore gauge setter for setting zero (optional)



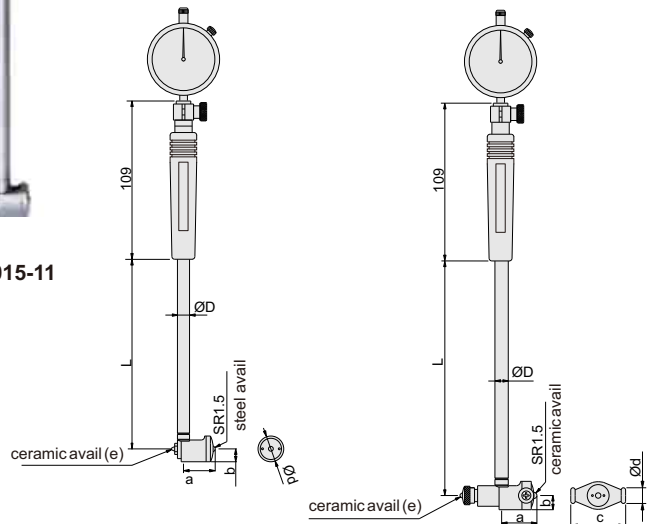
Setting ring (optional)



Measuring tips (included)



Gasket (included)



Range: 0.7-1.5"

Range: 1.4-16"

Code	Range	Dial indicator	Accuracy	Repeatability	a	b	c	Ød	ØD	e	L
252-004-11	0.24-0.4"	dial indicator, range 0.25", graduation 0.0005"	±0.00075"	0.00015"	3.6	5.7	/	/	4.5	SR1	48
252-007-11	0.4-0.7"		±0.00075"	0.00015"	5.6	7.8	/	/	6	SR1	105
252-015-11	0.7-1.5"		±0.00075"	0.00015"	12.2	6.4	/	12.7	9	SR1	141
252-024-11	1.4-2.4"		±0.0009"	0.00015"	26	9	27	13	12.8	SR2	141
252-060-11	2-6"		±0.0009"	0.00015"	26	9	35	13	12.8	SR2	141
252-100-11	6-10"		±0.0009"	0.00015"	56.5	13	74.5	15	14.5	SR3.5	400
252-160-11	10-16"		±0.0009"	0.00015"	86.5	15	101.5	15	14.5	SR3.5	400





## SERIES 250

## ANVIL FOR BORE GAUGES

- ◆ Measuring face is made of ceramic



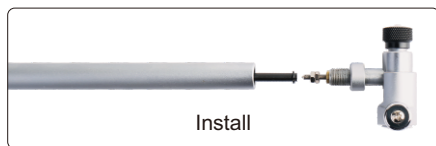
250-060-11

Code	For bore gauges	QTY. per set	Measuring tip material	Measuring range of anvil (mm)
250-010-11	6-10mm	9pcs	steel	6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10
250-018-11	10-18.5mm	9pcs	ceramic	10, 11, 12, 13, 14, 15, 16, 17, 18
250-035-11	18-35mm	9pcs	ceramic	18, 20, 22, 24, 26, 28, 30, 32, 34
250-060-11	35-60mm	6pcs	ceramic	35, 40, 45, 50, 55, 60
250-100-11	50-100mm	11pcs	ceramic	50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100
250-160-11	50-160mm	12pcs	ceramic	50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105
250-160-12	100-160mm	12pcs	ceramic	50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105
250-250-11	160-250mm	5pcs	ceramic	160, 170, 180, 190, 200
250-450-11	250-450mm	5pcs	ceramic	250, 260, 270, 280, 290

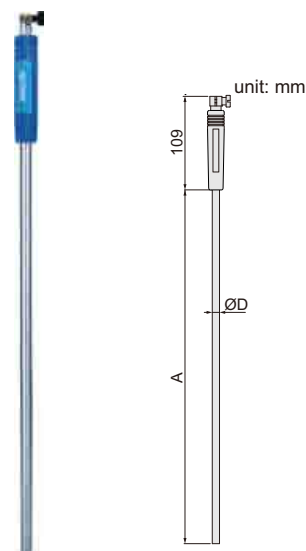
## SERIES 250

## LONG HANDLE

- ◆ To assist deep-hole measurement



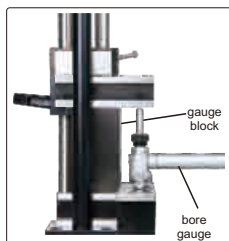
Code	For bore gauges	A	ØD
250-000-01	35-60mm, 50-100mm, 50-160mm, 100-160mm	473	13
250-000-02		980	13
250-000-03	160-250mm, 250-450mm	480	14.5
250-000-04		980	14.5



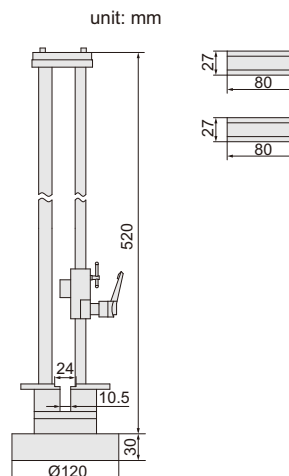
## 255

## BORE GAUGE CHECKER

- ◆ Used together with gauge blocks to set bore gauges



Code	Range
255-016-11	18-400mm



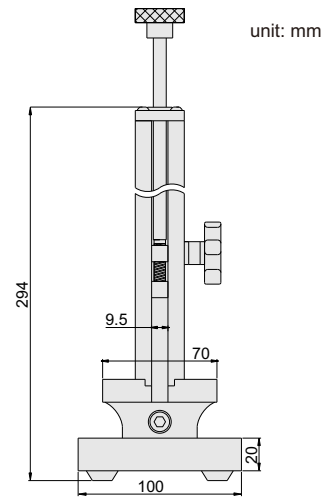
INSIDE/OUTSIDE  
MEASUREMENT

## SERIES 256

## BORE GAUGE SETTER



- ◆ Can be used in vertical and horizontal
- ◆ To be used with gauge blocks



### Gauge block set (grade 2, ISO3650) for 256-160-11

Blocks per set	Size(mm)	Step(mm)	Quantity(pcs)
33	1.005	—	1
	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

Code	Range	Repeatability	Gauge block set
256-160-11*	0-160mm	1.2µm	with
256-160-10	0-160mm	1.2µm	without

\* With manufacturer inspection certificate for gauge block set

Application



Gauge block set for 256-160-11



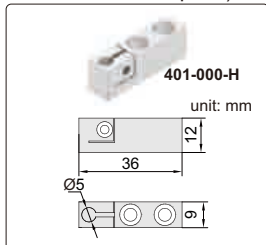
## SERIES 401

## UNIVERSAL GAUGE

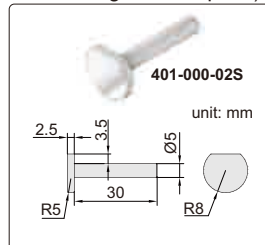
- ◆ For external, internal dimensions and center line space
- ◆ Tips movable range: 8mm
- ◆ Tips effective measuring range: ±2mm



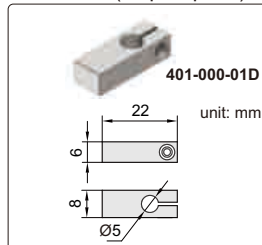
Included(mounting attachments/1 pairs)



Included(disk head with round measuring blades/1 pairs)



Included(stops/1 pairs)



Code	Range		Accuracy	Repeatability
	outside	inside		
401-012-01	0-270mm	35-300mm	±5µm	2µm
401-024-01	0-570mm	35-600mm	±5µm	2µm
401-040-01	570-1000mm	600-1000mm	±5µm	2µm



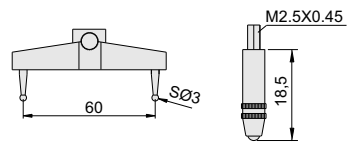
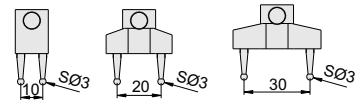
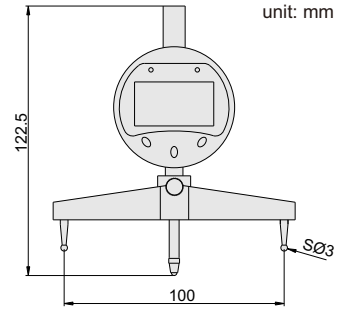


- ◆ Measure radius of internal and external arcs
- ◆ Accuracy:  $\pm 0.01R$ , R is the radius to be measured in mm
- ◆ Data output (cable code: 200-01 or 200-02), can't output radius
- ◆ Supplied with 5 jaws for different sizes of arc

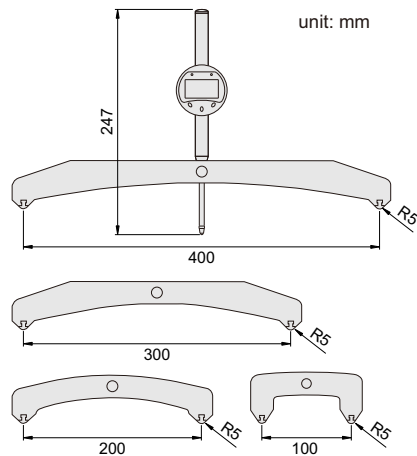
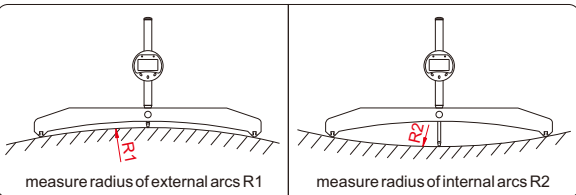
Measure shaft



Measure bore



Code	Range of radius	Resolution
296-700-11	5-700mm/0.2-27.5"	0.01mm/0.001"



Code	Range of external radius (R1)	Range of internal radius (R2)	Accuracy
406-590-44	100-15000mm/4-590"	100-15000mm/4-590"	$\pm 0.005R^*$

\* R is the radius to be measured. For example, radius is 100mm, the accuracy is  $\pm 0.005 \times 100 = \pm 0.5$ mm

- ◆ Measure radius of internal or external arcs
- ◆ Resolution: 0.01mm/0.001"
- ◆ Buttons: on/off, hold, mm/inch, c (select jaws), MODE(zero)
- ◆ Supplied with 4 jaws for different sizes of arc
- ◆ Automatic power off (time is adjustable)
- ◆ Data output(cable code:200-05 or 200-06, output radius)



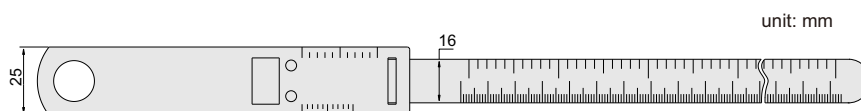
**SERIES 956**

**CIRCUMFERENCE TAPE**

- ◆ Measure diameter and circumference of pipes, trees, etc.
- ◆ Graduation: 0.1mm
- ◆ Accuracy:  
Circumference: ±1.5mm  
Diameter: ±0.5mm
- ◆ Laser engraved scale
- ◆ Made of stainless steel



956-012-11



unit: mm

Code	Range	
	Diameter	Circumference
956-012-11	20 - 300mm	60 - 950mm
956-028-11	300 - 700mm	940 - 2200mm
956-044-11	700 - 1100mm	2190 - 3460mm

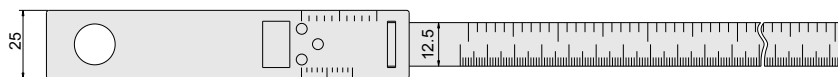
**SERIES 955**

**CIRCUMFERENCE TAPE**

- ◆ Measure diameter and circumference of pipes, trees, tires, etc.
- ◆ Laser engraved scale
- ◆ Made of stainless steel



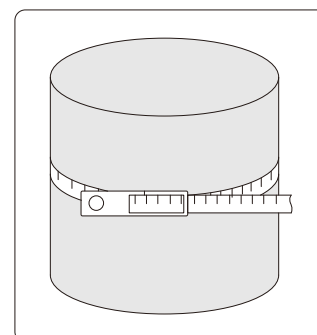
955-122-11



unit: mm

Code	Range		Graduation	Accuracy	
	Diameter	Circumference		Diameter	Circumference
955-012-11	20 - 300mm	60-950mm	0.1mm	±0.20mm	±0.60mm
955-028-11	300 - 700mm	940-2200mm	0.1mm	±0.20mm	±0.60mm
955-044-11	700 - 1100mm	2190-3460mm	0.1mm	±0.20mm	±0.60mm
955-060-11	1100-1500mm	3450-4720mm	0.1mm	±0.30mm	±0.90mm
955-075-11	1500-1900mm	4710-5980mm	0.1mm	±0.30mm	±0.90mm
955-090-11	1900-2300mm	5960-7230mm	0.1mm	±0.35mm	±1.05mm
955-106-11	2300-2700mm	7220-8500mm	0.1mm	±0.40mm	±1.20mm
955-122-11	2700-3100mm	8480-9760mm	0.1mm	±0.45mm	±1.35mm
955-138-11	3100-3500mm	9730-11010mm	0.1mm	±0.50mm	±1.50mm

Application





- ◆ Suitable for measuring the height, thickness, squareness, coaxiality and so on.
- ◆ IP65 protection level
- ◆ High frequency: 100 times/s, can measure high speed workpiece
- ◆ Output signal : 90° phase difference wave
- ◆ Standard cable length: 2m
- ◆ Long working life due to the special bearing

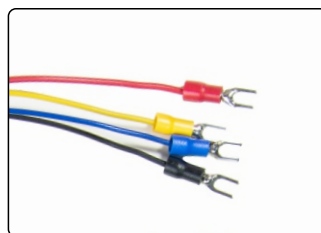


201-010-11

Interface(RS232)

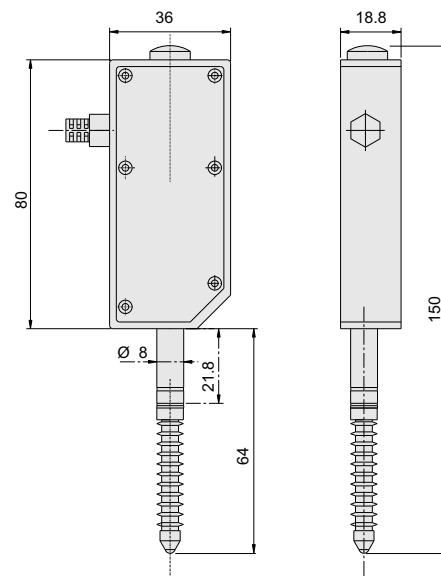
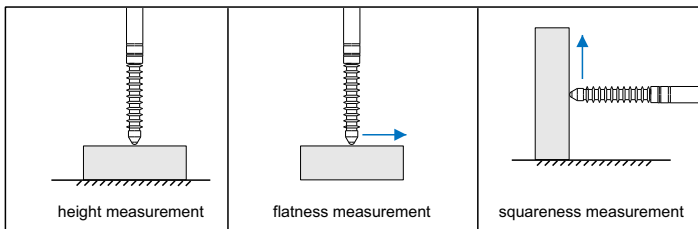


Interface(Pin4)

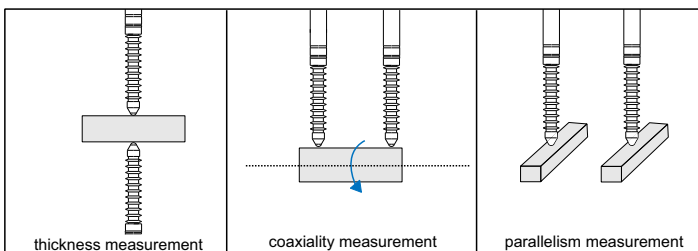


unit: mm

Single gauge application



Multi-gauges application



Resolution 0.001mm

Code	Interface	Range	Measuring force	Stem	Accuracy	Hysteresis
201-010-01	Pin4	0-12.7mm	1.5N	Ø8mm	5µm	2µm
201-010-02	RS232	0-12.7mm	1.5N	Ø8mm	5µm	2µm

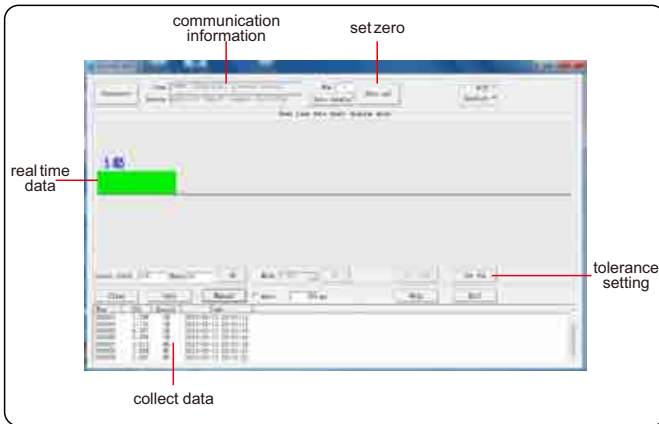
Resolution 0.01mm

Code	Interface	Range	Measuring force	Stem	Accuracy	Hysteresis
201-010-11	Pin4	0-12.7mm	1.5N	Ø8mm	20µm	10µm
201-010-12	RS232	0-12.7mm	1.5N	Ø8mm	20µm	10µm

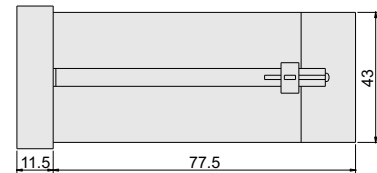
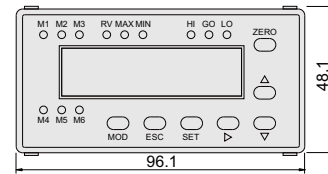
- ◆ High and low limits with judgement
- ◆ With control signal input interface
- ◆ With input/output interface
- ◆ Power: supply DC9-24V



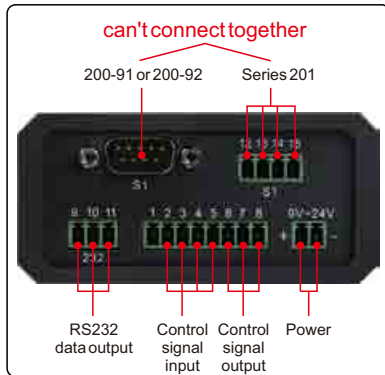
Software(included)



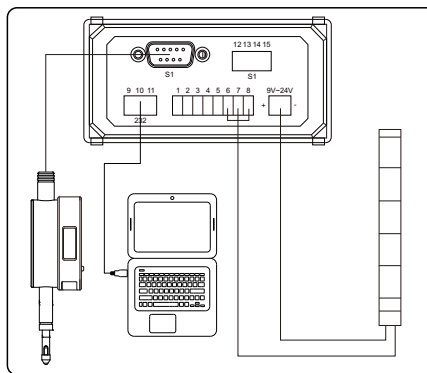
unit: mm



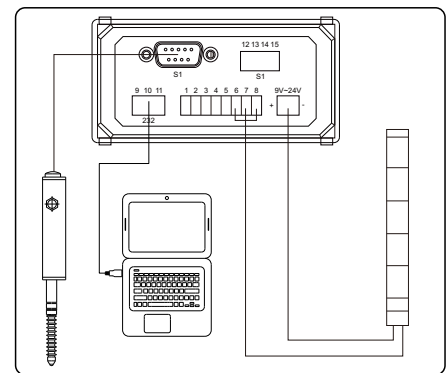
Signal



Connected digital indicator



Connected linear gauge



Code	206-010-01
Display	6 digits
Quantity of linear gauge or digital indicator to be connected	1pc
Tolerance signal	tolerance and judgement with alarm and lights(out of upper tolerance, within tolerance, out of lower tolerance )
Output control	output the tolerance judgement (out of upper tolerance, within tolerance, out of lower tolerance ) to control external devices
External control	control the display units from external devices (set zero, hold reading and collect data)
Data output	connect to computer software and serial communication port
Power supply	DC 9~24V

206-13(Optional)



OPTIONAL ACCESSORIES

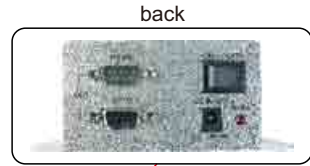
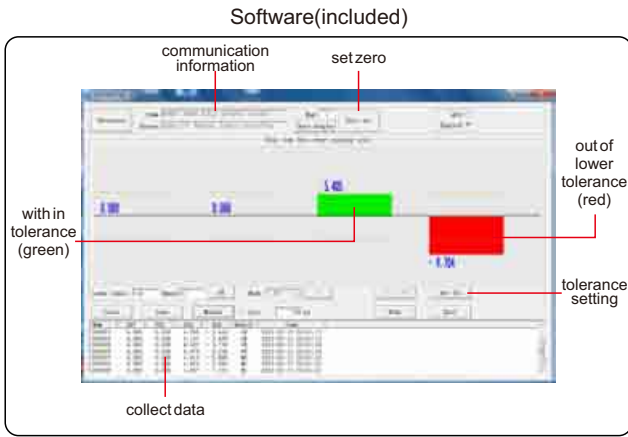
Code	Name	Power	Remark
206-13	alarm lamp	12V	with buzzer



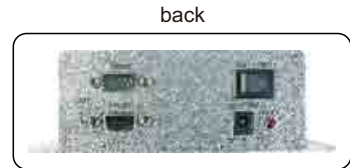
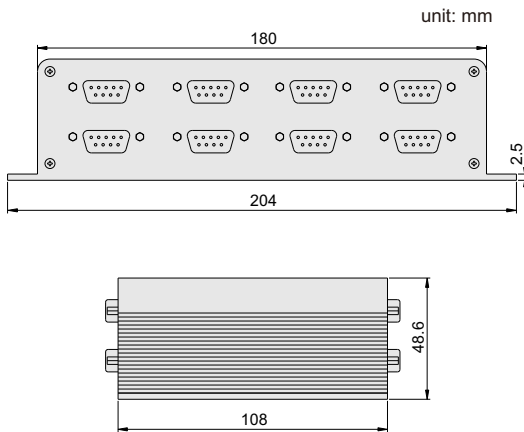
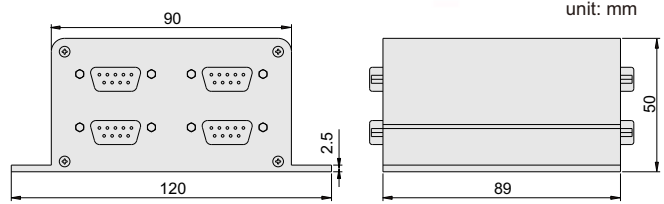
**SERIES 208**

**COUNTER FOR LINEAR GAUGE**

- ◆ With data recording software, can transfer the data into Excel

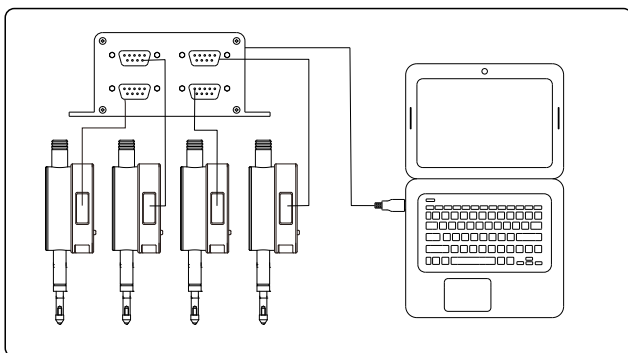


208-004-01

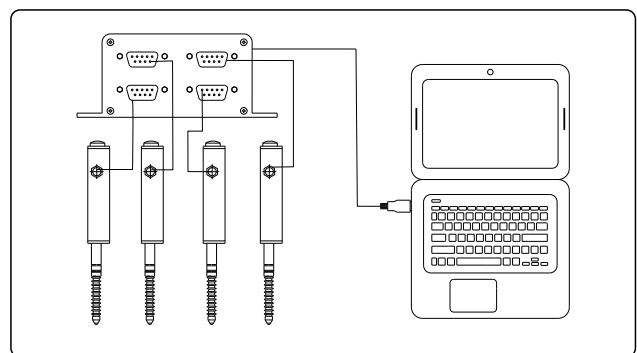


208-008-01

Connected digital indicator



Connected linear gauge

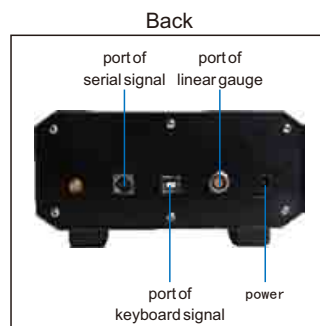
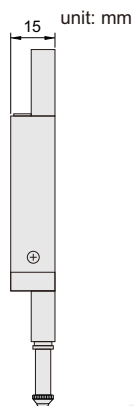
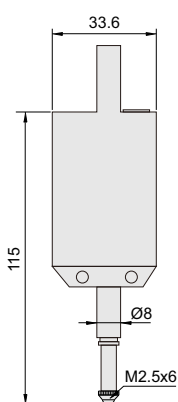


Code	Gauges input	Interface
208-004-01	4	RS232/485
208-008-01	8	RS232/485



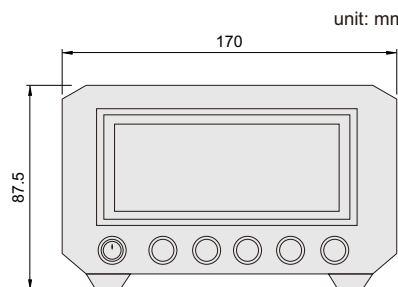
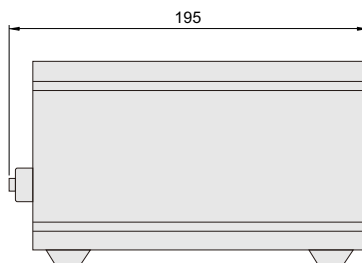
**205-010-01**

Spindle lift knob is included



**205-000-01**

- ◆ Linear gage type: optical grating
- ◆ Display unit: display displacement data in real time, data preset tolerance and make judgment (out of upper tolerance, within tolerance, out of lower tolerance), set zero, change measuring direction, resolution (0.1μm/1 μm), unit switch (μm/mm/inch)
- ◆ Two data transmission methods: can output keyboard signal and data can be transmitted to excel, word, txt etc, can also output serial signal and transmit data to serial communication software



### LINEAR GAGE SPECIFICATION

Code	205-010-01	205-010-11
Range	12.7mm	12.7mm
Resolution	0.1μm	1μm
Accuracy (19~20°C)	1μm	3μm
Repeatability	0.2μm	2μm
Linear gage type	optical grating	
Working life	ten million times	
Dust/waterproof	IP50	
Measuring force	0.7±0.3N	
Cable length	900mm	
Operation environment	0~40°C, 20~80%RH	
Power supply	5~24V	
Dimension (LxWxH)	33.6x15x115mm	
Weight	133g	

### Application



### DISPLAY UNIT SPECIFICATION

Code	205-000-01
Display	4" LCD screen
Unit	μm, mm
Quantity of linear gage to be connected	1pc
Dimension (LxWxH)	170x195x87.5mm
Weight	1.45kg





**SERIES 210**

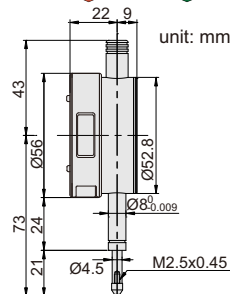
**DIGITAL INDICATOR**



- ◆ Button: tolerance set, data preset, inch/mm conversion, measuring direction set, max./min./range measurement, absolute/incremental measurement
- ◆ Data output(cable code:200-03 or 200-04)
- ◆ Automatic power off
- ◆ Supplied with flat and lug back



210-010-03



Range: 0-12.7mm

**Resolution 0.001mm/0.00005"**

Code	Range	Accuracy	Hysteresis
210-010-03	12.7mm/0.5"	5µm	2µm
210-025-03	25.4mm/1"	5µm	3µm
210-050-03	50.8mm/2"	6µm	3µm

**Resolution 0.01mm/0.0005"**

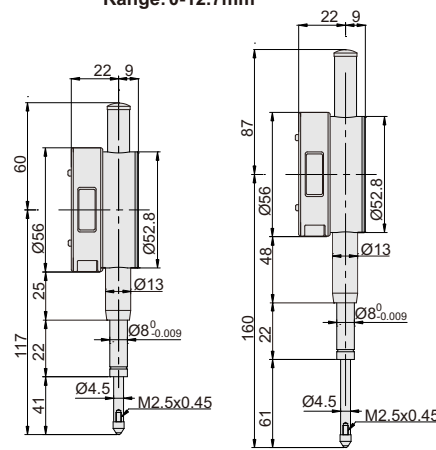
Code	Range	Accuracy	Hysteresis
210-010-13	12.7mm/0.5"	20µm	10µm
210-025-13	25.4mm/1"	20µm	10µm
210-050-13	50.8mm/2"	30µm	10µm

With manufacturer inspection certificate

Styli(optional)



Application



Range: 0-25.4mm

Range: 0-50.8mm

**SERIES 211**

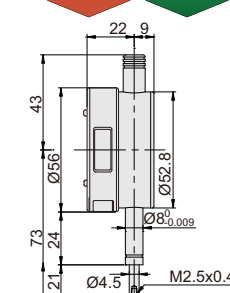
**DIGITAL INDICATOR**



- ◆ With analog reading
- ◆ Button: tolerance set, data preset, inch/mm conversion, measuring direction set, max./min./range measurement, absolute/incremental measurement
- ◆ Data output(cable code:200-03 or 200-04)
- ◆ Automatic power off
- ◆ Supplied with flat and lug back



211-010-13



Range: 0-12.7mm

**Resolution 0.001mm/0.00005"**

Code	Range	Accuracy	Hysteresis
211-010-03	12.7mm/0.5"	5µm	2µm
211-025-03	25.4mm/1"	5µm	3µm
211-050-03	50.8mm/2"	6µm	3µm

**Resolution 0.01mm/0.0005"**

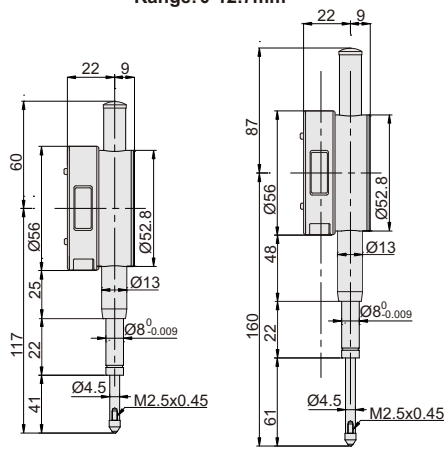
Code	Range	Accuracy	Hysteresis
211-010-13	12.7mm/0.5"	20µm	10µm
211-025-13	25.4mm/1"	20µm	10µm
211-050-13	50.8mm/2"	30µm	10µm

With manufacturer inspection certificate

Styli(optional)



Application



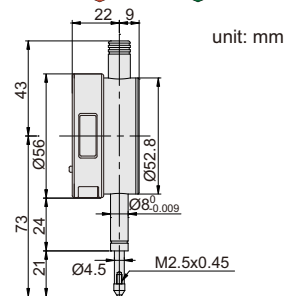
Range: 0-25.4mm

Range: 0-50.8mm

## SERIES 212

## DIGITAL INDICATOR

- ◆ Button: on/off, zero, inch/mm conversion, measuring direction set, data preset absolute/incremental measurement
- ◆ Data output(cable code:200-03 or 200-04)
- ◆ Automatic power off
- ◆ Supplied with flat and lug back



### Resolution 0.001mm/0.00005"

Code	Range	Accuracy	Hysteresis
212-010-03	12.7mm/0.5"	5µm	2µm
212-025-03	25.4mm/1"	5µm	3µm
212-050-03	50.8mm/2"	6µm	3µm

### Resolution 0.01mm/0.0005"

Code	Range	Accuracy	Hysteresis
212-010-13	12.7mm/0.5"	20µm	10µm
212-025-13	25.4mm/1"	20µm	10µm
212-050-13	50.8mm/2"	30µm	10µm

With manufacturer inspection certificate

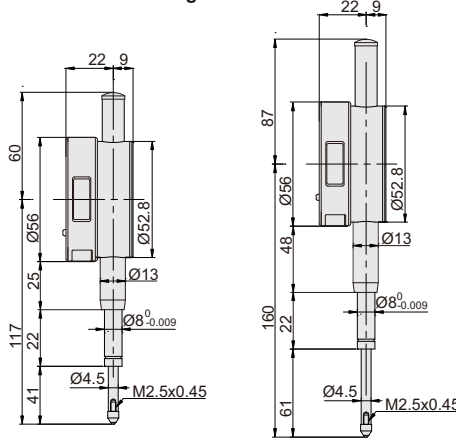
Styli(optional)



Application



Range: 0-12.7mm



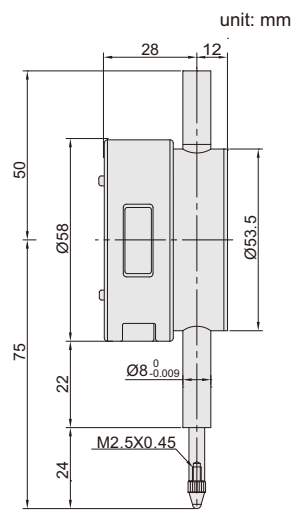
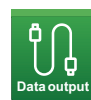
Range: 0-25.4mm

Range: 0-50.8mm

## SERIES 215

## DIGITAL INDICATOR FOR BORE GAUGE

- ◆ Specially designed for bore gauges
- ◆ The minimum value tracking function can find the diameter automatically
- ◆ Read the diameter directly, after inputting the size of setting ring
- ◆ Reading in digit and analog
- ◆ Button: minimum value tracking, calibration, data preset, inch/metric conversion, absolute/incremental measurement
- ◆ Automatic power off
- ◆ Data output(cable code:200-03 or 200-04)



### Resolution 0.001mm/0.00005"

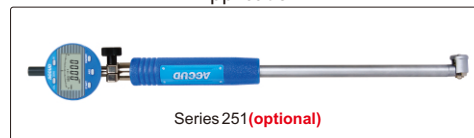
Code	Range	Accuracy(f <sub>ges</sub> )	Hysteresis(f <sub>u</sub> )	Remark
215-010-02	12.7mm/0.5"	5µm	2µm	flat back

### Resolution 0.002mm/0.0001"

Code	Range	Accuracy(f <sub>ges</sub> )	Hysteresis(f <sub>u</sub> )	Remark
215-010-12	12.7mm/0.5"	20µm	10µm	flat back

With manufacturer inspection certificate

Application





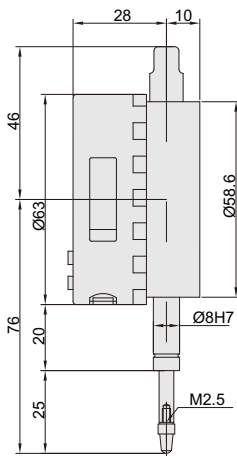
- ◆ Reading in digital and analog
- ◆ Display can be rotated by 320°
- ◆ Button : on/off, zero, tolerance Go and No-Go display, data preset, measuring direction change, max./min./TIR, absolute/incremental measurement, mm/inch, data output
- ◆ Keep preset data and tolerance data in memory after restart
- ◆ Automatic power off
- ◆ Data output (cable code: 200-01 or 200-02)
- ◆ Supplied with lug and flat back



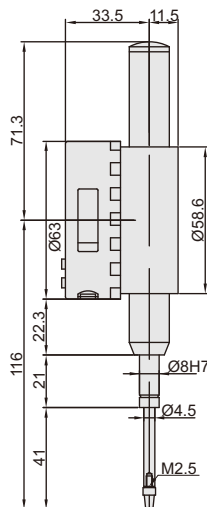
216-010-01



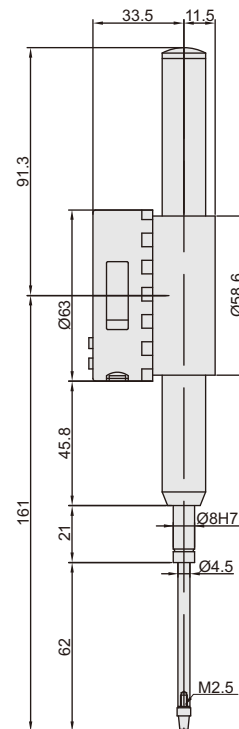
unit: mm



Range: 0-12.7mm



Range: 0-25.4mm



Range: 0-50.8mm

Resolution 0.001mm/0.00005"

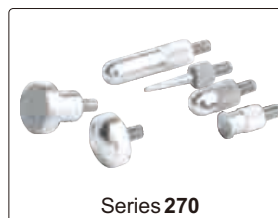
Code	Range	Accuracy	Hysteresis
216-010-01	12.7mm/0.5"	5µm	2µm
216-025-01	25.4mm/1"	5µm	3µm
216-050-01	50.8mm/2"	6µm	3µm

Resolution 0.002mm/0.0005"

Code	Range	Accuracy	Hysteresis
216-010-11	12.7mm/0.5"	20µm	10µm
216-025-11	25.4mm/1"	20µm	10µm
216-050-11	50.8mm/2"	30µm	10µm

With manufacturer inspection certificate

Contact points (optional)



Application



## SERIES 213

## WATERPROOF DIGITAL INDICATOR



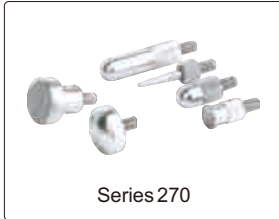
- ◆ Dust/waterproof
- ◆ Button: on/off, zero, inch/mm conversion, measuring direction set, data preset absolute/incremental measurement
- ◆ Automatic power off
- ◆ Data output(cable code:200-01 or 200-02)
- ◆ Supplied with lug and flat back



213-010-01

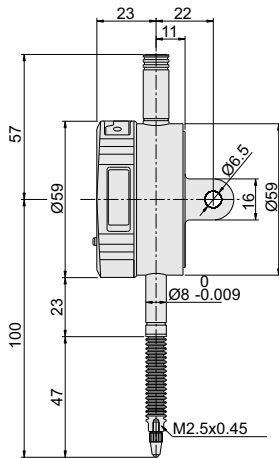
unit: mm

### Styli(optional)

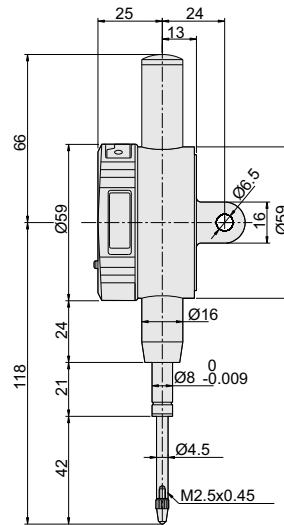


Series 270

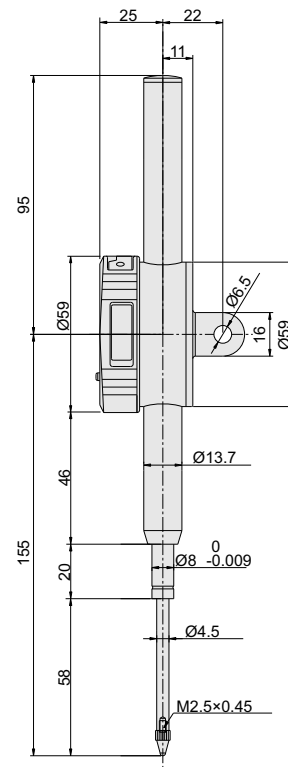
### Application



Range: 0-12.7mm



Range: 0-25.4mm



Range: 0-50.8mm

### Resolution 0.001mm/0.00005"

Code	Range	Proof level	Accuracy	Hysteresis
213-010-01	12.7mm/0.5"	IP65	5µm	2µm
213-025-01	25.4mm/1"	IP54	5µm	3µm
213-050-01	50.8mm/2"	IP54	6µm	3µm

### Resolution 0.01mm/0.0005"

Code	Range	Proof level	Accuracy	Hysteresis
213-010-11	12.7mm/0.5"	IP65	20µm	10µm
213-025-11	25.4mm/1"	IP54	20µm	10µm
213-050-11	50.8mm/2"	IP54	30µm	10µm

With manufacturer inspection certificate

## SERIES 214

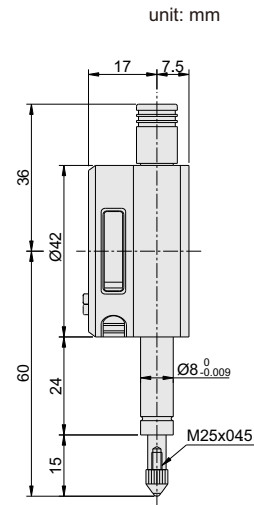
## DIGITAL INDICATOR



- ◆ Button: on/off, zero, inch/mm conversion, measuring direction set, data preset absolute/incremental measurement
- ◆ Automatic power off
- ◆ Data output(cable code:200-01 or 200-02)
- ◆ Supplied with flat back



214-005-12



### Styli(optional)



### Application



### Resolution 0.001mm/0.00005"

Code	Range	Accuracy	Hysteresis
214-005-02	5mm/0.2"	5µm	3µm

### Resolution 0.01mm/0.0005"

Code	Range	Accuracy	Hysteresis
214-005-12	5mm/0.2"	20µm	10µm

With manufacturer inspection certificate

## SERIES 214

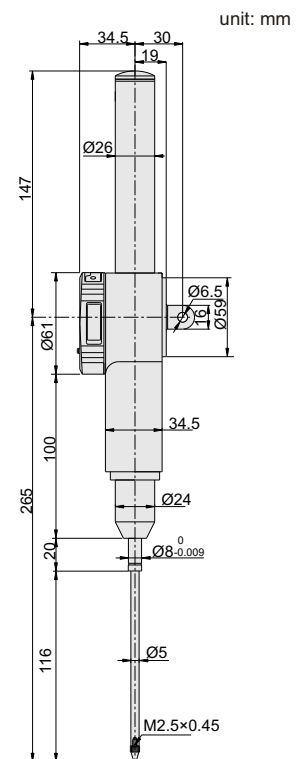
## DIGITAL INDICATOR



- ◆ Button: on/off, zero, inch/mm conversion, measuring direction set, data preset absolute/incremental measurement
- ◆ Automatic power off
- ◆ Data output(cable code:200-01 or 200-02)
- ◆ Supplied with lug and flat back



214-100-11



### Styli(optional)



### Application



### Resolution 0.001mm/0.00005"

Code	Range	Accuracy	Hysteresis
214-100-01	100mm/4"	9µm	3µm

### Resolution 0.01mm/0.0005"

Code	Range	Accuracy	Hysteresis
214-100-11	100mm/4"	30µm	10µm





- ◆ With analog reading
- ◆ Supplied with cable for communication
- ◆ Button: data output, on/off, zero, inch/mm conversion, measuring direction set, data preset absolute/incremental measurement, max./min./range measurement, tolerance set, hold
- ◆ IP54 protection level
- ◆ Automatic power off
- ◆ Power: rechargeable battery, for 30 hours continuous working(full charge)



217-015-01

Contact points (optional)



Series 270

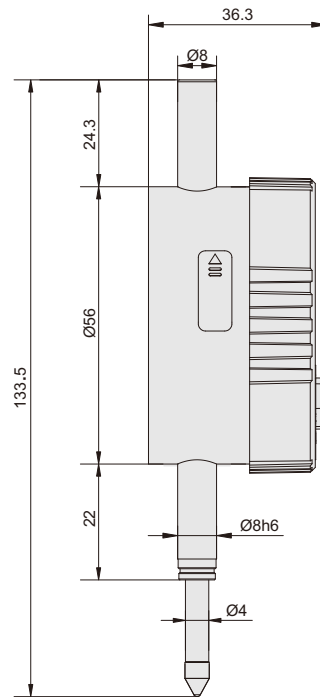
Cable (Included)



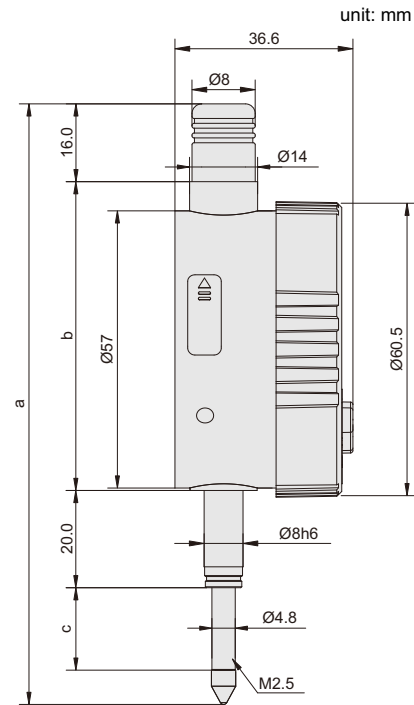
Application



display can be rotated by 270°



217-015-01



217-010-01, 217-025-01 and 217-050-01

unit: mm

Code	Range	Resolution	Accuracy	Hysteresis	Styli
217-015-01	15mm/0.6"	0.0005mm/0.00002"	2µm	1.5µm	Carbide

Code	Range	Resolution	Accuracy	Hysteresis	Styli	a	b	c
217-010-01	12.7mm/0.5"	0.0005mm/ 0.00002"	2µm	1.5µm	Carbide	118.7	61	14.7
217-025-01	25.4mm/1"		2µm	1.5µm	Carbide	151.7	81	27.7
217-050-01	50.8mm/2"		2µm	1.5µm	Carbide	222.2	126	53.2



- ◆ Built-in bluetooth
- ◆ Supplied with cable for communication
- ◆ Button: data output, on/off, zero, inch/mm conversion, measuring direction set, data preset absolute/incremental measurement, max./min./range measurement, tolerance set, hold, resolution adjustment
- ◆ IP54 protection level
- ◆ Automatic power off
- ◆ Power: rechargeable battery, for 30 hours continuous working(full charge)



217-015-01H

Cable (Included)



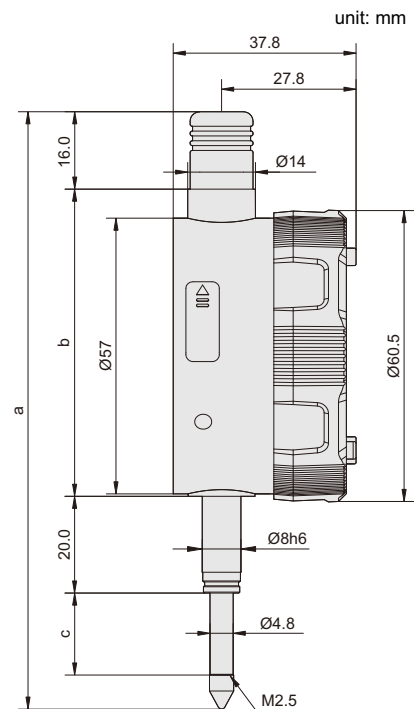
Application



Contact points (optional)



Series 270



unit: mm



display can be rotated by 270°



Smart phone, Computer, Ipad

Code	Range	Resolution(adjustable)	Accuracy	Hysteresis	Styli	a	b	c
217-010-01H	12.7mm/0.5"	0.0005mm/0.00002" 0.001mm/0.00005"	2µm	1.5µm	Carbide	118.7	61	14.7
217-015-01H	15mm/0.6"		2µm	1.5µm	Carbide	123.7	63.5	17
217-025-01H	25.4mm/1"		2µm	1.5µm	Carbide	151.7	81	27.7
217-050-01H	50.8mm/2"		2µm	1.5µm	Carbide	222.2	126	53.2



- ◆ Linear ball bearings for ten million times use
- ◆ Absolute encoder, the original data remains after power off
- ◆ Reading in digital and analog
- ◆ Supplied with RS232 cable (with software)
- ◆ Button: tolerance, data preset, data hold, measuring direction change, max./min./TIR, power off time, on/off, mm/inch, resolution adjustment
- ◆ Power: rechargeable battery, for 24 hours continuous working(full charge)



218-010-01



218-025-01

unit: mm



VIDEO

RS232 cable (Included)



Lifting lever (Included)



Application



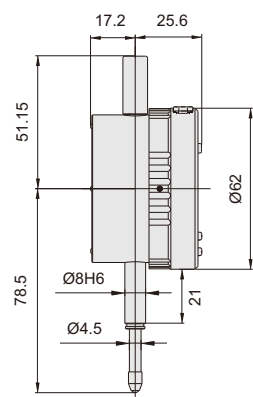
Contact points (optional)



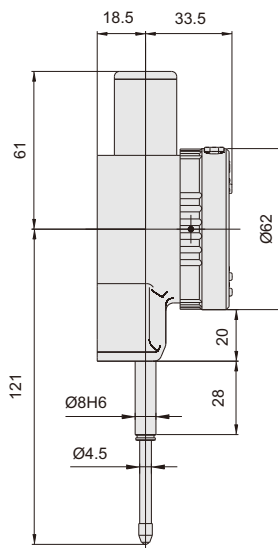
Series 270



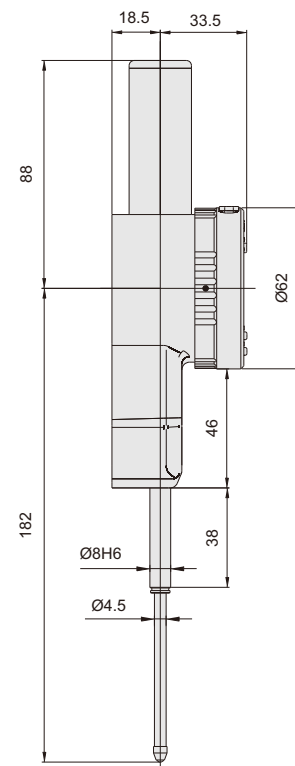
display can be rotated by 320°



Range:0-12.7mm



Range:0-25.4mm



Range:0-50.8mm

Code	Range	Resolution(adjustable)	Accuracy	Hysteresis	Styli	Back
218-010-01	12.7mm/0.5"	0.0002mm/0.00001"	1.5µm	1µm	Ruby	flat
218-025-01	25.4mm/1"	0.001mm/0.00005" 0.01mm/0.0005"	1.8µm	1µm	Ruby	flat

Code	Range	Resolution(adjustable)	Accuracy	Hysteresis	Styli	Back
218-010-11	12.7mm/0.5"	0.0005mm/0.00002"	3µm	1.5µm	Carbide	flat
218-025-11	25.4mm/1"	0.001mm/0.00005"	3µm	1.5µm	Carbide	flat
218-050-11	50.8mm/2"	0.01mm/0.0005"	3µm	1.5µm	Carbide	flat



# SERIES 218

# WIRELESS HIGH PRECISION DIGITAL INDICATOR



ACCUD



- ◆ Built-in wireless transmission, Zigbee signal
- ◆ Built-in bluetooth
- ◆ Absolute encoder, the original data remains after power off
- ◆ Reading in digital and analog
- ◆ Supplied with RS232 cable (with software)
- ◆ Button: data output, tolerance, data preset, data hold, measuring direction change, max./min./TIR, power off time, on/off, mm/inch, resolution adjustment
- ◆ Power: rechargeable battery, for 24 hours continuous working(full charge)



218-010-01W



218-025-01W

unit: mm



VIDEO

Lifting lever (Included)



display can be rotated by 320°



Blue tooth

Smart phone, Ipad

RS232 cable (Included)

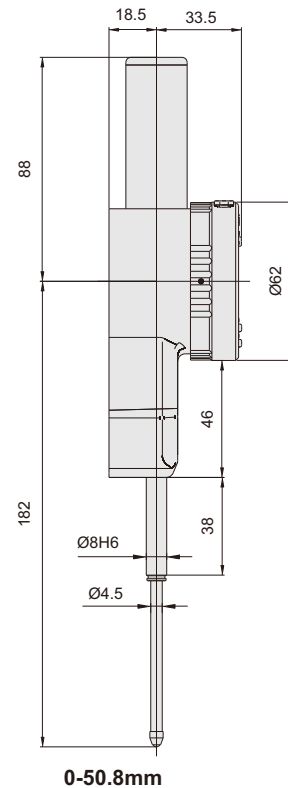
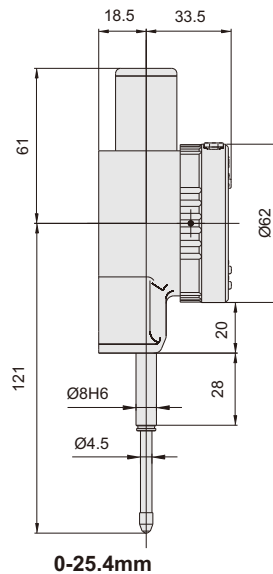
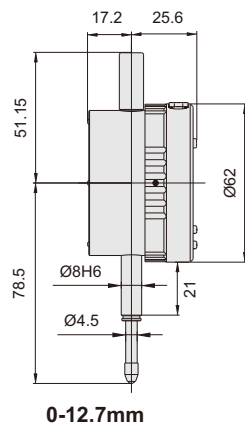


Contact points (optional)



Series 270

Application



Code	Range	Resolution(adjustable)	Accuracy	Hysteresis	Styli	Back
218-010-01W	12.7mm/0.5"	0.0002mm/0.00001"	1.5µm	1µm	Ruby	flat
218-025-01W	25.4mm/1"	0.001mm/0.00005" 0.01mm/0.0005"	1.8µm	1µm	Ruby	flat

Code	Range	Resolution(adjustable)	Accuracy	Hysteresis	Styli	Back
218-010-11W	12.7mm/0.5"	0.0005mm/0.00002"	3µm	1.5µm	Carbide	flat
218-025-11W	25.4mm/1"	0.001mm/0.00005" 0.01mm/0.0005"	3µm	1.5µm	Carbide	flat
218-050-11W	50.8mm/2"	0.01mm/0.0005"	3µm	1.5µm	Carbide	flat

INDICATOR

**SERIES 227**

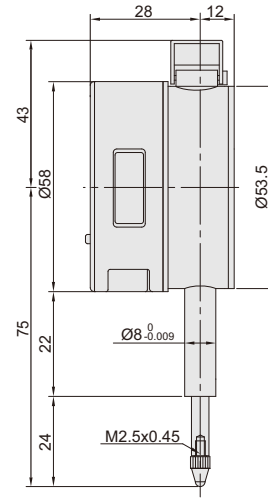
**DIGITAL INDICATOR WITH LIFTING LEVER**



- ◆ Button: on/off, zero, inch/mm conversion, measuring direction set, data preset absolute/incremental measurement
- ◆ Data output(cable code:200-03 or 200-04)
- ◆ Automatic power off



unit: mm



Styli(optional)



Series 270

Application



Resolution 0.001mm/0.00005"

227-010-12

Code	Range	Accuracy(fges)	Hysteresis(fu)	Remark
227-010-02	10mm/0.4"	5µm	2µm	flat back

Resolution 0.01mm/0.0005"

Code	Range	Accuracy(fges)	Hysteresis(fu)	Remark
227-010-12	10mm/0.4"	20µm	10µm	flat back

**SERIES 222**

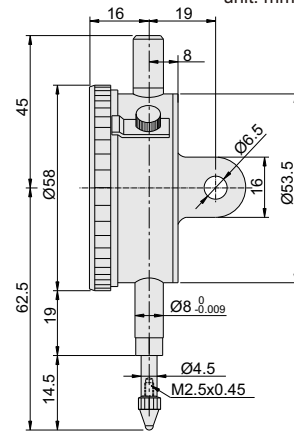
**DIAL INDICATOR**



- ◆ Graduation: 0.001mm
- ◆ With limit hands
- ◆ Jeweled bearing
- ◆ Rang per revolution: 0.2mm
- ◆ With lock screw



unit: mm

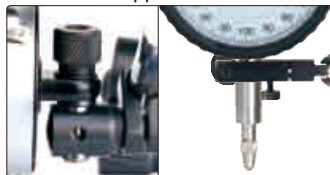


Styli(optional)



Series 270

Application



222-001-01

Code	Range	Back	Scale	Accuracy	Hysteresis
222-001-01	1mm	lug	0-100-0	5µm	2µm
222-001-02	1mm	flat	0-100-0	5µm	2µm

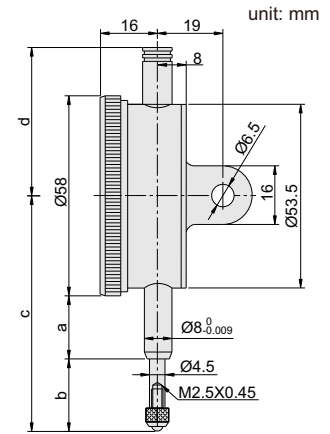
With manufacturer inspection certificate

## SERIES 221

## DIAL INDICATOR



- ◆ Graduation: 0.001mm
- ◆ With limit hands
- ◆ Jeweled bearing
- ◆ Rang per revolution: 0.2mm
- ◆ Supplied with lug and flat back

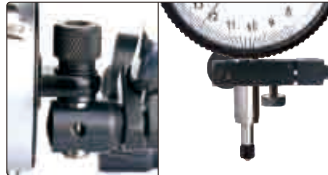


Styli (optional)



Series 270

Application



221-001-01

Code	Range	Scale	Accuracy	Hysteresis	a	b	c	d
221-001-01	1mm	0-200	5µm	2µm	15	19.5	62.5	45
221-003-01	3mm	0-200	10µm	4µm	10	21.5	59.5	41.5
221-005-01	5mm	0-200	10µm	4µm	10	21.5	59.5	41.5

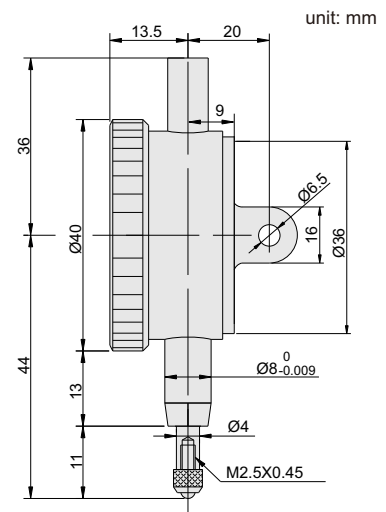
With manufacturer inspection certificate

## 228

## DIAL INDICATOR



- ◆ Bezel: Ø40mm
- ◆ Graduation: 0.001mm
- ◆ With limit hands
- ◆ Jeweled bearing
- ◆ Supplied with lug and flat back



Application



228-001-01

Contact points (optional)



Series 270

Code	Range	Accuracy	Hysteresis	Range/rev	Scale
228-001-01	1mm	5µm	2µm	0.1mm	0-100

With manufacturer inspection certificate



**SERIES 222**

**DIAL INDICATOR**



- ◆ Graduation: 0.01mm
- ◆ With limit hands
- ◆ Jeweled bearing
- ◆ Range per revolution: 1mm
- ◆ With lock screw



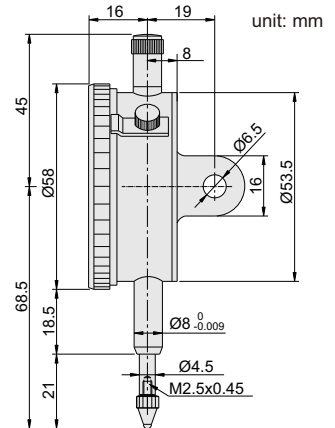
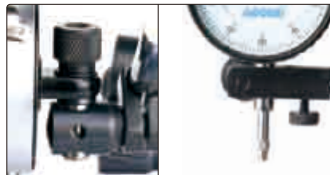
222-010-11

Styli (optional)



Series 270

Application



Code	Range	Back	Accuracy	Hysteresis	Scale
222-003-11	3mm	lug	14µm	3µm	0-100
222-005-11	5mm	lug	16µm	3µm	0-100
222-010-11	10mm	lug	17µm	3µm	0-100
222-003-12	3mm	flat	14µm	3µm	0-100
222-005-12	5mm	flat	16µm	3µm	0-100
222-010-12	10mm	flat	17µm	3µm	0-100

With manufacturer inspection certificate

**SERIES 223**

**DIAL INDICATOR**



- ◆ Graduation: 0.01mm
- ◆ With limit hands
- ◆ Range per revolution: 1mm
- ◆ With lock screw



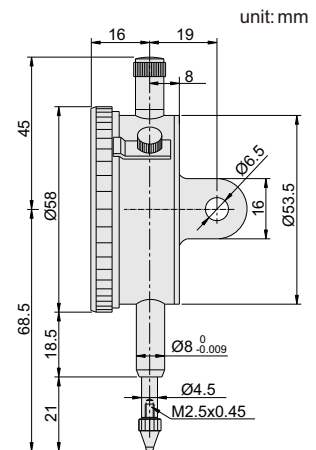
223-010-11

Styli (optional)



Series 270

Application



Code	Range	Back	Accuracy	Hysteresis	Scale
223-010-11	10mm	lug	20µm	3µm	0-100
223-010-12	10mm	flat	20µm	3µm	0-100

With manufacturer inspection certificate

## SERIES 224

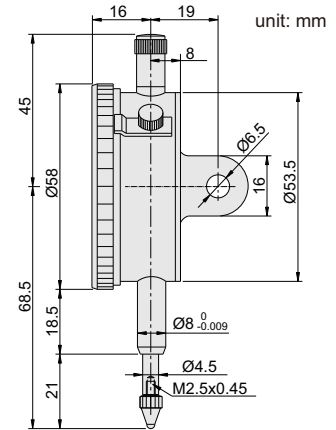
## DIAL INDICATOR



- ◆ Graduation: 0.01mm
- ◆ With limit hands
- ◆ Jeweled bearing
- ◆ Range per revolution: 1mm
- ◆ With lock screw



224-010-11



Styli (optional)



Series 270

Application



Code	Range	Back	Accuracy	Hysteresis	Scale
224-010-11	10mm	lug	17µm	3µm	0-100
224-010-12	10mm	flat	17µm	3µm	0-100

With manufacturer inspection certificate

Package



## SERIES 226

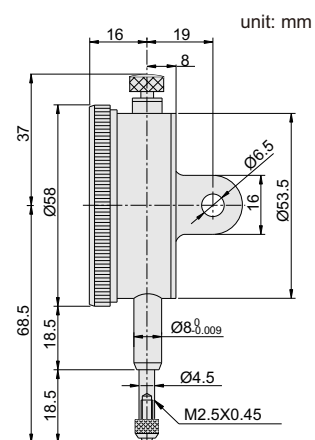
## SHOCKPROOF DIAL INDICATOR



- ◆ Shockproof
- ◆ Graduation: 0.01mm
- ◆ With limit hands
- ◆ Jeweled bearing
- ◆ Rang per revolution: 1mm
- ◆ Supplied with lug and flat back



226-010-11



Styli (optional)



Series 270

Application



Code	Range	Accuracy	Hysteresis	Scale
226-005-11	5mm	16µm	3µm	0-100
226-010-11	10mm	17µm	3µm	0-100

With manufacturer inspection certificate



**SERIES 228**

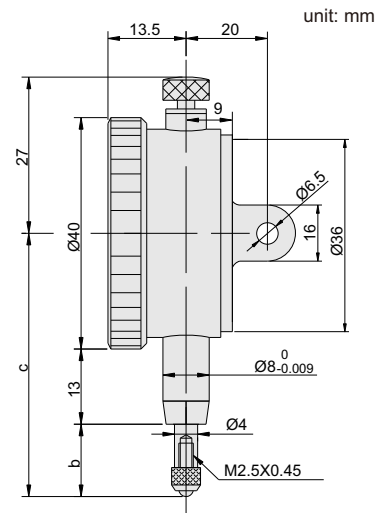
**DIAL INDICATOR**



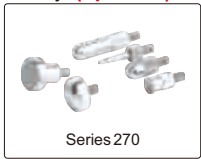
- ◆ Bezel: Ø40mm
- ◆ Graduation: 0.01mm
- ◆ With limit hands
- ◆ Jeweled bearing
- ◆ Rang per revolution: 1mm
- ◆ Supplied with lug and flat back



228-005-11

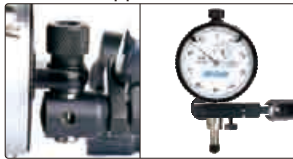


Styli (optional)



Series 270

Application



Code	Range	Accuracy	Hysteresis	Scale	b	c
228-003-11	3mm	14µm	3µm	0-100	11	44
228-005-11	5mm	16µm	3µm	0-100	12.5	45.5

With manufacturer inspection certificate

**SERIES 229**

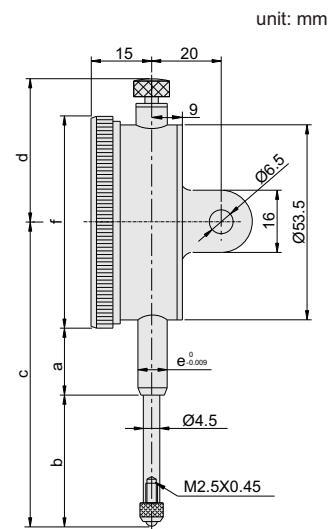
**DIAL INDICATOR**



- ◆ Graduation: 0.01mm
- ◆ With limit hands
- ◆ Rang per revolution: 1mm
- ◆ Supplied with lug and flat back



229-030-11

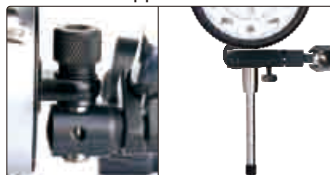


Styli (optional)



Series 270

Application



Code	Range	Accuracy	Hysteresis	Scale	a	b	c	d	e	f
229-020-11	20mm	25µm	5µm	0-100	20	35	83	37.5	Ø8	Ø58
229-030-11	30mm	35µm	7µm	0-100	20	40	88	37.5	Ø8	Ø58

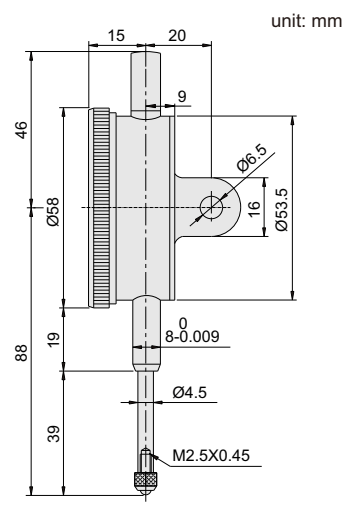
With manufacturer inspection certificate



**229**

**DIAL INDICATOR**

- ◆ Graduation: 0.01mm
- ◆ With limit hands
- ◆ Rang per revolution: 1mm
- ◆ Supplied with lug and flat back



Code	Range	Accuracy	Hysteresis	Scale
229-025-11	25mm	35µm	7µm	0-100

With manufacturer inspection certificate

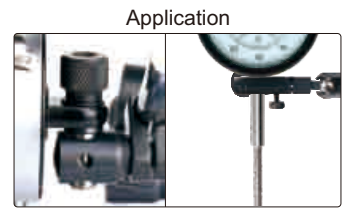
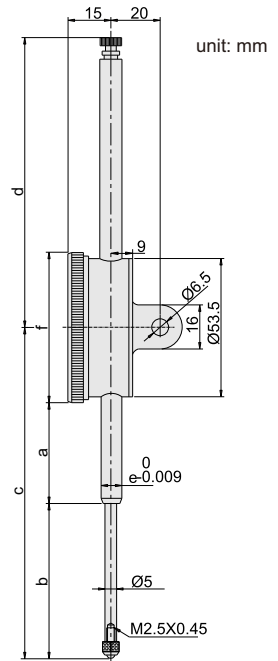
**SERIES 229**

**DIAL INDICATOR**

Note: 229-100-21 can only be used vertically



- ◆ Graduation: 0.01mm
- ◆ With limit hands
- ◆ Rang per revolution: 1mm
- ◆ Supplied with lug and flat back



229-050-21

Code	Range	Accuracy	Hysteresis	Scale	a	b	c	d	e	f
229-050-21*	50mm	40µm	8µm	0-100	40	58	127	108	Ø8	Ø58
229-100-21	100mm	50µm	9µm	0-100	60	108	207	168	Ø10	Ø78

\* With manufacturer inspection certificate

231

WATERPROOF DIAL INDICATOR

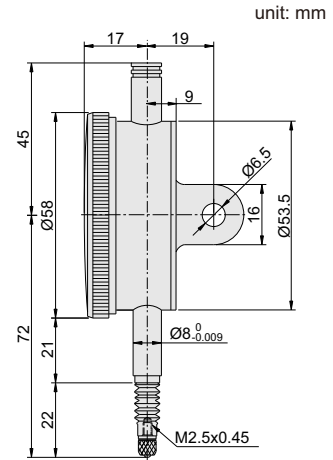
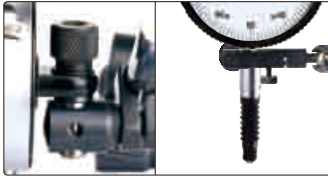


- ◆ IP54 dust/waterproof
- ◆ Graduation:0.01mm
- ◆ Jeweled bearing

Styli(optional)



Application



Code	Range	Accuracy(f <sub>ges</sub> )	Hysteresis(f <sub>u</sub> )	Range/rev	Dial reading
231-010-11	10mm	17µm	3µm	1mm	0-100

With manufacturer inspection certificate

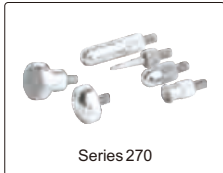
231

WATERPROOF DIAL INDICATOR

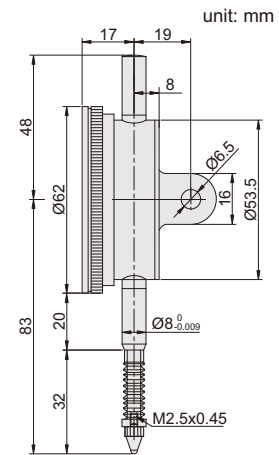
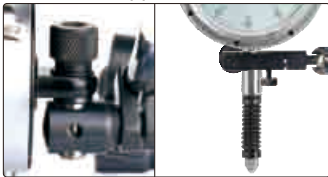


- ◆ Meet DIN878
- ◆ Graduation:0.01mm
- ◆ IP54 dust/waterproof
- ◆ Jeweled bearing
- ◆ Supplied with lug and flat back

Styli(optional)



Application



Code	Range	Accuracy	Hysteresis	Range/rev	Dial reading
231-010-21	10mm	17µm	3µm	1mm	0-100

With manufacturer inspection certificate



## SERIES 232

## ONE REVOLUTION DIAL INDICATOR

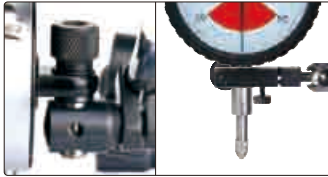


- ◆ Shock proof
- ◆ Supplied with lug and flat back

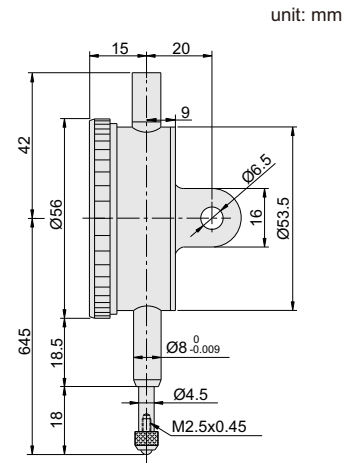
### Styli (optional)



### Application



232-001-11



Code	Range	Graduation	Accuracy	Hysteresis	Dial reading
232-0005-11	0.5mm	0.01mm	9µm	3µm	25-0-25
232-001-11	1mm	0.01mm	9µm	3µm	50-0-50

With manufacturer inspection certificate

## 233

## DOUBLE FACE DIAL INDICATOR

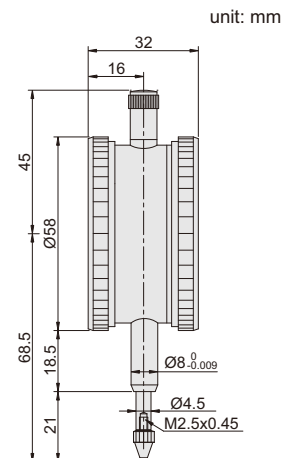


- ◆ Meet DIN878
- ◆ Read from both sides
- ◆ Jeweled bearing
- ◆ Supplied with limit pointers

### Styli (optional)



### Application



Code	Range	Graduation	Accuracy	Hysteresis	Range/rev	Dial reading
233-010-11	10mm	0.01mm	17µm	3µm	1mm	0-100

With manufacturer inspection certificate



**SERIES 230**

**DIAL INDICATOR**

- ◆ Supplied with limit pointers and bezel clamp

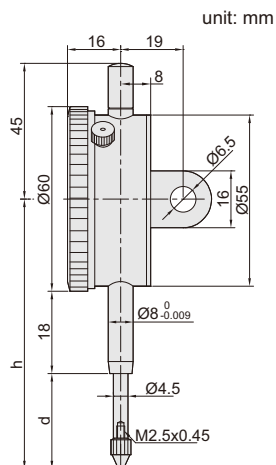
Styli (optional)



Application



230-030-11



Code	Range	Graduation	Accuracy(fges)	Hysteresis(fu)	Range/rev	Dial reading	Remark	h	d
230-010-11	10mm	0.1mm	40µm	20µm	10mm	0-10mm	lug back	70	20
230-030-11	30mm	0.1mm	60µm	20µm	10mm	0-10mm	lug back	90	40

**291**

**REVERSE DIAL INDICATOR**

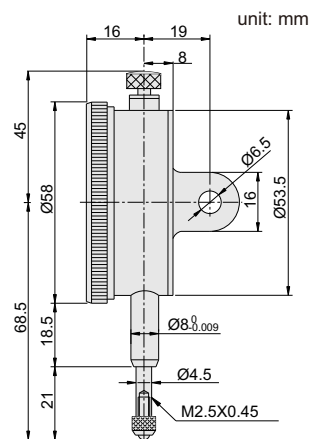


- ◆ Shockproof
- ◆ Graduation: 0.01mm
- ◆ Reverse reading
- ◆ With limit hands
- ◆ Jeweled bearing
- ◆ Rang per revolution: 1mm
- ◆ Supplied with lug and flat back

Styli (optional)



Application



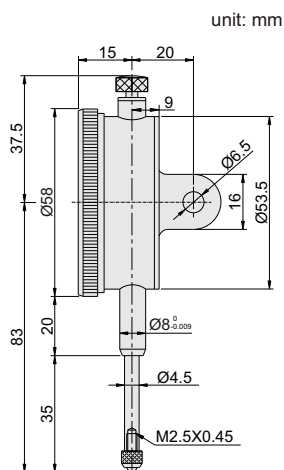
Code	Range	Accuracy	Hysteresis	Scale
291-010-I	10mm	17µm	3µm	0-100



292

REVERSE DIAL INDICATOR

- ◆ Graduation: 0.01mm
- ◆ Reverse reading
- ◆ With limit hands
- ◆ Rang per revolution: 1mm
- ◆ Supplied with lug and flat back



Styli (optional)



Application



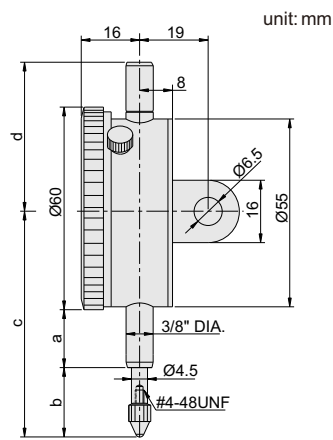
Code	Range	Accuracy	Hysteresis	Scale
292-030-I	30mm	35µm	7µm	0-100

SERIES 225

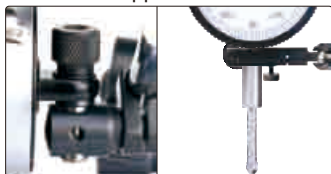
INCH DIAL INDICATOR



- ◆ Meet ASME B89.1.10M-2001
- ◆ Supplied with limit hands and bezel clamp
- ◆ Lug back



Application



Code	Range	Graduation	Dial reading	Range/rev	Accuracy		a	b	c	d
					First 2.5 rew	Overall				
225-006-11	0.25"	0.001"	0-100	0.1"	±0.001"	±0.001"	20	25	75	46
225-012-11	0.5"	0.001"	0-100	0.1"	±0.001"	±0.002"	20	25	75	46
225-025-11	1"	0.001"	0-100	0.1"	±0.001"	±0.002"	20	35	85	46
225-050-11	2"	0.001"	0-100	0.1"	±0.001"	±0.004"	50	59	139	111

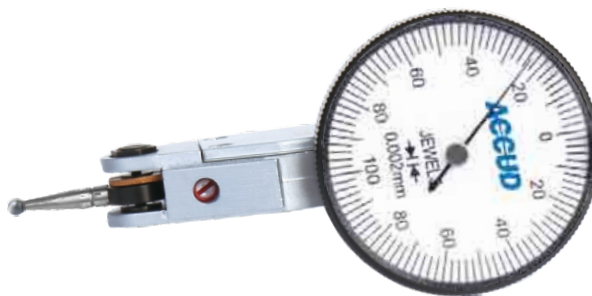
With manufacturer inspection certificate

## SERIES 261

## DIAL TEST INDICATOR



- ◆ Jeweled bearing
- ◆ Double scale spacing
- ◆ Anti-magnetic copper body
- ◆ With two clamps: Ø4mm and Ø8mm

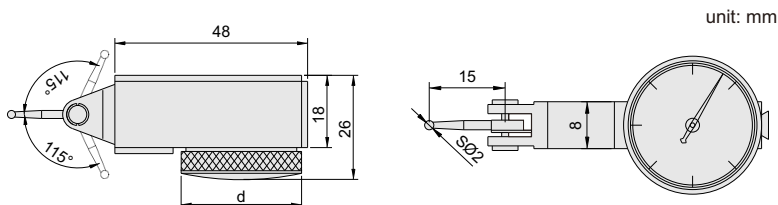
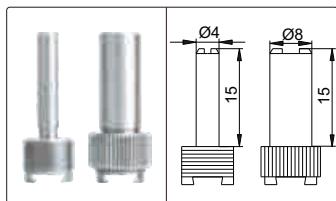


261-002-01

### Application



### Clamps (included)



unit: mm

Code	Range	Bezel(d)	Graduation	Styli	Accuracy	Hysteresis	Scale
261-002-01	0.2mm	Ø33mm	0.002mm	carbide	6µm	2µm	0-100-0
261-002-02	0.2mm	Ø37.5mm	0.002mm	carbide	6µm	2µm	0-100-0

With manufacturer inspection certificate

## SERIES 261

## DIAL TEST INDICATOR



- ◆ Economic type
- ◆ Jeweled bearing
- ◆ Double scale spacing
- ◆ Anti-magnetic copper body
- ◆ With two clamps: Ø4mm and Ø8mm

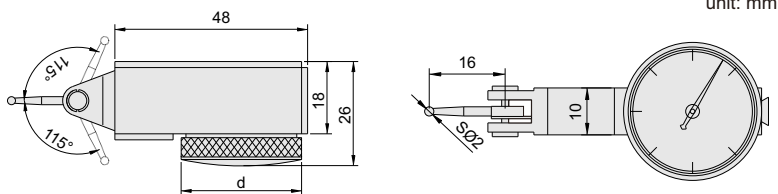
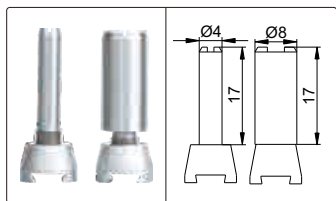


261-002-61P

### Application



### Clamps (included)



unit: mm

Code	Range	Bezel(d)	Graduation	Styli	Accuracy	Hysteresis	Scale
261-002-61P	0.2mm	Ø33mm	0.002mm	carbide	6µm	2µm	0-100-0
261-002-62P	0.2mm	Ø37.5mm	0.002mm	carbide	6µm	2µm	0-100-0

With manufacturer inspection certificate

## SERIES 261

## DIAL TEST INDICATOR



- ◆ Jeweled bearing
- ◆ Double scale spacing
- ◆ Anti-magnetic copper body
- ◆ With two clamps: Ø4mm and Ø8mm

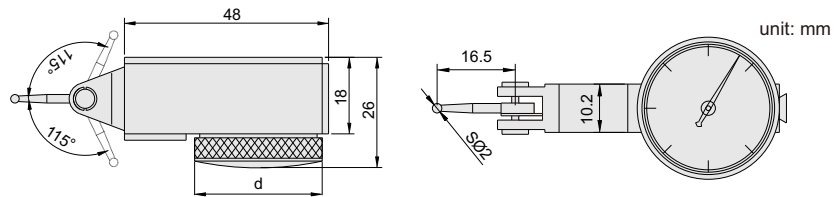
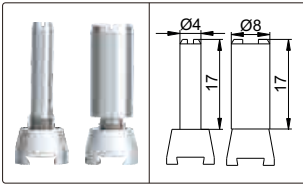


261-008-12

### Application



### Clamps (included)



Code	Range	Bezel(d)	Graduation	Styli	Accuracy	Hysteresis	Scale
261-008-11	0.8mm	Ø30mm	0.01mm	carbide	13µm	3µm	0-40-0
261-008-12	0.8mm	Ø37.5mm	0.01mm	carbide	13µm	3µm	0-40-0

With manufacturer inspection certificate

## SERIES 261

## DIAL TEST INDICATOR



- ◆ Economic type
- ◆ Jeweled bearing
- ◆ Double scale spacing
- ◆ Anti-magnetic copper body
- ◆ With two clamps: Ø4mm and Ø8mm

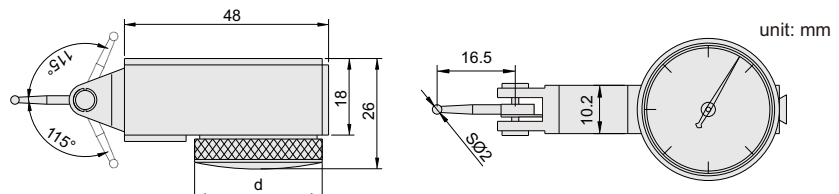
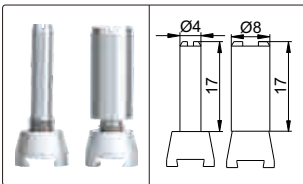


261-008-62P

### Application



### Clamps (included)



Code	Range	Bezel(d)	Graduation	Styli	Accuracy	Hysteresis	Scale
261-008-61P	0.8mm	Ø30mm	0.01mm	carbide	13µm	3µm	0-40-0
261-008-62P	0.8mm	Ø37.5mm	0.01mm	carbide	13µm	3µm	0-40-0

With manufacturer inspection certificate



261

PRECISION DIAL TEST INDICATOR



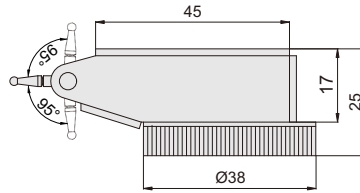
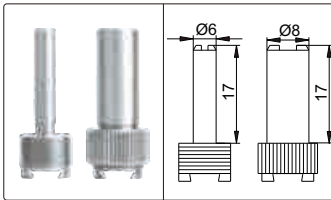
- ◆ Meet DIN2270
- ◆ Jeweled bearing
- ◆ Double scale spacing
- ◆ With two clamps: Ø6mm and Ø8mm



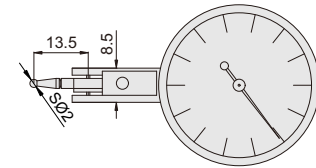
Application



Clamps (included)



unit: mm



Code	Range	Bezel(d)	Graduation	Styli	Accuracy	Hysteresis	Scale
261-014-01	0.14mm	Ø38mm	0.001mm	carbide	4µm	2µm	0-70-0

With manufacturer inspection certificate

SERIES 261

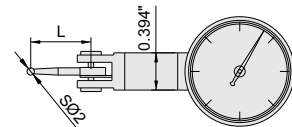
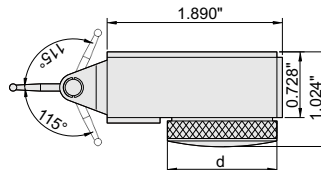
DIAL TEST INDICATOR



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



261-030-51



Graduation 0.001"

Code	Range	Accuracy	Dial reading	d	L
261-030-11	0.03"	±0.001"	0-15-0	1.181"DIA	0.50"

Graduation 0.0001"

Code	Range	Accuracy	Dial reading	d	L
261-080-01	0.008"	±0.0001"	0-40-0	1.181"DIA	0.563"

Graduation 0.0005"

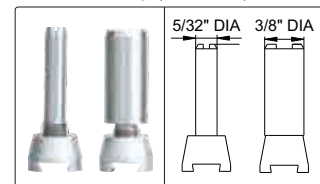
Code	Range	Accuracy	Dial reading	d	L
261-030-51	0.03"	±0.0005"	0-15-0	1.181"DIA	0.50"
261-030-52	0.03"	±0.0005"	0-15-0	1.457"DIA	0.50"

With manufacturer inspection certificate

Application



Clamp (included)



## SERIES 263

## LONG STYLI DIAL TEST INDICATOR



- ◆ Jeweled bearing
- ◆ Double scale spacing
- ◆ Anti-magnetic copper body
- ◆ With two clamps: Ø4mm and Ø8mm

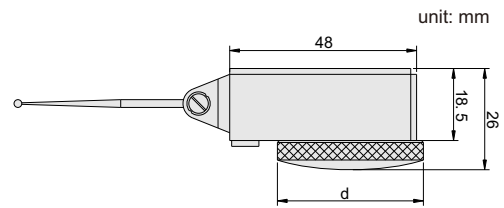
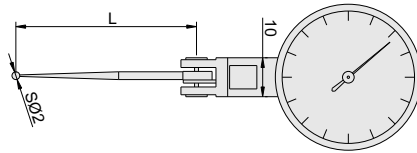
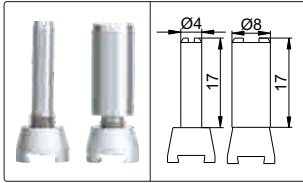


263-008-11L

### Application



### Clamps (included)



unit: mm

Code	Range	Bezel(d)	Graduation	Styli	Accuracy	Hysteresis	Scale	L
263-008-11	0.8mm	Ø37.5mm	0.01mm	carbide	13µm	3µm	0-40-0	30.5
263-008-11L	0.8mm	Ø37.5mm	0.01mm	ruby	13µm	9µm	0-40-0	46.4

With manufacturer inspection certificate

## 264

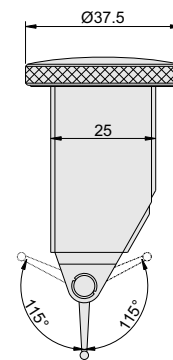
## BACK PLUNGER TYPE DIAL TEST INDICATOR



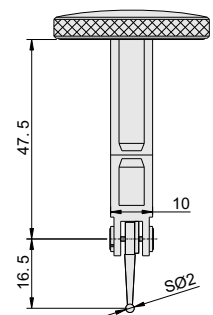
- ◆ Jeweled bearing
- ◆ Carbide contact point
- ◆ Two measuring directions
- ◆ Anti magnetic body
- ◆ Supplied with two clamps: diameter Ø4mm and Ø8mm
- ◆ Optional accessory: styli



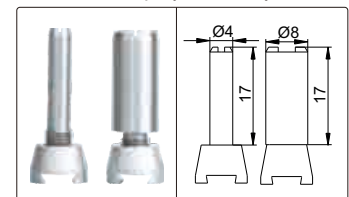
### Application



unit: mm



### Clamps (included)



Code	Range	Graduation	Accuracy(fges)	Hysteresis(fu)	Dial Reading
264-008-11	0.8mm	0.01mm	13µm	3µm	0-40-0

With manufacturer inspection certificate



265

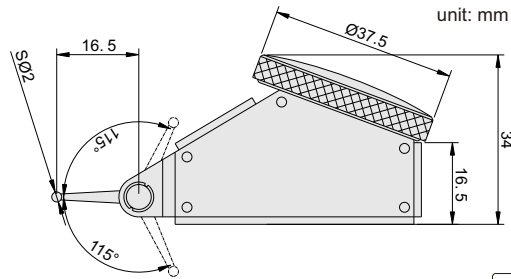
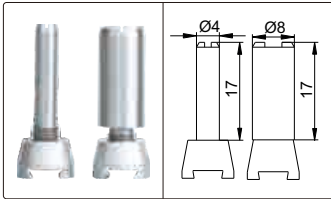
DIAL TEST INDICATOR



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



Clamps (included)



Application



Code	Range	Graduation	Accuracy(fgcs)	Hysteresis	Dial Reading
265-008-11	0.8mm	0.01mm	13µm	3µm	0-40-0

With manufacturer inspection certificate

266

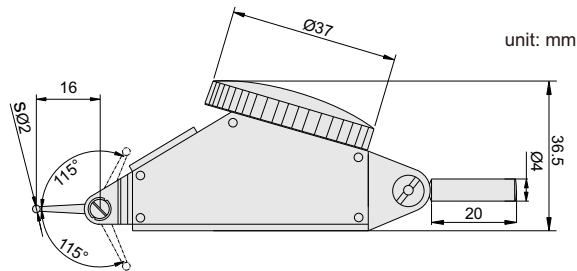
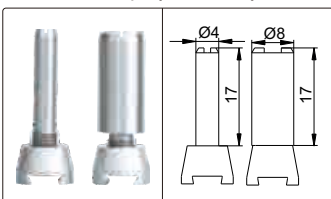
LARGE RANGE DIAL TEST INDICATOR



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



Clamps (included)



Code	Range	Graduation	Accuracy	Hysteresis	Dial reading
266-016-11	1.6mm	0.01mm	25µm	8µm	0-40-0

With manufacturer inspection certificate





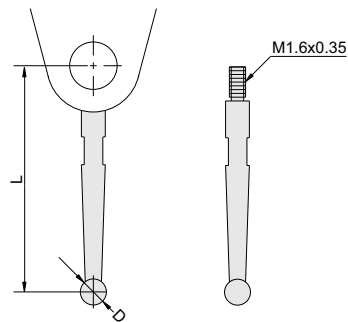
**SERIES 260**

**STYLI FOR DIAL TEST INDICATOR**



unit: mm

Code	For products	Tip material	D	L
260-001-01	261-008-11	steel	SØ1	16.5
260-002-02	261-008-12 266-016-11	carbide	SØ2	16.5
260-003-02	264-008-11	carbide	SØ3	16.5
260-010-01	265-008-11	ruby	SØ2	16.5
260-009-01	261-002-01 261-002-02	ruby	SØ2	15
260-010-02	263-008-11	carbide	SØ2	30.5
260-010-03	263-008-11L	ruby	SØ2	46.4



**SERIES 267**

**HOLDER FOR INDICATOR**

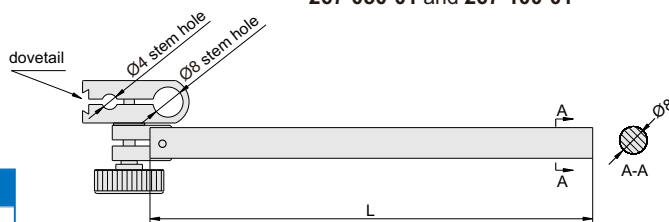
- ◆ Use as holder for dial/digital indicators, dial test indicators and height gages



267-100-01

unit: mm

Application (optional)

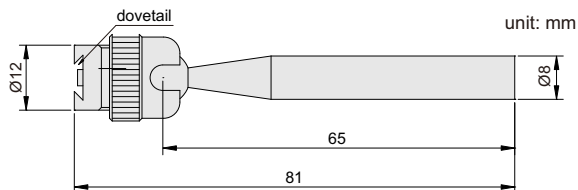


Code	Section size	Size(L)
267-050-01	9x9mm	50mm
267-100-01	9x9mm	100mm
267-115-02	Ø8mm	115mm

268

UNIVERSAL HOLDER FOR DIAL TEST INDICATOR

- ◆ Universal head



Application



Code

268-055-01

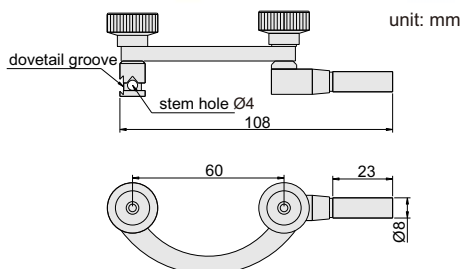
Section size

Ø8mm

269

DIAL TEST INDICATOR CENTERING HOLDER

- ◆ Center cylinders or holes on a machine tool



Application



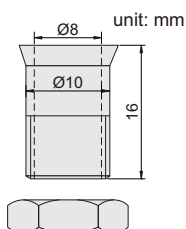
Code

269-060-01

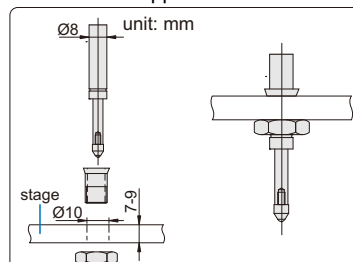
273

SHAFT SLEEVE

- ◆ For dial indicators and probes with shaft diameter Ø8mm
- ◆ Made of stainless steel



Application



Code

273-001-01



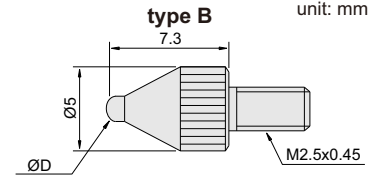
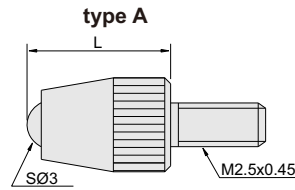
**type A**

Code	Material	L
270-001-01	carbide	7.3
270-001-02	ceramic	7.3
270-001-03	carbide	8.3
270-001-04	carbide	12.1
270-001-05	carbide	14
270-001-06	carbide	15
270-001-07	ceramic	15
270-001-08	carbide	17
270-001-09	carbide	19.3
270-001-10	carbide	20
270-001-11	ceramic	20
270-001-12	carbide	22
270-001-13	carbide	25
270-001-14	ceramic	25
270-001-15	carbide	30
270-001-16	ceramic	30

**Ball Point**



270-001-03



unit: mm

**type B**

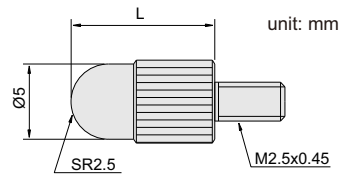
Code	Material	ØD
270-001-21	steel	1
270-001-22	carbide	1.5
270-001-23	carbide	1.8
270-001-24	carbide	2.5
270-001-25	carbide	4

**Shell Type Point**



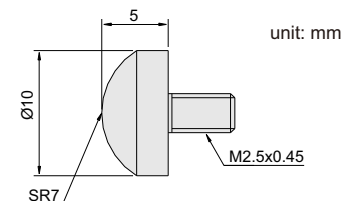
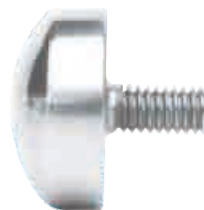
270-002-02

Code	Material	L
270-002-01	steel	5
270-002-02	steel	10
270-002-03	steel	15
270-002-04	steel	20
270-002-05	steel	25
270-002-06	steel	30



unit: mm

**Spherical Point**



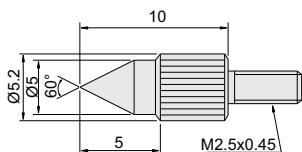
unit: mm

Code	Material
270-003-01	steel

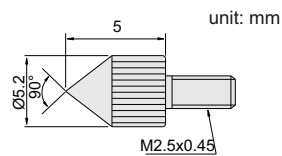
Conical Point



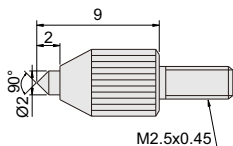
270-004-02



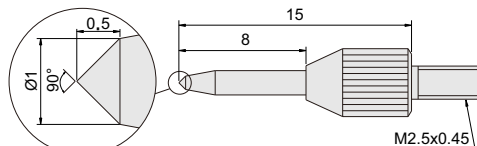
270-004-01



270-004-02



270-004-03



270-004-04

Code	Material
270-004-01	steel
270-004-02	steel
270-004-03	steel
270-004-04	steel

type A

Code	Material	L
270-005-01	steel	8
270-005-02	steel	10

Flat Point



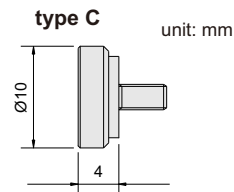
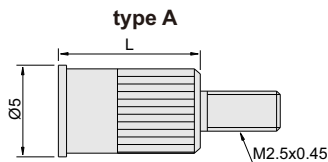
270-005-12



270-010-16

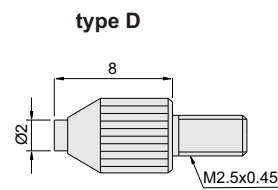
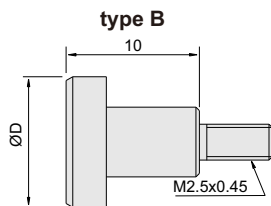
type B

Code	Material	ØD
270-005-11	steel	10
270-005-12	steel	15
270-005-13	steel	20
270-005-14	steel	25
270-005-15	steel	30



type C

Code	Material	ØD
270-010-16	ceramic	10



type D

Code	Material
270-005-21	carbide



**SERIES 270**

**CONTACT POINTS**

**type A**

Code	Material	ØD	L
270-006-01	steel	0.45	3
270-006-02	steel	0.45	5
270-006-03	carbide	1	3
270-006-04	carbide	1	5
270-006-05	carbide	1	8
270-006-06	carbide	1	10
270-006-07	carbide	1	20
270-006-08	carbide	1	40
270-006-09	carbide	1.5	5
270-006-10	carbide	1.5	10
270-006-11	carbide	1.5	13
270-006-12	carbide	1.5	20
270-006-13	carbide	1.5	40
270-006-14	carbide	2	8
270-006-15	carbide	2	18
270-006-16	carbide	2	28
270-006-17	carbide	2	40

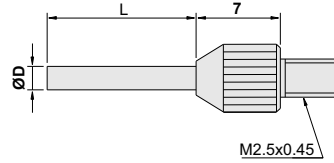
**Needle Point**



270-006-16

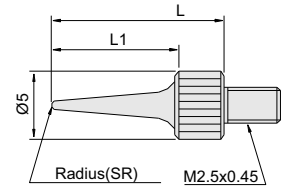
270-006-22

**type A**



**type B**

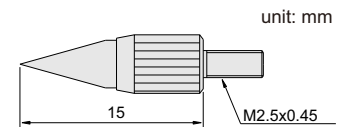
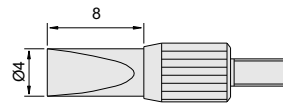
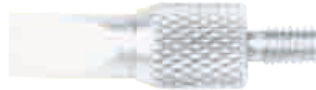
unit: mm



**type B**

Code	Material	L1	L	SR
270-006-21	steel	11	15	0.4
270-006-22	steel	13	17	0.2
270-006-23	steel	21	25	0.4
270-006-24	steel	31	35	0.4

**Knife Edge Point**



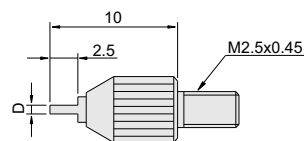
unit: mm

Code	Material
270-007-01	steel

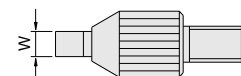
**Blade Point**



270-008-03



unit: mm



Code	Material	D	W
270-008-01	steel	0.4	2
270-008-02	steel	0.6	2
270-008-03	steel	1	4

**SERIES 270**

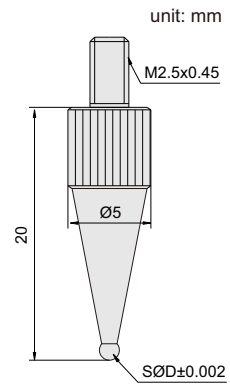
**CONTACT POINTS**

**Ball Point**

Code	Material	SØD
270-011-01	carbide	1
270-011-02	carbide	1.5
270-011-03	carbide	2
270-011-04	carbide	2.5
270-011-05	carbide	3
270-011-06	carbide	3.5
270-011-07	carbide	4
270-011-08	carbide	4.5
270-011-09	carbide	5
270-011-10	carbide	5.5
270-011-11	carbide	6
270-011-12	carbide	6.5
270-011-14	carbide	7
270-011-16	carbide	8
270-011-18	carbide	9
270-011-20	carbide	10
270-011-24	carbide	12



270-011-08

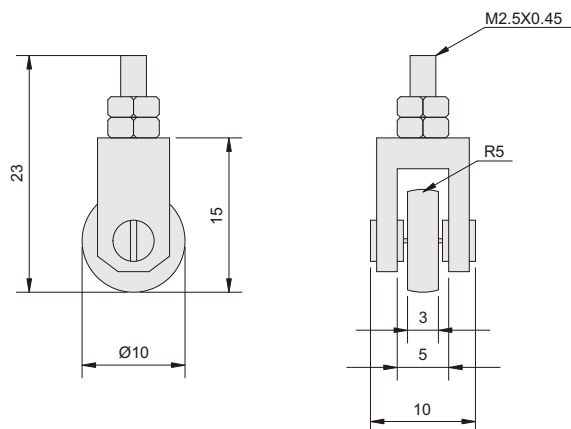


**270**

**ROLLER POINT**



unit: mm

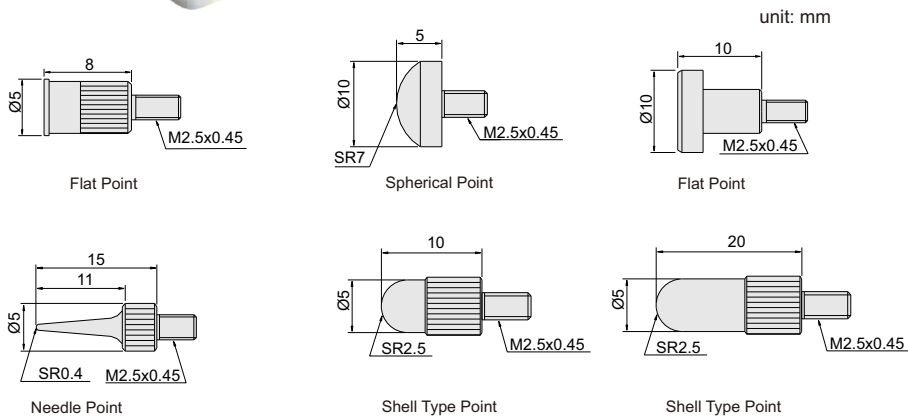


Code	Material of measuring face
270-009-01	steel



270

POINT SET



Code	Material of measuring face
270-100-06	steel

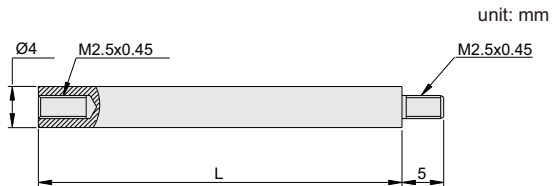
SERIES 270

EXTENSION ROD FOR CONTACT POINTS



270-000-15

Package



Code	Material	L
270-000-01	steel	10
270-000-02	steel	15
270-000-03	steel	20
270-000-04	steel	25
270-000-05	steel	30
270-000-06	steel	35

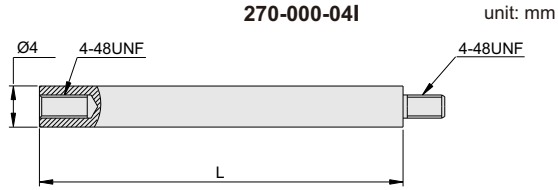
Code	Material	L
270-000-07	steel	40
270-000-08	steel	45
270-000-09	steel	50
270-000-10	steel	55
270-000-11	steel	60
270-000-12	steel	65

Code	Material	L
270-000-13	steel	70
270-000-14	steel	75
270-000-15	steel	80
270-000-16	steel	90
270-000-17	steel	100

**SERIES 270**

**EXTENSION ROD FOR CONTACT POINTS**

◆ For series 225 Inch indicator



Code	Material	L
270-000-01I	steel	1"
270-000-02I	steel	2"
270-000-03I	steel	3"
270-000-04I	steel	4"

**271**

**SPINDLE LIFT KNOB**

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



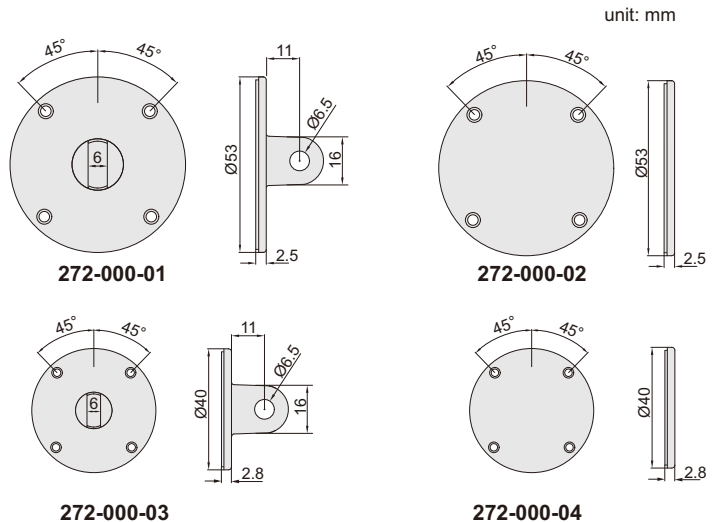
Code
271-045-01

**SERIES 272**

**LUG AND FLAT BACK**



272-000-01

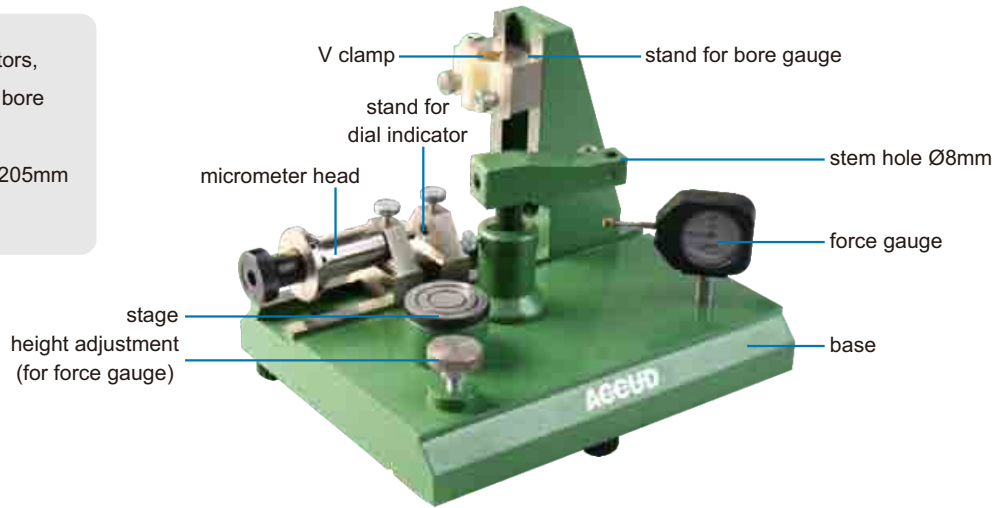


Code	Type	Material
272-000-01	lug	metal
272-000-02	flat	plastic
272-000-03	lug	metal
272-000-04	flat	plastic





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



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



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



Inspect accuracy of test indicators



Check force of dial indicators



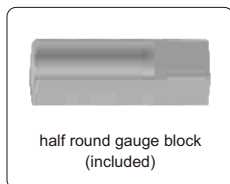
Check repeatability of dial indicators



Check the effect of lateral force on accuracy of dial indicators



Check the effect of lateral force on accuracy of test indicators



**Micrometer head**

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

**Force gauge**

Range	Graduation	Accuracy
0-1.6N	0.05N	±5%

**Stage**

Diameter	Flatness	Roughness
0-1.6N	1µm	0.05µm

**Half round gauge block (included)**

Dimension	Parallelism
10mm	1µm

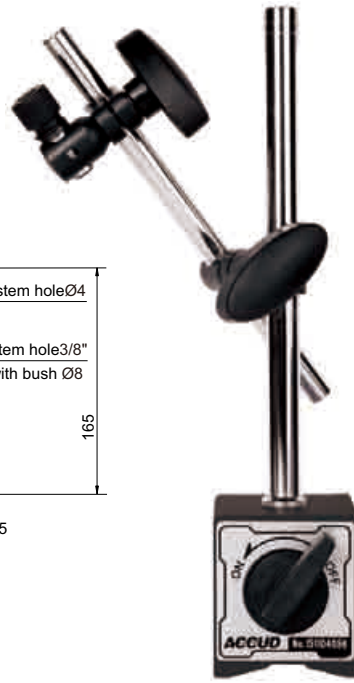
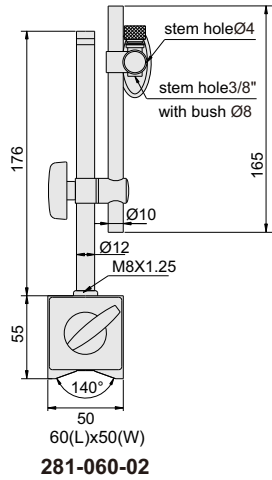
**Code**  
499-025-01

## SERIES 281

## MAGNETIC STAND

- ◆ For dial/digital indicators and dial test indicators
- ◆ V-block base

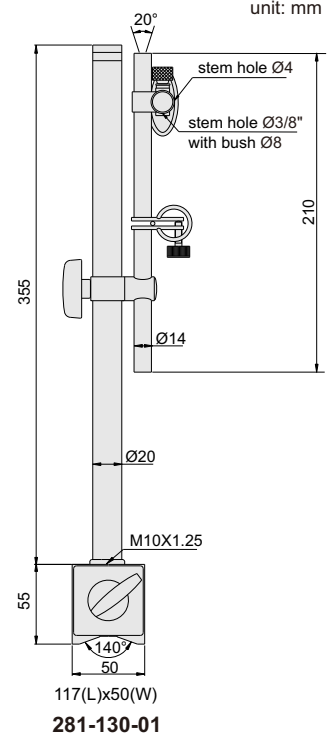
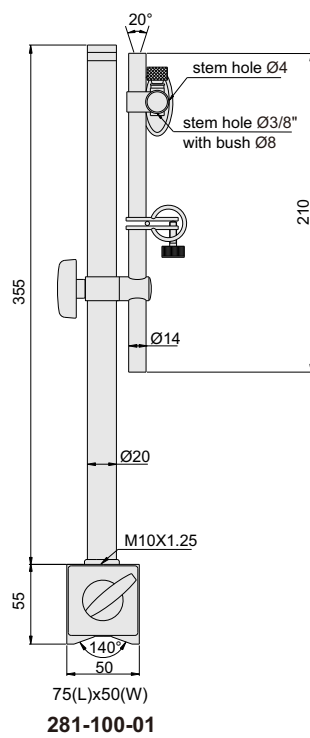
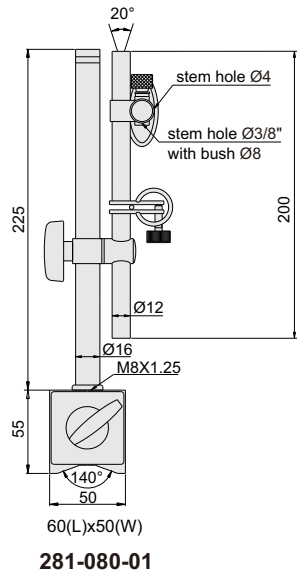
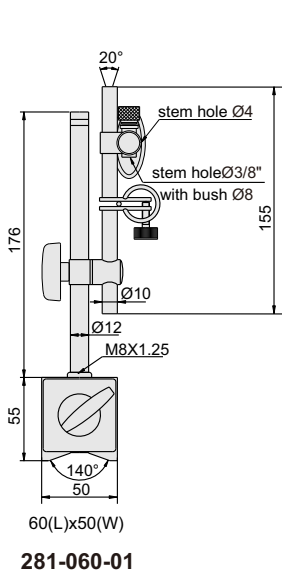
### Application



**281-060-02**



**281-060-01**



unit: mm

Code	Stem hole	Magnetic force	Fine adjustment
<b>281-060-01</b>	Ø8mm, Ø4mm, 3/8"	60kgf	With
<b>281-060-02</b>	Ø8mm, Ø4mm, 3/8"	60kgf	Without
<b>281-080-01</b>	Ø8mm, Ø4mm, 3/8"	80kgf	With
<b>281-100-01</b>	Ø8mm, Ø4mm, 3/8"	100kgf	With
<b>281-130-01</b>	Ø8mm, Ø4mm, 3/8"	130kgf	With

**SERIES 282**

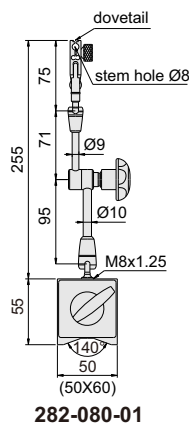
**UNIVERSAL MAGNETIC STAND**

- ◆ For dial/digital indicators and dial test indicators
- ◆ Stem hole: Ø8mm
- ◆ With find adjustment and dovetail
- ◆ V-block base

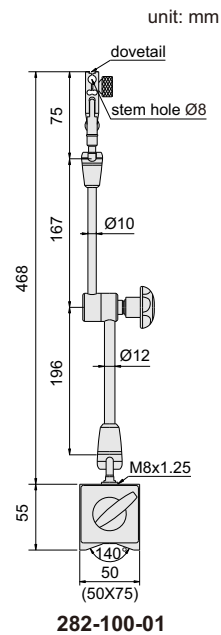
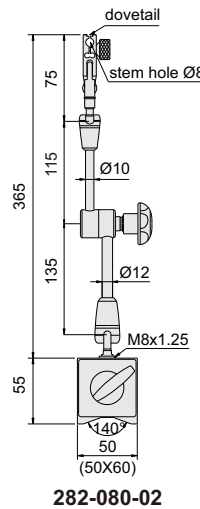
Application



Code	Magnetic force
282-080-01	80kgf
282-080-02	80kgf
282-100-01	100kgf



282-080-01



**283**

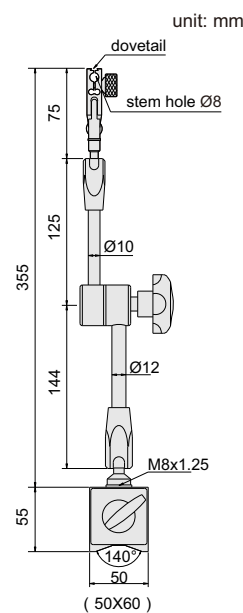
**UNIVERSAL MAGNETIC STAND**

- ◆ Economic type
- ◆ For dial/digital indicators and dial test indicators
- ◆ Stem hole: Ø8mm
- ◆ With find adjustment and dovetail
- ◆ V-block base

Application



Code	Magnetic force
283-080-01	80kgf



**SERIES 279**

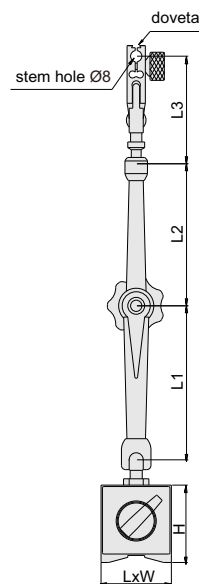
**UNIVERSAL MAGNETIC STAND**

- ◆ For dial/digital indicators and dial test indicators
- ◆ Aluminum arm
- ◆ With fine adjustment and dovetail
- ◆ V-block base

Application



279-080-01



unit: mm

Code	Magnetic force	Base (LxWxH)	L1	L2	L3
279-030-01	30kgf	35x30x35	56	51	73
279-080-01	80kgf	60x50x55	110	101	76
279-100-01	100kgf	73x50x55	147	130	76

**SERIES 277**

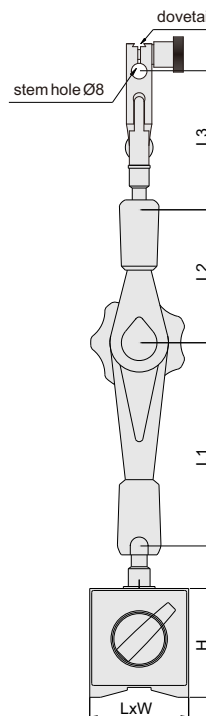
**HYDRAULIC UNIVERSAL MAGNETIC STAND**

- ◆ For dial/digital indicators and dial test indicators
- ◆ With fine adjustment and dovetail
- ◆ V-block base
- ◆ Magnetic switch made of metal

Application



277-080-01



unit: mm

Code	Magnetic force	Base(LxWxH)	L1	L2	L3
277-080-01	80kgf	60x50x55	65	55	70
277-080-02	80kgf	60x50x55	125	90	70
277-100-01	100kgf	75x50x55	160	125	70



**SERIES 278**

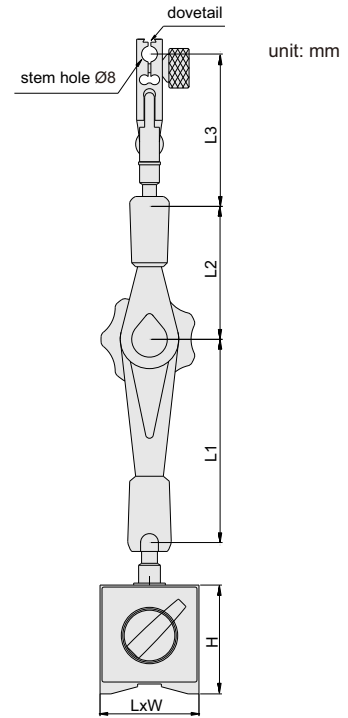
**UNIVERSAL MAGNETIC STAND**

- ◆ For dial/digital indicators and dial test indicators
- ◆ Super strong arm
- ◆ With fine adjustment and dovetail
- ◆ V-block base

Application



278-080-01



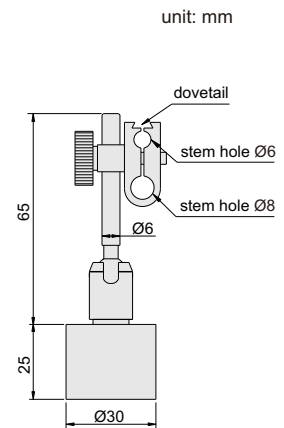
Code	Magnetic force	Base (LxWxH)	L1	L2	L3
278-050-01	50kgf	40x40x40	62	52	79
278-080-01	80kgf	60x50x55	100	81	67
278-100-01	100kgf	73x50x55	145	95	81

**288**

**MINI MAGNETIC STAND**

- ◆ For dial test indicators

Application



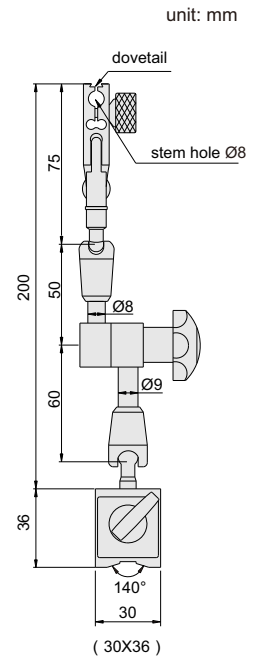
Code	Magnetic force	Stem hole
288-010-01	10kgf	Ø8mm, Ø6mm

286

MINI MAGNETIC STAND

- ◆ For dial test indicators
- ◆ Stem hole: Ø8mm
- ◆ With find adjustment and dovetail
- ◆ V-block base

Application



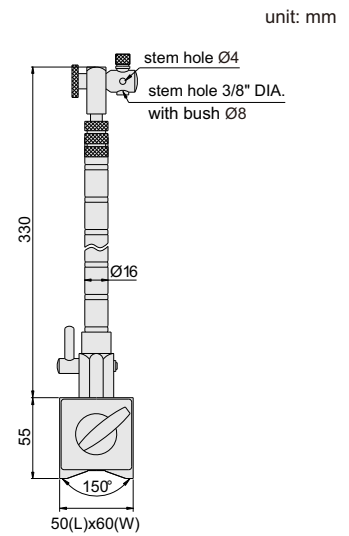
Code	Magnetic force	Stem hole
286-040-01	40kgf	Ø8mm

285

FLEX ARM MAGNETIC STAND

- ◆ For dial test indicators

Application



Code	Magnetic force	Applicable holding stem
285-080-01	80kgf	Ø8mm, Ø4mm, 3/8" DIA.

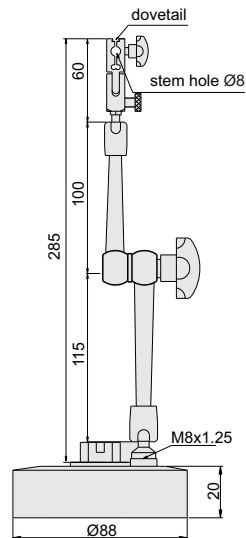


284

VACUUM STAND

- ◆ To be used on granite plates
- ◆ For digital/dial indicators and dial test indicators

Application



unit: mm

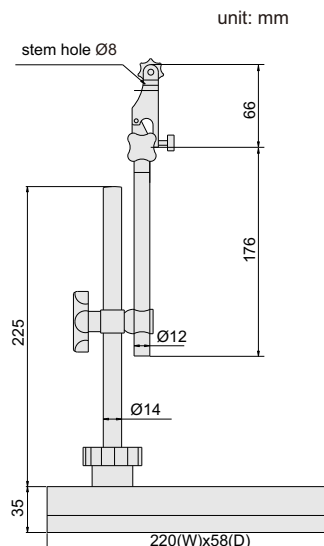
Code	Applicable holding stem	Remark
284-080-01	Ø8mm	with fine adjustment and dovetail groove

287

UNIVERSAL STAND

- ◆ For dial/digital indicators and dial test indicators

Application



unit: mm

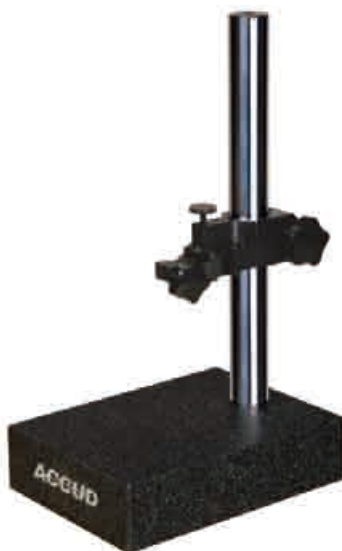
Code	Applicable holding stem	Remark
287-001-01	Ø8mm, Ø4mm	with fine adjustment

**SERIES 289**

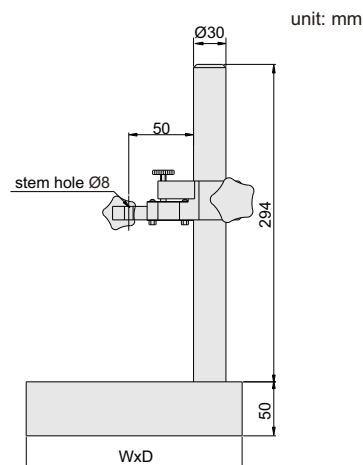
**INDICATOR STAND WITH GRANITE BASE**

- ◆ Holder vertical travel: 150mm
- ◆ Fine adjustment range: 2mm

Application



289-008-01



Code	Stem hole	Base flatness	Base size (WxD)
289-008-01	Ø8mm	3.2µm	200x150mm
289-012-01	Ø8mm	3.2µm	300x200mm

**SERIES 290**

**INDICATOR STAND WITH CERAMIC BASE**

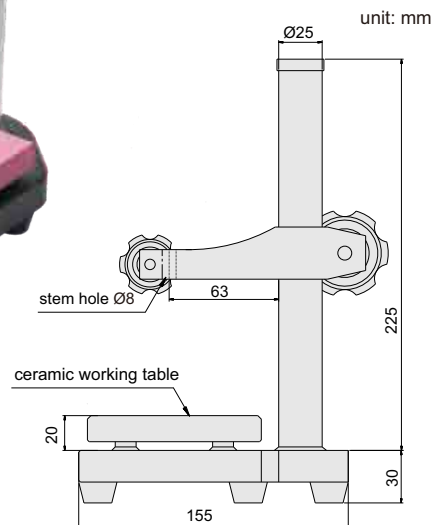
- ◆ Working table is made of ceramic
- ◆ Holder vertical travel: 150mm



290-080-01



290-100-01



Code	Stem hole	Ceramic flatness	Ceramic size
290-080-01	Ø8mm	1.5µm	Ø80mm

Code	Stem hole	Ceramic flatness	Ceramic size
290-100-01	Ø8mm	1.5µm	100x100mm





**SERIES 294**

**INDICATOR STAND**

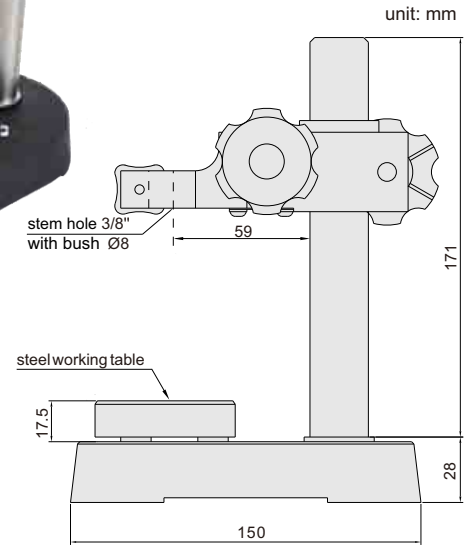
- ◆ Working table is made of steel
- ◆ Holder vertical travel: 100mm
- ◆ With fine adjustment:  $\pm 1.5$ mm
- ◆ Working table surface hardness is  $60 \pm 2$ HRC



294-080-12



294-060-11



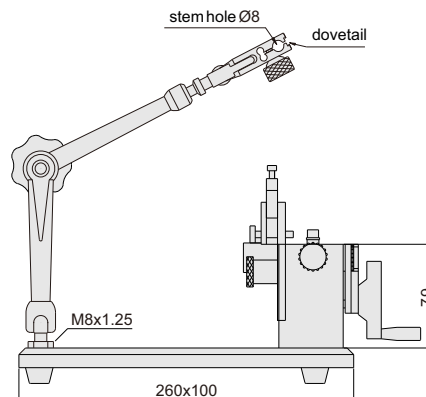
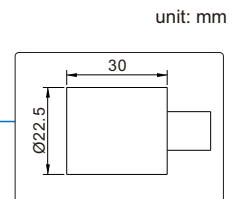
Code	Working table flatness	Working table size
294-060-11	1.5 $\mu$ m	$\varnothing 60$ mm

Code	Working table flatness	Working table size
294-080-12	1.5 $\mu$ m	80x80mm

**660**

**CONCENTRICITY GAUGE**

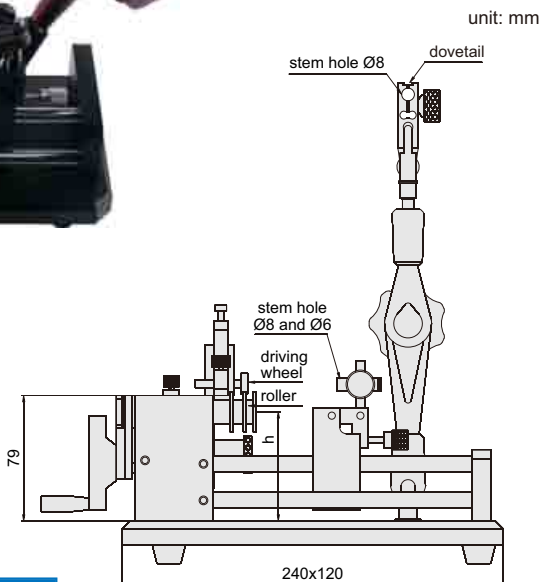
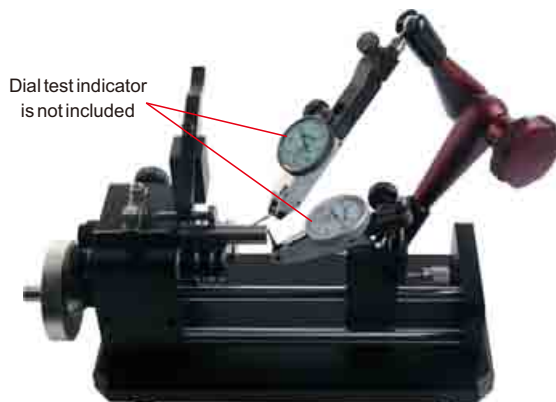
- ◆ Optional accessories: dial test indicator (code: 261-002-01 or 261-002-02) and Mini magnetic stand (code: 286-040-01)



Code	Applicable diameter	Accuracy
660-001-01	$\varnothing 3-35$ mm	0.002mm

661

**QUICK POSITIONING  
CONCENTRICITY GAUGE**

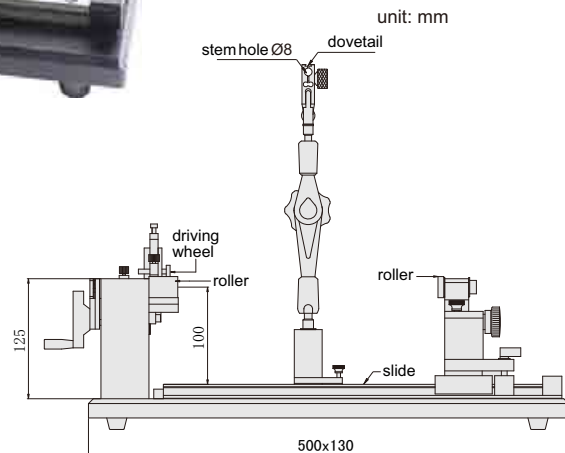


- ◆ Quick positioning, suitable for mass measurement
- ◆ Optional accessories: dial test indicator (code: 261-002-01 or 261-002-02)

Code	Diameter range	Workpiece length	Accuracy	Center height (h)
661-002-01	Ø1-35mm	15-100mm	2µm	70mm

662

**CONCENTRICITY GAUGE**



- ◆ Double guide
- ◆ Holding height can be adjusted

Code	Applicable diameter	Workpiece length
662-300-01	Ø3-40mm	300mm



**SERIES 410**

**DIGITAL INTERNAL CALIPER GAUGE**

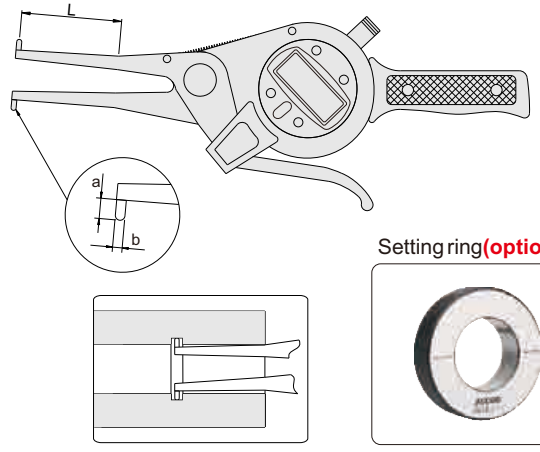
- ◆ Measure the internal dimension
- ◆ Resolution: 0.01mm/0.0005"



Code	Range	Accuracy	a	b	L
410-035-11	15-35mm/0.6-1.4"	±0.04mm	3	Ø3	50
410-035-11L	15-35mm/0.6-1.4"	±0.04mm	3	Ø3	200
410-055-11	35-55mm/1.4-2.2"	±0.04mm	6	Ø3	80
410-055-11L	35-55mm/1.4-2.2"	±0.04mm	6	Ø3	250
410-075-11	55-75mm/2.2-3"	±0.04mm	8	Ø3	90
410-075-11L	55-75mm/2.2-3"	±0.04mm	8	Ø3	250
410-095-11	75-95mm/3-3.8"	±0.04mm	8	Ø3	100
410-095-11L	75-95mm/3-3.8"	±0.04mm	8	Ø3	250
410-115-11	95-115mm/3.8-4.6"	±0.04mm	10	Ø3.2	120
410-115-11L	95-115mm/3.8-4.6"	±0.04mm	10	Ø3.2	250
410-135-11	115-135mm/4.6-5.4"	±0.04mm	10	Ø3.2	120
410-135-11L	115-135mm/4.6-5.4"	±0.04mm	10	Ø3.2	250

410-055-11

unit: mm



Setting ring (optional)

**SERIES 411**

**INTERNAL DIAL CALIPER GAUGE**

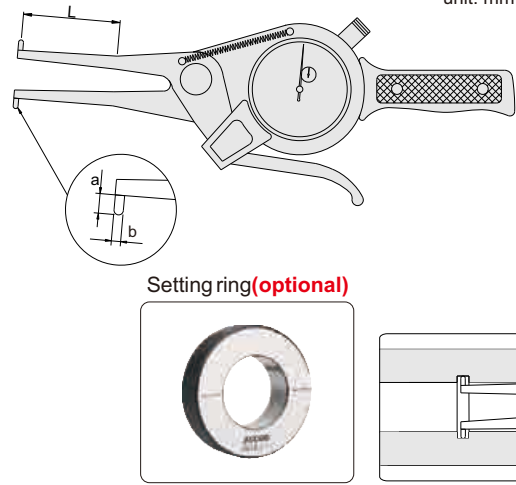
- ◆ Measure the internal dimension
- ◆ Graduation: 0.01mm



Code	Range	Accuracy	a	b	L
411-035-11	15-35mm	±0.04mm	3	Ø3	50
411-035-11L	15-35mm	±0.04mm	3	Ø3	200
411-055-11	35-55mm	±0.04mm	6	Ø3	80
411-055-11L	35-55mm	±0.04mm	6	Ø3	250
411-075-11	55-75mm	±0.04mm	8	Ø3	90
411-075-11L	55-75mm	±0.04mm	8	Ø3	250
411-095-11	75-95mm	±0.04mm	8	Ø3	100
411-115-11	95-115mm	±0.04mm	10	Ø3.2	120
411-135-11	115-135mm	±0.04mm	10	Ø3.2	120
411-155-11	135-155mm	±0.04mm	10	Ø3.4	190
411-175-11	155-175mm	±0.04mm	10	Ø3.4	190
411-195-11	175-195mm	±0.04mm	10	Ø3.4	190
411-215-11	195-215mm	±0.04mm	10	Ø3.4	190

411-035-11

unit: mm



Setting ring (optional)

**SERIES 420**

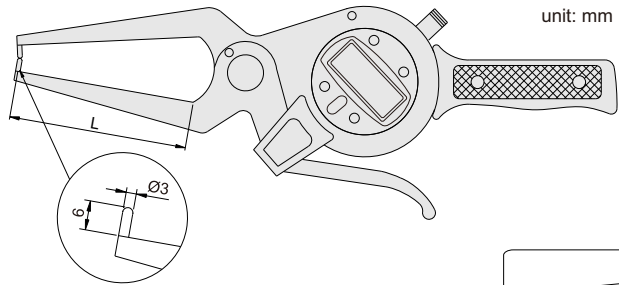
**DIGITAL EXTERNAL CALIPER GAUGE**



- ◆ Measure the external dimension
- ◆ Resolution: 0.01mm/0.0005"

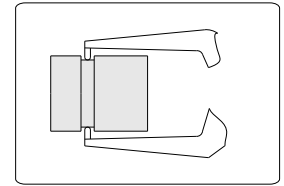


420-020-11



unit: mm

Code	Range	Accuracy	L
420-020-11	0-20mm/0-0.8"	±0.04mm	60
420-040-11	20-40mm/0.8-1.6"	±0.04mm	60
420-060-11	40-60mm/1.6-2.4"	±0.04mm	55
420-080-11	60-80mm/2.4-3.2"	±0.04mm	55
420-100-11	80-100mm/3.2-4"	±0.04mm	55



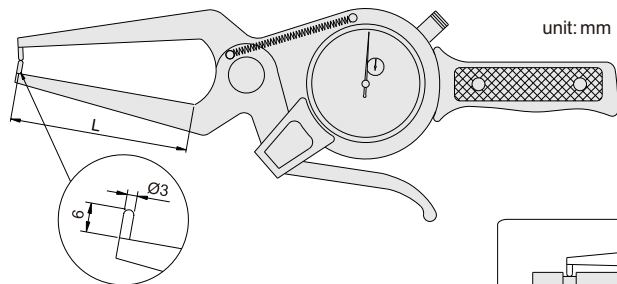
**SERIES 421**

**EXTERNAL DIAL CALIPER GAUGE**

- ◆ Measure the external dimension
- ◆ Graduation: 0.01mm

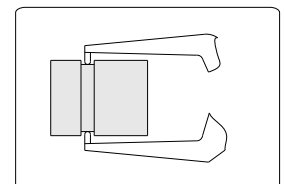


421-020-11



unit: mm

Code	Range	Accuracy	L
421-020-11	0-20mm	±0.04mm	60
421-040-11	20-40mm	±0.04mm	60
421-060-11	40-60mm	±0.04mm	55
421-080-11	60-80mm	±0.04mm	55
421-100-11	80-100mm	±0.04mm	55





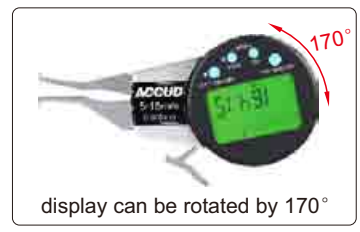
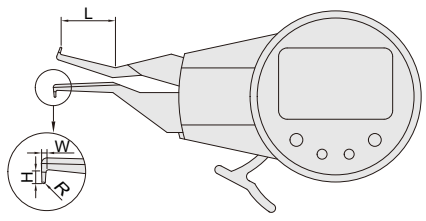
**SERIES 412** **DIGITAL INTERNAL CALIPER GAUGE**

- ◆ Resolution:0.005mm/0.0002"
- ◆ 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
- ◆ Automatic power off



412-015-11

unit: mm



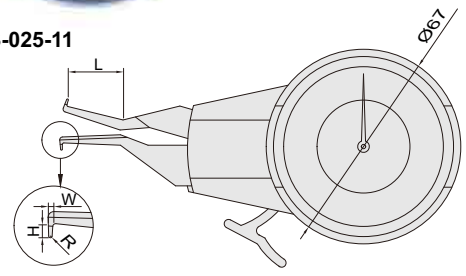
Code	Range	Repeatability	Accuracy	L	H	W	R
412-015-11	5-15mm	0.01mm	±0.03mm	20	2	1.5	R0.3
412-025-11	5-25mm	0.01mm	±0.03mm	35	1.5	1.0	R0.3
412-030-11	10-30mm	0.01mm	±0.03mm	55	5.5	2.5	R0.5
412-040-11	20-40mm	0.01mm	±0.03mm	80	6.0	3.0	R0.5
412-050-11	30-50mm	0.01mm	±0.03mm	80	8.0	3.0	R0.5
412-060-11	40-60mm	0.01mm	±0.03mm	80	8.0	3.0	R0.5

**SERIES 413** **INTERNAL DIAL CALIPER GAUGE**



413-025-11

unit: mm



Code	Range	Graduation	Accuracy	L	H	W	R
413-015-11	5-15mm	0.01mm	±0.03mm	20	2	1.5	R0.3
413-025-11	5-25mm	0.01mm	±0.03mm	35	1.5	1.0	R0.3
413-030-11	10-30mm	0.01mm	±0.03mm	55	5.5	2.5	R0.5
413-040-11	20-40mm	0.01mm	±0.03mm	80	6.0	3.0	R0.5
413-050-11	30-50mm	0.01mm	±0.03mm	80	8.0	3.0	R0.5
413-060-11	40-60mm	0.01mm	±0.03mm	80	8.0	3.0	R0.5

**SERIES 422**

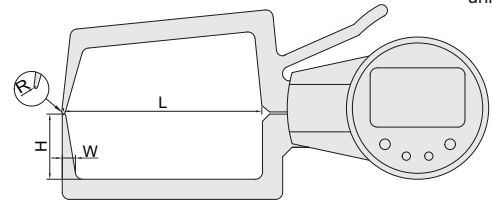
**DIGITAL EXTERNAL CALIPER GAUGE**



- ◆ Resolution:0.005mm/0.0002"
- ◆ 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
- ◆ Automatic power off



422-020-11



unit: mm

Code	Range	Repeatability	Accuracy	L	H	W	R
422-020-11	0-20mm	0.01mm	±0.03mm	80	25	6.5	R0.5
422-030-11	10-30mm	0.01mm	±0.03mm	80	25	6.5	R0.5
422-040-11	20-40mm	0.01mm	±0.03mm	80	25	6.5	R0.5
422-050-11	30-50mm	0.01mm	±0.03mm	80	25	6.5	R0.5
422-060-11	40-60mm	0.01mm	±0.03mm	80	25	6.5	R0.5



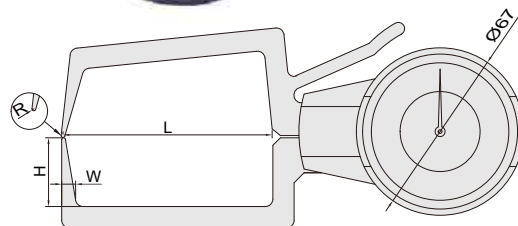
display can be rotated by 170°

**SERIES 423**

**EXTERNAL DIAL CALIPER GAUGE**



423-020-11



unit: mm

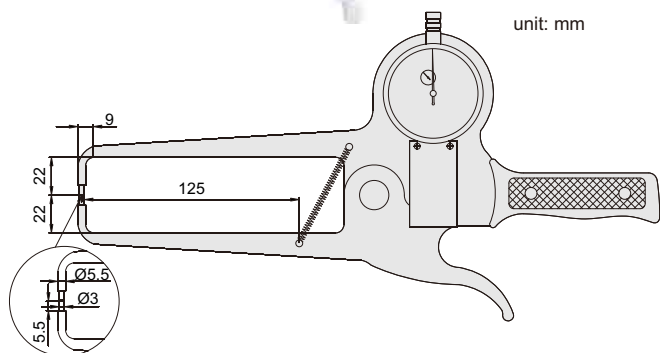
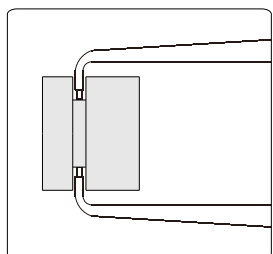
Code	Range	Graduation	Accuracy	L	H	W	R
423-020-11	0-20mm	0.01mm	±0.03mm	80	25	6.5	R0.5
423-030-11	10-30mm	0.01mm	±0.03mm	80	25	6.5	R0.5
423-040-11	20-40mm	0.01mm	±0.03mm	80	25	6.5	R0.5
423-050-11	30-50mm	0.01mm	±0.03mm	80	25	6.5	R0.5
423-060-11	40-60mm	0.01mm	±0.03mm	80	25	6.5	R0.5



428

EXTERNAL DIAL CALIPER GAUGE

◆ Measure the external dimension



Code	Range	Graduation	Accuracy
428-050-05	0-50mm	0.05mm	±0.1mm

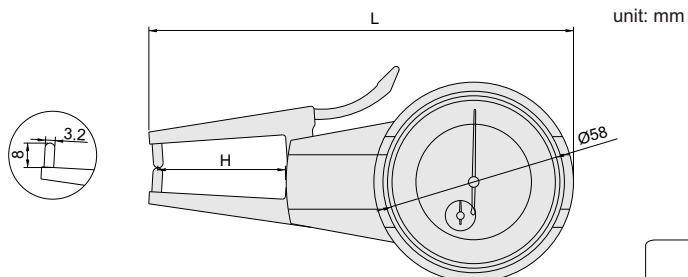
SERIES 425

EXTERNAL DIAL CALIPER GAUGE

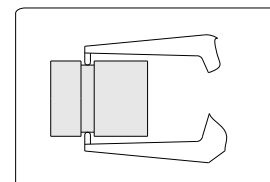
◆ Measure the external dimension



425-010-11



Code	Range	Graduation	Accuracy	L	H
425-010-11	0-10mm	0.01mm	±0.03mm	140	41
425-020-11	0-20mm	0.01mm	±0.03mm	192	92



THICKNESS

**SERIES 419**

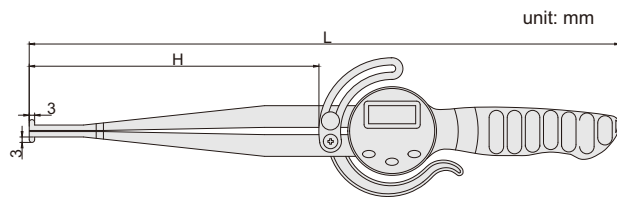
**DIGITAL INTERNAL CALIPER GAUGE**



- ◆ For measuring the internal dimension
- ◆ Buttons: on/off, zero, data preset, mm/inch, data hold
- ◆ With fraction reading
- ◆ Automatic power off

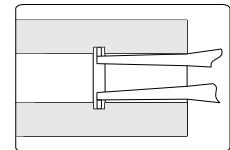


419-008-11



unit: mm

Code	Range	Resolution	Accuracy	L	H
419-006-11	12.7-165mm/0.5-6.5"	0.1mm/0.01"/1/64"	0.2mm/0.01"	252	85
419-008-11	12.7-216mm/0.5-8.5"	0.1mm/0.01"/1/64"	0.3mm/0.02"	327	160



**SERIES 429**

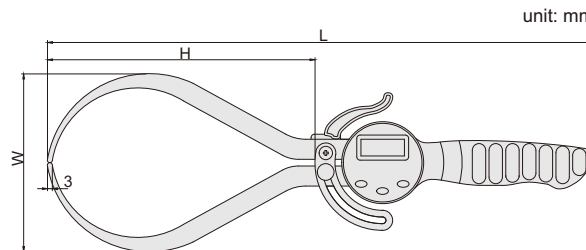
**DIGITAL EXTERNAL CALIPER GAUGE**



- ◆ For measuring the thickness
- ◆ Buttons: on/off, zero, data preset, mm/inch, data hold
- ◆ With fraction reading
- ◆ Automatic power off

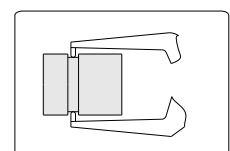


429-008-11



unit: mm

Code	Range	Resolution	Accuracy	L	H	W
429-006-11	0-150mm/0-6"	0.1mm/0.01"/1/64"	0.2mm/0.01"	273	105	75
429-008-11	0-200mm/0-8"	0.1mm/0.01"/1/64"	0.3mm/0.02"	328	160	106





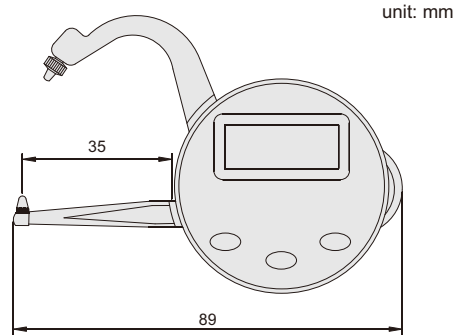
457

DIGITAL THICKNESS GAUGE



AGGUD

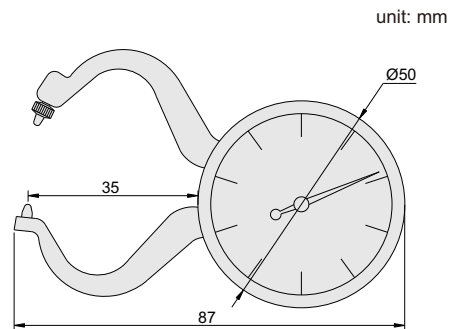
- ◆ Buttons: on/off, zero, mm/inch, data hold
- ◆ Automatic power off



Code	Range	Resolution	Accuracy	Repeatability
457-001-01	0-25.4mm/0-1"	0.01mm, 0.001"	0.05mm	0.02mm

451

THICKNESS GAUGE



Code	Range	Graduation	Accuracy
451-010-11	0-10mm	0.05mm	±0.1mm

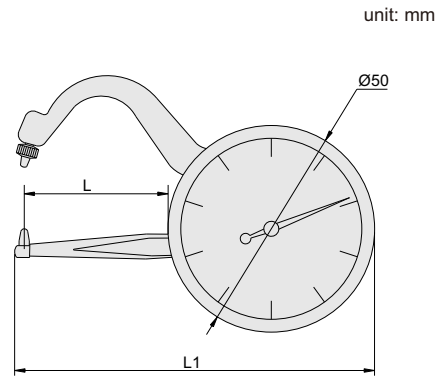
THICKNESS

**SERIES 452**

**THICKNESS GAUGE**



452-010-11

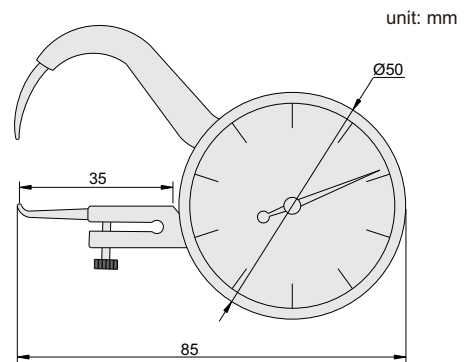


Code	Range	Graduation	Accuracy	L	L1
452-010-11	0-10mm	0.05mm	±0.1mm	35	85
452-010-12	0-10mm	0.05mm	±0.1mm	60	110

**453**

**THICKNESS GAUGE WITH POINTED TIPS**

- ◆ Pointed tips can be used for small grooves and recesses



Code	Range	Graduation	Accuracy
453-010-11	0-10mm	0.05mm	±0.1mm



**SERIES 431**

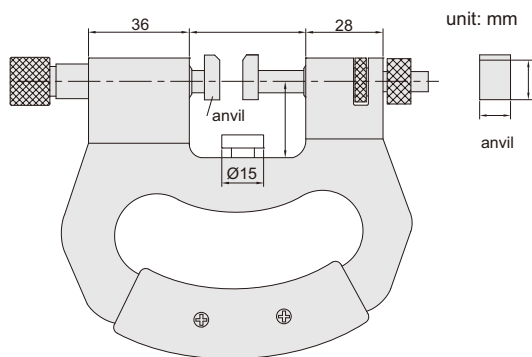
**DIAL SNAP GAUGE**



dial indicator is not included

431-025-11

- ◆ For quick Go/No-Go judgment of diameter of cylinders and shafts
- ◆ Anvil retracting stroke: 3mm
- ◆ Measuring force: 6-9N
- ◆ Carbide measuring faces
- ◆ Front edges of anvils are chamfered for easy workpiece insertion
- ◆ Optional indicators:
  - dial indicator, range 10mm, graduation 0.01mm (code 222-010-11)
  - digital indicator, range 12.7mm/0.5", resolution 0.001mm/0.00005" (code 211-010-03)
  - digital indicator, range 12.7mm/0.5", resolution 0.01mm/0.0005" (code 211-010-13)



**Optional indicators (optional)**

Code	Range	a	h
431-025-11	0-25mm	42	20
431-050-11	25-50mm	69	32.5
431-075-11	50-75mm	94	45
431-100-11	75-100mm	119	57.5
431-125-11	100-125mm	144	70
431-150-11	125-150mm	169	82.5
431-175-11	150-175mm	194	95
431-200-11	175-200mm	219	107
431-225-11	200-225mm	244	120
431-250-11	225-250mm	269	132
431-275-11	250-275mm	294	145
431-300-11	275-300mm	319	157



## SERIES 442

## HIGH PRECISION DIGITAL THICKNESS GAUGE



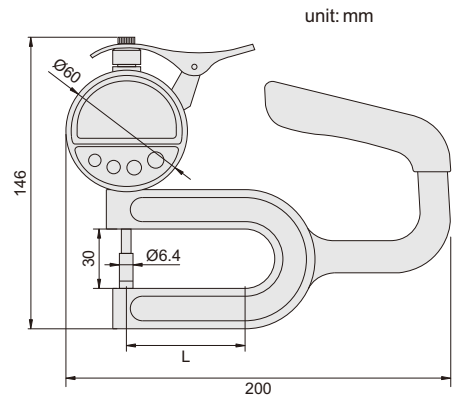
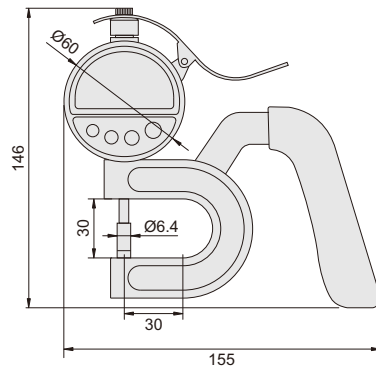
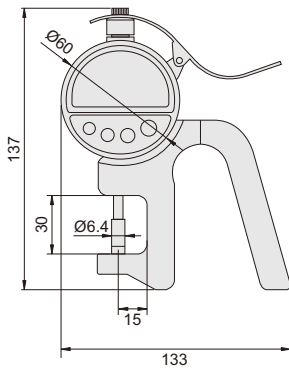
442-105-15



442-101-30



442-101-60



unit: mm

- ◆ Absolute encoder, the original data remains after power off
- ◆ With recharge cable (only 442-105-15 recharge and data output shared)
- ◆ Button: data output, on/off, zero, inch/mm conversion, measuring direction set, data preset absolute/incremental measurement, max./min./rangemeasurement, tolerance set, hold
- ◆ Measuring force: 0.5-1N
- ◆ With analog reading
- ◆ Power: rechargeable battery, for 12 hours continuous working (full charge)

Cable (included)



Code	Range	Resolution	Accuracy	Repeatability	L
442-105-15	0-10mm/0-0.4"	0.0005mm/0.00002"	±0.0015mm	0.0005mm	-
442-101-15	0-10mm/0-0.4"	0.001mm/0.00005"	±0.002mm	0.001mm	-
442-101-30	0-10mm/0-0.4"	0.001mm/0.00005"	±0.002mm	0.001mm	-
442-101-60	0-10mm/0-0.4"	0.001mm/0.00005"	±0.003mm	0.001mm	60
442-101-00	0-10mm/0-0.4"	0.001mm/0.00005"	±0.004mm	0.001mm	100

## SERIES 441

## THICKNESS GAUGE



- ◆ Ceramic anvil
- ◆ Buttons: on/off, zero, mm/inch
- ◆ Automatic power off
- ◆ Data output(cable code:200-03 or 200-04)



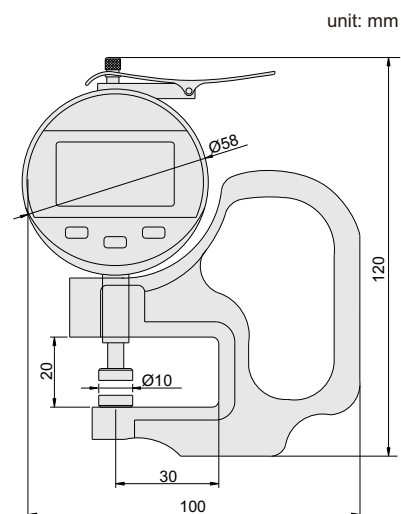
441-010-11

Resolution 0.001mm/0.00005"

Code	Range	Accuracy
441-010-01	0-10mm/0-0.4"	±0.005mm

Resolution 0.01mm/0.0005"

Code	Range	Accuracy
441-010-11	0-10mm/0-0.4"	±0.02mm

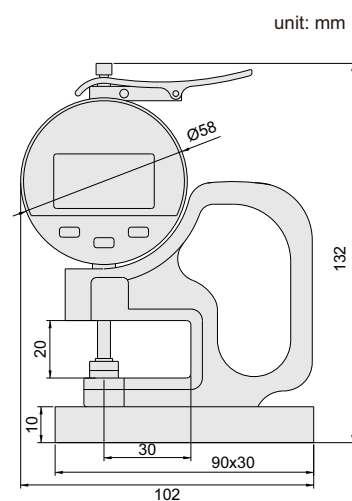


## 441

## THICKNESS GAUGE



- ◆ Ceramic spindle tip and anvil
- ◆ Buttons: on/off, zero, mm/inch, ABS
- ◆ Automatic power off
- ◆ Data output(cable code:200-03 or 200-04)



Code	Range	Resolution	Accuracy
441-010-11B	0-10mm/0-0.4"	0.01mm/0.0005"	±0.02mm



443

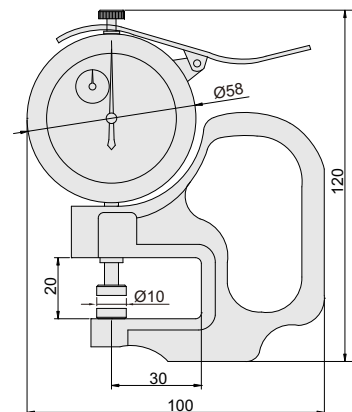
THICKNESS GAUGE



◆ Ceramic spindle tip and anvil



unit: mm



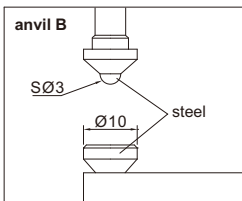
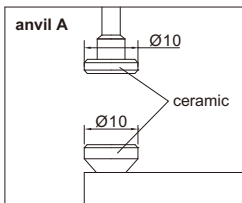
Code	Range	Graduation	Accuracy
443-001-01	0-1mm	0.001mm	±0.005mm

SERIES 443

THICKNESS GAUGE

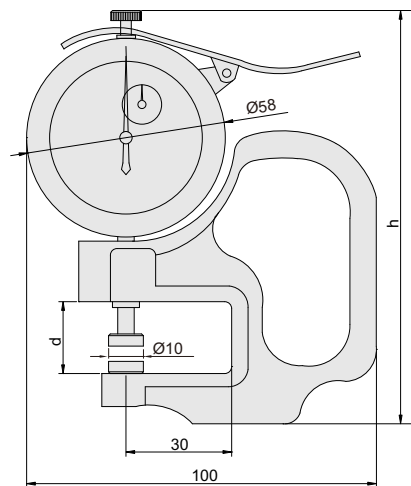


◆ Graduation: 0.01mm



443-010-11

unit: mm



Code	Range	Accuracy	Anvil	d	h
443-010-11	0-10mm	±0.02mm	A	20	120
443-010-12	0-10mm	±0.02mm	B	20	120
443-030-11	0-30mm	±0.02mm	A	38	140

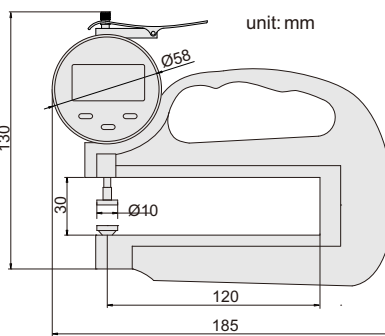


460

DIGITAL THICKNESS GAUGE



- ◆ Ceramic spindle tip and anvil
- ◆ Buttons: on/off, zero, mm/inch, ABS
- ◆ Automatic power off
- ◆ Data output(cable code:200-03 or 200-04)



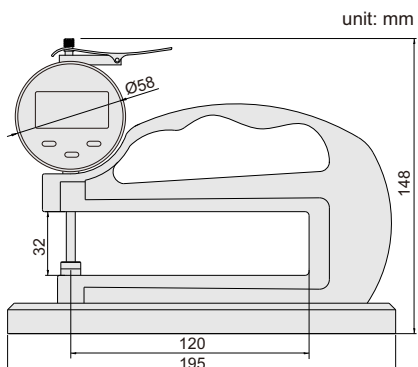
Code	Range	Resolution	Accuracy
460-010-11	0-10mm/0-0.4"	0.01mm/0.0005"	±0.02mm

460

DIGITAL THICKNESS GAUGE



- ◆ Ceramic spindle tip and anvil
- ◆ Buttons: on/off, zero, mm/inch, ABS
- ◆ Automatic power off
- ◆ Data output(cable code:200-03 or 200-04)
- ◆ With metal base



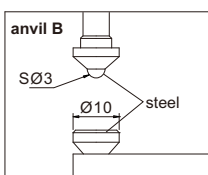
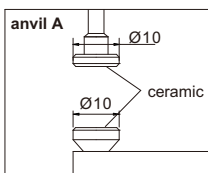
Code	Range	Resolution	Accuracy
460-010-11B	0-10mm/0-0.4"	0.01mm/0.0005"	±0.02mm

## SERIES 444

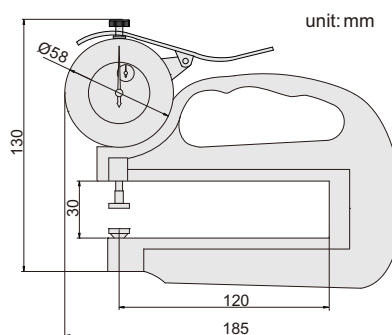
## THICKNESS GAUGE



- ◆ Large throat depth, for large workpiece measurement
- ◆ Graduation: 0.01mm



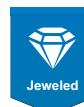
444-010-11



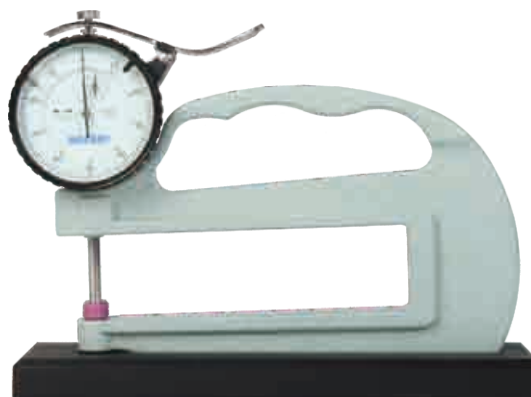
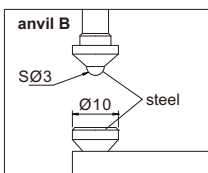
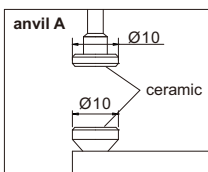
Code	Range	Accuracy	Anvil
444-010-11	0-10mm	±0.02mm	A
444-020-11	0-20mm	±0.03mm	A
444-010-12	0-10mm	±0.02mm	B
444-020-12	0-20mm	±0.03mm	B

## SERIES 444

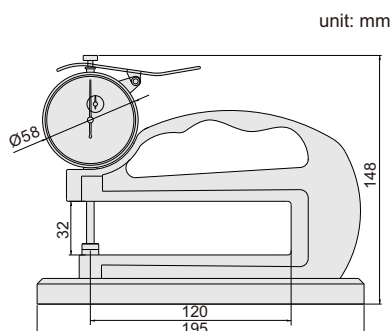
## THICKNESS GAUGE



- ◆ Large throat depth, for large workpiece measurement
- ◆ Graduation: 0.01mm



444-010-11B



Code	Range	Accuracy	Anvil
444-010-11B	0-10mm	±0.02mm	A
444-020-11B	0-20mm	±0.03mm	A
444-010-12B	0-10mm	±0.02mm	B
444-020-12B	0-20mm	±0.03mm	B



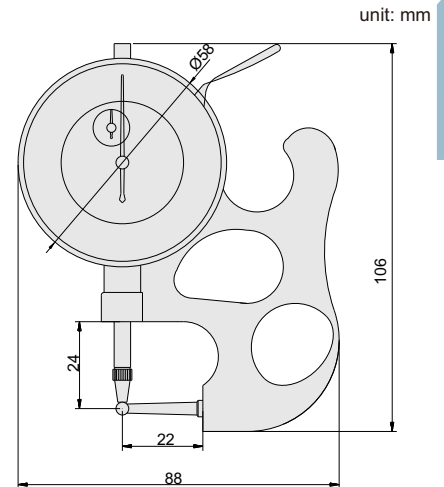
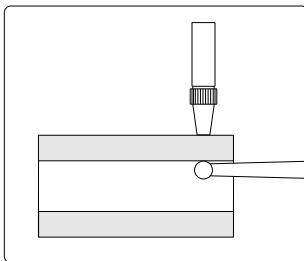
448

**THICKNESS GAUGE**



ACCUD

- ◆ Measure the wall thickness of tube



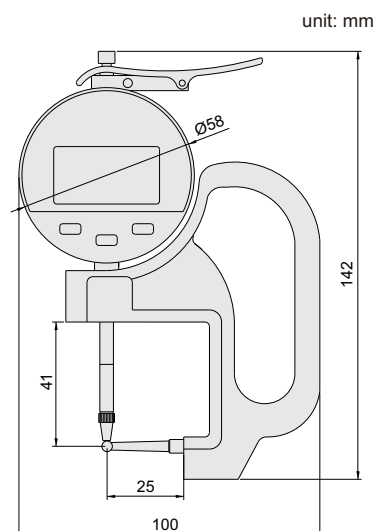
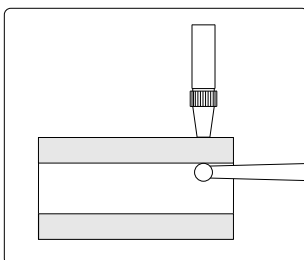
Code	Range	Accuracy	Graduation
448-010-11	0-10mm	±0.02mm	0.01mm

461

**DIGITAL TUBE THICKNESS GAUGE**



- ◆ Buttons: on/off, zero, mm/inch, ABS
- ◆ Automatic power off
- ◆ Data output(cable code:200-03 or 200-04)



Code	Range	Resolution	Accuracy
461-010-11	0-10mm/0-0.4"	0.01mm/0.0005"	±0.02mm

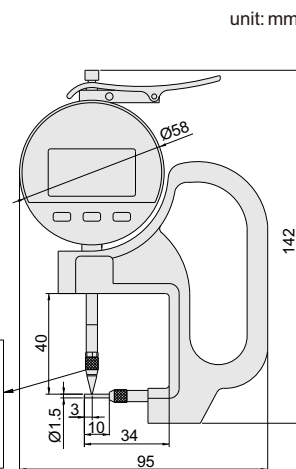
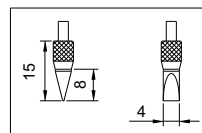
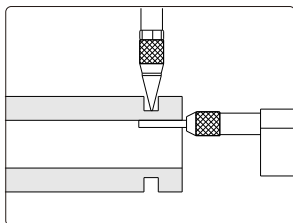
THICKNESS

462

DIGITAL TUBE THICKNESS GAUGE



- ◆ Buttons: on/off, zero, mm/inch, ABS
- ◆ Automatic power off
- ◆ Data output(cable code:200-03 or 200-04)



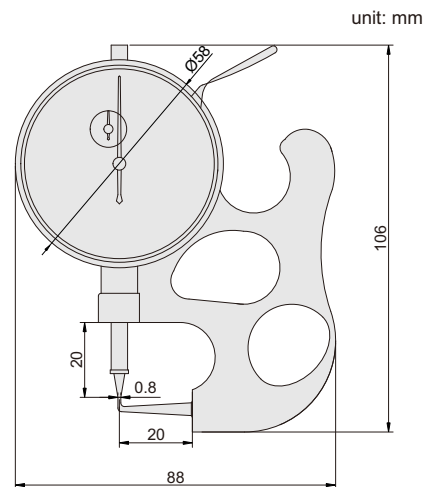
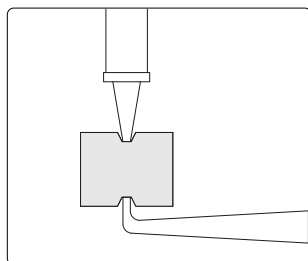
unit: mm

Code	Range	Resolution	Accuracy
462-010-11	0-10mm/0-0.4"	0.01mm/0.0005"	±0.02mm

464

POINT THICKNESS GAUGE

- ◆ Pointed tips can be used for small grooves and recesses



unit: mm

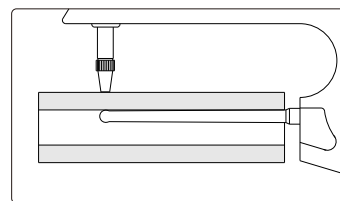
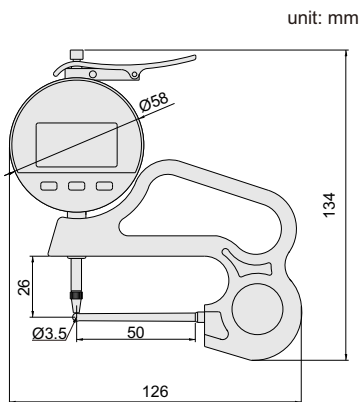
Code	Range	Accuracy	Graduation
464-010-11	0-10mm	±0.02mm	0.01mm

463

DIGITAL TUBE THICKNESS GAUGE



- ◆ Buttons: on/off, zero, mm/inch, ABS
- ◆ Automatic power off
- ◆ Data output(cable code:200-03 or 200-04)

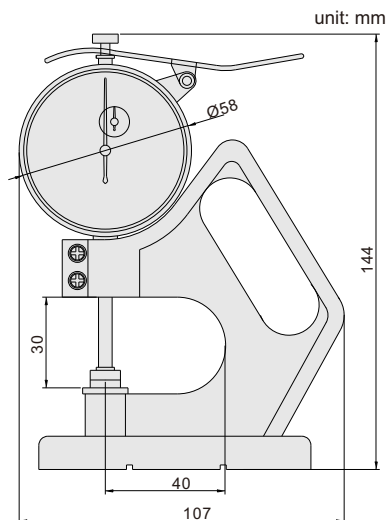


Code	Range	Resolution	Accuracy
463-010-11	0-10mm/0-0.4"	0.01mm/0.0005"	±0.02mm

449

THICKNESS GAUGE

- ◆ Graduation: 0.01mm
- ◆ Ceramic anvil, diameter: Ø10mm



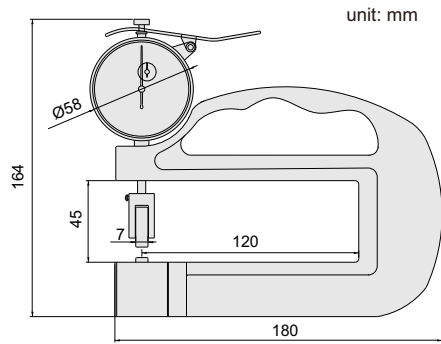
Code	Range	Accuracy
449-010-11	0-10mm	±0.02mm

445

THICKNESS GAUGE WITH ROLLING WHEEL



- ◆ For continuous measurement



Code	Range	Graduation	Accuracy
445-010-11	0-10mm	0.01mm	±0.02mm

SERIES 465

DIGITAL THICKNESS GAUGE WITH CONSTANT MEASURING FORCE

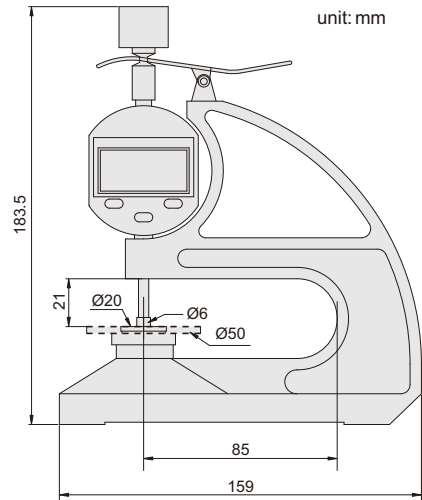
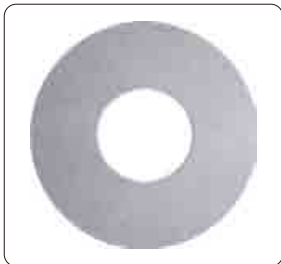


- ◆ Buttons: on/off, zero, unit (mm/in/fraction)
- ◆ Automatic power off
- ◆ With 50g standard weight block



465-010-01

Aluminum alloy stage

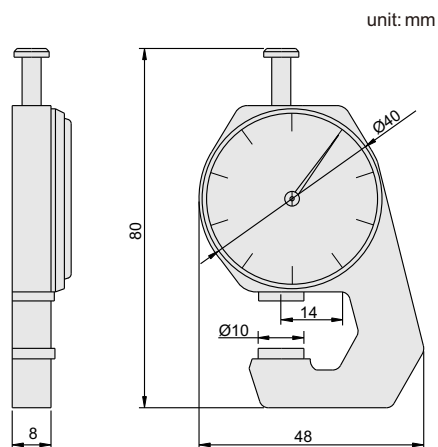


Code	Range	Resolution	Accuracy
465-010-01	0-12.7mm/0.5"	0.001mm/0.00005"	±0.005mm
465-010-11	0-12.7mm/0.5"	0.01mm/0.0005"	±0.02mm



446

THICKNESS GAUGE

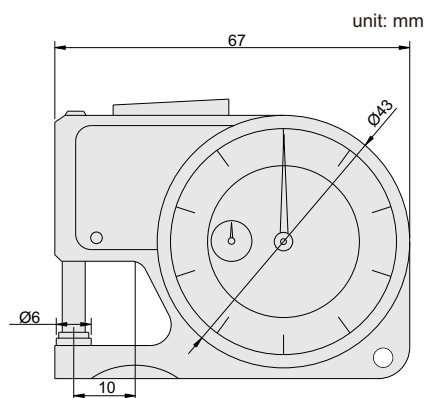


Code	Range	Graduation	Accuracy
446-010-11	0-10mm	0.1mm	±0.05mm

447

THICKNESS GAUGE

◆ Stainless steel spindle tip and anvil



Code	Range	Graduation	Accuracy
447-010-11	0-10mm	0.01mm	±0.02mm

450

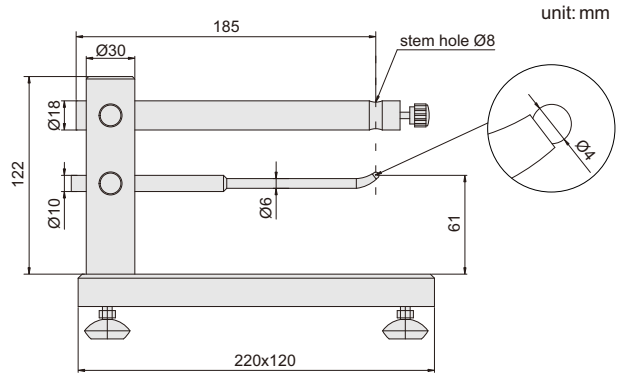
PET BOTTLE WALL THICKNESS GAUGE

- ◆ Optional accessories: digital indicator (code: 212-010-13)

Digital indicator is not included



Application



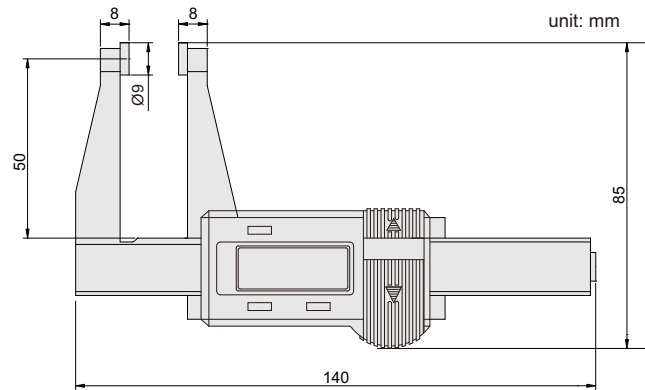
Code	Measuring thickness	Accuracy
450-010-11	12.7mm	±0.02mm

433

DIGITAL SNAP GAUGE



- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/inch
- ◆ Automatic power on/off
- ◆ Data output
- ◆ Made of stainless steel



Code	Range	Accuracy
433-002-11	0-50mm/0-2"	±0.03mm

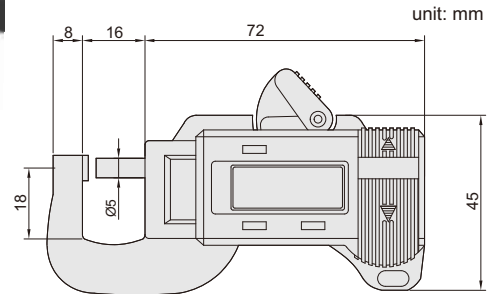


432

DIGITAL SNAP GAUGE



- Buttons: on/off, zero, mm/inch



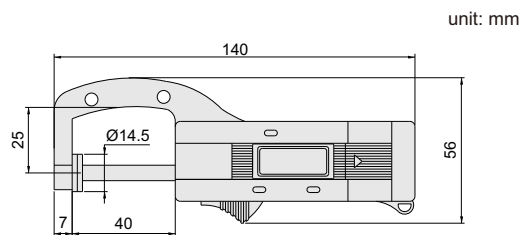
Code	Range	Resolution	Accuracy
432-012-11	0-12.7mm/0-0.5"	0.01mm/0.0005"	±0.03mm

434

DIGITAL SNAP GAUGE



- Buttons: on/off, zero, mm/inch
- Automatic power on/off



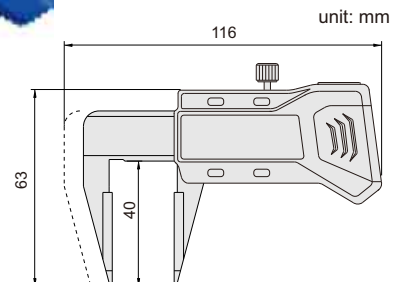
Code	Range	Resolution	Accuracy
434-001-11	0-25mm/0-1"	0.01mm/0.0005"	±0.03mm

435

DIGITAL SNAP GAUGE



- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/in, INC
- Automatic power on/off
- Data output(cable code: 100-03 or 100-04)
- Made of stainless steel



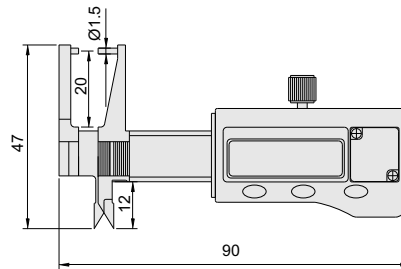
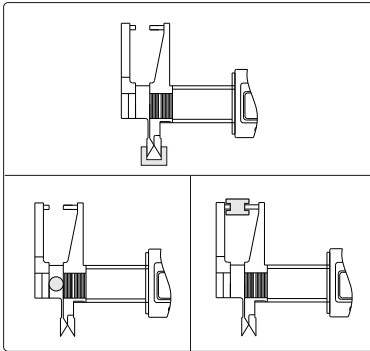
Code	Range	Accuracy
435-001-11	0-25mm/0-1"	±0.03mm

436

DIGITAL 3-PURPOSE SNAP GAUGE



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



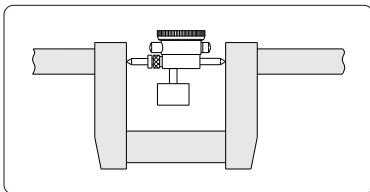
unit: mm

Code	Range	Accuracy
436-001-11	0-25mm/0-1"	±0.03mm

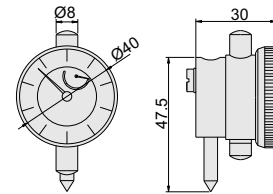
SERIES 298

CRANKSHAFT TESTER

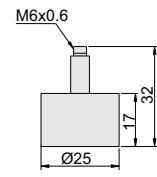
- ◆ To test crankshaft deflection
- ◆ The balance block is mounted on the back of dial indicator to keep the dial indicator facing up



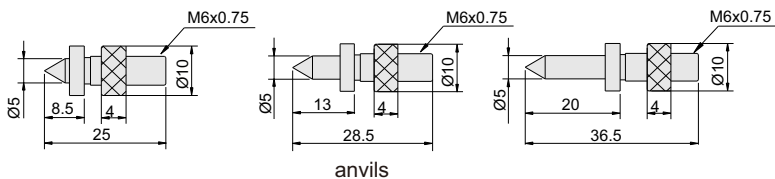
298-012-11



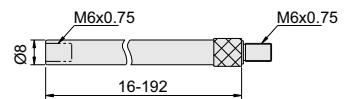
dial indicator



balance block



anvils



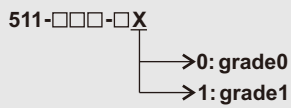
extension rods

Code	Range	Dial indicator range	Graduation	Accuracy	Extension rods
298-012-11	60-300mm	3mm	0.01mm	±0.016mm	16mm, 32mm, 64mm, 128mm
298-020-11	60-500mm	3mm	0.01mm	±0.016mm	16mm, 32mm, 64mm, 96mm, 128mm, 192mm



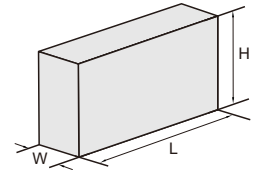


- ◆ Made of ceramic
- ◆ Meet ISO 3650
- ◆ With manufacturer inspection certificate
- ◆ Code explanation



Size:

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



Example:

Code	Quantity	Grade
511-112-00	112	0
511-112-01	112	1

511-087-00

Code	Blocks per set	Block allocation		
		Size(mm)	Step(mm)	Quantity
511-122-0X	122	1.0005		1
		1.001-1.009	0.001	9
		1.01-1.49	0.01	49
		1.6-1.9	0.1	4
		0.5-24.5	0.5	49
		30-100	10	8
		25-75		2
511-112-0X	112	1.0005		1
		1.001-1.009	0.001	9
		1.01-1.49	0.01	49
		0.5-24.5	0.5	49
		25-100	25	4
511-103-0X	103	1.005		1
		1.01-1.49	0.01	49
		0.5-24.5	0.5	49
		25-100	25	4
511-088-0X	88	1.0005		1
		1.001-1.009	0.001	9
		1.01-1.49	0.01	49
		0.5-9.5	0.5	19
		10-100	10	10
511-087-0X	87	1.001-1.009	0.001	9
		1.01-1.49	0.01	49
		0.5-9.5	0.5	19
		10-100	10	10
		1.005		1
511-076-0X	76	1.005		1
		1.01-1.49	0.01	49
		0.5-9.5	0.5	19
		10-40	10	4
		50-100	25	3

Code	Blocks per set	Block allocation		
		Size(mm)	Step(mm)	Quantity
511-056-0X	56	0.5		1
		1.001-1.009	0.001	9
		1.01-1.09	0.01	9
		1.1-1.9	0.1	9
		1-24	1	24
		25-100	25	4
511-047-0X	47	1.005		1
		1.01-1.09	0.01	9
		1.1-1.9	0.1	9
		1-24	1	24
		25-100	25	4
511-047-1X	47	1.005		1
		1.01-1.19	0.01	19
		1.2-1.9	0.1	8
		1-9	1	9
		10-100	10	10
511-046-0X	46	1.001-1.009	0.001	9
		1.01-1.09	0.01	9
		1.1-1.9	0.1	9
		1-9	1	9
		10-100	10	10
511-034-0X	34	1.0005		1
		1.001-1.009	0.001	9
		1.01-1.09	0.01	9
		1.1-1.9	0.1	9
		1-5	1	5
		10		1
511-032-0X	32	1.005		1
		1.01-1.09		9
		1.1-1.9	0.01	9
		1-9	0.1	9
		10-30	1	3
		60	10	1

**SERIES 512**

**CARBIDE GAUGE BLOCK SET**



- ◆ Made of carbide
- ◆ Meet ISO 3650
- ◆ With manufacturer inspection certificate
- ◆ Code explanation

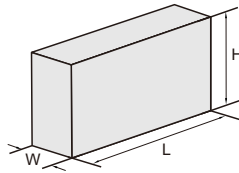
512-□□□-□XT  
 >0: grade0  
 >1: grade1

Example:

Code	Grade	Quantity
512-112-00T	0	112
512-112-01T	1	112

Size:

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



512-087-01T

Plastic box



Code	Blocks per set	Block allocation		
		Size(mm)	Step(mm)	Quantity
512-122-0XT	122	1.0005		1
		1.001-1.009	0.001	9
		1.01-1.49	0.01	49
		1.6-1.9	0.1	4
		0.5-24.5	0.5	49
		30-100	10	8
512-112-0XT	112	25-75	50	2
		1.0005		1
		1.001-1.009	0.001	9
		1.01-1.49	0.01	49
512-103-0XT	103	0.5-24.5	0.5	49
		25-100	25	4
		1.005		1
		1.01-1.49	0.01	49
512-087-0XT	87	0.5-24.5	0.5	49
		25-100	25	4
		1.001-1.009	0.001	9
		1.01-1.49	0.01	49
512-083-0XT	83	0.5-9.5	0.5	19
		10-100	10	10
		0.5		1
		1		1
		1.005		1
		1.01-1.49	0.01	49
		1.5-1.9	0.1	5
		2-9.5	0.5	16
512-076-0XT	76	10-100	10	10
		1.005		1
		1.01-1.49	0.01	49
		0.5-9.5	0.5	19
		10-40	10	4

Code	Blocks per set	Block allocation		
		Size(mm)	Step(mm)	Quantity
512-047-0XT	47	1.005		1
		1.01-1.09	0.01	9
		1.1-1.9	0.1	9
		1-24	1	24
512-047-1XT	47	25-100	25	4
		1.005		1
		1.01-1.19	0.01	19
		1.2-1.9	0.1	8
512-046-0XT	46	1-9	1	9
		10-100	10	10
		1.001-1.009	0.001	9
512-034-0XT	34	1.01-1.09	0.01	9
		1.1-1.9	0.1	9
		1-5	1	5
		10		1
		1.005		1
512-032-0XT	32	1.01-1.09	0.01	9
		1.1-1.9	0.1	9
		1-9	1	9
		10-30	10	3
		50		1

# SERIES 512

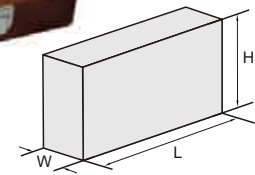
# STEEL GAUGE BLOCK SET



- ◆ Made of steel
- ◆ Meet ISO 3650
- ◆ With manufacturer inspection certificate
- ◆ Code explanation

512-□□□-□X

- 0: grade0
- 1: grade1
- 2: grade2



Example:

Code	Grade	Quantity
512-112-00	0	112
512-112-01	1	112
512-112-02	2	112

Plastic box



512-087-02

Size:

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

Code	Blocks per set	Block allocation		
		Size(mm)	Step (mm)	Quantity
512-122-0X	122	1.0005		1
		1.001-1.009	0.001	9
		1.01-1.49	0.01	49
		1.6-1.9	0.1	4
		0.5-24.5	0.5	49
		30-100	10	8
		25-75	50	2
512-112-0X	112	1.0005		1
		1.001-1.009	0.001	9
		1.01-1.49	0.01	49
		0.5-24.5	0.5	49
512-103-0X	103	1.005		1
		1.01-1.49	0.01	49
		0.5-24.5	0.5	49
		25-100	25	4
512-088-0X	88	1.0005		1
		1.001-1.009	0.001	9
		1.01-1.49	0.01	49
		0.5-9.5	0.5	19
512-087-0X	87	1.0005		1
		1.001-1.009	0.001	9
		1.01-1.49	0.01	49
		0.5-9.5	0.5	19

Code	Blocks per set	Block allocation		
		Size(mm)	Step (mm)	Quantity
512-083-0X	83	0.5		1
		1		1
		1.005		1
		1.01-1.49	0.01	49
		1.5-1.9	0.1	5
		2-9.5	0.5	16
		10-100	10	10
512-076-0X	76	1.005		1
		1.01-1.49	0.01	49
		0.5-9.5	0.5	19
		10-40	10	4
512-056-0X	56	1.005		1
		1.01-1.49	0.01	49
		1.1-1.9	0.1	9
		1-24	1	24
512-047-0X	47	1.005		1
		1.01-1.09	0.01	9
		1.1-1.9	0.1	9
		1-24	1	24
512-047-1X	47	1.005		1
		1.01-1.19	0.01	19
		1.2-1.9	0.1	8
		1-9	1	9

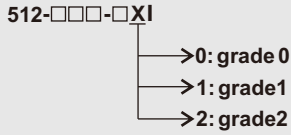
Code	Blocks per set	Block allocation		
		Size(mm)	Step (mm)	Quantity
512-046-0X	46	1.001-1.009	0.001	9
		1.01-1.09	0.01	9
		1.1-1.9	0.1	9
		1-9	1	9
		10-100	10	10
512-038-0X	38	1.005		1
		1.01-1.09	0.01	9
		1.1-1.9	0.1	9
		1-9	1	9
512-034-0X	34	1.0005		1
		1.001-1.009	0.001	9
		1.01-1.09	0.01	9
		1.1-1.9	0.1	9
		1-5	1	5
512-032-0X	32	10		1
		1.005		1
		1.01-1.09	0.01	9
		1.1-1.9	0.1	9
		1-9	1	9
512-032-1X	32	10-30	10	3
		50		1
		1.005		1
		1.01-1.09	0.01	9
512-008-0X	8	1.1-1.9	0.1	9
		1-9	1	9
		10-30	10	3
		60		1

**SERIES 512**

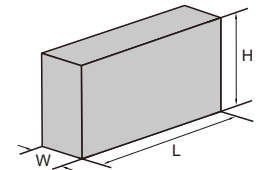
**STEEL GAUGE BLOCK SET**



- ◆ Made of alloy steel
- ◆ Meet ASME B89.1.9
- ◆ With manufacturer inspection certificate
- ◆ Code explanation



512-081-001



Size:

Size(L)	W	H
0.02≤L≤0.394"	0.354"	1.181"
L > 0.394"	0.354"	1.378"

Plastic box



Example:

Code	Quantity	Grade
512-036-001	36	0
512-036-011	36	1
512-036-021	36	2

Code	Blocks per set	Block allocation		
		Size(inch)	Step(inch)	Quantity
512-008-0X1	8	5-8	1	4
		10-12	2	2
		16		1
		20		1
512-081-0X1	81	0.1001-0.1009	0.0001	9
		0.101-0.149	0.001	49
		0.05-0.95	0.05	19
		1-4	1	4

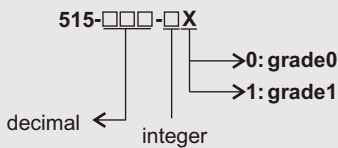
Code	Blocks per set	Block allocation		
		Size(inch)	Step(inch)	Quantity
512-036-0X1	36	0.05		1
		0.1001-0.1009	0.0001	9
		0.101-0.109	0.001	9
		0.11-0.19	0.01	9
		0.1-0.5	0.1	5
		1		1
		2		1
		4		1

**SERIES 515**

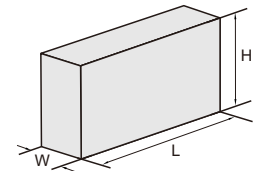
**CERAMIC INDIVIDUAL GAUGE BLOCK (<10MM)**



- ◆ Made of ceramic
- ◆ Meet ISO 3650
- ◆ With manufacturer inspection certificate
- ◆ Code explanation



515-700-70



Size:

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

Supplied below size, unit:mm

0.5	1.01	1.13	1.25	1.37	1.49	5
1	1.02	1.14	1.26	1.38	1.5	5.1
1.0005	1.03	1.15	1.27	1.39	1.6	5.5
1.001	1.04	1.16	1.28	1.4	1.7	6
1.002	1.05	1.17	1.29	1.41	1.8	6.5
1.003	1.06	1.18	1.3	1.42	1.9	7
1.004	1.07	1.19	1.31	1.43	2	7.5
1.005	1.08	1.2	1.32	1.44	2.5	7.7
1.006	1.09	1.21	1.33	1.45	3	8
1.007	1.1	1.22	1.34	1.46	3.5	8.5
1.008	1.11	1.23	1.35	1.47	4	9
1.009	1.12	1.24	1.36	1.48	4.5	9.5

Example:

Code	Grade	Size(mm)
515-500-00	0	0.5
515-500-01	1	0.5
515-000-10	0	1
515-0005-11	1	1.0005
515-400-11	1	1.4
515-480-11	1	1.48

## SERIES 516

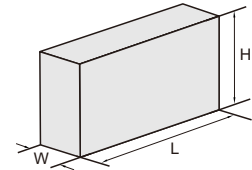
## CERAMIC INDIVIDUAL GAUGE BLOCK (≥10MM)



- ◆ Made of ceramic
- ◆ Meet ISO 3650
- ◆ With manufacturer inspection certificate
- ◆ Code explanation  
 516-□□□-□X  
 →0: grade0  
 →1: grade1



516-800-01



Example:

Code	Grade	Size(mm)
516-200-00	0	20
516-200-01	1	20

Size:

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

Code	Size(mm)	Code	Size(mm)	Code	Size(mm)	Code	Size(mm)	Code	Size(mm)
516-100-0X	10	516-140-0X	14	516-185-0X	18.5	516-228-0X	22.8	516-600-0X	60
516-103-0X	10.3	516-145-0X	14.5	516-190-0X	19	516-230-0X	23	516-700-0X	70
516-105-0X	10.5	516-150-0X	15	516-195-0X	19.5	516-235-0X	23.5	516-750-0X	75
516-110-0X	11	516-155-0X	15.5	516-200-0X	20	516-240-0X	24	516-800-0X	80
516-115-0X	11.5	516-160-0X	16	516-202-0X	20.2	516-245-0X	24.5	516-900-0X	90
516-120-0X	12	516-165-0X	16.5	516-205-0X	20.5	516-250-0X	25	516-004-1X	100
516-125-0X	12.5	516-170-0X	17	516-210-0X	21	516-300-0X	30	516-005-1X	125
516-129-0X	12.9	516-175-0X	17.5	516-215-0X	21.5	516-400-0X	40	516-006-1X	150
516-130-0X	13	516-176-0X	17.6	516-220-0X	22	516-413-0X	41.3		
516-135-0X	13.5	516-180-0X	18	516-225-0X	22.5	516-500-0X	50		

## SERIES 513

## STEEL INDIVIDUAL GAUGE BLOCK (<10MM)

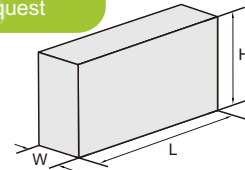
**CUSTOM-MADE**  
other sizes are available upon request



- ◆ Made of steel
- ◆ Meet ISO 3650
- ◆ With manufacturer inspection certificate
- ◆ Code explanation  
 513-□□□-□X  
 →0: grade0  
 →1: grade1  
 →2: grade2  
 decimal ←  
 integer



513-700-70



Size:

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

Supplied below size, unit:mm

0.5	0.69	0.88	0.998	1.07	1.26	1.45	2.008	2.19	2.38	4
0.51	0.7	0.89	0.999	1.08	1.27	1.46	2.009	2.2	2.39	4.5
0.52	0.71	0.9	1	1.09	1.28	1.47	2.01	2.21	2.4	5
0.53	0.72	0.91	1.0005	1.1	1.29	1.48	2.02	2.22	2.41	5.1
0.54	0.73	0.92	1.001	1.11	1.3	1.49	2.03	2.23	2.42	5.5
0.55	0.74	0.93	1.002	1.12	1.31	1.5	2.04	2.24	2.43	6
0.56	0.75	0.94	1.003	1.13	1.32	1.6	2.05	2.25	2.44	6.5
0.57	0.76	0.95	1.004	1.14	1.33	1.7	2.06	2.26	2.45	7
0.58	0.77	0.96	1.005	1.15	1.34	1.8	2.07	2.27	2.46	7.5
0.59	0.78	0.97	1.006	1.16	1.35	1.9	2.08	2.28	2.47	7.7
0.6	0.79	0.98	1.007	1.17	1.36	2	2.09	2.29	2.48	8
0.61	0.8	0.99	1.008	1.18	1.37	2.0005	2.1	2.3	2.49	8.5
0.62	0.81	0.991	1.009	1.19	1.38	2.001	2.11	2.31	2.5	9
0.63	0.82	0.992	1.01	1.2	1.39	2.002	2.12	2.32	2.6	9.5
0.64	0.83	0.993	1.02	1.21	1.4	2.003	2.13	2.33	2.7	
0.65	0.84	0.994	1.03	1.22	1.41	2.004	2.14	2.34	2.8	
0.66	0.85	0.995	1.04	1.23	1.42	2.005	2.15	2.35	2.9	
0.67	0.86	0.996	1.05	1.24	1.43	2.006	2.16	2.36	3	
0.68	0.87	0.997	1.06	1.25	1.44	2.007	2.17	2.37	3.5	

Example:

Code	Size(mm)	Grade
513-500-00	0.5	0
513-500-01	0.5	1
513-500-02	0.5	2
513-000-10	1	0
513-0005-11	1.0005	1
513-400-12	1.4	2
513-480-11	1.48	1

**SERIES 514**

**STEEL INDIVIDUAL GAUGE BLOCK (≥10MM)**

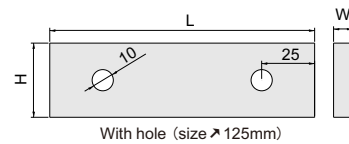
- ◆ Made of steel
- ◆ Meet ISO 3650
- ◆ With manufacturer inspection certificate
- ◆ Code explanation

514-□□□-□X  
 → 0: grade0  
 → 1: grade1  
 → 2: grade2



514-004-1X

**CUSTOM-MADE**  
 other sizes are available upon request



Size: With hole (size ≥125mm)

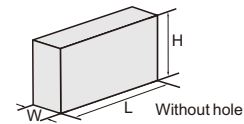
Size (L)	W	H
0.5mm ≤ L ≤ 10mm	9mm	30mm
L > 10mm	9mm	35mm

Code	Size(mm)
514-100-0X	10
514-103-0X	10.3
514-105-0X	10.5
514-110-0X	11
514-115-0X	11.5
514-120-0X	12
514-125-0X	12.5
514-129-0X	12.9
514-130-0X	13
514-135-0X	13.5
514-140-0X	14
514-145-0X	14.5
514-150-0X	15

Code	Size(mm)
514-155-0X	15.5
514-160-0X	16
514-165-0X	16.5
514-170-0X	17
514-175-0X	17.5
514-176-0X	17.6
514-180-0X	18
514-185-0X	18.5
514-190-0X	19
514-195-0X	19.5
514-200-0X	20
514-202-0X	20.2
514-205-0X	20.5

Code	Size(mm)
514-210-0X	21
514-215-0X	21.5
514-220-0X	22
514-225-0X	22.5
514-228-0X	22.8
514-230-0X	23
514-235-0X	23.5
514-240-0X	24
514-245-0X	24.5
514-250-0X	25
514-300-0X	30
514-350-0X	35
514-400-0X	40

Code	Size(mm)
514-413-0X	41.3
514-450-0X	45
514-500-0X	50
514-600-0X	60
514-700-0X	70
514-750-0X	75
514-800-0X	80
514-900-0X	90
514-004-1X	100
514-005-1X	125
514-006-1X	150
514-007-1X	175
514-008-1X	200



Code	Size(mm)
514-010-1X	250
514-012-1X	300
514-016-1X	400
514-020-1X	500
514-024-1X	600
514-028-1X	700
514-030-1X	750
514-032-1X	800
514-036-1X	900
514-040-1X	1000

**SERIES 514**

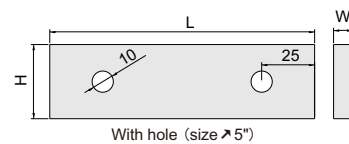
**INDIVIDUAL STEEL GAUGE BLOCKS**

- ◆ Made of alloy steel
- ◆ Meet ASME B89.1.9
- ◆ With manufacturer inspection certificate
- ◆ Code explanation

514-□□□-□XI  
 → 0: grade0  
 → 1: grade1  
 → 2: grade2



514-000-4XI



With hole (size ≥5")

Size:

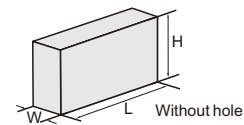
Size (L)	W	H
.02" ≤ L ≤ .394"	.354"	1.181"
L > .394"	.354"	1.378"

Example:

Code	Grade	Size (L)
514-000-10I	0	1"
514-000-11I	1	1"
514-000-12I	2	1"

Code	Size(L)
514-000-1XI	1"
514-000-2XI	2"
514-000-3XI	3"
514-000-4XI	4"
514-000-5XI	5"
514-000-6XI	6"

Code	Size(L)
514-000-7XI	7"
514-000-8XI	8"
514-010-0XI	10"
514-012-0XI	12"
514-016-0XI	16"
514-020-0XI	20"



**SERIES 517****GAUGE BLOCK SET FOR CALIPER INSPECTION**

- ◆ For checking calipers accuracy
- ◆ With ring gauges
- ◆ Meet ISO 3650
- ◆ Gauge blocks are made of alloy steel
- ◆ With manufacturer inspection certificate


**517-005-01**

Code	Gauge block allocation	Quantity	Grade	Ring gauge
<b>517-005-01</b>	30, 41.3, 131.4mm	5pcs	1	Ø4,Ø25mm
<b>517-006-01</b>	30, 41.3, 131.4, 243.5mm	6pcs	1	Ø4,Ø25mm

**SERIES 517****GAUGE BLOCK SET FOR CALIPER INSPECTION**

- ◆ For checking calipers accuracy
- ◆ Meet ISO 3650
- ◆ Gauge blocks are made of alloy steel
- ◆ With manufacturer inspection certificate


**517-012-01**

Code	Gauge block allocation	Quantity	Grade
<b>517-012-01</b>	10, 20, 20, 41.2, 51.2, 81.5, 101.2, 121.5, 121.8, 191.8, 201.5, 291.8mm	12pcs	0
<b>517-012-02</b>	10, 20, 20, 41.2, 51.2, 81.5, 101.2, 121.5, 121.8, 191.8, 201.5, 291.8mm	12pcs	1
<b>517-012-03</b>	10, 20, 20, 41.2, 51.2, 81.5, 101.2, 121.5, 121.8, 191.8, 201.5, 291.8mm	12pcs	2

**SERIES 518**

**GAUGE BLOCK SET FOR MICROMETER INSPECTION**



- ◆ For checking micrometers accuracy
- ◆ With optical parallel
- ◆ Grade 0
- ◆ Meet ISO 3650
- ◆ With manufacturer inspection certificate



518-001-03

Measure



Code	Quantity	For micrometers	Material	Block allocation
518-001-02	11pcs	0-25mm	ceramic	2.5, 5.1, 7.7, 10.3, 12.9, 15, 17.6, 20.2, 22.8, 25mm
518-001-03	11pcs	0-25mm	alloy steel	2.5, 5.1, 7.7, 10.3, 12.9, 15, 17.6, 20.2, 22.8, 25mm

**SERIES 518**

**GAUGE BLOCK SET FOR MICROMETER INSPECTION**



- ◆ For checking micrometers accuracy
- ◆ Grade 0
- ◆ Meet ISO 3650
- ◆ With manufacturer inspection certificate



518-001-01

Code	Quantity	For micrometers	Material	Block allocation
518-001-01	10pcs	0-25mm	alloy steel	2.5, 5.1, 7.7, 10.3, 12.9, 15, 17.6, 20.2, 22.8, 25mm
518-002-01	11pcs	25-50mm	alloy steel	25, 27.5, 30.1, 32.7, 35.3, 37.9, 40, 42.6, 45.2, 47.8, 50mm
518-003-01	11pcs	50-75mm	alloy steel	50, 52.5, 55.1, 57.7, 60.3, 62.9, 65, 67.6, 70.2, 72.8, 75mm
518-004-01	11pcs	75-100mm	alloy steel	75, 77.5, 80.1, 82.7, 85.3, 87.9, 90, 92.6, 95.2, 97.8, 100mm



**518****GAUGE BLOCK SET FOR MICROMETER INSPECTION**

- ◆ Meet ISO3650
- ◆ Grade 0
- ◆ With manufacturer inspection certificate



Code	Quantity	Applicable micrometer	Material	Gauge blocks included in set
518-104-01	20pcs	0-100mm	alloy steel	5.12mm, 10.24mm, 15.36mm, 21.5mm, 25mm, 30.12mm, 35.24mm, 40.36mm, 46.5mm, 50mm, 55.12mm, 60.24mm, 65.36mm, 71.5mm, 75mm, 80.12mm, 85.24mm, 90.36mm, 96.5mm, 100mm

**508****GAUGE BLOCK SET FOR MICROMETER INSPECTION**

- ◆ Use to check the accuracy of micrometer with series 518 gauge block set



Application



Code	Applicable micrometer
508-001-00	0-25mm

519

**GAUGE BLOCK ACCESSORIES**

◆ To expand gage block applications



Code	Total quantity	Accessory allocation
519-016-01	17pcs	3pcs holder (50mm, 100mm, 200mm) 6pcs half round jaw (2mm, 5mm, 10mm, 2pcs each) 1pc holder base, 2pcs 100mm plain jaws, 1pc scriber point, 1pc center point, 2pcs triangular straight edge jaw 60mm 1pc 100mm straight edge

519

**GAUGE BLOCK ACCESSORIES**

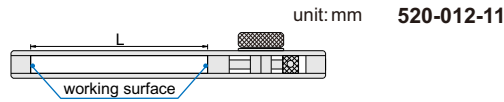


Code	Remark	Accessory allocation
519-016-01H	16pcs	4pcs holder(0-50mm, 50-100mm, 100-200mm, 200-300mm); 1pc base; 1pair plain jaw; 1pc parallel jaw; 3pairs half round jaw(2.5mm, 5mm, 6mm); 1pc scriber; 1pc center point

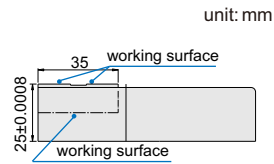
**SERIES 520**

**GAUGE BLOCK ACCESSORIES**

Code	Name	Clamping range (L)
520-002-11	holder	0-50mm
520-004-11	holder	50-100mm
520-008-11	holder	100-200mm
520-012-11	holder	200-300mm
520-016-11	holder	300-400mm
520-020-11	holder	400-500mm



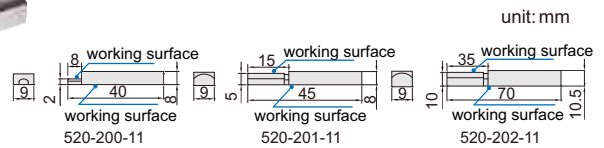
Code	Name
520-100-11	base



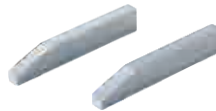
Code	Name	Size	Material
520-200-11	half round jaw	2mm	carbide
520-201-11	half round jaw	5mm	carbide
520-202-11	half round jaw	10mm	carbide



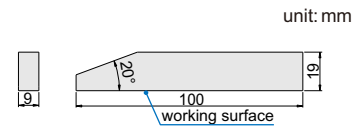
supplied a pair



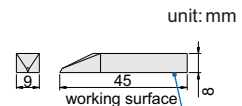
Code	Name	Material
520-300-11	plain jaw	carbide



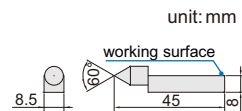
supplied a pair



Code	Name	Material
520-400-11	scriber	carbide



Code	Name	Tip Material
520-500-11	center point	carbide



**Application**

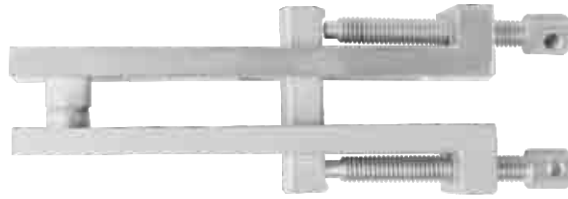
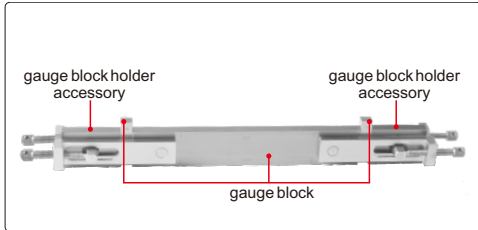
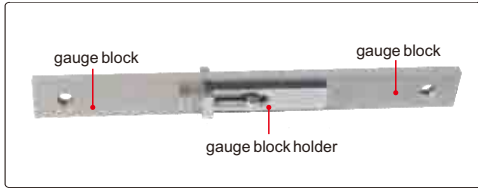
<p>(plain jaw+holder) set zero</p>	<p>(half round jaw+holder) set a standard inside length L</p>	<p>(half round jaw+holder) measure inside diameter</p>
	<p>(base+holder+scraper) measure height or scribe</p>	<p>(scraper+centre point+holder) scribe circle</p>

510

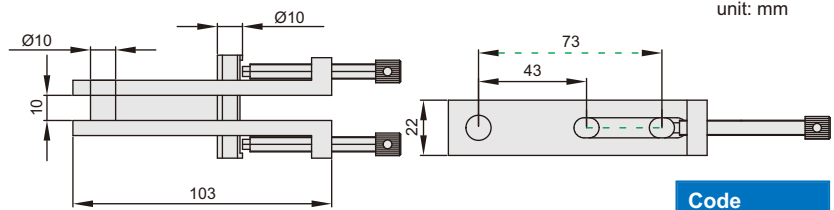
GAUGE BLOCK HOLDER

- ◆ For gauge blocks over 100mm with clamping holes
- ◆ Optional accessory: gauge block holder accessory, gauge block accessory

Application



510-000-01

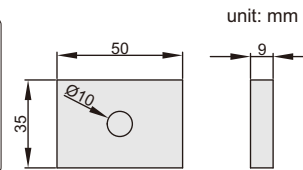


Code

510-000-01



50mm gage block



510-000-02

Code

510-000-02

Code	Include
510-302-01	510-000-01 (3 set) 510-000-02 (1pairs)

SERIES 561

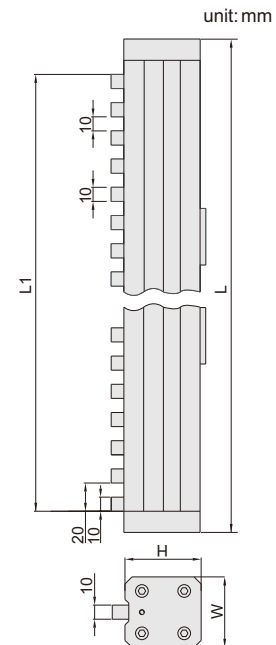
CHECK MASTER



- ◆ For checking the accuracy of measuring tools like calipers, height gage and so on
- ◆ Can be used in vertical and horizontal orientation
- ◆ With manufacturer inspection certificate



561-024-01



Code	Range	Parallelism of blocks	Accuracy	W	H	L1	L
561-012-01	300mm	1.2µm	±2.5µm	35	32	310	350
561-018-01	450mm	1.5µm	±3.5µm	42	50	470	510
561-024-01	600mm	1.5µm	±3.5µm	42	50	610	650



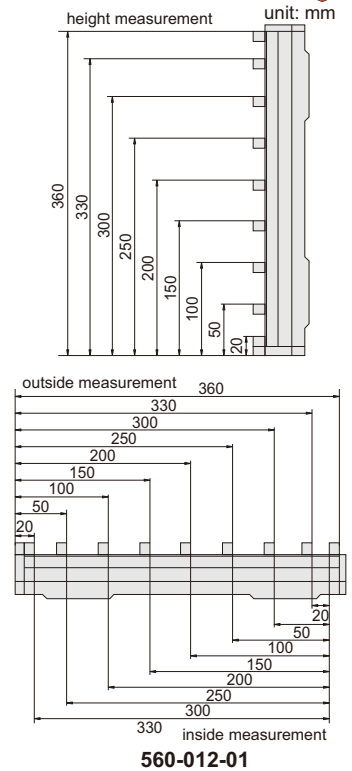
- ◆ To check calipers and height gages
- ◆ Constructed with steel gage blocks
- ◆ With manufacturer inspection certificate



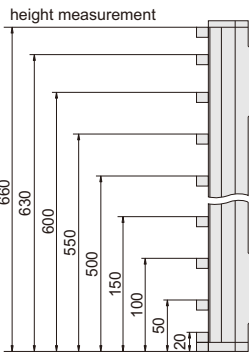
horizontal use

vertical use

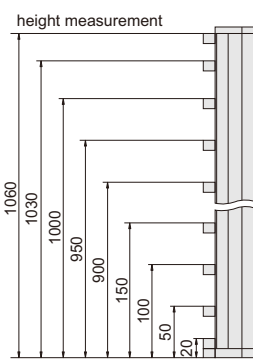
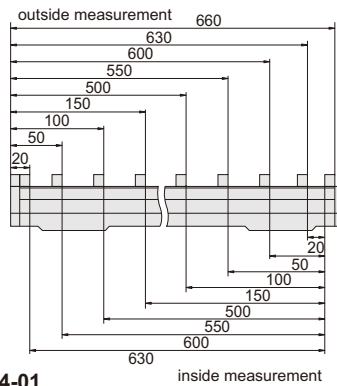
**560-024-01**



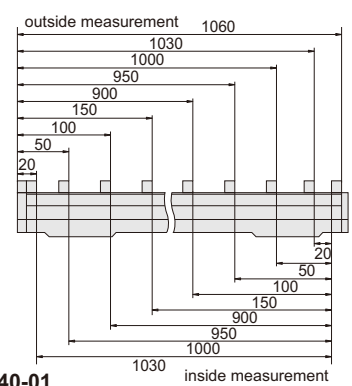
**560-012-01**



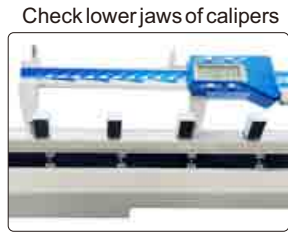
**560-024-01**



**560-040-01**



Check upper jaws of calipers



Check lower jaws of calipers



Check height gage

Code	Size	Range of inside measurement	Range of outside measurement	Range of height measurement	Accuracy
<b>560-012-01</b>	0-300mm	20, 50, 100, 150, 200, 250, 300, 330mm	20, 50, 100, 150, 200, 250, 300, 330, 360mm	20, 50, 100, 150, 200, 250, 300, 330, 360mm	±3µm
<b>560-024-01</b>	0-600mm	20, 50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 630mm	20, 50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 630, 660mm	20, 50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 630, 660mm	±5µm
<b>560-040-01</b>	0-1000mm	20, 50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700, 750, 800, 850, 900, 950, 1000, 1030mm	20, 50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700, 750, 800, 850, 900, 950, 1000, 1030, 1060mm	20, 50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700, 750, 800, 850, 900, 950, 1000, 1030, 1060mm	±7µm

**SERIES 570**

**ANGLE GAUGE BLOCK SET**



- ◆ Accuracy:  $\pm 2''$
- ◆ To inspect protractor, taper gage, index plate, index head and goniometer. can also be used to set angle
- ◆ Made of special alloy steel, hardness HRC64, high stability, wear resistance and easy combination
- ◆ Can be combined to any angle with interval 6 seconds after combination (6", 12", 18", ... , 360)
- ◆ With manufacturer inspection certificate

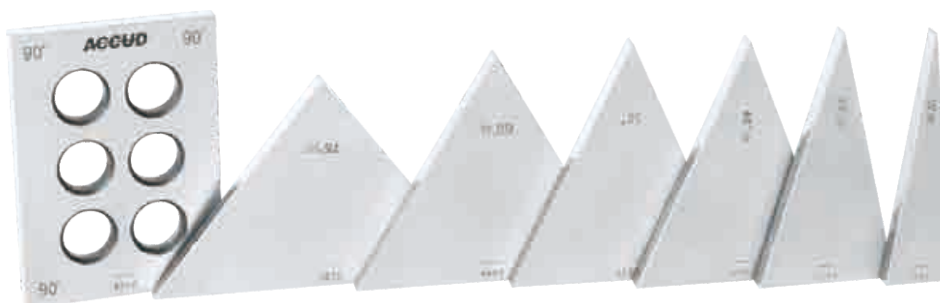


570-015-01

Code	Angle	Total quantity
570-013-01	1°, 3°, 9°, 27°, 41', 1', 3', 9', 27', 6", 18", 30", 90°/90°/90°/90°	13pcs
570-015-01	1°, 3°, 5°, 15°, 30°, 45', 1', 3', 5', 20', 30', 6", 12", 30", 90°/90°/90°/90°	15pcs

**571**

**ANGLE GAUGE BLOCK SET**



571-007-01

- ◆ For angle comparison
- ◆ One angle can be as used in triangle blocks  
four angles can be as used in rectangle blocks
- ◆ With manufacturer inspection certificate

Code	Angle	Blocks per set	Accuracy	Sharp
571-007-01	15°10', 30°20', 45°30', 50°, 60°40', 75°50', 90°	7	$\pm 10''$	triangle/rectangle

**SERIES 522**

**INDIVIDUAL PIN GAUGE**

**CUSTOM-MADE**  
Standard size above 40mm are available upon request

- ◆ Accuracy:
  - ±1µm (range:0.1-13mm)
  - ±2µm (range:13-40mm)
- ◆ Made of alloy steel
- ◆ Hardness HRC62-65
- ◆ Code explanation:
 

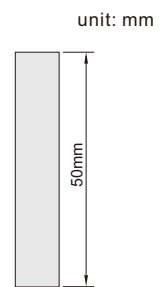
522-□□□□-2

|

diameter



522-06933-2



Package



Example:

Code	Size(mm)	Accuracy
522-00125-2	0.125	±1µm
522-09125-2	9.125	±1µm
522-19125-2	19.125	±2µm

**522**

**INDIVIDUAL CARBIDE PIN GAUGE**

**CUSTOM-MADE**  
Size between 13 to 30mm, are available upon request

- ◆ Supplied diameter from 0.3 to 30mm,
- ◆ Accuracy:
  - ±1µm (range:0.3-13mm)
  - ±2µm (range:13-30mm)
- ◆ Carbide material
- ◆ Hardness HRA90-90.5
- ◆ Length 50mm
- ◆ Code explanation:
 

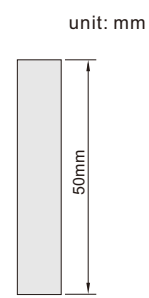
522-□□□□-2T

|

diameter



522-06000-2T



Package



Example:

Code	Size(mm)	Accuracy
522-10000-2T	10	±1µm

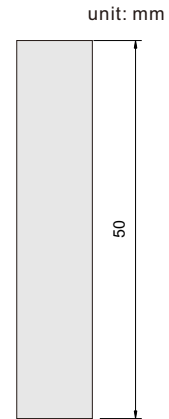
**SERIES 528**

**INDIVIDUAL CERAMIC PIN GAUGE**

- ◆ Meet DIN2269, grade 1
- ◆ Diameter range: 01.000-10.000mm
- ◆ Diameter accuracy:  $\pm 1\mu\text{m}$
- ◆ Made of ceramic, extremely wear resistance, corrosion resistance and dimensional stability
- ◆ Code explanation:  
**528-□□□□-1**  
 diameter



528-10000-1



Example:

Code	Size(mm)
528-05000-1	5
528-10000-1	10

**SERIES 521**

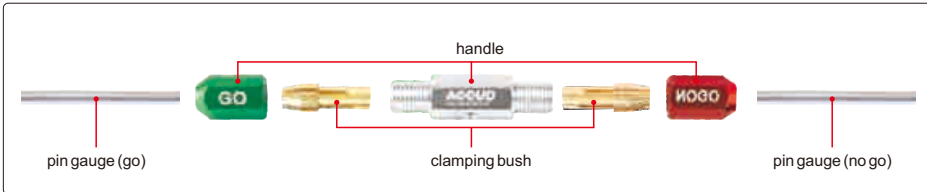
**PIN GAUGE HANDLE**

- ◆ Supplied with wrench for installing pin gauges
- ◆ Clamping bushes are made of brass



handle

Before assemble



After assemble



Code	Applicable pin gauge diameter
521-001-11	0.2-1.0mm
521-002-11	1.0-2.0mm
521-003-11	2.0-3.0mm
521-004-11	3.0-4.0mm
521-005-11	4.0-5.0mm
521-006-11	5.0-6.0mm

Code	Applicable pin gauge diameter
521-007-11	6.0-7.0mm
521-008-11	7.0-8.0mm
521-009-11	8.0-9.0mm
521-010-11	9.0-10.0mm
521-011-11	10.0-11.0mm
521-012-11	11.0-12.0mm

Code	Applicable pin gauge diameter
521-013-11	12.0-13.0mm
521-014-11	13.0-14.0mm
521-015-11	14.0-15.0mm
521-016-11	15.0-16.0mm
521-017-11	16.0-17.0mm
521-018-11	17.0-18.0mm

Code	Applicable pin gauge diameter
521-019-11	18.0-19.0mm
521-020-11	19.0-20.0mm
521-021-11	20.0-21.0mm
521-022-11	21.0-22.0mm





523-650-51



523-300-101

**Blow mould case**

Code	Diameter(mm)	Step	Quantity
523-100-091	0.1-1.00	0.01mm	91
523-200-101	1.00-2.00	0.01mm	101
523-300-101	2.00-3.00	0.01mm	101
523-400-101	3.00-4.00	0.01mm	101
523-500-101	4.00-5.00	0.01mm	101
523-600-101	5.00-6.00	0.01mm	101
523-700-101	6.00-7.00	0.01mm	101
523-800-101	7.00-8.00	0.01mm	101
523-900-101	8.00-9.00	0.01mm	101
523-1000-101	9.00-10.00	0.01mm	101

**Aluminum box**

Code	Diameter(mm)	Step	Quantity
523-010-41	0.10-0.50	0.01mm	41
523-020-31	0.20-0.50	0.01mm	31
523-050-51	0.50-1.00	0.01mm	51
523-100-51	1.00-1.50	0.01mm	51
523-150-51	1.50-2.00	0.01mm	51
523-200-51	2.00-2.50	0.01mm	51
523-250-51	2.50-3.00	0.01mm	51
523-300-51	3.00-3.50	0.01mm	51
523-350-51	3.50-4.00	0.01mm	51
523-400-51	4.00-4.50	0.01mm	51
523-450-51	4.50-5.00	0.01mm	51
523-500-01	5.00-5.50	0.01mm	51
523-550-51	5.50-6.00	0.01mm	51
523-600-51	6.00-6.50	0.01mm	51
523-650-51	6.50-7.00	0.01mm	51
523-700-51	7.00-7.50	0.01mm	51
523-750-51	7.50-8.00	0.01mm	51
523-800-51	8.00-8.50	0.01mm	51
523-850-51	8.50-9.00	0.01mm	51
523-900-51	9.00-9.50	0.01mm	51
523-950-51	9.50-10.00	0.01mm	51

- ◆ Made of alloy steel
- ◆ Hardness HRC62-65
- ◆ Accuracy:
  - ±1µm (range:0.1-13mm)
  - ±2µm (range:13-40mm)

Code	Diameter(mm)	Step	Quantity
523-0110-100	0.1-10.00	0.1mm	100
523-500-41	1.0-5.0	0.1mm	41
523-500-51	5.0-10.0	0.1mm	51
523-1000-01	10.0-15.0	0.1mm	51
523-1500-01	15.0-20.0	0.1mm	51

**Aluminum box**

Code	Diameter(mm)	Step	Quantity
523-1000-51	10.00-10.50	0.01mm	51
523-1050-51	10.50-11.00	0.01mm	51
523-1100-51	11.00-11.50	0.01mm	51
523-1150-51	11.50-12.00	0.01mm	51
523-1200-51	12.00-12.50	0.01mm	51
523-1250-51	12.50-13.00	0.01mm	51
523-1300-51	13.00-13.50	0.01mm	51
523-1350-51	13.50-14.00	0.01mm	51
523-1400-51	14.00-14.50	0.01mm	51
523-1450-51	14.50-15.00	0.01mm	51
523-1500-51	15.00-15.50	0.01mm	51
523-1550-51	15.50-16.00	0.01mm	51
523-1600-51	16.00-16.50	0.01mm	51
523-1650-51	16.50-17.00	0.01mm	51
523-1700-51	17.00-17.50	0.01mm	51
523-1750-51	17.50-18.00	0.01mm	51
523-1800-51	18.00-18.50	0.01mm	51
523-1850-51	18.50-19.00	0.01mm	51
523-1900-51	19.00-19.50	0.01mm	51
523-1950-51	19.50-20.00	0.01mm	51

**SERIES 523**

**CARBIDE PIN GAUGE SET**

- ◆ Meet DIN2269, grade 1
- ◆ Made of carbide
- ◆ Hardness HRA90-90.5
- ◆ Diameter accuracy: ±1µm



523-1000-51T



523-300-101T

**Aluminum box**

Code	Diameter(mm)	Step	Quantity
523-1000-51T	10.00-10.50	0.01mm	51
523-1050-51T	10.50-11.00	0.01mm	51
523-1100-51T	11.00-11.50	0.01mm	51
523-1150-51T	11.50-12.00	0.01mm	51
523-1200-51T	12.00-12.50	0.01mm	51
523-1250-51T	12.50-13.00	0.01mm	51
523-1300-51T	13.00-13.50	0.01mm	51
523-1350-51T	13.50-14.00	0.01mm	51
523-1400-51T	14.00-14.50	0.01mm	51
523-1450-51T	14.50-15.00	0.01mm	51

**Blow mould case**

Code	Diameter(mm)	Step	Quantity
523-100-091T	0.10-1.00	0.01mm	91
523-200-101T	1.00-2.00	0.01mm	101
523-300-101T	2.00-3.00	0.01mm	101
523-400-101T	3.00-4.00	0.01mm	101
523-500-101T	4.00-5.00	0.01mm	101
523-600-101T	5.00-6.00	0.01mm	101
523-700-101T	6.00-7.00	0.01mm	101
523-800-101T	7.00-8.00	0.01mm	101
523-900-101T	8.00-9.00	0.01mm	101
523-1000-101T	9.00-10.00	0.01mm	101

**SERIES 528**

**CERAMIC PIN GAUGE SET**

- ◆ Meet DIN2269, grade 1
- ◆ Diameter range: 1.00-10.00mm
- ◆ Diameter accuracy: ±1µm
- ◆ Made of ceramic, extremely wear resistance, corrosion resistance and dimensional stability



528-0650-51



528-0300-101

**Aluminum box**

Code	Diameter(mm)	Step	Quantity
528-0150-51	1.00-1.50	0.01mm	51
528-0200-51	1.50-2.00	0.01mm	51
528-0250-51	2.00-2.50	0.01mm	51
528-0300-51	2.50-3.00	0.01mm	51
528-0350-51	3.00-3.50	0.01mm	51
528-0400-51	3.50-4.00	0.01mm	51
528-0450-51	4.00-4.50	0.01mm	51
528-0500-51	4.50-5.00	0.01mm	51
528-0550-51	5.00-5.50	0.01mm	51
528-0600-51	5.50-6.00	0.01mm	51
528-0650-51	6.00-6.50	0.01mm	51
528-0700-51	6.50-7.00	0.01mm	51
528-0750-51	7.00-7.50	0.01mm	51
528-0800-51	7.50-8.00	0.01mm	51
528-0850-51	8.00-8.50	0.01mm	51
528-0900-51	8.50-9.00	0.01mm	51
528-0950-51	9.00-9.50	0.01mm	51
528-1000-51	9.50-10.00	0.01mm	51

**Blow mould case**

Code	Diameter(mm)	Step	Quantity
528-0200-101	1.00-2.00	0.01mm	101
528-0300-101	2.00-3.00	0.01mm	101
528-0400-101	3.00-4.00	0.01mm	101
528-0500-101	4.00-5.00	0.01mm	101
528-0600-101	5.00-6.00	0.01mm	101
528-0700-101	6.00-7.00	0.01mm	101
528-0800-101	7.00-8.00	0.01mm	101
528-0900-101	8.00-9.00	0.01mm	101
528-1000-101	9.00-10.00	0.01mm	101

Code	Diameter(mm)	Step	Quantity
528-0105-41	1.00-5.00	0.1mm	41
528-0510-51	5.00-10.00	0.1mm	51
528-0110-91	1.00-10.00	0.1mm	91

**SERIES 524**

**BOX FOR PIN GAUGE SET**

◆ For containing pin gauges



524-001-01



524-101-01

**Aluminum box**

Code	Gauge range	Max. packed QTY
524-001-01	0.10-10mm	51
524-001-02	10-13mm	72
524-001-03	13-20mm	50
524-001-04	20-34mm	32

**Blow mould case**

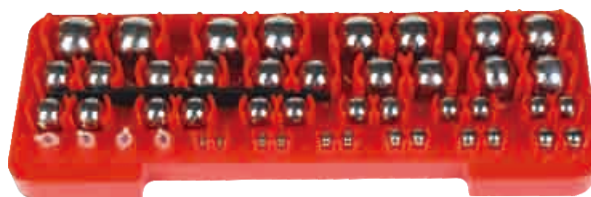
Code	Gauge range	Max. packed QTY
524-101-01	0.10-10mm	101

**526**

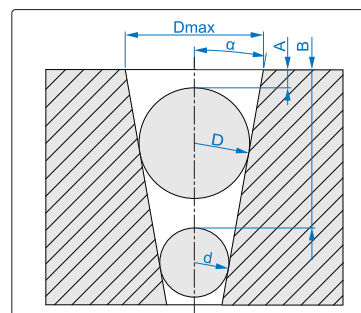
**STEEL BALL SET**



- ◆ To measure diameter and angle of taper holes
- ◆ Each size has a pair of steel ball
- ◆ Material: tool steel
- ◆ Hardness: HRC63
- ◆ Diameter accuracy:  $\pm 2\mu\text{m}$
- ◆ Roundness:  $0.6\mu\text{m}$



Calculate angle ( $\alpha$ ) and diameter ( $D_{\text{max}}$ ) according to the ball diameter ( $D$ ,  $d$ ), height ( $A$ ) and depth ( $B$ )



Code	Steel balls per set	Diameter(mm)
526-025-01	25 pairs	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25

**SERIES 525**

**MASTER SETTING DISC**

**CUSTOM-MADE**

other sizes are available upon request

- ◆ Hardness: HRC60-62
- ◆ Conforms to standard ASME B89.1.5



525-020-01

Diameter	Supplied difference	Roundness and conicity
3-21mm	±0.8µm	0.5µm
21-30mm	±0.8µm	0.7µm
30-40mm	±1.1µm	0.7µm
40-65mm	±1.5µm	1.0µm

Diameter	Supplied difference	Roundness and conicity
65-110mm	±1.9µm	1.2µm
110-120mm	±1.9µm	1.6µm
120-130mm	±2.4µm	1.6µm

Code	Size(mm)
525-003-01	Ø3
525-004-01	Ø4
525-005-01	Ø5
525-006-01	Ø6
525-007-01	Ø7
525-008-01	Ø8
525-009-01	Ø9
525-010-01	Ø10
525-011-01	Ø11
525-012-01	Ø12
525-013-01	Ø13
525-014-01	Ø14
525-015-01	Ø15

Code	Size(mm)
525-016-01	Ø16
525-017-01	Ø17
525-018-01	Ø18
525-019-01	Ø19
525-020-01	Ø20
525-021-01	Ø21
525-022-01	Ø22
525-023-01	Ø23
525-024-01	Ø24
525-025-01	Ø25
525-026-01	Ø26
525-027-01	Ø27
525-028-01	Ø28

Code	Size(mm)
525-029-01	Ø29
525-030-01	Ø30
525-031-01	Ø31
525-032-01	Ø32
525-033-01	Ø33
525-034-01	Ø34
525-035-01	Ø35
525-036-01	Ø36
525-037-01	Ø37
525-038-01	Ø38
525-039-01	Ø39
525-040-01	Ø40
525-041-01	Ø41

Code	Size(mm)
525-042-01	Ø42
525-043-01	Ø43
525-044-01	Ø44
525-045-01	Ø45
525-046-01	Ø46
525-047-01	Ø47
525-048-01	Ø48
525-049-01	Ø49
525-050-01	Ø50
525-055-01	Ø55
525-060-01	Ø60
525-065-01	Ø65
525-070-01	Ø70

Code	Size(mm)
525-075-01	Ø75
525-080-01	Ø80
525-085-01	Ø85
525-090-01	Ø90
525-095-01	Ø95
525-100-01	Ø100
525-105-01	Ø105
525-110-01	Ø110
525-115-01	Ø115
525-120-01	Ø120
525-125-01	Ø125
525-130-01	Ø130

**SERIES 529**

**THREE WIRE MEASURING UNITS**

- ◆ Made of alloy steel
- ◆ One unit includes 3pcs same size
- ◆ Hardness HRC60-62
- ◆ Accuracy:
  - ±0.25µm (grade 0), ±0.5µm (grade 1)
- ◆ Roundness:
  - 0.25µm (grade 0), 0.5µm (grade 1)
- ◆ Code explanation

529-□□□□-0X

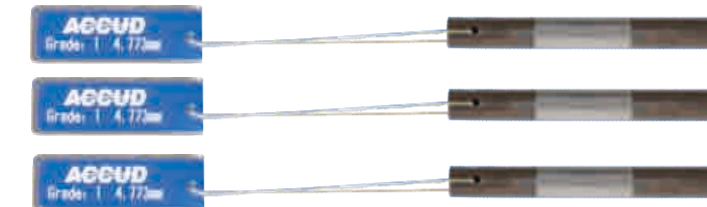
- 0: grade0
- 1: grade1

Example:

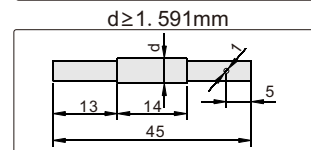
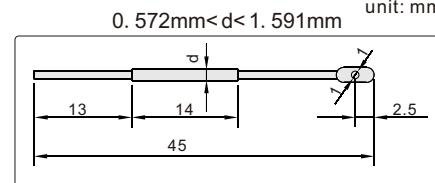
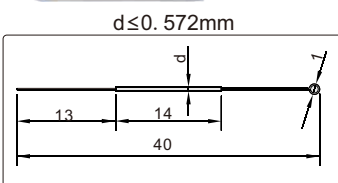
Code	Size(mm)	Grade
529-2886-00	2.886	0
529-2886-01	2.886	1

Supplied all 55 size as a set

Code	Quantity	Grade
529-055-00	55×3pcs	0
529-055-01	55×3pcs	1



529-4773-01



Supplied 55 different size, unit:mm

0.118	0.260	0.572	1.302	2.020	2.886	3.580	4.773
0.142	0.291	0.724	1.441	2.050	3.106	3.666	5.150
0.170	0.343	0.796	1.553	2.071	3.177	4.091	5.176
0.185	0.402	0.866	1.591	2.217	3.287	4.120	5.493
0.201	0.433	1.008	1.732	2.311	3.310	4.141	6.212
0.232	0.461	1.047	1.833	2.595	3.468	4.211	6.585
0.250	0.511	1.157	1.883	2.866	3.550	4.400	

- ◆ For inside micrometer and bore gage setting
- ◆ The size marked on the setting ring is checked at the direction of the marking line
- ◆ Size difference (difference between the ordered size and the size marked on the setting ring when supplied): For example, the ordered size is 20mm, the real size marked on the setting ring when supplied may be 20.003mm
- ◆ Range: Ø2-300mm



**531-040-01**

Application



Diameterd	Size difference	Roundness and cylindricity	Accuracy
Ø2~≤10	±3.0µm	0.4µm	±1.5µm
Ø10~≤20		0.5µm	±3.0µm
Ø20~≤30		0.6µm	
Ø30~≤50		0.7µm	
Ø50~≤80		0.8µm	±4.0µm
Ø80~≤100	1.0µm		
Ø100~≤130	±5.0µm	1.0µm	±5µm
Ø130~≤150		1.2µm	
Ø150~≤210		1.5µm	
Ø210~≤250		2.5µm	
Ø250~≤300		3.0µm	

Code	Size(mm)
531-002-01	Ø2
531-003-01	Ø3
531-004-01	Ø4
531-005-01	Ø5
531-006-01	Ø6
531-007-01	Ø7
531-008-01	Ø8
531-009-01	Ø9
531-010-01	Ø10
531-011-01	Ø11
531-012-01	Ø12
531-013-01	Ø13
531-014-01	Ø14
531-015-01	Ø15
531-016-01	Ø16
531-017-01	Ø17
531-018-01	Ø18
531-019-01	Ø19

Code	Size(mm)
531-020-01	Ø20
531-021-01	Ø21
531-022-01	Ø22
531-023-01	Ø23
531-024-01	Ø24
531-025-01	Ø25
531-026-01	Ø26
531-027-01	Ø27
531-028-01	Ø28
531-029-01	Ø29
531-030-01	Ø30
531-031-01	Ø31
531-032-01	Ø32
531-033-01	Ø33
531-034-01	Ø34
531-035-01	Ø35
531-036-01	Ø36
531-037-01	Ø37

Code	Size(mm)
531-038-01	Ø38
531-039-01	Ø39
531-040-01	Ø40
531-041-01	Ø41
531-042-01	Ø42
531-043-01	Ø43
531-044-01	Ø44
531-045-01	Ø45
531-046-01	Ø46
531-047-01	Ø47
531-048-01	Ø48
531-049-01	Ø49
531-050-01	Ø50
531-055-01	Ø55
531-060-01	Ø60
531-062-01	Ø62
531-065-01	Ø65
531-070-01	Ø70

Code	Size(mm)
531-075-01	Ø75
531-080-01	Ø80
531-085-01	Ø85
531-087-01	Ø87
531-090-01	Ø90
531-095-01	Ø95
531-100-01	Ø100
531-125-01	Ø125
531-150-01	Ø150
531-175-01	Ø175
531-200-01	Ø200
531-225-01	Ø225
531-250-01	Ø250
531-275-01	Ø275
531-300-01	Ø300



## SERIES 541

## PLAIN PLUG GAUGE

CUSTOM-MADE

other sizes are available upon request

- ◆ Grade H7
- ◆ Hardness HRC 60±2
- ◆ Confirms to standard GB/T 1957-2006
- ◆ Supplied range from 1mm to 100mm



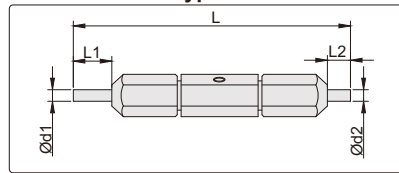
541-020-17



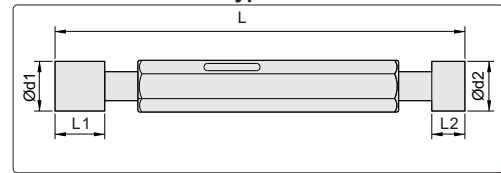
541-006-17

unit: mm

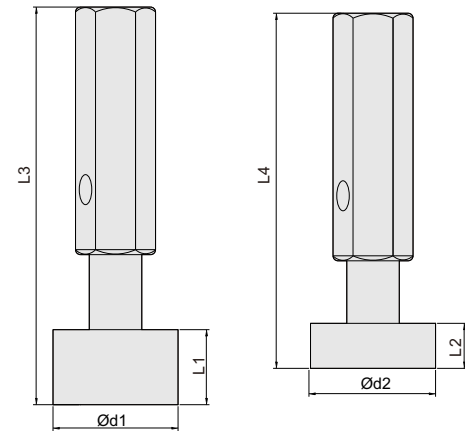
type A



type B



type C



Diameter Ød (mm)	Ød1 size tolerance of Go gage (mm)	Ød2 size tolerance of Go gage (mm)	L1	L2	L	L3	L4
≥2 ≤3	+0.0010, +0.0022	+0.0088, +0.010	6.5	4.5	62		
>3 ≤6	+0.0013, +0.0027	+0.0106, +0.012	8	6	74		
>6, ≤10	+0.0015, +0.0033	+0.0132, +0.015	10	7	87		
>10, ≤14	+0.0018, +0.0038	+0.0160, +0.018	12	8	99		
>14, ≤18	+0.0018, +0.0038	+0.0160, +0.018	14	10	114		
>18, ≤24	+0.0023, +0.0046	+0.0186, +0.021	16	12	132		
>24, ≤30	+0.0023, +0.0046	+0.0186, +0.021	18	14	136		
>30, ≤40	+0.0023, +0.0055	+0.0220, +0.025	20	15	155		
>40, ≤50	+0.0023, +0.0055	+0.0220, +0.025	25	18	169		
>50, ≤65	+0.0028, +0.0064	+0.0264, +0.030	30	18		164	165
>65, ≤80	+0.0028, +0.0064	+0.0264, +0.030	35	25		169	159
>80, ≤100	+0.0032, +0.0075	+0.0308, +0.035	35	25		169	159

Code	Diameter Ød (mm)	Type
541-002-17	2	A
541-003-17	3	A
541-004-17	4	A
541-005-17	5	A
541-006-17	6	A
541-007-17	7	A
541-008-17	8	A
541-009-17	9	B
541-010-17	10	B
541-011-17	11	B
541-012-17	12	B
541-013-17	13	B
541-014-17	14	B
541-015-17	15	B
541-016-17	16	B

Code	Diameter Ød (mm)	Type
541-017-17	17	B
541-018-17	18	B
541-019-17	19	B
541-020-17	20	B
541-021-17	21	B
541-022-17	22	B
541-023-17	23	B
541-024-17	24	B
541-025-17	25	B
541-026-17	26	B
541-027-17	27	B
541-028-17	28	B
541-029-17	29	B
541-030-17	30	B
541-031-17	31	B

Code	Diameter Ød (mm)	Type
541-032-17	32	B
541-033-17	33	B
541-034-17	34	B
541-035-17	35	B
541-036-17	36	B
541-037-17	37	B
541-038-17	38	B
541-039-17	39	B
541-040-17	40	B
541-041-17	41	B
541-042-17	42	B
541-043-17	43	B
541-044-17	44	B
541-045-17	45	B
541-046-17	46	B

Code	Diameter Ød (mm)	Type
541-047-17	47	B
541-048-17	48	B
541-049-17	49	B
541-050-17	50	B
541-052-17	52	C
541-055-17	55	C
541-060-17	60	C
541-065-17	65	C
541-070-17	70	C
541-075-17	75	C
541-080-17	80	C
541-085-17	85	C
541-090-17	90	C
541-095-17	95	C
541-100-17	100	C



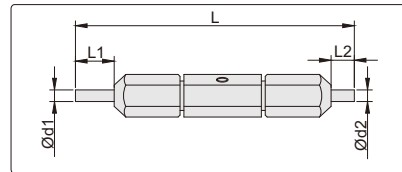
541-020-17T



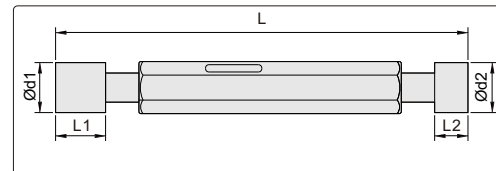
541-006-17T

unit: mm

type A



type B



- ◆ Grade H7
- ◆ Hardness HRC 85-89
- ◆ Supplied range from 1mm to 30mm

Diameter Ød (mm)	Ød1 size tolerance of Go gage (mm)	Ød2 size tolerance of Go gage (mm)	L1	L2	L
≥2 ≤3	+0.0010, +0.0022	+0.0088, +0.010	6.5	4.5	62
>3 ≤6	+0.0013, +0.0027	+0.0106, +0.012	8	6	74
>6, ≤10	+0.0015, +0.0033	+0.0132, +0.015	10	7	87
>10, ≤14	+0.0018, +0.0038	+0.0160, +0.018	12	8	99
>14, ≤18	+0.0018, +0.0038	+0.0160, +0.018	14	10	114
>18, ≤24	+0.0023, +0.0046	+0.0186, +0.021	16	12	132
>24, ≤30	+0.0023, +0.0046	+0.0186, +0.021	18	14	136

Code	Diameter Ød (mm)	Type
541-002-17T	2	A
541-003-17T	3	A
541-004-17T	4	A
541-005-17T	5	A
541-006-17T	6	A
541-007-17T	7	A
541-008-17T	8	A
541-009-17T	9	B
541-010-17T	10	B
541-011-17T	11	B
541-012-17T	12	B
541-013-17T	13	B
541-014-17T	14	B
541-015-17T	15	B
541-016-17T	16	B

Code	Diameter Ød (mm)	Type
541-017-17T	17	B
541-018-17T	18	B
541-019-17T	19	B
541-020-17T	20	B
541-021-17T	21	B
541-022-17T	22	B
541-023-17T	23	B
541-024-17T	24	B
541-025-17T	25	B
541-026-17T	26	B
541-027-17T	27	B
541-028-17T	28	B
541-029-17T	29	B
541-030-17T	30	B



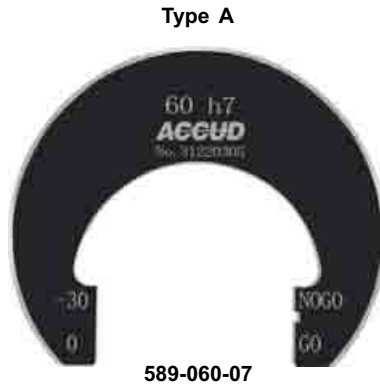
**SERIES 589**

**LIMIT SNAP GAUGE**

**CUSTOM-MADE**

Grade: h6, g7  
Size: 1 to 250mm  
are available upon request

- ◆ Grade H7
- ◆ Type A: size ≤ 80mm;  
Type B: size > 80mm
- ◆ Code explanation:  
589-□□□-07  
size ←



589-060-07



589-150-07

Example:

Code	Size(mm)	Type
589-060-07	60	A
589-070-07	70	A
589-080-07	80	A
589-100-07	100	B
589-120-07	120	B
589-150-07	150	B

**SERIES 585**

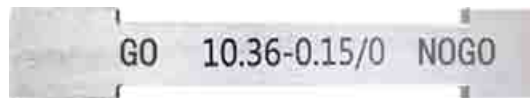
**KEY SLOT LIMIT GAUGE**

**CUSTOM-MADE**

Size between 3 to 50mm,  
are available upon request



front side



reverse side

Code

585-xxxxx-xx



- ◆ Grade 6g
- ◆ Meet ISO1502
- ◆ Hardness HRC60-62



532-020-01



533-020-01

STANDARD THREAD

Code(GO)	Code(NOGO)	Size(mm)
532-002-01	533-002-01	M2x0.4
532-002-21	533-002-21	M2.2x0.45
532-002-51	533-002-51	M2.5x0.45
532-003-01	533-003-01	M3x0.5
532-003-51	533-003-51	M3.5x0.6
532-004-01	533-004-01	M4x0.7
532-005-01	533-005-01	M5x0.8
532-006-01	533-006-01	M6x1
532-008-01	533-008-01	M8x1.25

Code(GO)	Code(NOGO)	Size(mm)
532-010-01	533-010-01	M10x1.5
532-012-01	533-012-01	M12x1.75
532-014-01	533-014-01	M14x2
532-016-01	533-016-01	M16x2
532-018-01	533-018-01	M18x2.5
532-020-01	533-020-01	M20x2.5
532-022-01	533-022-01	M22x2.5
532-024-01	533-024-01	M24x3
532-027-01	533-027-01	M27x3

Code(GO)	Code(NOGO)	Size(mm)
532-030-01	533-030-01	M30x3.5
532-033-01	533-033-01	M33x3.5
532-036-01	533-036-01	M36x4
532-042-01	533-042-01	M42x4.5
532-048-01	533-048-01	M48x5
532-052-01	533-052-01	M52x5
532-060-01	533-060-01	M60x5.5

FINE THREAD

Code(GO)	Code(NOGO)	Size(mm)
534-002-01	535-002-01	M2x0.25
534-002-21	535-002-21	M2.2x0.25
534-002-51	535-002-51	M2.5x0.35
534-003-01	535-003-01	M3x0.35
534-003-51	535-003-51	M3.5x0.35
534-004-01	535-004-01	M4x0.5
534-005-01	535-005-01	M5x0.5
534-006-01	535-006-01	M6x0.5
534-006-02	535-006-02	M6x0.75
534-007-01	535-007-01	M7x0.5
534-007-02	535-007-02	M7x0.75
534-008-01	535-008-01	M8x0.5
534-008-02	535-008-02	M8x0.75
534-008-03	535-008-03	M8x1
534-009-01	535-009-01	M9x0.5
534-009-02	535-009-02	M9x0.75
534-009-03	535-009-03	M9x1
534-010-01	535-010-01	M10x0.5
534-010-02	535-010-02	M10x0.75
534-010-03	535-010-03	M10x1
534-010-04	535-010-04	M10x1.25
534-011-02	535-011-02	M11x0.75
534-011-03	535-011-03	M11x1
534-012-01	535-012-01	M12x0.5
534-012-02	535-012-02	M12x0.75
534-012-03	535-012-03	M12x1
534-012-04	535-012-04	M12x1.25
534-012-05	535-012-05	M12x1.5
534-014-01	535-014-01	M14x0.5
534-014-02	535-014-02	M14x0.75
534-014-03	535-014-03	M14x1
534-014-04	535-014-04	M14x1.25
534-014-05	535-014-05	M14x1.5
534-016-01	535-016-01	M16x0.5
534-016-02	535-016-02	M16x0.75
534-016-03	535-016-03	M16x1
534-016-04	535-016-04	M16x1.5

Code(GO)	Code(NOGO)	Size(mm)
534-018-01	535-018-01	M18x0.5
534-018-02	535-018-02	M18x0.75
534-018-03	535-018-03	M18x1
534-018-04	535-018-04	M18x1.5
534-018-05	535-018-05	M18x2
534-020-01	535-020-01	M20x0.5
534-020-02	535-020-02	M20x0.75
534-020-03	535-020-03	M20x1
534-020-04	535-020-04	M20x1.5
534-020-05	535-020-05	M20x2
534-022-01	535-022-01	M22x0.5
534-022-02	535-022-02	M22x0.75
534-022-03	535-022-03	M22x1
534-022-04	535-022-04	M22x1.5
534-022-05	535-022-05	M22x2
534-024-01	535-024-01	M24x0.75
534-024-02	535-024-02	M24x1
534-024-03	535-024-03	M24x1.5
534-024-04	535-024-04	M24x2
534-027-01	535-027-01	M27x0.75
534-027-02	535-027-02	M27x1
534-027-03	535-027-03	M27x1.5
534-027-04	535-027-04	M27x2
534-030-01	535-030-01	M30x0.75
534-030-02	535-030-02	M30x1
534-030-03	535-030-03	M30x1.5
534-030-04	535-030-04	M30x2
534-030-05	535-030-05	M30x3
534-033-01	535-033-01	M33x0.75
534-033-02	535-033-02	M33x1
534-033-03	535-033-03	M33x1.5
534-033-04	535-033-04	M33x2
534-033-05	535-033-05	M33x3
534-036-01	535-036-01	M36x1
534-036-02	535-036-02	M36x1.5
534-036-03	535-036-03	M36x2
534-036-04	535-036-04	M36x3

Code(GO)	Code(NOGO)	Size(mm)
534-039-01	535-039-01	M39x1
534-039-02	535-039-02	M39x1.5
534-039-03	535-039-03	M39x2
534-039-04	535-039-04	M39x3
534-042-01	535-042-01	M42x1
534-042-02	535-042-02	M42x1.5
534-042-03	535-042-03	M42x2
534-042-04	535-042-04	M42x3
534-042-05	535-042-05	M42x4
534-045-01	535-045-01	M45x1
534-045-02	535-045-02	M45x1.5
534-045-03	535-045-03	M45x2
534-045-04	535-045-04	M45x3
534-045-05	535-045-05	M45x4
534-048-01	535-048-01	M48x1
534-048-02	535-048-02	M48x1.5
534-048-03	535-048-03	M48x2
534-048-04	535-048-04	M48x3
534-048-05	535-048-05	M48x4
534-052-01	535-052-01	M52x1
534-052-02	535-052-02	M52x1.5
534-052-03	535-052-03	M52x2
534-052-04	535-052-04	M52x3
534-052-05	535-052-05	M52x4
534-056-01	535-056-01	M56x1
534-056-02	535-056-02	M56x1.5
534-056-03	535-056-03	M56x2
534-056-04	535-056-04	M56x3
534-056-05	535-056-05	M56x4
534-060-01	535-060-01	M60x1
534-060-02	535-060-02	M60x1.5
534-060-03	535-060-03	M60x2
534-060-04	535-060-04	M60x3
534-060-05	535-060-05	M60x4



**SERIES 542**

**THREAD PLUG GAUGE**

**CUSTOM-MADE**

other sizes are available upon request

- ◆ Grade 6H
- ◆ Meet ISO1502
- ◆ Hardness HRC60-62



542-024-01

Code	Size(mm)
542-002-01	M2x0.4
542-002-21	M2.2x0.45
542-002-51	M2.5x0.45
542-003-01	M3x0.5
542-003-02	M3.5x0.6
542-004-01	M4x0.7
542-005-01	M5x0.8
542-006-01	M6x1

Code	Size(mm)
542-007-01	M7x1
542-008-01	M8x1.25
542-009-01	M9x1.25
542-010-01	M10x1.5
542-011-01	M11x1.5
542-012-01	M12x1.75
542-014-01	M14x2
542-016-01	M16x2

Code	Size(mm)
542-018-01	M18x2.5
542-020-01	M20x2.5
542-022-01	M22x2.5
542-024-01	M24x3
542-027-01	M27x3
542-030-01	M30x3.5
542-033-01	M33x3.5
542-036-01	M36x4

Code	Size(mm)
542-039-01	M39x4
542-042-01	M42x4.5
542-045-01	M45x4.5
542-048-01	M48x5
542-052-01	M52x5
542-056-01	M56x5.5
542-060-01	M60x5.5

**SERIES 543**

**FINE THREAD PLUG GAUGE**

**CUSTOM-MADE**

other sizes are available upon request

- ◆ Grade 6H
- ◆ Meet ISO1502
- ◆ Hardness HRC60-62, good wear resistance



543-020-01

Code	Size(mm)
543-002-01	M2x0.25
543-002-21	M2.2x0.25
543-002-31	M2.5x0.35
543-003-01	M3x0.35
543-003-02	M3.5x0.35
543-004-01	M4x0.5
543-005-01	M5x0.5
543-006-01	M6x0.5
543-006-02	M6x0.75
543-007-01	M7x0.5
543-007-02	M7x0.75
543-008-01	M8x0.5
543-008-02	M8x0.75
543-008-03	M8x1
543-009-01	M9x0.5
543-009-02	M9x0.75
543-009-03	M9x1
543-010-01	M10x0.5
543-010-02	M10x0.75
543-010-03	M10x1
543-010-04	M10x1.25
543-011-01	M11x0.5

Code	Size(mm)
543-011-02	M11x0.75
543-011-03	M11x1
543-012-01	M12x0.5
543-012-02	M12x0.75
543-012-03	M12x1
543-012-04	M12x1.25
543-012-05	M12x1.5
543-014-01	M14x0.5
543-014-02	M14x0.75
543-014-03	M14x1
543-014-04	M14x1.25
543-014-05	M14x1.5
543-016-01	M16x0.5
543-016-02	M16x0.75
543-016-03	M16x1
543-016-04	M16x1.5
543-018-01	M18x0.5
543-018-02	M18x0.75
543-018-03	M18x1
543-018-04	M18x1.5
543-018-05	M18x2
543-020-01	M20x0.5

Code	Size(mm)
543-020-02	M20x0.75
543-020-03	M20x1
543-020-04	M20x1.5
543-020-05	M20x2
543-022-01	M22x0.5
543-022-02	M22x0.75
543-022-03	M22x1
543-022-04	M22x1.5
543-022-05	M22x2
543-024-01	M24x0.75
543-024-02	M24x1
543-024-03	M24x1.5
543-024-04	M24x2
543-027-01	M27x0.75
543-027-02	M27x1
543-027-03	M27x1.5
543-027-04	M27x2
543-030-01	M30x0.75
543-030-02	M30x1
543-030-03	M30x1.5
543-030-04	M30x2
543-030-05	M30x3

Code	Size(mm)
543-033-01	M33x0.75
543-033-02	M33x1
543-033-03	M33x1.5
543-033-04	M33x2
543-033-05	M33x3
543-036-01	M36x1
543-036-02	M36x1.5
543-036-03	M36x2
543-036-04	M36x3
543-039-01	M39x1
543-039-02	M39x1.5
543-039-03	M39x2
543-039-04	M39x3
543-042-01	M42x1
543-042-02	M42x1.5
543-042-03	M42x2
543-042-04	M42x3
543-042-05	M42x4
543-045-01	M45x1
543-045-02	M45x1.5
543-045-03	M45x2
543-045-04	M45x3

Code	Size(mm)
543-045-05	M45x4
543-048-01	M48x1
543-048-02	M48x1.5
543-048-03	M48x2
543-048-04	M48x3
543-048-05	M48x4
543-052-01	M52x1
543-052-02	M52x1.5
543-052-03	M52x2
543-052-04	M52x3
543-052-05	M52x4
543-056-01	M56x1
543-056-02	M56x1.5
543-056-03	M56x2
543-056-04	M56x3
543-056-05	M56x4
543-060-01	M60x1
543-060-02	M60x1.5
543-060-03	M60x2
543-060-04	M60x3
543-060-05	M60x4

**SERIES 537/538**

**AMERICAN STANDARD THREAD RING GAUGE**

**CUSTOM-MADE**  
other sizes are available upon request

- ◆ Class 2A
- ◆ Conforms to standard ANSI B1.2
- ◆ Made of Oil Hardened Non-shrinking steel
- ◆ Hardness HRC60-62



537-71620-UNF

Code(GO)	Code(NOGO)	Size
537-00440-UNC	538-00440-UNC	4-40UNC
537-04048-UNF	538-04048-UNF	4-48UNF
537-00632-UNC	538-00632-UNC	6-32UNC
537-06040-UNF	538-06040-UNF	6-40UNF
537-00832-UNC	538-00832-UNC	8-32UNC
537-08036-UNF	538-08036-UNF	8-36UNF
537-01024-UNC	538-01024-UNC	10-24UNC
537-01032-UNF	538-01032-UNF	10-32UNF
537-01420-UNC	538-01420-UNC	1/4-20UNC
537-01428-UNF	538-01428-UNF	1/4-28UNF
537-51618-UNC	538-51618-UNC	5/16-18UNC
537-51624-UNF	538-51624-UNF	5/16-24UNF
537-03816-UNC	538-03816-UNC	3/8-16UNC
537-03824-UNF	538-03824-UNF	3/8-24UNF

Code(GO)	Code(NOGO)	Size
537-71614-UNC	538-71614-UNC	7/16-14UNC
537-71620-UNF	538-71620-UNF	7/16-20 UNF
537-01213-UNC	538-01213-UNC	1/2-13 UNC
537-01220-UNF	538-01220-UNF	1/2-20 UNF
537-91612-UNC	538-91612-UNC	9/16-12UNC
537-91618-UNF	538-91618-UNF	9/16-18UNF
537-05811-UNC	538-05811-UNC	5/8-11UNC
537-05818-UNF	538-05818-UNF	5/8-18UNF
537-03410-UNC	538-03410-UNC	3/4-10UNC
537-03416-UNF	538-03416-UNF	3/4-16UNF
537-07809-UNC	538-07809-UNC	7/8-9UNC
537-07814-UNF	538-07814-UNF	7/8-14UNF
537-01080-UNC	538-01080-UNC	1-8 UNC
537-01012-UNF	538-01012-UNF	1-12UNF

**SERIES 547**

**AMERICAN STANDARD THREAD PLUG GAUGE**

**CUSTOM-MADE**  
other sizes are available upon request

- ◆ Class 2B
- ◆ Conforms to standard ANSI B1.2
- ◆ Made of Oil Hardened Non-shrinking steel
- ◆ Hardness HRC60-62



547-71620-UNF

Code(GO)	Size
547-00440-UNC	4-40UNC
547-04048-UNF	4-48UNF
547-00632-UNC	6-32UNC
547-06040-UNF	6-40UNF
547-00832-UNC	8-32UNC
547-08036-UNF	8-36UNF
547-01024-UNC	10-24UNC
547-01032-UNF	10-32UNF
547-01420-UNC	1/4-20UNC
547-01428-UNF	1/4-28UNF

Code(GO)	Size
547-51618-UNC	5/16-18UNC
547-51624-UNF	5/16-24UNF
547-03816-UNC	3/8-16UNC
547-03824-UNF	3/8-24UNF
547-71614-UNC	7/16-14UNC
547-71620-UNF	7/16-20 UNF
547-01213-UNC	1/2-13 UNC
547-01220-UNF	1/2-20 UNF
547-91612-UNC	9/16-12UNC
547-91618-UNF	9/16-18UNF

Code(GO)	Size
547-05811-UNC	5/8-11UNC
547-05818-UNF	5/8-18UNF
547-03410-UNC	3/4-10UNC
547-03416-UNF	3/4-16UNF
547-07809-UNC	7/8-9UNC
547-07814-UNF	7/8-14UNF
547-01080-UNC	1-8 UNC
547-01012-UNF	1-12UNF

**SERIES 544**

**NPT THREAD GAUGE**

- ◆ Conforms to standard ANSI/ASME B1.20.1
- ◆ Taper: 1:16
- ◆ Made of Oil Hardened Non-shrinking steel

**PLUG GAUGE**



544-014-01

Code	Size	Code	Size
544-027-04	NPT 1/16" x 27	544-11D5-12	NPT1-1/4"x11.5
544-027-03	NPT 1/8" x 27	544-11D5-11	NPT1-1/2"x11.5
544-018-02	NPT1/4" x 18	544-11D5-20	NPT2"X11.5
544-018-33	NPT3/8"x18	544-008-21	NPT2-1/2"X8
544-014-01	NPT1/2" x 14	544-008-30	NPT3"X8
544-014-32	NPT3/4"x14	544-008-32	NPT3-1/2"X8
544-11D5-10	NPT1"x11.5	544-008-40	NPT4"X8

**SERIES 544**

**NPT THREAD GAUGE**

- ◆ Conforms to standard ANSI/ASME B1.20.1
- ◆ Taper: 1:16
- ◆ Made of Oil Hardened Non-shrinking steel

**RING GAUGE**



Front

Back

544-014-01R

Code	Size	Code	Size
544-027-04R	NPT 1/16" x 27	544-11D5-12R	NPT1-1/4"x11.5
544-027-03R	NPT 1/8" x 27	544-11D5-11R	NPT1-1/2"x11.5
544-018-02R	NPT1/4" x 18	544-11D5-20R	NPT2"X11.5
544-018-33R	NPT3/8"x18	544-008-21R	NPT2-1/2"X8
544-014-01R	NPT1/2" x 14	544-008-30R	NPT3"X8
544-014-32R	NPT3/4"x14	544-008-32R	NPT3-1/2"X8
544-11D5-10R	NPT1"x11.5	544-008-40R	NPT4"X8

## SERIES 545

## WITHWORTH PIPE THREAD GAUGE (G SERIES)

◆ Conforms to standard ISO228

**PLUG GAUGE**



545-0500-01

Code	Size
545-0125-01	G1/8-28
545-0250-01	G1/4-19
545-0375-01	G3/8-19
545-0500-01	G1/2-14
545-0625-01	G5/8-14
545-0750-01	G3/4-14

Code	Size
545-0875-01	G7/8-14
545-1000-01	G1-11
545-1125-01	G1-1/8-11
545-1250-01	G1-1/4-11
545-1500-01	G1-1/2-11
545-1750-01	G1-3/4-11

Code	Size
545-2000-01	G2-11
545-2500-01	G2-1/2-11
545-3000-01	G3-11
545-4000-01	G4-11

## SERIES 535/536

## WITHWORTH PIPE THREAD GAUGE (G SERIES)

◆ Conforms to standard ISO228  
◆ Class B

**RING GAUGE**



535-0250-01



536-0250-01

Code(GO)	Code(NOGO)	Size
535-0125-01	536-0125-01	G1/8-28
535-0250-01	536-0250-01	G1/4-19
535-0375-01	536-0375-01	G3/8-19
535-0500-01	536-0500-01	G1/2-14
535-0625-01	536-0625-01	G5/8-14
535-0750-01	536-0750-01	G3/4-14
535-0875-01	536-0875-01	G7/8-14
535-1000-01	536-1000-01	G1-11

Code(GO)	Code(NOGO)	Size
535-1125-01	536-1125-01	G1-1/8-11
535-1250-01	536-1250-01	G1-1/4-11
535-1500-01	536-1500-01	G1-1/2-11
535-1750-01	536-1750-01	G1-3/4-11
535-2000-01	536-2000-01	G2-11
535-2500-01	536-2500-01	G2-1/2-11
535-3000-01	536-3000-01	G3-11
535-4000-01	536-4000-01	G4-11

## SERIES 594

## AIR GAUGE

CUSTOM-MADE

Inside air plug gauge and standard ring

Outside air snap gauge and standard column gauge



594-xxxxx-01



594-xxxxx-05

Code	Range	Remark
594-XXXXX-01	∅2-150mm	measure diameter of hole

Code	Range	Remark
594-XXXXX-05	∅4-120mm	measure diameter of shaft

GAUGE



VIDEO

- ◆ Can store 10 measuring programs, and the program can be switched quickly
- ◆ Data storage function, support manual and automatic storing, 1000 groups data can be stored
- ◆ Automatically detect internal or external dimension measurement
- ◆ Automatic grouping function for workpiece sorting

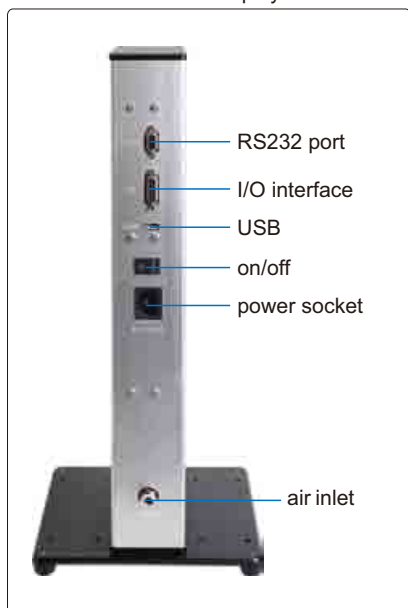
LED column

zero point

Application



Back of display



RS232 port

I/O interface

USB

on/off

power socket

air inlet

display

key panel

air outlet

rate regulating valve

Air filter and pressure regulating valve



Work in groups



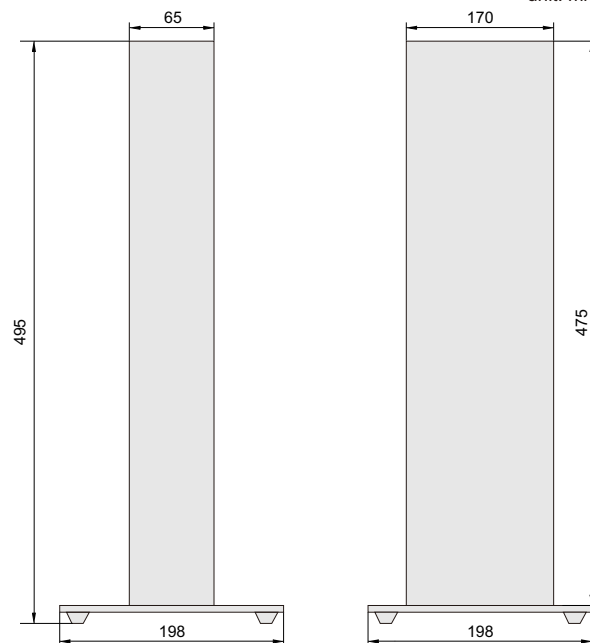
### SPECIFICATION

Code	595-101-01				
LED quantity	101 pcs				
LED color	red, orange, green				
LED height	254mm				
Range	10μm	20μm	50μm	100μm	
Resolution	LED column	0.1μm	0.2μm	0.5μm	1μm
	Display	0.1μm			
Accuracy	0.2μm	0.4μm	0.5μm	1μm	
Air supply	dir and clean, 0.4~0.8MPa				
Output	RS232/USB, I/O interface				
Operation temperature	0~45°C				
Power	100-240V, 50/60Hz				
Power consumption	<20W				
Max. current	2A				
Dimension(LxWxH)	170x65x475mm				
Weight	3kg				

### OPTIONAL ACCESSORIES

Air filter
Pressure regulating valve
RS232 cable

unit: mm



**SERIES 559**

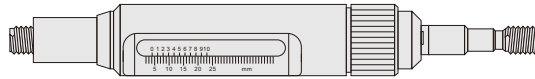
**THREAD DEPTH GAUGE**

**CUSTOM-MADE**  
other sizes are available upon request

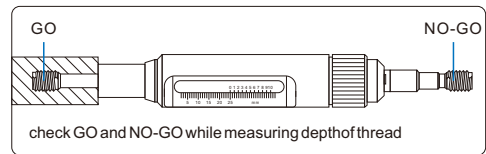
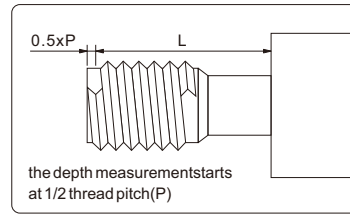
- ◆ Supplied with GO and NO-GO gages together
- ◆ Check GO and NO-GO while measuring the depth thread
- ◆ The GO gage can be replaced after wear
- ◆ Graduation: 0.1mm
- ◆ Accuracy:  $\pm 0.1\text{mm}$



559-004-01



Code	Size	Depth range
559-003-01	M3x0.5-6H	4-25mm
559-004-01	M4x0.7-6H	4-25mm
559-005-01	M5x0.8-6H	4-25mm
559-006-01	M6x1-6H	4-25mm
559-008-01	M8x1.25-6H	5-45mm
559-010-01	M10x1.5-6H	5-45mm
559-012-01	M12x1.75-6H	5-45mm
559-014-01	M14x2-6H	5-45mm

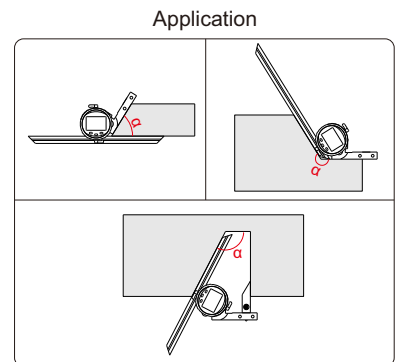
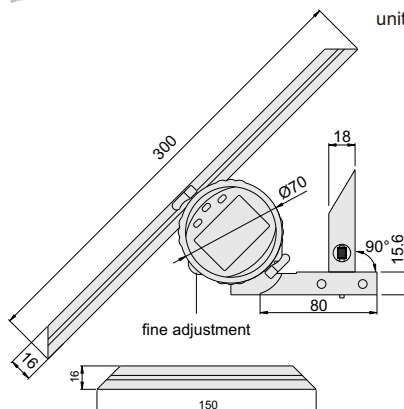
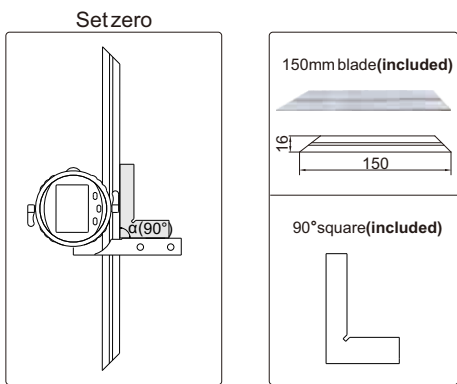


**822**

**DIGITAL PROTRACTOR**



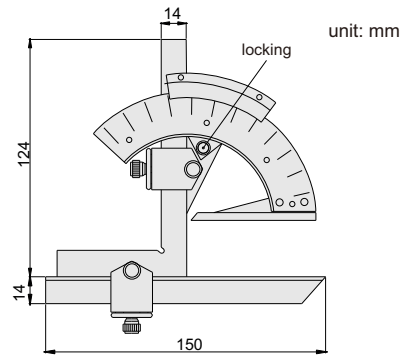
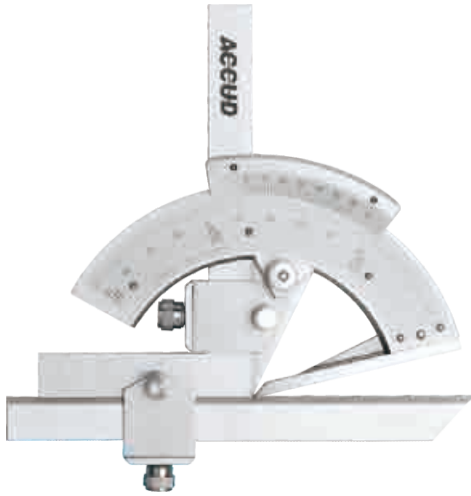
- ◆ Button function:
  - SET: preset the reading and change the measuring direction
  - MODE: choose range 90°, 180°, 360°
  - ZERO/ON/OFF: set zero and power on/off
- ◆ Data output
- ◆ With a 150mm blade and a 90° square
- ◆ Made of stainless steel



Code	Range	Resolution	Accuracy
822-360-01	0-360°	10"/0.005°	$\pm 5'$

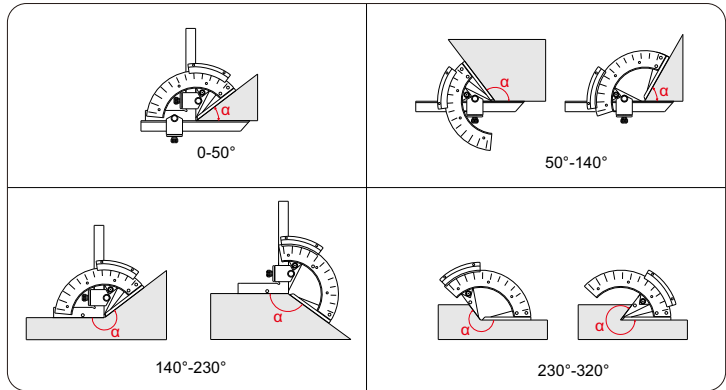
814

UNIVERSAL PROTRACTOR



- ◆ Graduation : 2'
- ◆ Made of stainless steel
- ◆ Satin chrome plated scale

Application

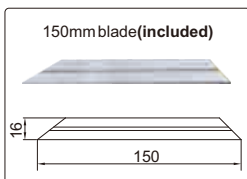
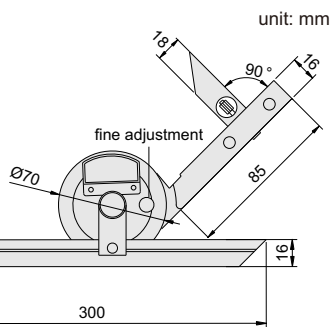


Code	Range	Accuracy
814-320-01	0 - 320°	±2'

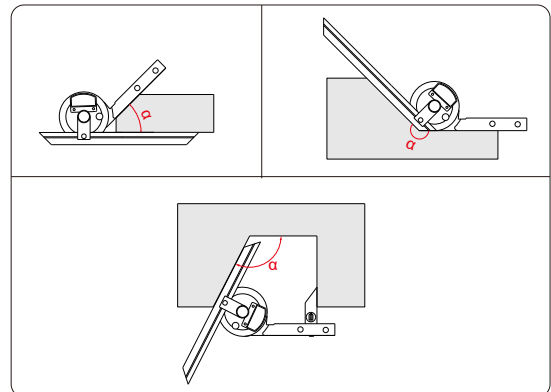
815

UNIVERSAL PROTRACTOR

- ◆ Graduation : 5'
- ◆ Parallax-free reading
- ◆ With one blade: 150mm
- ◆ Made of stainless steel
- ◆ Optional accessory: clamp for height gages



Application



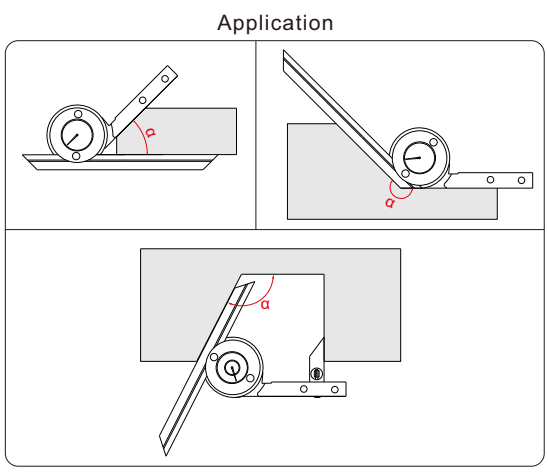
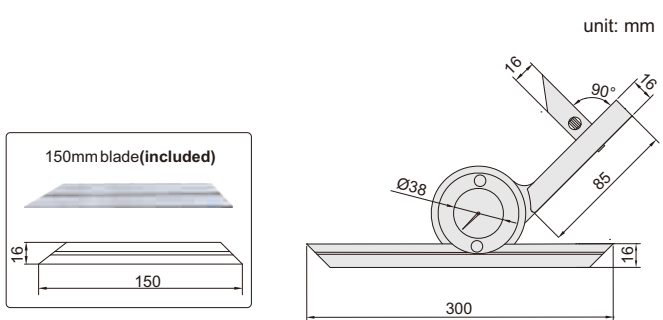
Code	Range	Accuracy
815-360-01	0 - 360°	±5'



**816**

**UNIVERSAL PROTRACTOR**

- ◆ Graduation : 5'
- ◆ With one blade: 150mm
- ◆ Made of carbon steel
- ◆ Optional accessory: clamp for height gages



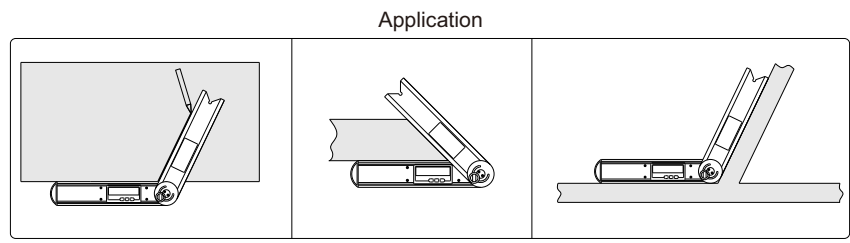
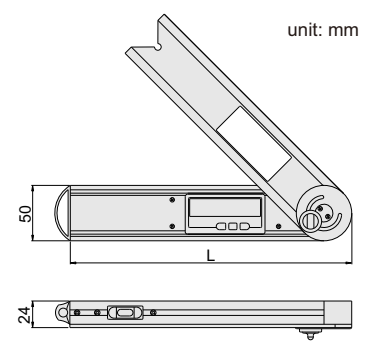
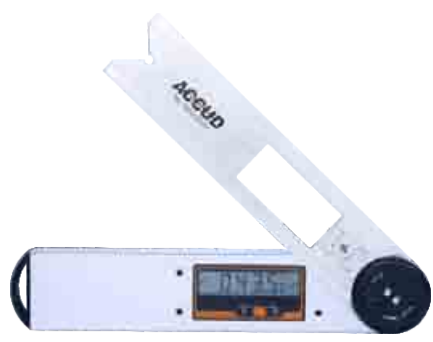
Code	Range	Accuracy
816-360-01	0 - 360°	±5'

**726**

**DIGITAL PROTRACTOR**



- ◆ Buttons: ON/OFF, HOLD, ZERO, ABS
- ◆ Measuring ranges can be set 0°~225°, -225°~0°, -45°~180°, -180°~45°
- ◆ Remove the locking screw for 360° range
- ◆ With level vial
- ◆ Automatic power off



Code	Range	Resolution	Accuracy	Size(L)
726-360-01	0 - 360°	0.05°	±0.15°	250mm

823

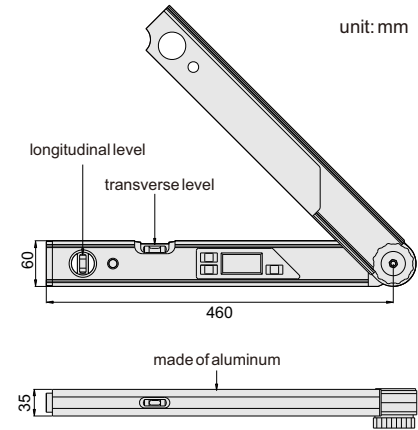
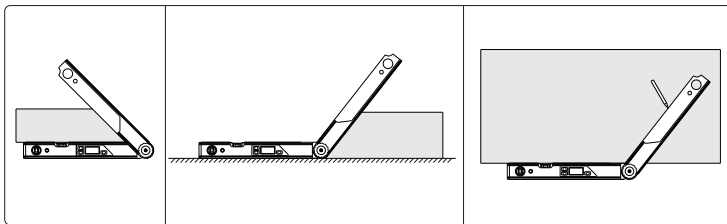
DIGITAL PROTRACTOR



- ◆ Suitable for setting horizontal and vertical mitre angles of cutting machines
- ◆ Buttons: on/off, HOLD/SUP, SPR/CNR/MTR/BVL
- ◆ IP54 dust/waterproof
- ◆ With transverse and longitudinal level
- ◆ Absolute level, zero setting is not needed when batteries are replaced
- ◆ Backlight turns off in one minute after reading is stable, automatic power off in 5 minutes



Application



Code	Range	Resolution	Accuracy
823-225-01	0 - 225°	0.05°	±0.10°

SERIES 824

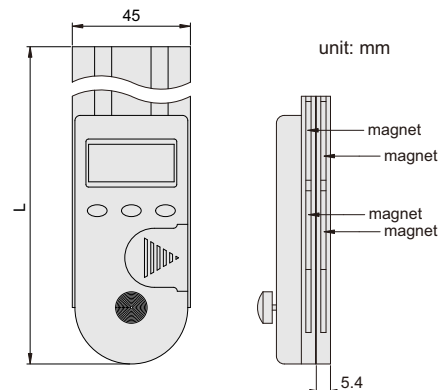
DIGITAL PROTRACTOR



- ◆ Button function:  
Hold/Rev: hold/flip  
ZERO: set zero  
ON/OFF: power on/off
- ◆ With locking screw
- ◆ Side with magnetic force
- ◆ Resolution: 0.05°



824-004-11



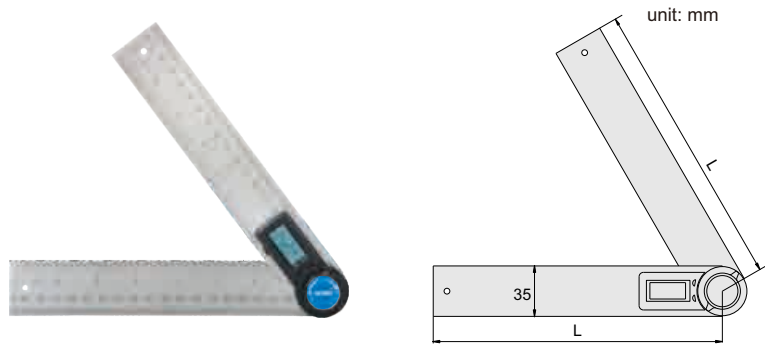
Code	Size	Range	Accuracy	L
824-004-11	100mm	0-360°	±0.2°	103
824-008-11	200mm	0-360°	±0.2°	205
824-012-11	300mm	0-360°	±0.2°	306

**SERIES 821**

**DIGITAL PROTRACTOR**

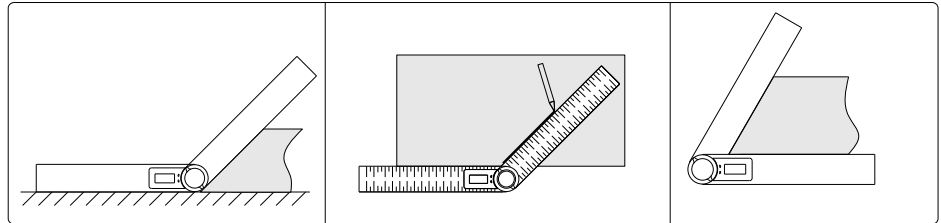


- ◆ Resolution: 0.1°
- ◆ Buttons: on/off, zero
- ◆ With locking attachment
- ◆ Rule graduation: 1mm and 1/32"
- ◆ Automatic power off



821-008-01

Application



Code	Size(L)	Range	Accuracy
821-008-01	200mm	0-360°	±0.3°
821-012-01	300mm	0-360°	±0.3°

**SERIES 821**

**DIGITAL PROTRACTOR**

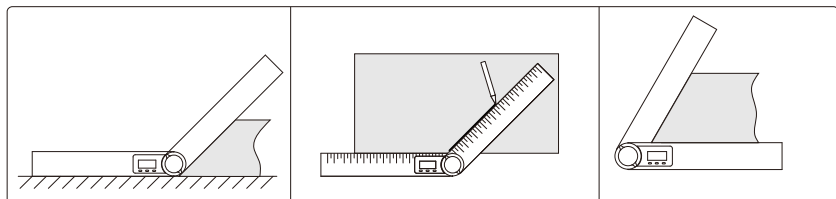


- ◆ Economic type
- ◆ Resolution: 0.1°
- ◆ Buttons: on/off, zero
- ◆ With locking attachment
- ◆ Rule graduation: 1mm and 1/32"
- ◆ Automatic power off



821-008-01N

Application

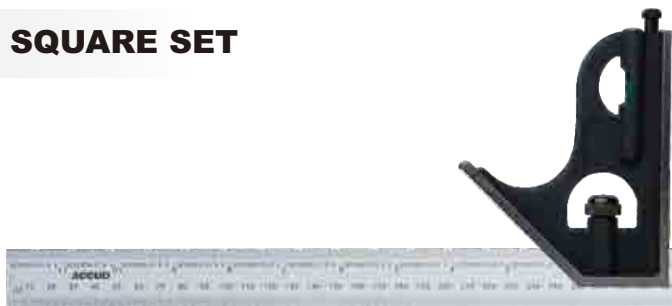


Code	Size(L)	Range	Accuracy
821-008-01N	200mm	0-360°	±0.3°
821-012-01N	300mm	0-360°	±0.3°

**SERIES 817**

**COMBINATION SQUARE SET**

- ◆ **Protractor (made of cast iron), only for 817-180-02:**  
Used to set an angle or angle measurement, measuring range: 0-180°, accuracy: ±20'
- ◆ **Square (made of cast iron):**  
Used as 90° square or 45° square  
accuracy of 90° square: ±8',  
accuracy of 45° square: ±10'
- ◆ **Blade (made of stainless steel):**  
Used as rule, measuring range: 300mm/12"  
front side graduation: 0.5mm and 1/32"  
reverse side graduation: 1mm and 1/64"  
Used as rule, measuring range: 600mm/24"  
front side graduation: 0.5mm and 1/32"  
reverse side graduation: 1mm and 1/64"
- ◆ **Center finder (made of cast iron), only for 817-090-13 and 817-180-02:**  
To locate center of cylinders with diameter (Ød): 30-100mm, accuracy: ±0.15mm



817-090-12

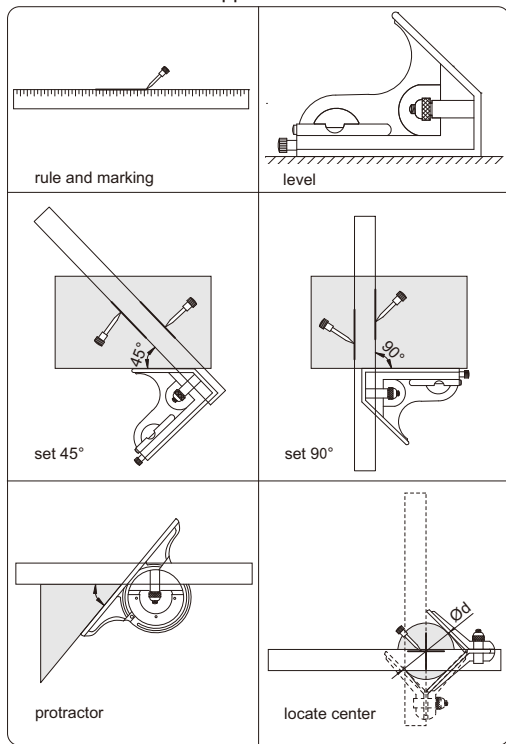


817-090-13



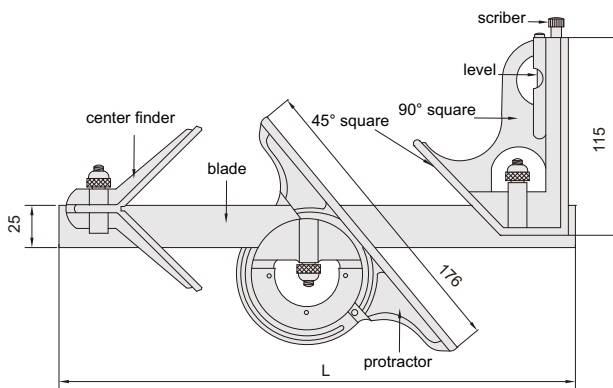
817-180-02

Application

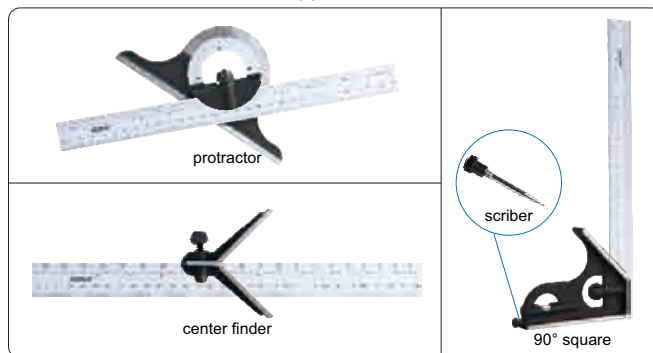


817-000-24

unit: mm



Application



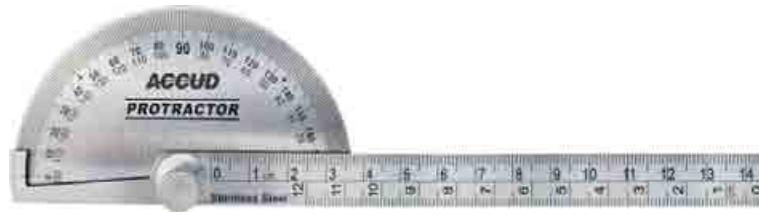
Code	L	Remark
817-090-12	305	2-piece set
817-090-13	305	3-piece set
817-180-02	305	4-piece set

Code	L
817-000-24	610

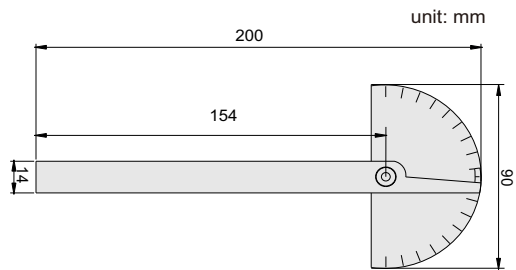
811

PROTRACTOR

- ◆ Economic type
- ◆ Made of stainless steel
- ◆ With locking screw



Package



Code	Size	Range	Graduation	Accuracy
811-180-11	90x52mm	0 - 180°	1°	±0.5°

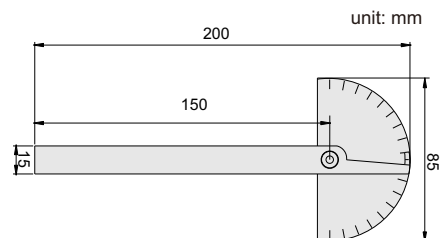
SERIES 811

PROTRACTOR

- ◆ Graduation : 1°
- ◆ Made of stainless steel
- ◆ Satin chrome plated scale
- ◆ With locking screw



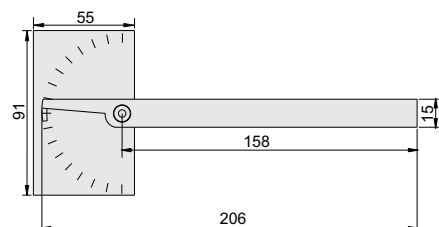
811-180-01



Package



811-180-02



Code	Size	Range	Accuracy
811-180-01	85x150mm	0 - 180°	±0.3°
811-180-02	91x158mm	0 - 180°	±0.3°

**SERIES 812**

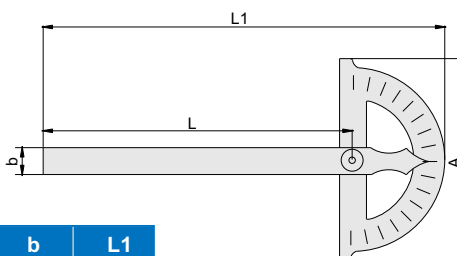
**PROTRACTOR**

- ◆ Graduation : 1°
- ◆ Made of stainless steel
- ◆ Satin chrome plated scale
- ◆ With locking screw



812-005-01

unit: mm

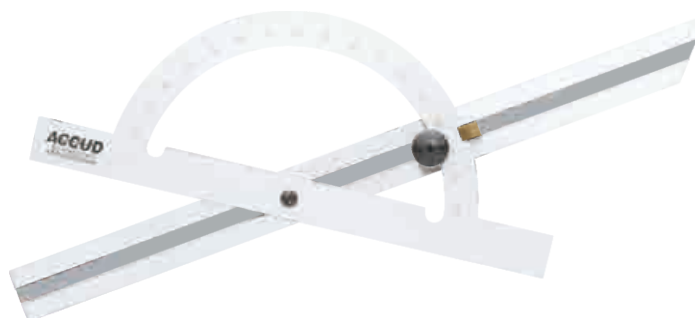


Code	Size(AxL)	Range	Accuracy	b	L1
812-003-01	80x120mm	0 - 180°	±0.3°	11	165
812-005-01	120x150mm	0 - 180°	±0.3°	13	215
812-006-01	150x200mm	0 - 180°	±0.3°	16	280
812-008-01	200x300mm	0 - 180°	±0.3°	20	410
812-012-01	300x500mm	0 - 180°	±0.3°	30	675

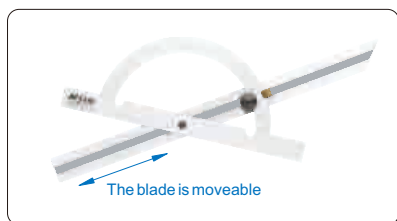
**SERIES 813**

**PROTRACTOR**

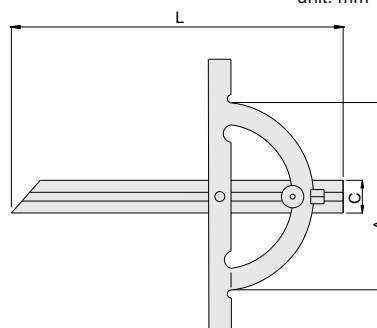
- ◆ Graduation : 1°
- ◆ Made of stainless steel
- ◆ Satin chrome plated scale
- ◆ The blade is moveable



813-012-01



unit: mm



Code	Size(AxL)	Range	Accuracy	C
813-006-01	100x150mm	10 - 170°	±0.3°	18
813-012-01	150x300mm	10 - 170°	±0.3°	18
813-016-01	200x400mm	10 - 170°	±0.3°	20
813-020-01	250x500mm	10 - 170°	±0.3°	20
813-024-01	300x600mm	10 - 170°	±0.3°	20

**SERIES 832**

**90° BEVELED EDGE SQUARE**

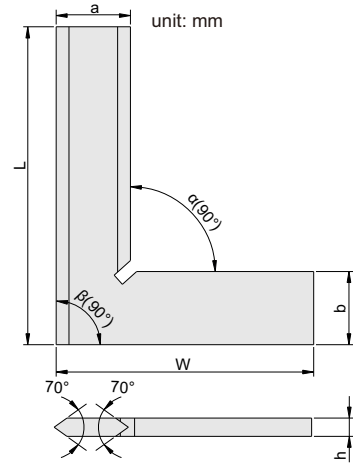
- ◆ Two beveled measuring faces
- ◆ Made of hardened stainless steel

**Grade 00**

Code	Size(LxW)	Squareness( $\alpha$ )	Squareness( $\beta$ )	Chrome plating	a	b	h
832-002-00	50x40mm	2.4 $\mu$ m	2.5 $\mu$ m	With	13	13	4
832-003-00	75x50mm	2.6 $\mu$ m	2.8 $\mu$ m	With	15	15	4
832-004-00	100x70mm	2.8 $\mu$ m	3.0 $\mu$ m	With	20	20	5
832-006-00	150x100mm	3.2 $\mu$ m	3.5 $\mu$ m	With	30	30	6
832-008-00	200x130mm	3.7 $\mu$ m	4.0 $\mu$ m	With	34	34	7
832-010-00	250x165mm	4.2 $\mu$ m	4.5 $\mu$ m	Without	35	35	7
832-012-00	300x200mm	4.6 $\mu$ m	5.0 $\mu$ m	Without	40	40	8

**Grade 0**

Code	Size(LxW)	Squareness( $\alpha$ )	Squareness( $\beta$ )	Chrome plating	a	b	h
832-002-10	50x40mm	6 $\mu$ m	6 $\mu$ m	With	13	13	4
832-003-10	75x50mm	6 $\mu$ m	7 $\mu$ m	With	15	15	4
832-004-10	100x70mm	7 $\mu$ m	7 $\mu$ m	With	20	20	5
832-006-10	150x100mm	7 $\mu$ m	8 $\mu$ m	With	30	30	6
832-008-10	200x130mm	8 $\mu$ m	9 $\mu$ m	With	34	34	7
832-010-10	250x165mm	9 $\mu$ m	10 $\mu$ m	Without	35	35	7
832-012-10	300x200mm	10 $\mu$ m	11 $\mu$ m	Without	40	40	8



**SERIES 840**

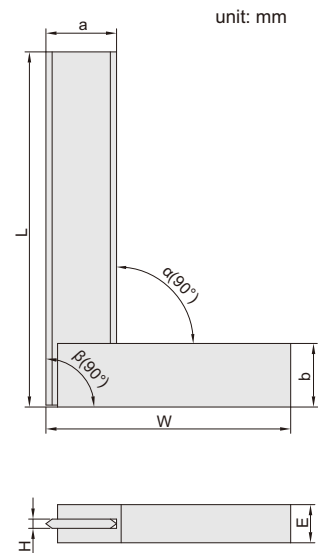
**90° BEVELED EDGE SQUARE WITH WIDE BASE**

- ◆ DIN875 grade 0
- ◆ Beveled edges for inside and outside measurement
- ◆ Made of hardened stainless steel



840-006-10

Code	Size(LxW)	Squareness		a	b	H	E
		Inside( $\alpha$ )	Outside( $\beta$ )				
840-002-10	50x40mm	6 $\mu$ m	6 $\mu$ m	12	12	3	10
840-003-10	75x50mm	6 $\mu$ m	7 $\mu$ m	14	14	3	10
840-004-10	100x70mm	7 $\mu$ m	7 $\mu$ m	18	18	3	10
840-006-10	150x100mm	8 $\mu$ m	8 $\mu$ m	22	22	4	12
840-008-10	200x130mm	9 $\mu$ m	9 $\mu$ m	25	25	4	12



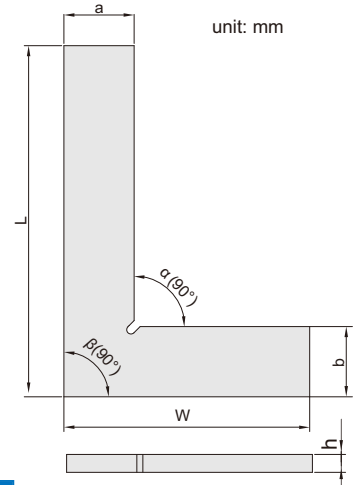
**SERIES 841**

**90° FLAT EDGE SQUARE**

- ◆ DIN875 grade 0
- ◆ Made of hardened stainless steel



841-004-10

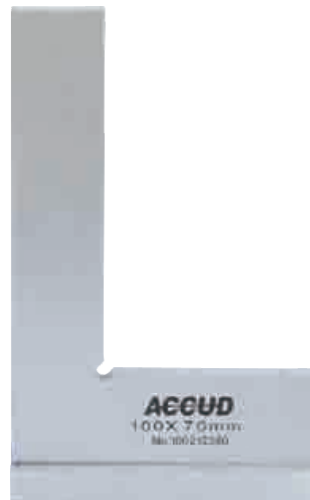


Code	Size(LxW)	Squareness( $\alpha$ )	Squareness( $\beta$ )	a	b	h
841-002-10	50x40mm	6 $\mu$ m	6 $\mu$ m	15	15	4
841-003-10	75x50mm	6 $\mu$ m	7 $\mu$ m	15	15	4
841-004-10	100x70mm	7 $\mu$ m	7 $\mu$ m	20	20	5
841-006-10	150x100mm	7 $\mu$ m	8 $\mu$ m	30	30	6
841-008-10	200x130mm	8 $\mu$ m	9 $\mu$ m	34	34	7
841-010-10	250x165mm	9 $\mu$ m	10 $\mu$ m	35	35	7
841-012-10	300x200mm	10 $\mu$ m	11 $\mu$ m	40	40	8

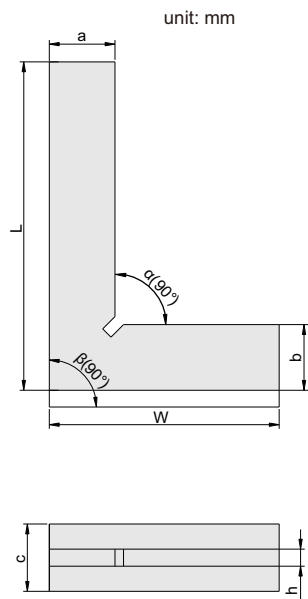
**SERIES 842**

**90° FLAT EDGE SQUARE WITH WIDE BASE**

- ◆ DIN875 grade 0
- ◆ Made of hardened stainless steel



842-004-10



Code	Size(LxW)	Squareness( $\alpha$ )	Squareness( $\beta$ )	a	b	c	h
842-002-10	50x40mm	6 $\mu$ m	6 $\mu$ m	13	13	13	4
842-003-10	75x50mm	6 $\mu$ m	7 $\mu$ m	15	15	15	4
842-004-10	100x70mm	7 $\mu$ m	7 $\mu$ m	20	20	20	5
842-006-10	150x100mm	7 $\mu$ m	9 $\mu$ m	30	30	30	6
842-008-10	200x130mm	8 $\mu$ m	9 $\mu$ m	34	34	30	7
842-010-10	250x165mm	9 $\mu$ m	10 $\mu$ m	35	35	35	7
842-012-10	300x200mm	10 $\mu$ m	11 $\mu$ m	40	40	40	8



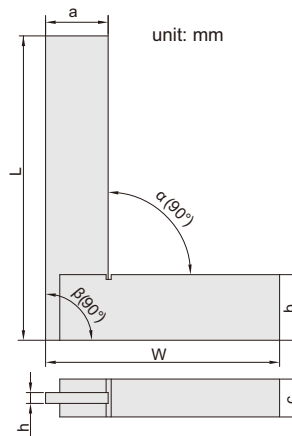
**SERIES 843**

**90° FLAT EDGE SQUARE WITH WIDE BASE**

- ◆ DIN875 grade 0
- ◆ Made of hardened stainless steel



843-004-10



Code	Size(LxW)	Squareness( $\alpha$ )	Squareness( $\beta$ )	a	b	c	h
843-002-10	50x40mm	6 $\mu$ m	6 $\mu$ m	12	12	10	3
843-003-10	75x50mm	6 $\mu$ m	7 $\mu$ m	14	14	10	3
843-004-10	100x70mm	7 $\mu$ m	7 $\mu$ m	18	18	10	3
843-006-10	150x100mm	8 $\mu$ m	8 $\mu$ m	22	22	12	4
843-008-10	200x130mm	9 $\mu$ m	9 $\mu$ m	25	25	12	4

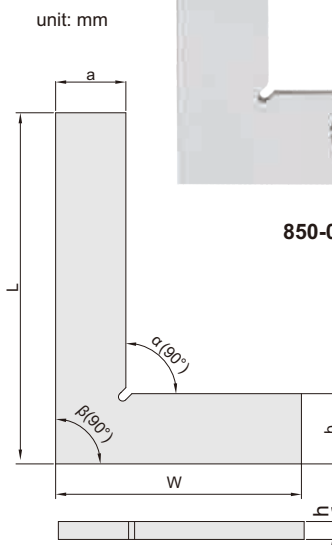
**SERIES 850**

**MACHINIST SQUARE**

- ◆ Made of carbon steel, no anti-rust treatment, not hardened



850-006-02



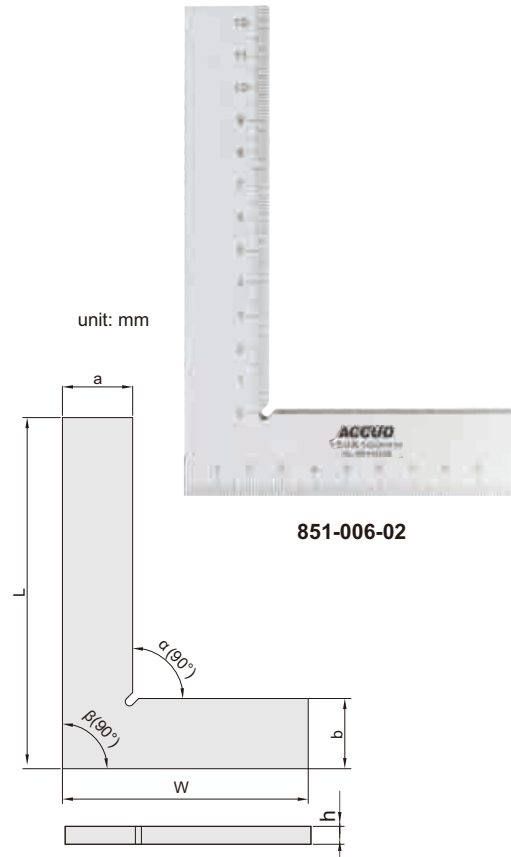
Code	Size(LxW)	Squareness		a	b	h
		Inside( $\alpha$ )	Outside( $\beta$ )			
850-002-02	50x30mm	24 $\mu$ m	25 $\mu$ m	12	12	3
850-003-02	75x50mm	26 $\mu$ m	28 $\mu$ m	16	16	3
850-004-02	100x70mm	28 $\mu$ m	30 $\mu$ m	19	19	5
850-005-02	125x80mm	30 $\mu$ m	33 $\mu$ m	22	22	5
850-006-02	150x100mm	33 $\mu$ m	35 $\mu$ m	25	25	6
850-008-02	200x130mm	38 $\mu$ m	40 $\mu$ m	25	25	6
850-010-02	250x165mm	43 $\mu$ m	45 $\mu$ m	25	25	6
850-012-02	300x200mm	47 $\mu$ m	50 $\mu$ m	30	30	6
850-014-02	350x200mm	51 $\mu$ m	55 $\mu$ m	38	38	6
850-016-02	400x200mm	56 $\mu$ m	60 $\mu$ m	38	38	9
850-018-02	450x250mm	58 $\mu$ m	65 $\mu$ m	38	38	9
850-020-02	500x300mm	65 $\mu$ m	70 $\mu$ m	38	38	9

**SERIES 851**

**MACHINIST SQUARE WITH SCALE**

- ◆ Made of carbon steel, no anti-rust treatment, not hardened

Code	Size(LxW)	Squareness		a	b	h
		Inside( $\alpha$ )	Outside( $\beta$ )			
851-002-02	50x30mm	24 $\mu$ m	25 $\mu$ m	12	12	3
851-003-02	75x50mm	26 $\mu$ m	28 $\mu$ m	16	16	3
851-004-02	100x70mm	28 $\mu$ m	30 $\mu$ m	19	19	5
851-005-02	125x80mm	30 $\mu$ m	33 $\mu$ m	22	22	5
851-006-02	150x100mm	33 $\mu$ m	35 $\mu$ m	25	25	6
851-008-02	200x130mm	38 $\mu$ m	40 $\mu$ m	25	25	6
851-010-02	250x165mm	43 $\mu$ m	45 $\mu$ m	25	25	6
851-012-02	300x200mm	47 $\mu$ m	50 $\mu$ m	30	30	6
851-014-02	350x200mm	51 $\mu$ m	55 $\mu$ m	38	38	6
851-016-02	400x200mm	56 $\mu$ m	60 $\mu$ m	38	38	9
851-018-02	450x250mm	58 $\mu$ m	65 $\mu$ m	38	38	9
851-020-02	500x300mm	65 $\mu$ m	70 $\mu$ m	38	38	9

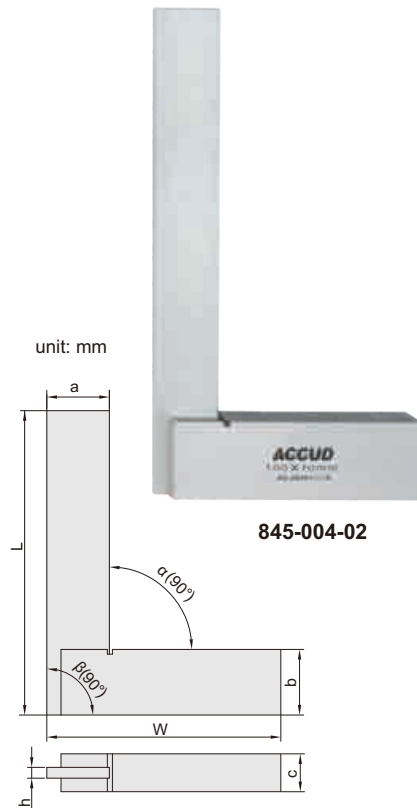


**SERIES 845**

**MACHINIST SQUARE WITH WIDE BASE**

- ◆ DIN875 grade 2
- ◆ Made of carbon steel

Code	Size(LxW)	Squareness( $\alpha$ )	Squareness( $\beta$ )	a	b	c	h
845-002-02	50x40mm	24 $\mu$ m	25 $\mu$ m	16	12	9	3
845-003-02	75x50mm	26 $\mu$ m	28 $\mu$ m	16	16	9	3
845-004-02	100x70mm	28 $\mu$ m	30 $\mu$ m	19	19	12	3
845-006-02	150x100mm	33 $\mu$ m	35 $\mu$ m	25	25	16	3
845-008-02	200x130mm	37 $\mu$ m	40 $\mu$ m	30	32	16	4
845-010-02	250x165mm	42 $\mu$ m	45 $\mu$ m	30	32	19	4
845-012-02	300x200mm	47 $\mu$ m	50 $\mu$ m	32	32	19	4
845-016-02	400x250mm	56 $\mu$ m	60 $\mu$ m	38	38	22	5
845-020-02	500x300mm	65 $\mu$ m	70 $\mu$ m	45	50	25	6
845-024-02	600x350mm	75 $\mu$ m	80 $\mu$ m	50	50	30	6
845-030-02	750x400mm	90 $\mu$ m	95 $\mu$ m	55	55	50	6
845-036-02	900x500mm	103 $\mu$ m	110 $\mu$ m	65	75	50	9
845-040-02	1000x550mm	113 $\mu$ m	120 $\mu$ m	65	75	50	9

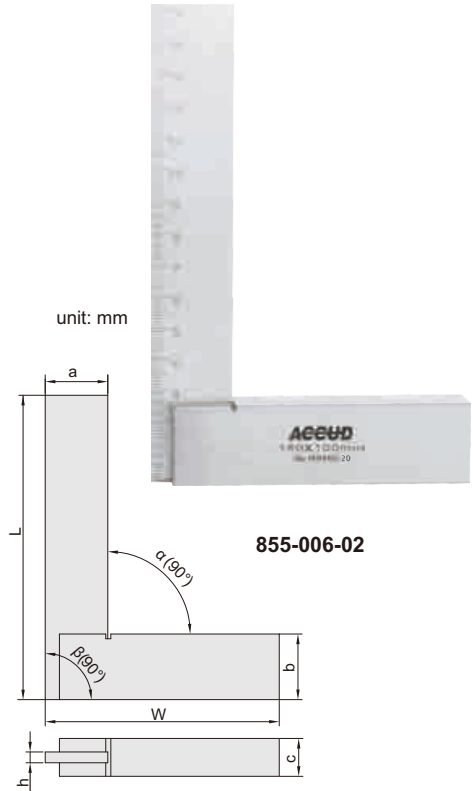


**SERIES 855**

**MACHINIST SQUARE WITH WIDE BASE AND SCALE**

- ◆ Made of carbon steel, no anti-rust treatment, not hardened

Code	Size(LxW)	Squareness		a	b	h	c
		Inside( $\alpha$ )	Outside( $\beta$ )				
855-002-02	50x30mm	24 $\mu$ m	25 $\mu$ m	16	12	2.5	9
855-003-02	75x50mm	26 $\mu$ m	28 $\mu$ m	16	16	2.5	9
855-004-02	100x70mm	28 $\mu$ m	30 $\mu$ m	19	19	3	12
855-005-02	125x80mm	31 $\mu$ m	33 $\mu$ m	22	19	3	12
855-006-02	150x100mm	33 $\mu$ m	35 $\mu$ m	25	25	3	16
855-008-02	200x130mm	37 $\mu$ m	40 $\mu$ m	30	32	3	16
855-010-02	250x165mm	42 $\mu$ m	45 $\mu$ m	30	32	3	19
855-012-02	300x200mm	47 $\mu$ m	50 $\mu$ m	32	32	3	19
855-014-02	350x200mm	51 $\mu$ m	55 $\mu$ m	38	38	4.5	22
855-016-02	400x200mm	56 $\mu$ m	60 $\mu$ m	38	38	4.5	22
855-018-02	450x250mm	61 $\mu$ m	65 $\mu$ m	44	38	4.5	22
855-020-02	500x300mm	65 $\mu$ m	70 $\mu$ m	44	50	6	25
855-024-02	600x350mm	75 $\mu$ m	80 $\mu$ m	50	50	6	30
855-030-02	750x400mm	90 $\mu$ m	95 $\mu$ m	55	55	6	50
855-036-02	900x500mm	103 $\mu$ m	110 $\mu$ m	65	75	9	50
855-040-02	1000x550mm	113 $\mu$ m	120 $\mu$ m	65	75	9	50



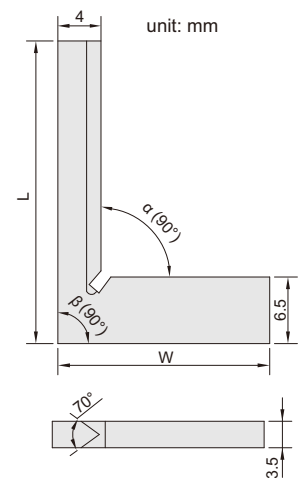
**SERIES 833**

**90° TOOL MAKER SQUARE**

- ◆ DIN875 grade 00
- ◆ Beveled edge for inside measurement
- ◆ Made of hardened stainless steel



833-040-00

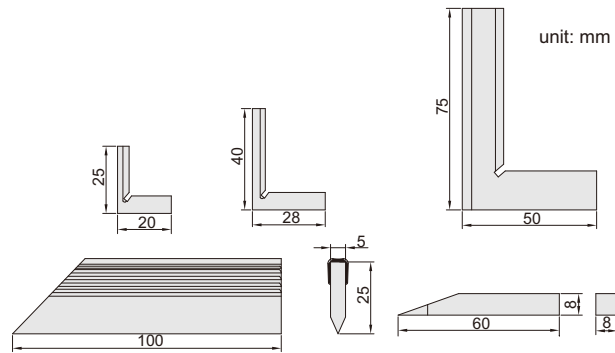
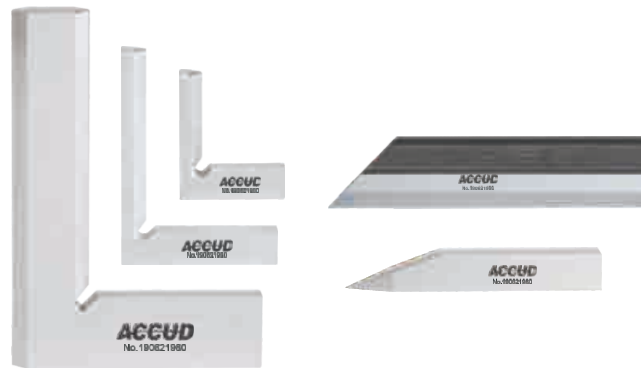


Code	Size(LxW)	Squareness	
		Inside( $\alpha$ )	Outside( $\beta$ )
833-025-00	25x20mm	2.2 $\mu$ m	2.3 $\mu$ m
833-040-00	40x28mm	2.3 $\mu$ m	2.4 $\mu$ m

839

SQUARE SET

- ◆ Includes:
  - 90° tool maker square 25x20mm  
DIN875 grade 00 (code 833-025-00)
  - 90° tool maker square 40x28mm  
DIN875 grade 00 (code 833-040-00)
  - 90° beveled edge square 75x50mm  
DIN875 grade 00 (code 832-003-00)
  - straight edge 100mm  
DIN874 (code 994-004-01)
  - scriber
- ◆ Made of hardened stainless steel



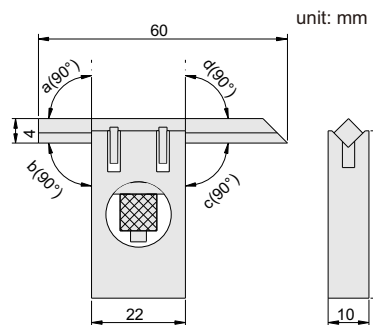
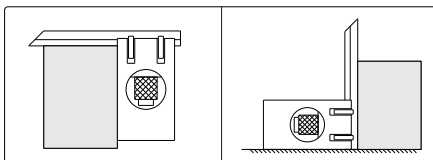
Code

839-000-05

831

ADJUSTABLE SQUARE

- ◆ The straight edge can move and can be locked by the screw
- ◆ Made of hardened stainless steel



Code

831-002-10

Squareness (a, b, c, d)

7µm



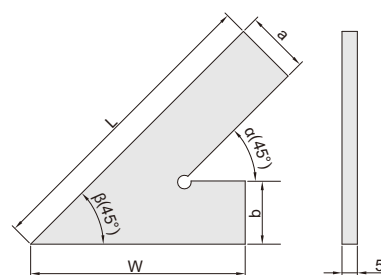
**SERIES 846**

**45° SQUARE**

◆ Made of hardened stainless steel



846-006-02



unit: mm

Code	Size(LxW)	Accuracy		a	b
		Inside( $\alpha$ )	Outside( $\beta$ )		
846-005-02	120x80mm	29 $\mu$ m	32 $\mu$ m	20	20
846-006-02	150x100mm	32 $\mu$ m	35 $\mu$ m	20	20
846-008-02	200x130mm	36 $\mu$ m	40 $\mu$ m	25	25

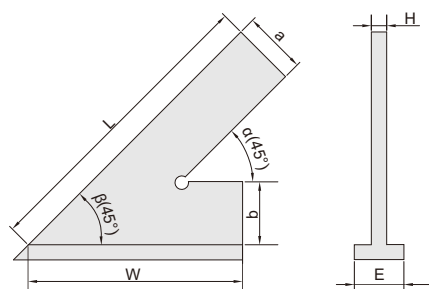
**SERIES 856**

**45° SQUARE WITH WIDE BASE**

◆ Made of hardened stainless steel



856-006-02



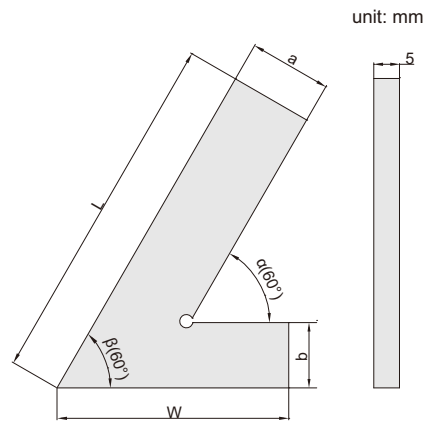
unit: mm

Code	Size(LxW)	Accuracy		a	b	H	E
		Inside( $\alpha$ )	Outside( $\beta$ )				
856-005-02	120x80mm	29 $\mu$ m	32 $\mu$ m	20	20	5	20
856-006-02	150x100mm	32 $\mu$ m	35 $\mu$ m	20	20	5	20
856-008-02	200x130mm	36 $\mu$ m	40 $\mu$ m	25	25	5	25

**SERIES 847**

**60° SQUARE**

◆ Made of hardened stainless steel



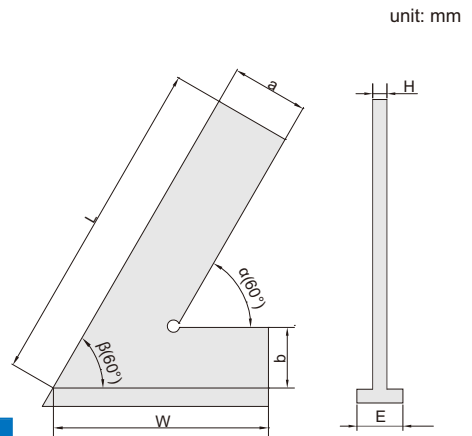
847-006-02

Code	Size(LxW)	Accuracy		a	b
		Inside( $\alpha$ )	Outside( $\beta$ )		
847-004-02	100x70mm	28 $\mu$ m	30 $\mu$ m	20	20
847-005-02	120x80mm	30 $\mu$ m	32 $\mu$ m	20	20
847-006-02	150x100mm	32 $\mu$ m	35 $\mu$ m	20	20
847-008-02	200x130mm	37 $\mu$ m	40 $\mu$ m	25	25

**SERIES 857**

**60° SQUARE WITH WIDE BASE**

◆ Made of hardened stainless steel



857-006-02

Code	Size(LxW)	Accuracy		a	b	H	E
		Inside( $\alpha$ )	Outside( $\beta$ )				
857-005-02	120x80mm	30 $\mu$ m	33 $\mu$ m	20	20	5	20
857-006-02	150x100mm	33 $\mu$ m	36 $\mu$ m	20	20	5	20
857-008-02	200x130mm	37 $\mu$ m	41 $\mu$ m	25	25	5	25



**SERIES 848**

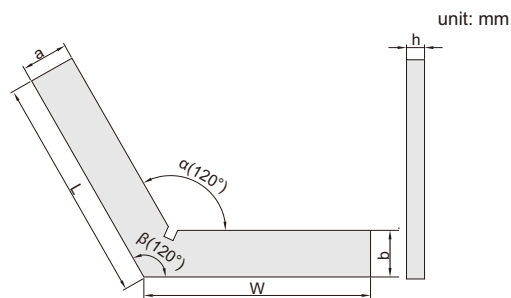
**120° SQUARE**

◆ Made of hardened stainless steel



848-004-02

Code	Size(LxW)	Accuracy		a	b	h
		Inside( $\alpha$ )	Outside( $\beta$ )			
848-002-02	50x50mm	24 $\mu$ m	25 $\mu$ m	15	15	4
848-003-02	75x75mm	26 $\mu$ m	28 $\mu$ m	20	20	5
848-004-02	100x100mm	29 $\mu$ m	30 $\mu$ m	20	20	5
848-006-02	150x150mm	34 $\mu$ m	35 $\mu$ m	25	25	5
848-008-02	200x200mm	38 $\mu$ m	40 $\mu$ m	30	30	7



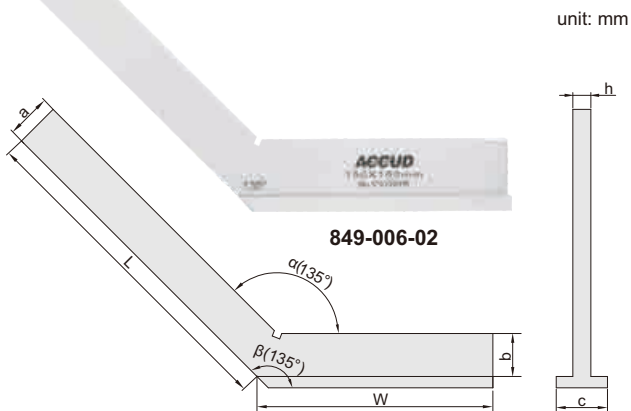
**SERIES 849**

**135° SQUARE WITH WIDE BASE**

◆ Made of hardened stainless steel



849-006-02



Code	Size(LxW)	Accuracy		a	b	c	h
		Inside( $\alpha$ )	Outside( $\beta$ )				
849-005-02	120x80mm	31 $\mu$ m	33 $\mu$ m	20	20	20	5
849-006-02	150x100mm	34 $\mu$ m	36 $\mu$ m	20	20	20	5
849-008-02	200x130mm	39 $\mu$ m	41 $\mu$ m	30	30	30	7

**SERIES 643**

**GRANITE SQUARE**

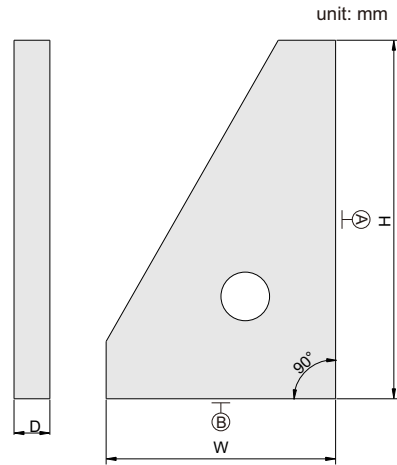


**CUSTOM-MADE**

other sizes are available upon request



643-010-01



Code	Size(HxW)	Flatness (A)	Flatness (B)	Squareness(A and B)	D
643-010-01	250x160mm	1µm	1µm	2µm	50mm
643-016-01	400x250mm	1.5µm	1µm	3µm	50mm
643-024-01	630x400mm	2µm	1.5µm	4µm	60mm

With manufacturer inspection certificate

**SERIES 644**

**GRANITE SQUARE**

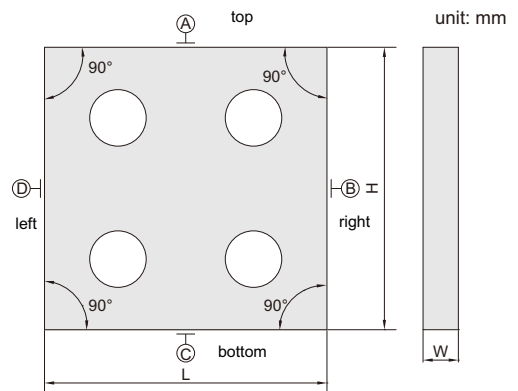


**CUSTOM-MADE**

other sizes are available upon request



644-012-01



Code	Size(LxH)	Flatness (A, B, C and D)	Parallelism or squareness (A, B, C and D)	W
644-012-01	315x315mm	1.1µm	2.6µm	40
644-020-01	500x500mm	1.5µm	3.5µm	60

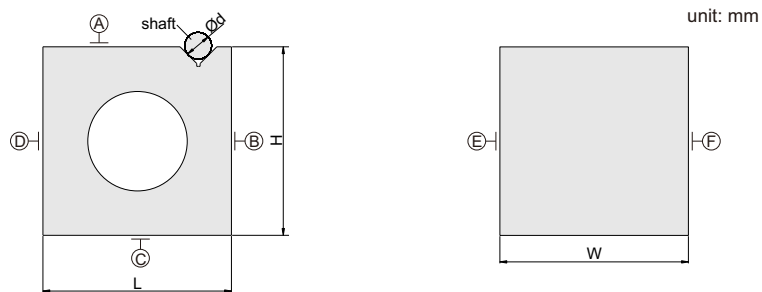
With manufacturer inspection certificate



645

GRANITE SQUARE AND V-BLOCK

◆ Thread holes: M8



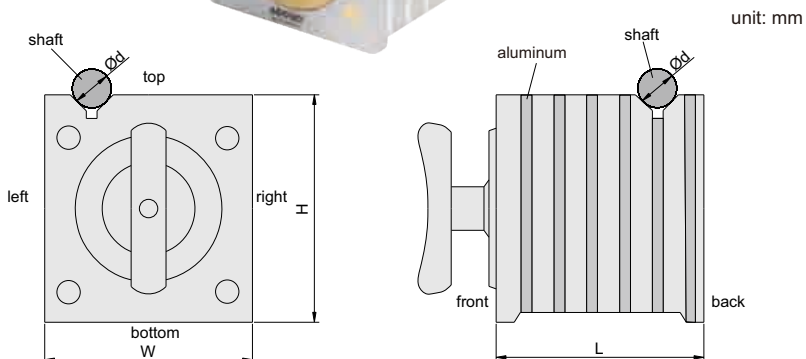
Code	Size(LxWxH)	Range of shafts (Ød)	Parallelism or squareness A, B, C, D, E and F	Parallelism or squareness of V grooves to A, B, C, D, E and F
645-006-01	160x160x160mm	6 - 42mm	6µm	6µm

SERIES 649

MAGNETIC SQUARE AND V-BLOCK



649-004-01



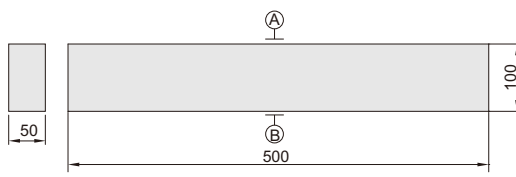
Code	Size(LxWxH)	Magnetic force		Range of shafts (Ød)	Parallelism or squareness between top, bottom, left, right and back sides	Parallelism or squareness of both V grooves to top, bottom, left, right and back sides
		V-groove	Surface			
649-004-01	100x100x100mm	25kgf	50kgf	6 - 36mm	20µm	20µm
649-006-01	150x150x150mm	50kgf	140kgf	6 - 44mm	25µm	25µm

**SERIES 642**

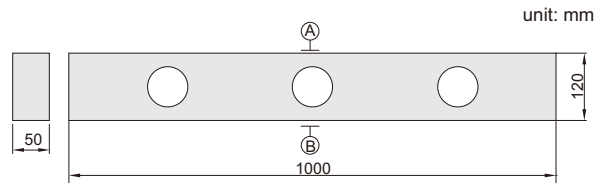
**GRANITE STRAIGHT EDGE**



642-020-01



642-020-01



642-040-01

unit: mm

Code	Length(L)	Flatness of A and B	Parallelism between A and B	W	H
642-020-01	500mm	2.1µm	3.2µm	50	100
642-040-01	1000mm	3µm	4.5µm	50	120

With manufacturer inspection certificate

**SERIES 648**

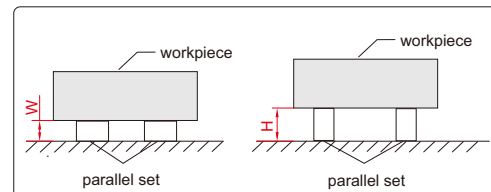
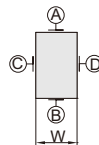
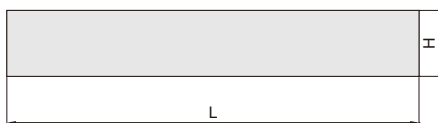
**GRANITE PARALLEL SET**



- ◆ Made of granite
- ◆ Two parallels per set



unit: mm



Code	Size(LxWxH)	Parallelism between A and B	Parallelism between C and D	Height difference of a matched pair
648-250-01	250x25x40mm	3µm	3µm	3µm

With manufacturer inspection certificate

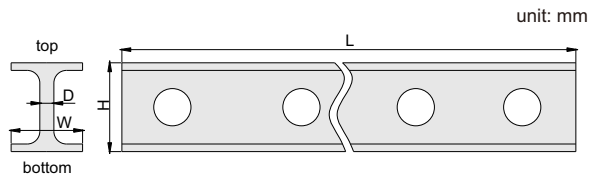
**SERIES 647**

**MAGNALIUM STRAIGHT EDGES**

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



647-040-01



Code	Length(L)	Flatness of top and bottom	Parallelism between top and bottom	H	W	D
647-020-01	500mm	3µm	4µm	60	30	5
647-040-01	1000mm	5µm	8µm	60	30	5
647-060-01	1500mm	15µm	22µm	100	40	7
647-080-01	2000mm	18µm	27µm	100	40	7
647-100-01	2500mm	22µm	33µm	100	40	7
647-120-01	3000mm	48µm	72µm	150	80	8
647-140-01	3500mm	56µm	84µm	150	80	8
647-160-01	4000mm	64µm	110µm	150	80	10
647-200-01	5000mm	80µm	130µm	175	80	10
647-240-01	6000mm	100µm	150µm	175	80	10

**SERIES 994**

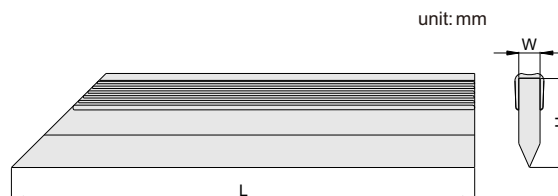
**STRAIGHT EDGE**

- ◆ Beveled edge to check the flatness
- ◆ DIN874
- ◆ Made of stainless steel
- ◆ Stain chrome plating



994-004-01

Code	Size (L)	Straightness	W	H
994-002-01	50mm	1.0µm	5	20
994-003-01	75mm	1.0µm	5	25
994-004-01	100mm	1.0µm	5	25
994-005-01	125mm	1.0µm	5	25
994-006-01	150mm	1.0µm	6	30
994-008-01	200mm	2.0µm	6	30
994-010-01	250mm	2.0µm	8	40
994-012-01	300mm	3.0µm	8	40
994-016-01	400mm	3.0µm	10	50
994-020-01	500mm	4.0µm	10	50



PARALLEL

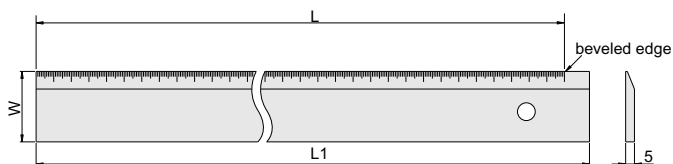
**SERIES 991**

**STRAIGHT EDGE RULE**



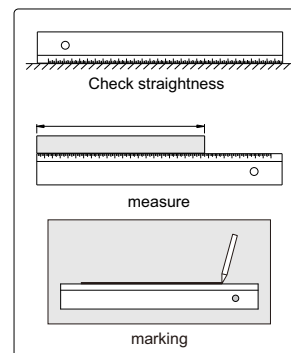
991-012-01

unit: mm



- ◆ Check straightness, as well as for measurement
- ◆ Made of hardened tool steel, chrome plated
- ◆ Graduation: 1mm

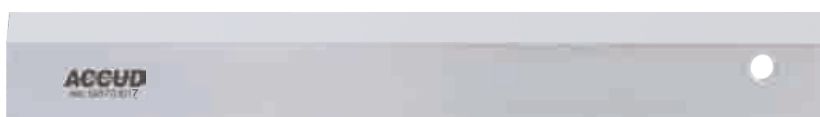
Application



Code	Range(L)	Straightness	W	L1
991-012-01	300mm	0.02mm	40	310
991-020-01	500mm	0.03mm	40	510
991-040-01	1000mm	0.04mm	50	1010

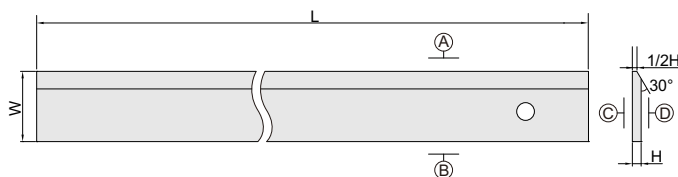
**SERIES 907**

**PRECISION STRAIGHT EDGE WITH BEVELED EDGE**



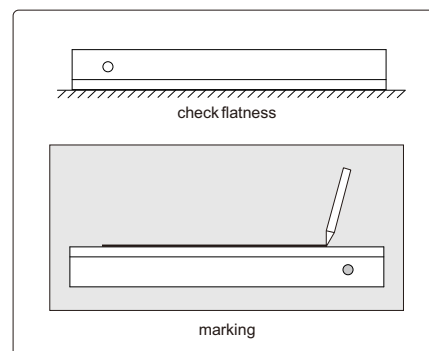
907-012-11

unit: mm



- ◆ Check flatness and for marking
- ◆ Made of tool steel

Application



Code	Range(L)	Flatness of A and B	Flatness of C and D	W	H
907-012-11	305mm	0.005mm	0.05mm	41	6.3
907-024-11	610mm	0.006mm	0.06mm	51	7.9
907-036-11	914mm	0.007mm	0.06mm	64	9.5

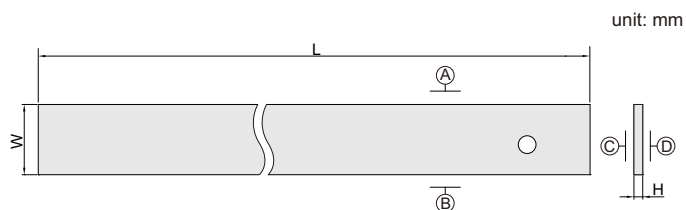
PARALLEL

**SERIES 906**

**PRECISION STRAIGHT EDGE**



906-012-11

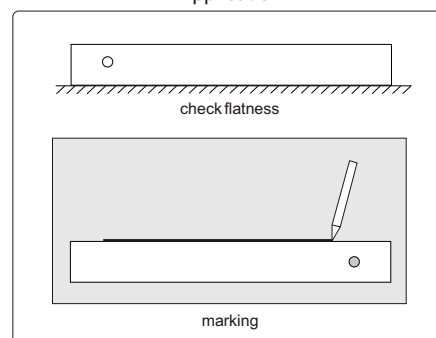


unit: mm

- ◆ Check flatness and for marking
- ◆ Made of tool steel

Code	Range(L)	Flatness of A and B	Flatness of C and D	W	H
906-012-11	305mm	0.005mm	0.05mm	41	6.3
906-024-11	610mm	0.006mm	0.06mm	51	7.9
906-036-11	914mm	0.007mm	0.06mm	64	9.5

**Application**



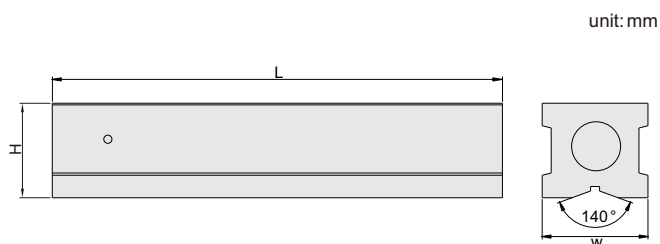
**SERIES 713**

**BLOCK LEVEL**

- ◆ For use in setting machined surfaces precisely horizontal
- ◆ Sensibility: 0.02mm/m per division
- ◆ Vee angle : 140°



713-006-02



unit: mm

Code	Size (L)	H	W
713-006-02	150mm	42	47
713-008-02	200mm	45	47
713-012-02	300mm	45	49

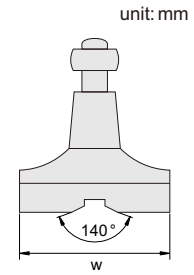
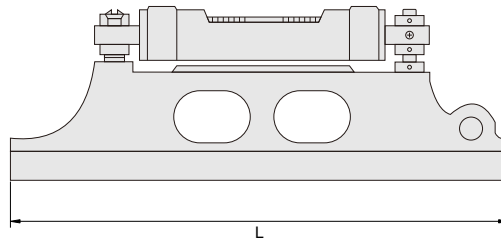
**SERIES 715**

**BLOCK LEVEL**

- ◆ For use in setting machined surfaces precisely horizontal
- ◆ Vee angle : 140°



715-008-05



Sensibility 0.05mm/m

Code	Size (L)	W
715-006-05	150mm	38
715-008-05	200mm	44
715-012-05	300mm	44

Sensibility 0.1mm/m

Code	Size (L)	W
715-006-10	150mm	38
715-008-10	200mm	44
715-012-10	300mm	44

**SERIES 711**

**FRAME LEVEL**

- ◆ For using setting machined surfaces precisely horizontal and vertical
- ◆ Sensibility: 0.02mm/m per division
- ◆ V-groove on the bottom and left for shafts (711-004-02 only has v-groove on the bottom)

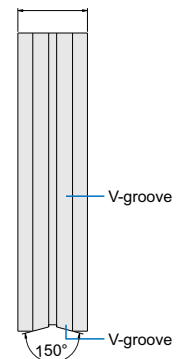
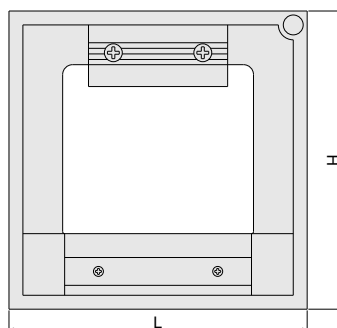


711-006-02



711-004-02

unit: mm



Code	Size (LxHxW)
711-004-02	100x100x32mm
711-006-02	150x150x38mm
711-008-02	200x200x40mm
711-012-02	300x300x45mm



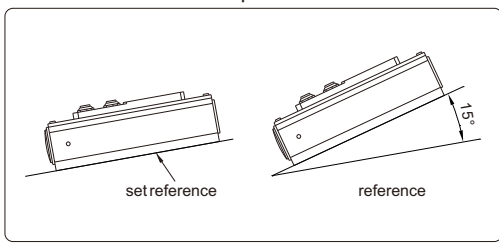
712

DIGITAL LEVEL

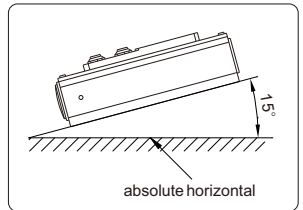
- ◆ Sensibility: 0.01mm/m(0.001°)
- ◆ Accuracy: 10mm range  $\leq \pm 0.01$ mm/m  
10mm-50mm range  $\leq \pm 0.02$ mm/m
- ◆ For use in setting machined surfaces precisely horizontal
- ◆ With longitudinal level
- ◆ Buttons: on/off, zero, mm/inch, save/mode, ABS
- ◆ 3.6V li-ion battery for 15 hours working
- ◆ Memory: 6



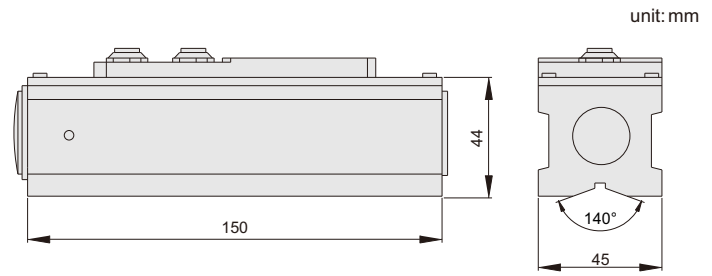
Use as protractor



Use as level



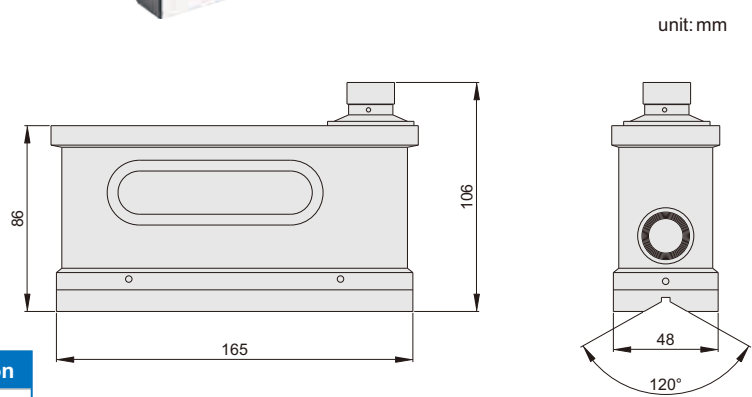
Code	Range	Graduation
712-006-01	$\pm 50$ mm/m	0.01mm/m



714

OPTICAL IMAGE LEVEL

- ◆ Sensibility: 0.01mm/m(0.001°)
- ◆ Accuracy:  $\pm 0.01$ mm/m (range:  $\pm 1$ mm)  
 $\pm 0.02$ mm/m (other)
- ◆ For use in setting machined surfaces precisely horizontal



Code	Range	Graduation
714-006-01	0-10mm/m( $\pm 5$ mm/m)	0.01mm/m



- ◆ Measures flatness, parallelism and straightness
- ◆ Built-in bluetooth, can be connected to computers, transmission distance is 50m
- ◆ The LCD can be rotated for easy observation in different directions
- ◆ V-groove on bottom for shafts
- ◆ Supplied with measuring software



Rechargeable battery



Lithium battery socket



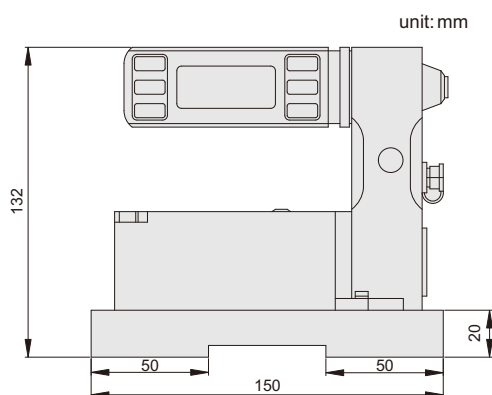
Charging cable



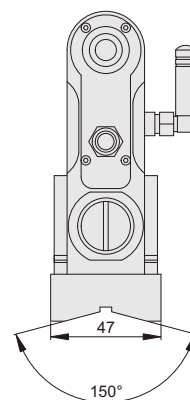
Control box



Wireless transmitter



unit: mm



### SPECIFICATION

Code	720-250-01	
Resolution(adjustable)	10μm/m	1μm/m
Range	±5000μm/m	±500μm/m
Display range	0-±500(numbers)	0-±2500(numbers)
Accuracy	±(1+A×2%)note: A is the absolute value of the nominal value of the identification location	
Response time	<3 sec	
Data output	433	
Repeatability	≤1 number	
Working temperature	20°C±2°C	
Working humidity	<75%	
Power supply	rechargeable battery	
Size	150x47x170mm	
Weight	1.8kg	

### INCLUDED ACCESSORIES

Charging cable	1pc
Control box	1pc
Rechargeable battery	2pcs
Wireless transmitter	1pc
Lithium battery socket	1pc
Measuring software	1pc

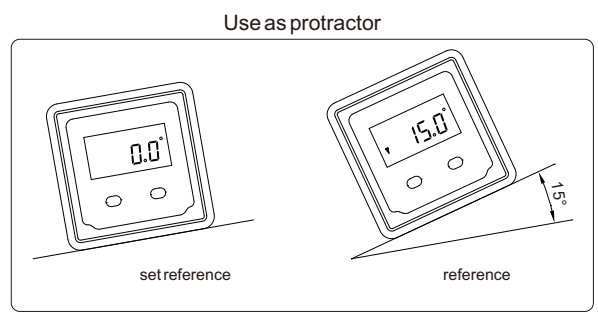
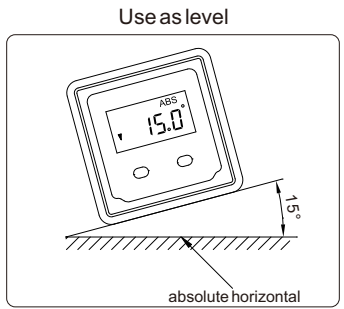
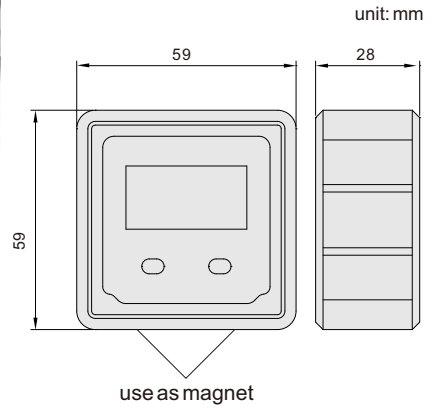


721

DIGITAL LEVEL



- ◆ Use as level or protractor
- ◆ Accuracy :  $\pm 0.1^\circ$  (vertical and horizontal),  $\pm 0.2^\circ$  (other direction)
- ◆ Absolute horizontal reference can save in memory for ever
- ◆ Button: on/off, zero
- ◆ Magnetic base
- ◆ Use in 4 directions
- ◆ Automatic power off



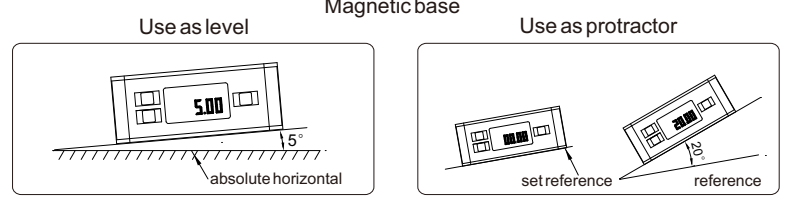
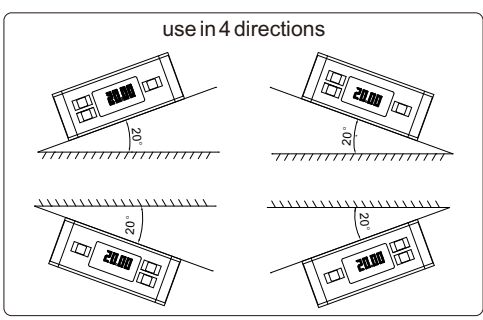
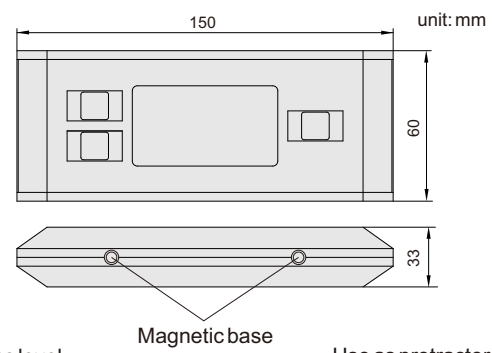
Code	Range	Resolution
721-180-01	0 - 360° (90°x4)	0.05°

722

DIGITAL LEVEL



- ◆ Use as level or protractor
- ◆ Resolution: 0.05°
- ◆ Accuracy :  $\pm 0.1^\circ$  (vertical and horizontal),  $\pm 0.2^\circ$  (other direction)
- ◆ Magnetic base, with groove
- ◆ Aluminum frame provides with high rigidity and low weight
- ◆ Absolute horizonation reference can save in memory for ever



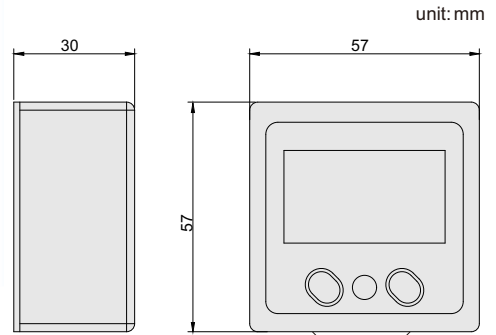
Code	Range	Dimension(LxWxH)
722-360-01	0 - 360° (90°x4)	150x60x33mm

723

DIGITAL LEVEL



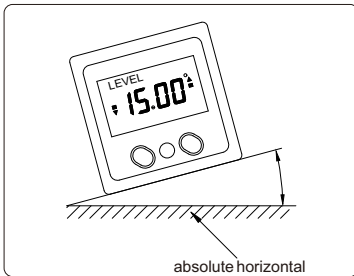
- ◆ Use as level or protractor
- ◆ Use in 4 directions
- ◆ Magnetic base
- ◆ Accuracy :  $\pm 0.1^\circ$  (vertical and horizontal),  $\pm 0.2^\circ$  (other direction)
- ◆ Metal cover
- ◆ Adjust the display direction automatically



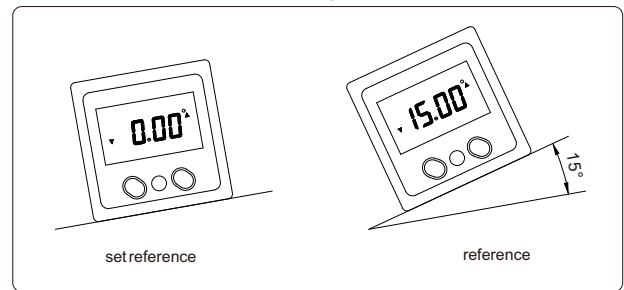
unit: mm

Magnetic base

Use as level



Use as protractor



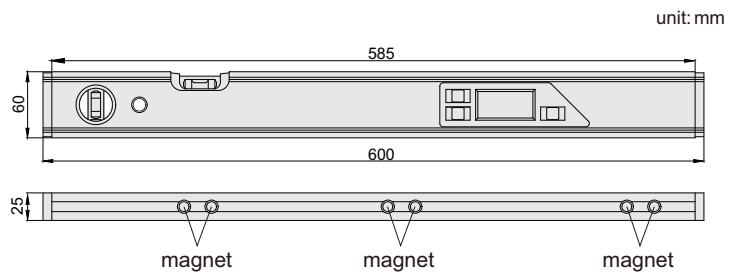
Code	Range	Resolution
723-360-01	0 - 360° (4x90°)	0.05°

725

DIGITAL LEVEL

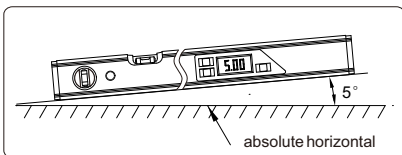


- ◆ Use as level or protractor
- ◆ Accuracy :  $\pm 0.1^\circ$  (vertical and horizontal),  $\pm 0.2^\circ$  (other direction)
- ◆ Buttons: on/off, ABS, hold, alarm unit, backlight
- ◆ With vertical and horizontal vials
- ◆ Absolute horizontion reference can save in memory for ever
- ◆ Magnetic base
- ◆ Adjust the display direction automatically

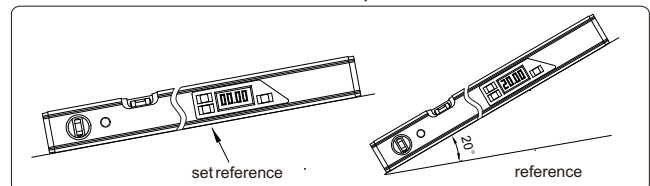


unit: mm

Use as level



Use as protractor

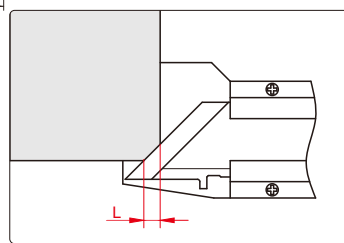
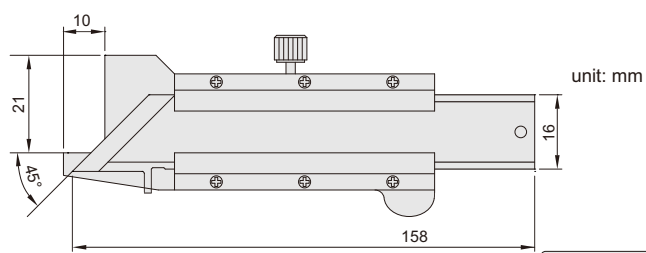


Code	Range	Resolution
725-360-01	0 - 360° (4x90°)	0.05°



**160 CHAMFER GAUGE**

- ◆ Measure 45° chamfer dimension
- ◆ Graduation 0.02mm
- ◆ Made of stainless steel
- ◆ Satin chrome plated reading surface



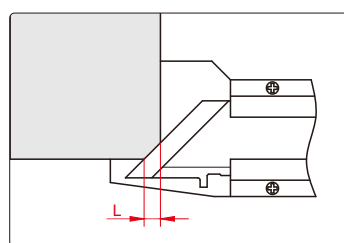
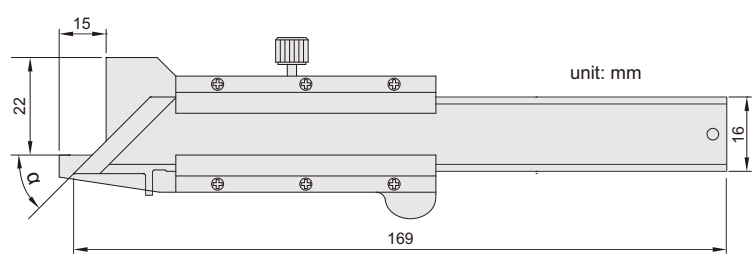
Code	Range	Accuracy
160-001-11	0-6mm	±0.06mm

**SERIES 160 CHAMFER GAUGE**

- ◆ Measure a chamfer dimension
- ◆ Graduation 0.02mm
- ◆ Made of stainless steel
- ◆ Satin chrome plated reading surface



160-010-12



Code	Range	Accuracy	Chamfer(α)
160-010-11	0-10mm	±0.06mm	30°
160-010-12	0-10mm	±0.06mm	45°
160-010-13	0-10mm	±0.06mm	60°

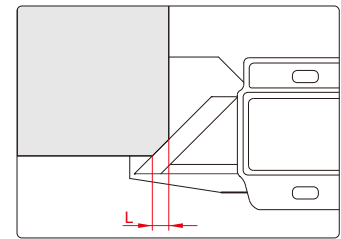
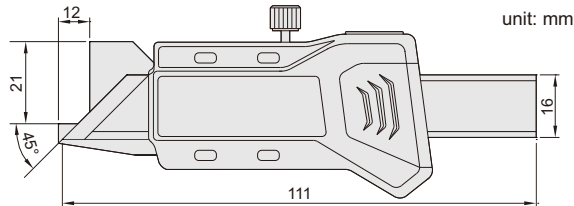
CHAMFER

163

DIGITAL CHAMFER GAUGE



- ◆ Measure 45° chamfer dimension
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Automatic power on/off
- ◆ Data output(cable code :100-03 or 100-04)
- ◆ Made of stainless steel



Code	Range	Accuracy
163-006-11	0-6mm/0-0.24"	±0.06mm

SERIES 163

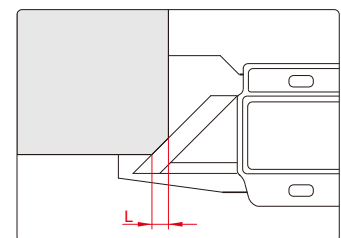
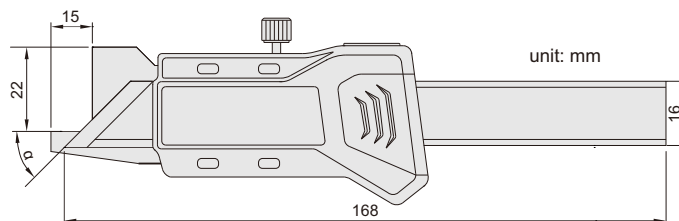
DIGITAL CHAMFER GAUGE



- ◆ Measure  $\alpha$  chamfer dimension
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Automatic power on/off
- ◆ Data output(cable code :100-03 or 100-04)
- ◆ Made of stainless steel



163-010-12



Code	Range	Accuracy	Chamfer( $\alpha$ )
163-010-11	0-10mm/0-0.39"	±0.06mm	30°
163-010-12	0-10mm/0-0.39"	±0.06mm	45°
163-010-13	0-10mm/0-0.39"	±0.06mm	60°

# SERIES 164

# DIGITAL CHAMFER GAUGE



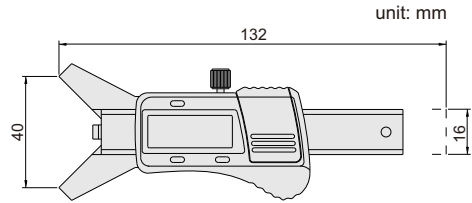
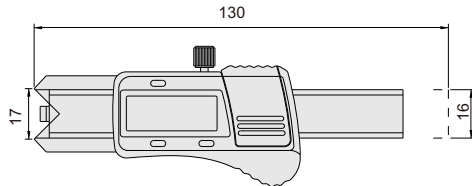
ACCUD



164-001-11



164-002-11

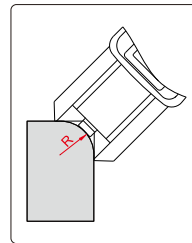


Set zero

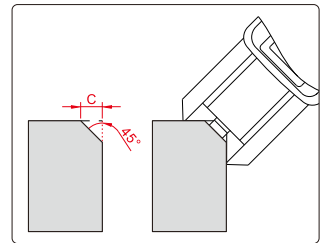


- ◆ Resolution: 0.01mm
- ◆ Made of stainless steel

Measure chamfer radius



Measure leg length of 45° chamfer

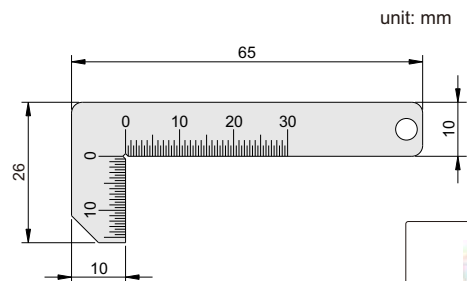
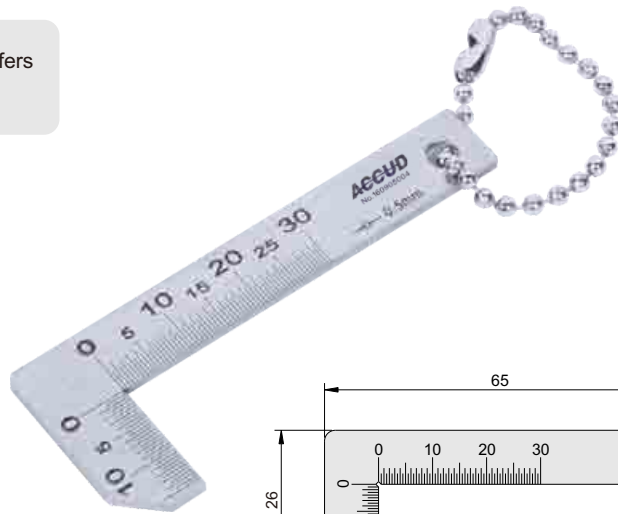
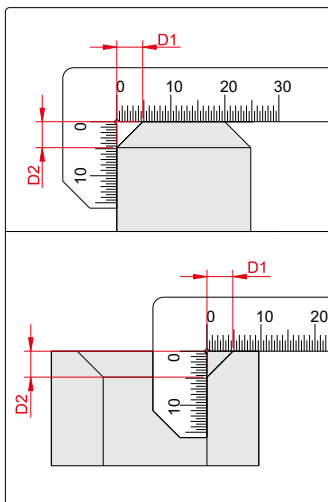


Code	Range of radius (R)	Range of leg length (C)	Accuracy
164-001-11	0-15mm	0-6mm	±0.05mm
164-002-11	0-30mm	0-18mm	±0.05mm

# 967

# CHAMFER GAUGE

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



Package



Code	Graduation	Accuracy
967-001-11	0.5mm	±0.25mm

KEYWAY

195

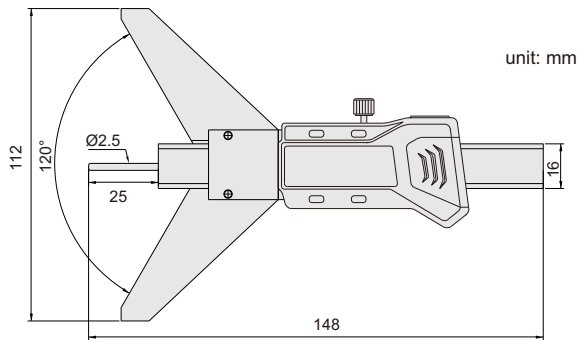
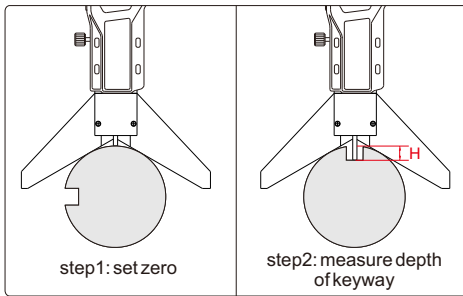
DIGITAL KEYWAY GAUGE



- ◆ Measure the depth of keyway
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Automatic power on/off
- ◆ Data output(cable code :100-03 or 100-04)
- ◆ Made of stainless steel



Measure



Code	Range	Accuracy
195-002-11	0-50mm/0-2"	±0.03mm

196

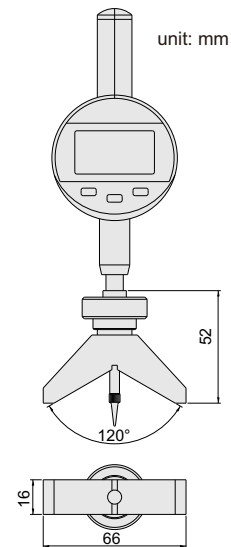
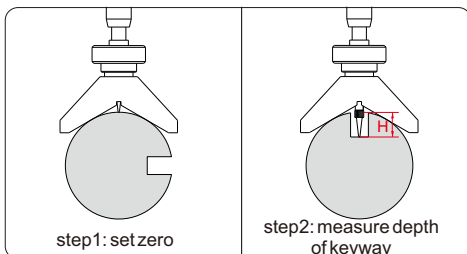
DIGITAL KEYWAY GAUGE



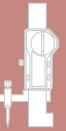
- ◆ Measure the keyway depth of cylindrical workpieces with a diameter of Ø0-100mm
- ◆ Button: on/off, zero, mm/inch, ABS, data preset, change measuring direction
- ◆ Automatic power off
- ◆ Data output(cable code:200-03 or 200-04)
- ◆ Stainless steel base
- ◆ Pointed tip ( Code: 270-006-21 )



Measure



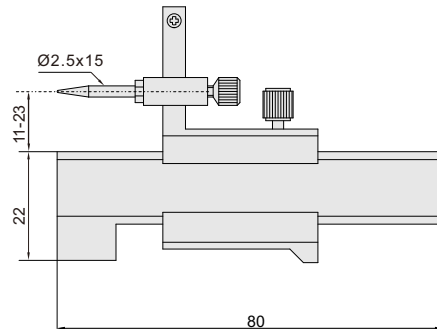
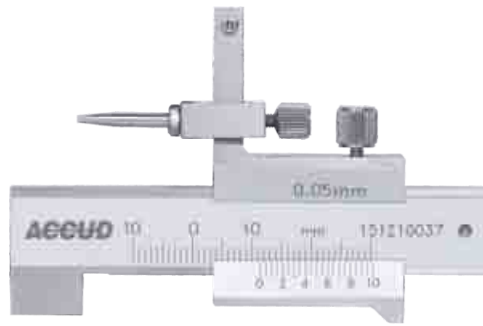
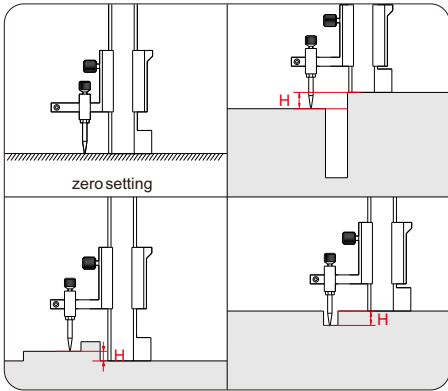
Code	Range	Resolution	Accuracy
196-001-11	0-25.4mm/0-1"	0.01mm/0.0005"	±0.02mm



998

VERNIER STEP GAUGE

- ◆ Measure the height difference of two surface
- ◆ Resolution: 0.05mm



unit: mm

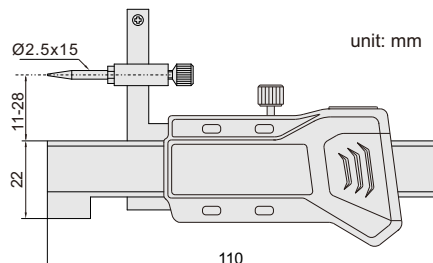
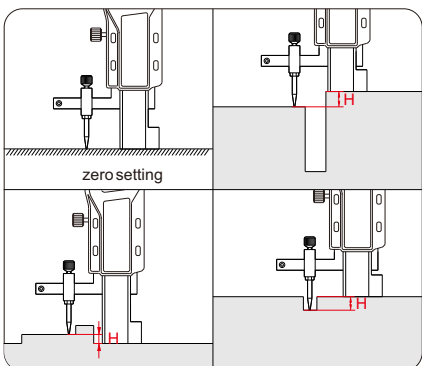
Code	Range	Accuracy
998-010-11	-10~+10mm	±0.05mm

999

DIGITAL STEP GAUGE



- ◆ Measure the height difference of two surface
- ◆ Resolution: 0.01mm
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Data output(cable code : 100-03 or 100-04)
- ◆ Automatic power off
- ◆ Stainless steel base



unit: mm

Code	Range	Accuracy
999-010-11	-10~+10mm	±0.05mm

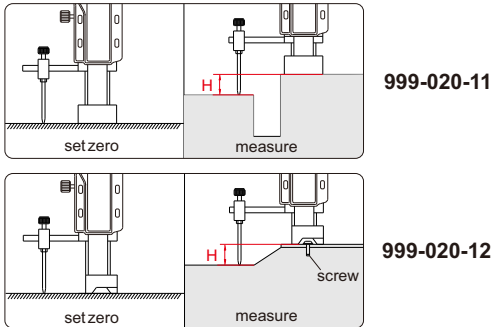
STEP GAUGE

## SERIES 999

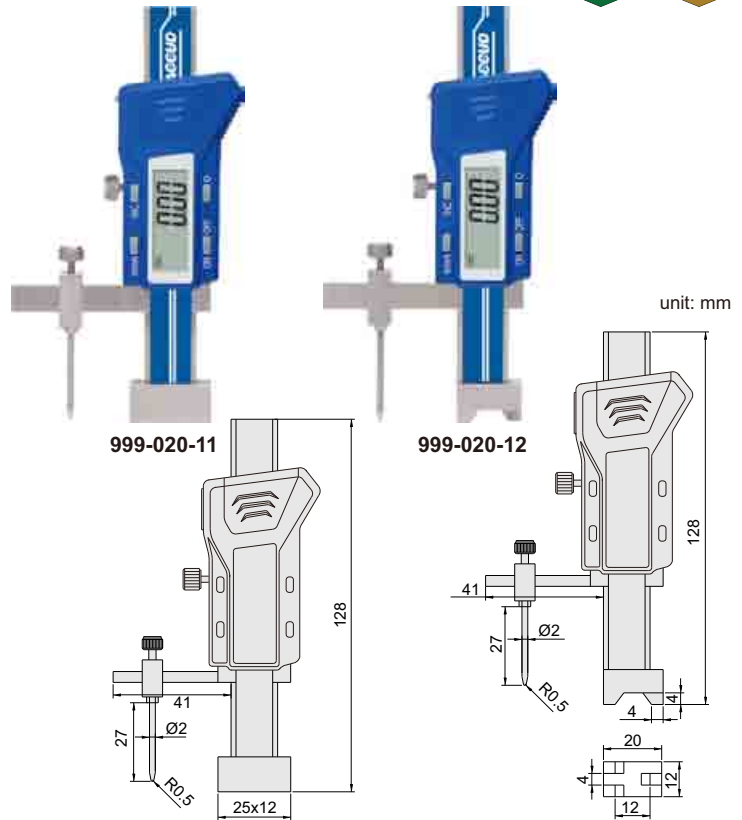
## MINI DIGITAL HEIGHT GAUGE



- ◆ Measure height difference of two surfaces (999-020-12 suitable for surfaces with barrier, such as screw)
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Data output(cable code :100-03 or 100-04)
- ◆ Automatic power off
- ◆ Made of stainless steel



Code	Range	Accuracy
999-020-11	0-±20mm/0-±0.8"	±0.02mm
999-020-12	0-±20mm/0-±0.8"	±0.02mm

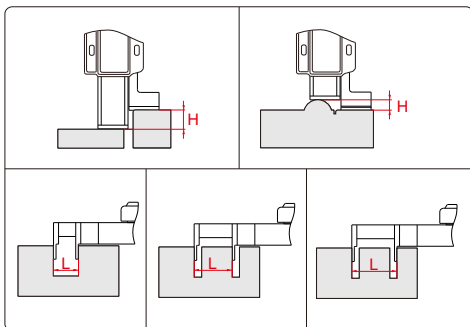


## 437

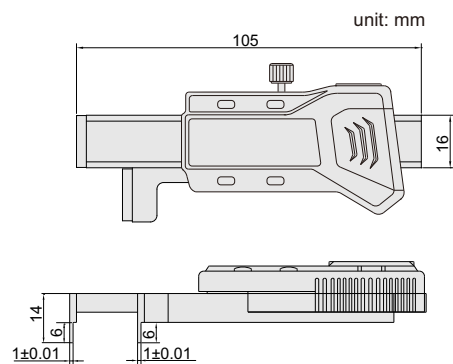
## STEP AND GAP GAUGE



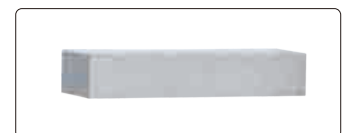
- ◆ Measure step height and gap width
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Automatic power on/off
- ◆ Data output(cable code :100-03 or 100-04)
- ◆ Made of stainless steel
- ◆ Supplied with zero setting block



Code	Range	Accuracy
437-001-11	0-12.7mm/0-0.5"	±0.03mm



Zero setting block(included)



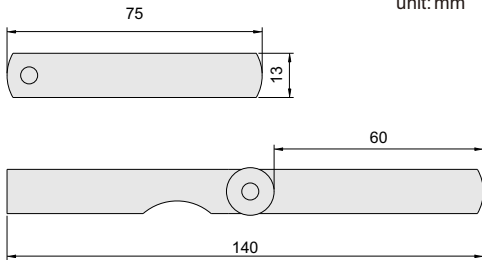




911

FEELER

- ◆ Meets DIN2275
- ◆ Accuracy:  $\pm(3+T/80)\mu\text{m}$ , T is the thickness of leaves, unit:  $\mu\text{m}$
- ◆ Made of hardened spring steel

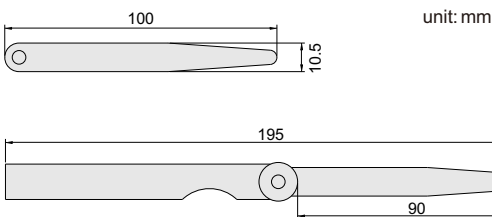


Code	Range	Quantity	Leaves thickness (mm)
911-100-25	0.04 - 1.00mm	25	0.04, 0.05, 0.06, 0.07, 0.08, 0.09, 0.10, 0.15, 0.20, 0.25, 0.30, 0.35, 0.40, 0.45, 0.50, 0.55, 0.60, 0.65, 0.70, 0.75, 0.80, 0.85, 0.90, 0.95, 1.00

SERIES 912

FEELER

- ◆ Meets DIN2275
- ◆ Accuracy:  $\pm(3+T/80)\mu\text{m}$ , T is the thickness of leaves, unit:  $\mu\text{m}$
- ◆ Made of hardened spring steel



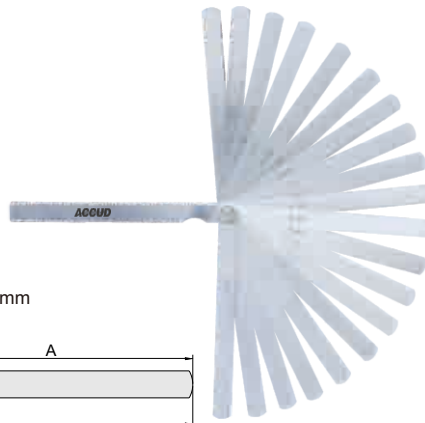
912-100-20

Code	Range	Quantity	Leaves thickness (mm)
912-050-13	0.03 - 0.50mm	13	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
912-100-13	0.05 - 1.00mm	13	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
912-100-17	0.02 - 1.00mm	17	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
912-100-20	0.05 - 1.00mm	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
912-100-32	0.03 - 1.00mm	32	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

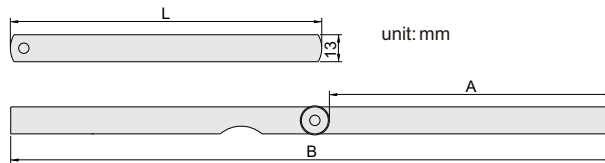
**SERIES 913/914/915 FEELER**

- ◆ Meets DIN2275
- ◆ Accuracy:  $\pm(3+T/80)\mu\text{m}$ , T is the thickness of leaves, unit:  $\mu\text{m}$
- ◆ Made of hardened spring steel

913-100-20



L	A	B
150	135	295
200	185	395
300	285	590



Code	Range	Quantity	Leaves thickness (mm)	L
913-100-13	0.05 - 1.00mm	13	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	150
914-100-13	0.05 - 1.00mm	13		200
915-100-13	0.05 - 1.00mm	13		300
913-100-17	0.02 - 1.00mm	17	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	150
914-100-17	0.02 - 1.00mm	17		200
915-100-17	0.02 - 1.00mm	17		300
913-100-20	0.05 - 1.00mm	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	150
914-100-20	0.05 - 1.00mm	20		200
915-100-20	0.05 - 1.00mm	20		300

**SERIES 916 FEELER TAPE**

- ◆ Used to check the spacing thickness
- ◆ Made of hardened alloy steel
- ◆ Length 5m
- ◆ Width 13mm



916-010-01

Code	Thickness	Accuracy
916-001-01	0.01mm	$\pm 3\mu\text{m}$
916-002-01	0.02mm	$\pm 4\mu\text{m}$
916-003-01	0.03mm	$\pm 4\mu\text{m}$
916-004-01	0.04mm	$\pm 4\mu\text{m}$
916-005-01	0.05mm	$\pm 4\mu\text{m}$
916-006-01	0.06mm	$\pm 4\mu\text{m}$
916-007-01	0.07mm	$\pm 5\mu\text{m}$
916-008-01	0.08mm	$\pm 5\mu\text{m}$
916-009-01	0.09mm	$\pm 5\mu\text{m}$
916-010-01	0.10mm	$\pm 5\mu\text{m}$

Code	Thickness	Accuracy
916-015-01	0.15mm	$\pm 5\mu\text{m}$
916-018-01	0.18mm	$\pm 7\mu\text{m}$
916-020-01	0.20mm	$\pm 8\mu\text{m}$
916-025-01	0.25mm	$\pm 9\mu\text{m}$
916-030-01	0.30mm	$\pm 9\mu\text{m}$
916-035-01	0.35mm	$\pm 11\mu\text{m}$
916-040-01	0.40mm	$\pm 12\mu\text{m}$
916-045-01	0.45mm	$\pm 12\mu\text{m}$
916-050-01	0.50mm	$\pm 14\mu\text{m}$
916-055-01	0.55mm	$\pm 14\mu\text{m}$

Code	Thickness	Accuracy
916-060-01	0.60mm	$\pm 14\mu\text{m}$
916-065-01	0.65mm	$\pm 14\mu\text{m}$
916-070-01	0.70mm	$\pm 17\mu\text{m}$
916-075-01	0.75mm	$\pm 17\mu\text{m}$
916-080-01	0.80mm	$\pm 19\mu\text{m}$
916-085-01	0.85mm	$\pm 19\mu\text{m}$
916-090-01	0.90mm	$\pm 22\mu\text{m}$
916-095-01	0.95mm	$\pm 22\mu\text{m}$
916-100-01	1.00mm	$\pm 24\mu\text{m}$



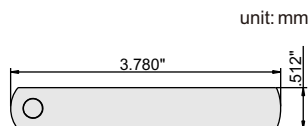
## 917

### INCH FEELER GAUGE

- ◆ .010" is made of brass, others are made of hardened alloy steel
- ◆ Each blade is marked with inch/metric size

Code	Range	Quantity of leaves
917-035-31	.0015" ~ .035"	32

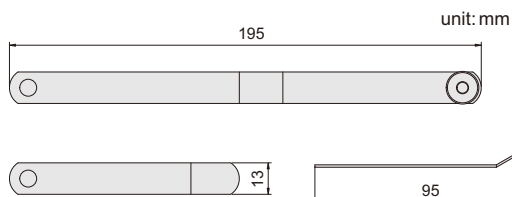
Thickness of leaves included	Accuracy
.010" (brass)	±.00039"
.0015", .002"	±.0002"
.0025"~ .007"	±.00028"
.008", .009"	±.00035"
.010", .011"	±.00039"
.012", .013"	±.00047"
.014", .015"	±.00051"
.016", .017"	±.00055"
.018", .019"	±.00059"
.020", .021"	±.00067"
.022", .023"	±.00071"
.024", .025", .026"	±.00075"
.028"	±.00091"
.030"	±.00094"
.032", .035"	±.00102"



## 919

### OFFSET DUAL SCALE FEELER GAUGE

- ◆ Bend end
- ◆ Blade: length 4"
- ◆ Each blade is marked with imperial/metric size
- ◆ Made of hardened spring steel

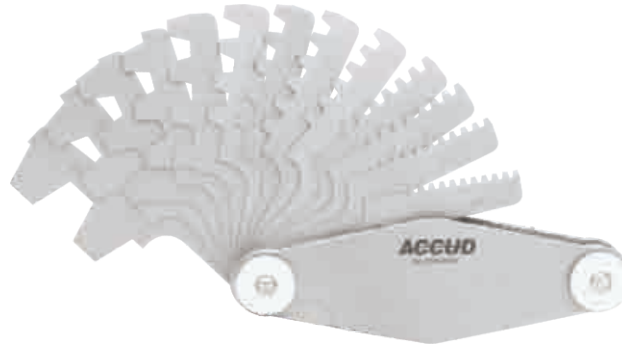
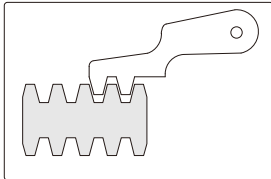


Code	Range	Quantity	Leaves thickness
919-030-26	0.005-0.020"	26	.005(.127mm), .006(.152mm), .007(.178mm), .008(.203mm), .009(.229mm), .010(.254mm), .011(.279mm), .012(.305mm), .013(.330mm), .014(.356mm), .015(.381mm), .016(.406mm), .017(.432mm), .018(.457mm), .019(.483mm), .020(.508mm), .021(.533mm), .022(.559mm), .023(.584mm), .024(.610mm), .025(.635mm), .026(.660mm), .027(.686mm), .028(.711mm), .029(.737mm), .030(.762mm)

**SERIES 921**

**PITCH GAUGE**

- ◆ Measure the pitch of thread
- ◆ Accuracy: ±0.07mm
- ◆ Made of medium carbon steel



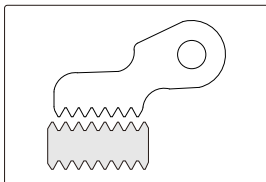
921-012-16

Code	Range	Thread	Quantity	Leaves pitch(mm)
921-020-12	2 - 20mm	Tr30°	12	2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 16, 20mm
921-012-16	1 - 12TPI	ACME29°	16	1, 1-1/3, 1-1/2, 1-3/4, 2, 2-1/2, 3, 3-1/2, 4, 5, 6, 7, 8, 9, 10, 12TPI

**SERIES 922/923/924/925**

**PITCH GAUGE**

- ◆ Measure the pitch of thread
- ◆ Accuracy: ±0.07mm
- ◆ Made of medium carbon steel



922-007-22

**METRIC 60° SCREW**

Code	Range	Quantity	Leaves pitch
922-007-22	0.4 - 7.0mm	22	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
922-007-24	0.25 - 7.0mm	24	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
922-006-24	0.25 - 6.0mm	24	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
922-025-28	0.25 - 2.5mm	28	0.25, 0.3, 0.35, 0.4, 0.45, 0.5, 0.55, 0.6, 0.65, 0.7, 0.75, 0.8, 0.85, 0.9, 1.0, 1.1, 1.2, 1.25, 1.3, 1.4, 1.5, 1.6, 1.7, 1.75, 1.8, 1.9, 2.0, 2.5mm

**UNIFIED 60° SCREW**

Code	Range	Quantity	Leaves pitch
923-042-30	4 - 42TPI	30	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

**WHITWORTH 55° SCREW**

Code	Range	Quantity	Leaves pitch
924-042-30	4 - 42TPI	30	4, 4-1/2, 5, 5-1/2, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 22, 24, 26, 27, 28, 30, 32, 34, 36, 38, 40, 42TPI
924-062-28	4 - 62TPI	28	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 WHITWORTH 55° SCREW**

Code	Range	Quantity	Leaves pitch
925-062-52	0.25 - 6.0mm and 4 - 62TPI	52	pitch of 922-006-24 and 924-062-28

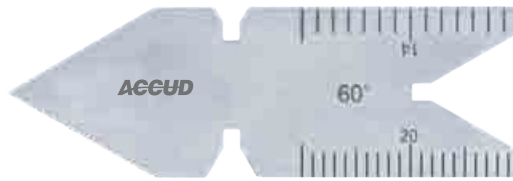
MEASURING TOOL  
SIMPLE



**SERIES 926**

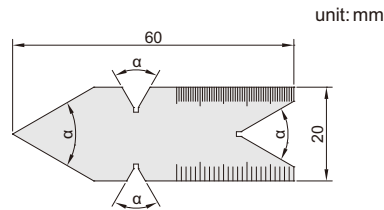
**CENTER GAUGE**

- ◆ Check the screw angle and pitch
- ◆ Accuracy:  $\pm 30'$
- ◆ Made of stainless steel

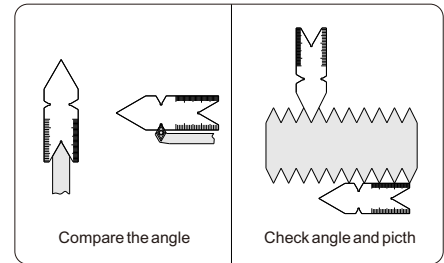


926-060-02

Package



Code	Screw type	Angle( $\alpha$ )	Graduation
926-060-01	metric 60°	60°	0.5mm and 1mm
926-060-02	unified 60°	60°	front side: 1/14" and 1/20", reverse side: 1/24" and 1/32"
926-055-01	whitworth 55°	55°	front side: 1/14" and 1/20", reverse side: 1/24" and 1/32"



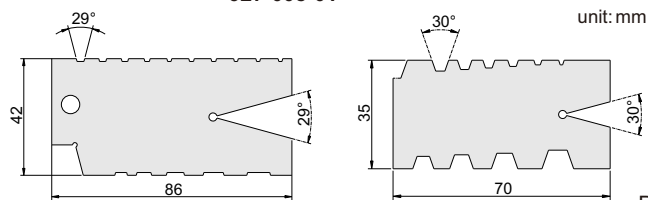
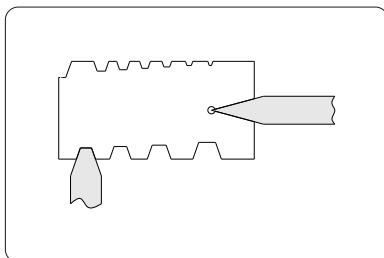
**SERIES 927**

**THREAD GAUGE**

- ◆ To check and set screw cutting tools
- ◆ Angle accuracy:  $\pm 10\text{min}$ .
- ◆ Made of medium carbon steel



927-008-01



927-008-01

927-012-01

Package

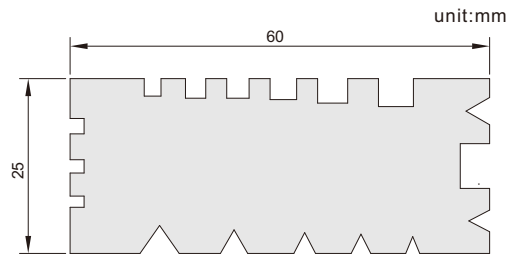
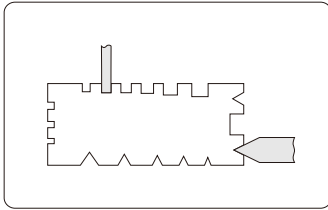


Code	Range	Thread type	Pitch
927-008-01	1 - 10TPI	ACME 29°	1, 1-1/3, 1-1/2, 1-3/4, 2, 2-1/2, 3, 4, 5, 6, 7, 8, 9, 10TPI
927-012-01	2 - 12mm	Tr 30°	2, 3, 4, 5, 6, 7, 8, 9, 10, 12mm

933

ANGLE GAUGE

- ◆ To check and set screw cutting tools
- ◆ Angle accuracy:  $\pm 10\text{min}$ .
- ◆ Made of medium carbon steel



Package



Code	Pitch	Angle( $\alpha$ )
933-008-11	2, 2.5, 3, 3.5, 4, 4.5, 5, 6, 7, 8TPI	45°, 53.8°, 55°, 60°, 70°

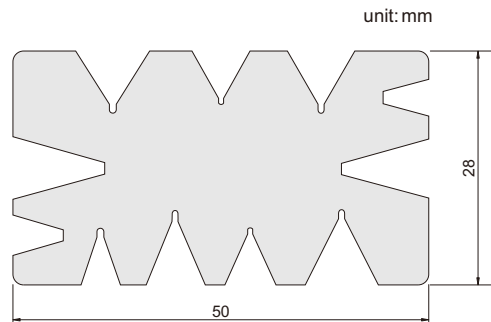
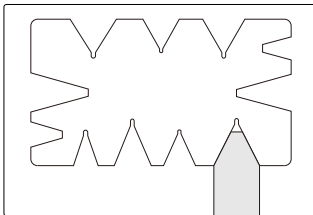
930

ANGLE GAUGE

- ◆ Made of stainless steel



Check the angle of screw cutting tools



Code	Range	Accuracy
930-001-01	29°, 30°, 40°, 45°, 50°, 55°, 60°, 65°	$\pm 10'$



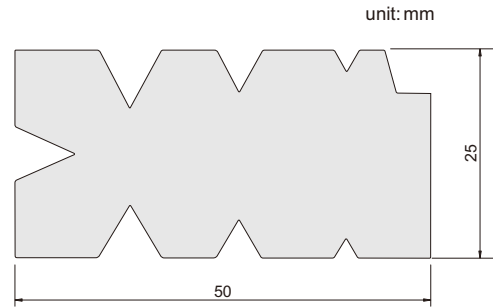
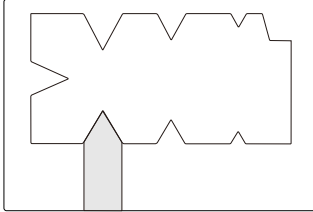
934

ANGLE GAUGE

- ◆ Made of stainless steel



Check the angle of screw cutting tools

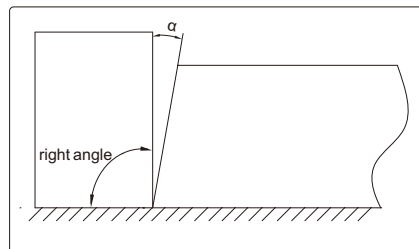


Code	Range	Accuracy
934-001-11	55°, 60°, 47 1/2°BA, 14 1/2°ACME	±10'

931

ANGLE GAUGE

- ◆ Check the coangle
- ◆ Accuracy: ±30'



Code	Range	Quantity	Leaves angle( $\alpha$ )
931-045-20	1°-45°	20	1°, 2°, 3°, 4°, 5°, 6°, 7°, 8°, 9°, 10°, 12°, 14°, 16°, 18°, 20°, 25°, 30°, 35°, 40°, 45°

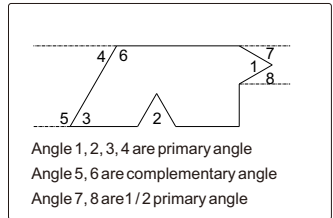
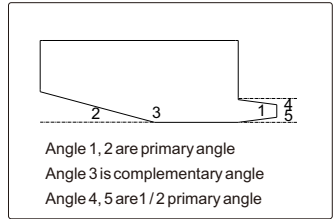
932

ANGLE GAUGE SET

- ◆ Each blade checks primary, 1/2 primary and complementary angles

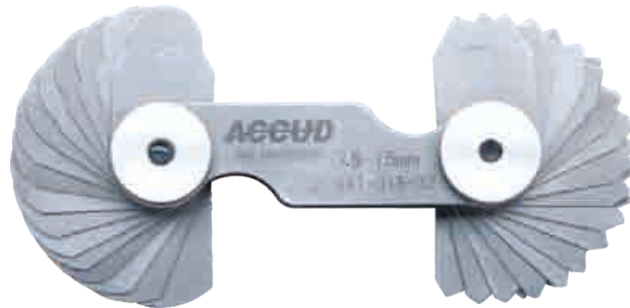
Code	Quantity of leaves	Accuracy
932-018-01	18	±10'

Primary angle	1/2 primary angle	Complementary angle
5°	2°30'	175°
10°	5°	170°
15°	7°30'	165°
20°	10°	160°
25°	12°30'	155°
30°	15°	150°
35°	17°30'	145°
40°	20°	140°
45°	22°30'	135°
50°	25°	130°
55°	27°30'	125°
60°	30°	120°
65°	32°30'	115°
70°	35°	110°
75°	37°30'	105°
80°	40°	100°
85°	42°30'	95°
90°	45°	90°



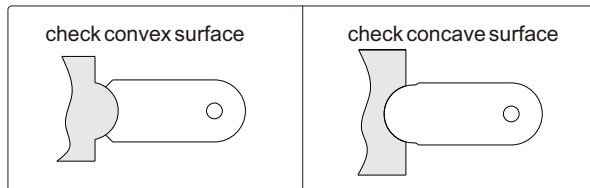
SERIES 941

RADIUS GAUGE



941-015-32

- ◆ Check the radius
- ◆ With concave and convex surface in each size



Code	Range	Quantity	Accuracy	Leaves radius (mm)
941-007-34	1-7mm	17x2	±0.03mm	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
941-015-32	7.5-15mm	16x2	±0.035mm	7.5, 8, 8.5, 9, 9.5, 10, 10.5, 11, 11.5, 12, 12.5, 13, 13.5, 14, 14.5, 15
941-025-30	15.5-25mm	15x2	±0.042mm	15.5, 16, 16.5, 17, 17.5, 18, 18.5, 19, 19.5, 20, 21, 22, 23, 24, 25

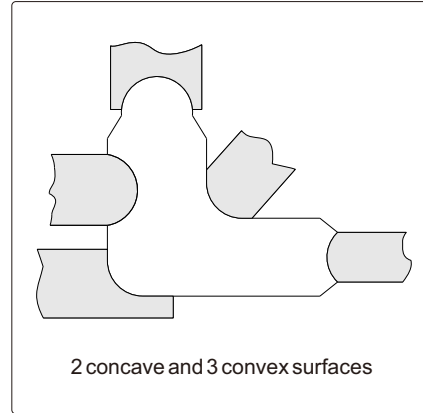




942

RADIUS GAUGE

- ◆ Each piece has 2 concave and 3 convex surfaces
- ◆ With handle
- ◆ Accuracy:  $\pm 0.05\text{mm}$



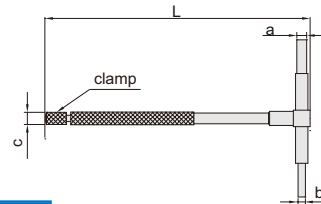
Code	Range	Quantity	Included radius(mm)
942-013-26	0.5-13mm	26	0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10, 10.5, 11, 11.5, 12, 12.5, 13

951

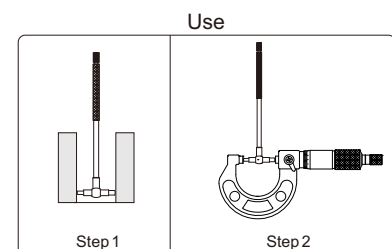
TELESCOPING GAUGE SET



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



Code	Each gauge range	L	a	b	c
951-006-01	8-12.7mm	115mm	Ø3.9mm	Ø2.9mm	Ø6.2mm
	12.7-19mm	115mm	Ø5.3mm	Ø3.8mm	Ø6.2mm
	19-32mm	115mm	Ø5.3mm	Ø3.8mm	Ø6.2mm
	32-54mm	137mm	Ø7.6mm	Ø6.1mm	Ø7.2mm
	54-90mm	137mm	Ø7.6mm	Ø6.1mm	Ø7.2mm
	90-150mm	137mm	Ø7.6mm	Ø6.1mm	Ø7.2mm



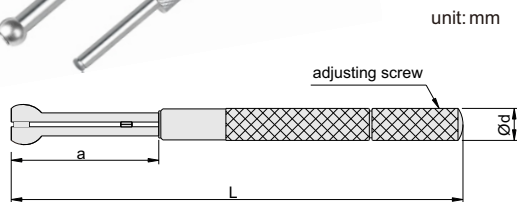
952

SMALL HOLE GAUGE SET

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

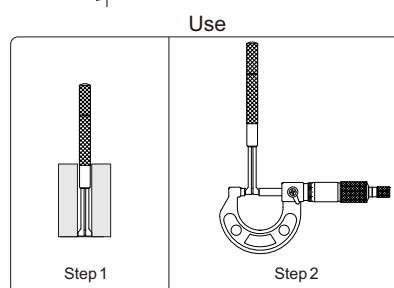


Ball type



unit: mm

Code	Range	L	a	Ød
952-004-01	3-5mm	77	24	6
	5-7.5mm	77	25	6
	7.5-10mm	87	28.5	7
	10-13mm	92	32	7



Use

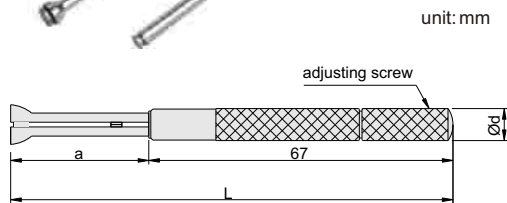
952

SMALL HOLE GAUGE SET

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

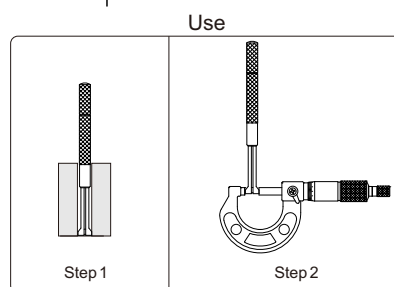


Flat type



unit: mm

Code	Range	L	a	Ød
952-004-02	3-5mm	91	24	6
	5-7.5mm	98	31	6
	7.5-10mm	108	41	7
	10-13mm	109	42	7

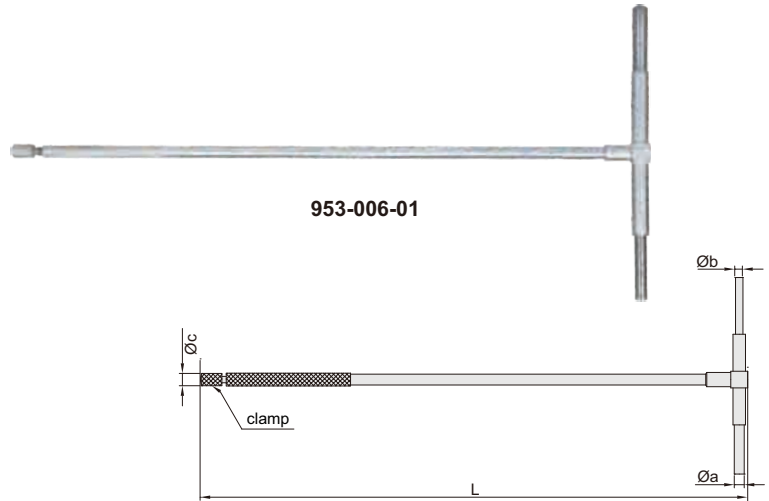


Use

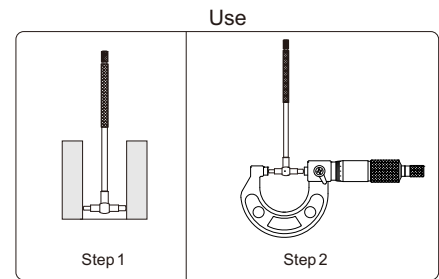
**SERIES 953**

**LONG HANDLE TELESCOPING GAUGE**

- ◆ For quick measuring inside diameter of deep holes and width of slots
- ◆ Satin chrome finish

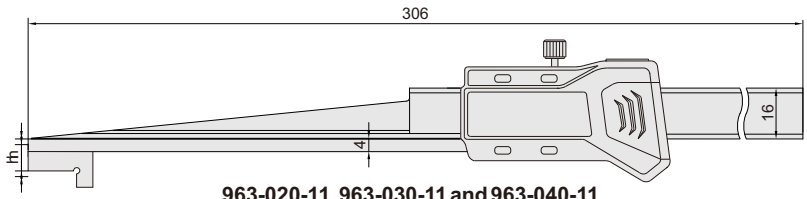
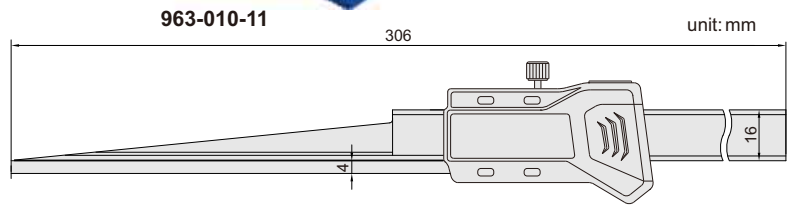


Code	Range	L	Øa	Øb	Øc
953-001-01	8-12.7mm	250mm	3.9mm	2.9mm	6.2mm
953-002-01	12.7-19mm	250mm	5.3mm	3.8mm	6.2mm
953-003-01	19-32mm	250mm	5.3mm	3.8mm	6.2mm
953-004-01	32-54mm	300mm	7.6mm	6.1mm	7.2mm
953-005-01	54-90mm	300mm	7.6mm	6.1mm	7.2mm
953-006-01	90-150mm	300mm	7.6mm	6.1mm	7.2mm



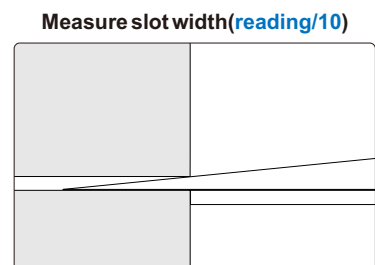
**SERIES 963**

**DIGITAL TAPER GAUGE**



- ◆ Measuring opening, slot width
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Data output(cable code:100-03 or 100-04)
- ◆ Automatic power on/off
- ◆ Made of stainless steel

Code	Range	Accuracy	h
963-010-11	0.2-10mm/0.01-0.39"	±0.03mm	-
963-020-11	10-20mm/0.39-0.79"	±0.05mm	10
963-030-11	20-30mm/0.79-1.18"	±0.05mm	20
963-040-11	30-40mm/1.18-1.58"	±0.05mm	30



MEASURING TOOL  
SIMPLE

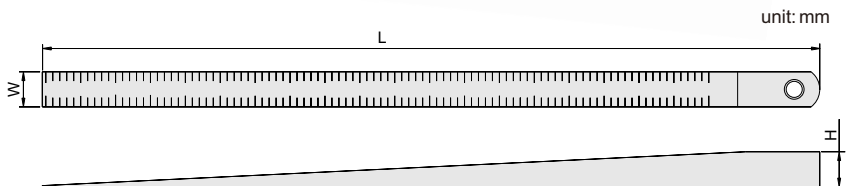
**SERIES 961**

**TAPER GAUGE**

- ◆ Measure the gap width
- ◆ Stain chrome plated reading surface
- ◆ Made of the stainless steel

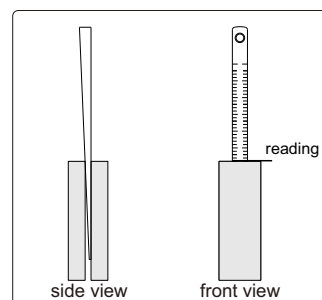


961-010-05



unit: mm

Code	Range	Graduation	Accuracy	L	W	H
961-004-05	0.2 - 4mm	0.05mm	±0.05mm	120	12	4.3
961-006-05	0.4 - 6mm	0.05mm	±0.05mm	166	11.5	6.5
961-010-05	0.5 - 10mm	0.05mm	±0.05mm	225	12.5	10.5
961-015-05	0.5 - 15mm	0.1mm	±0.05mm	184	11	16

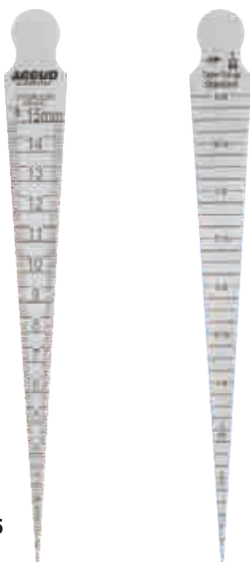


**SERIES 962**

**TAPER GAUGE**

- ◆ Measure the groove width and hole size
- ◆ Made of the stainless steel

Package

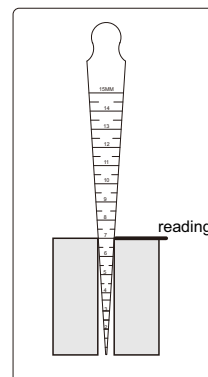
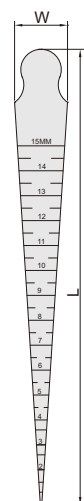


962-015-05

front side

reverse side

unit: mm



Code	Range	Graduation	Accuracy	L	W
962-015-05	0.8-15mm	0.1mm	±0.1mm	146	17
962-030-05	15-30mm	0.1mm	±0.1mm	159	30.4
962-045-05	30-45mm	0.1mm	±0.1mm	166	45.4
962-060-05	45-60mm	0.1mm	±0.1mm	170	60.5



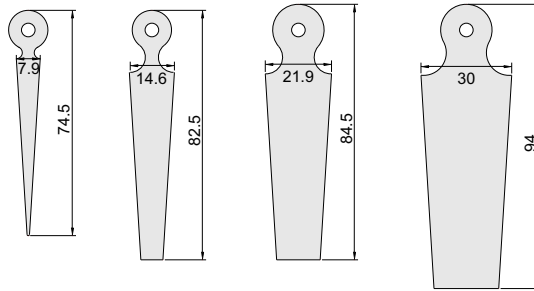
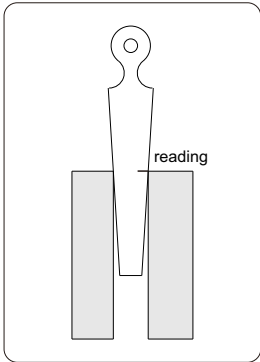
962

TAPER GAUGE SET

- ◆ Include 4 pcs (1-7.5mm, 7.5-14.5mm, 14.5-21.5mm, 21.5-29mm)
- ◆ Measure opening slot width
- ◆ Made of stainless steel



unit: mm



Code	Range	Graduation	Accuracy
962-029-41	1-29mm	0.1mm	±0.05mm

962

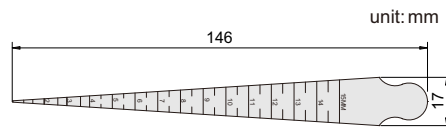
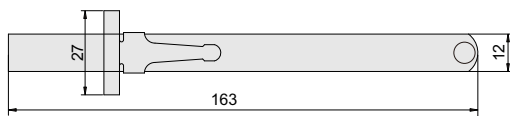
TAPER GAUGE SET



front side



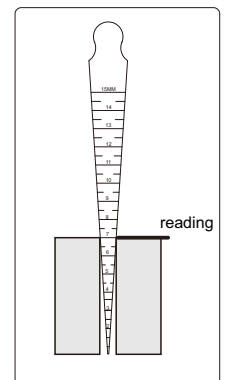
reverse side



unit: mm

- ◆ Made of stainless steel

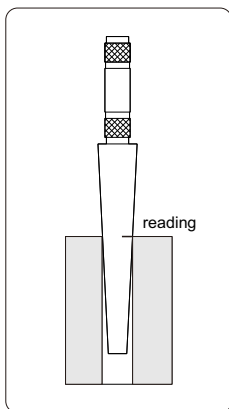
Code	Tool	Range	Graduation	Accuracy
962-909-02	taper gage	0.8-15mm	0.1mm	±0.1mm
	steel ruler	150mm/6"	1mm/1/64"	±0.15mm



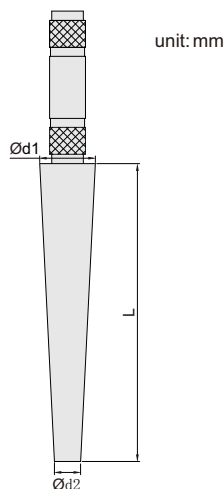
**SERIES 964**

**TAPER BORE GAUGE**

- ◆ Quick measuring diameter of the bore
- ◆ Graduation: 0.1 mm
- ◆ Hardened steel, HRC50-58
- ◆ Satin chrome plated surface
- ◆ Aluminium oxidized handle



964-015-11

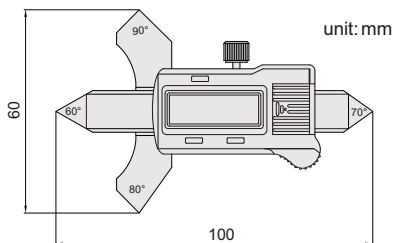
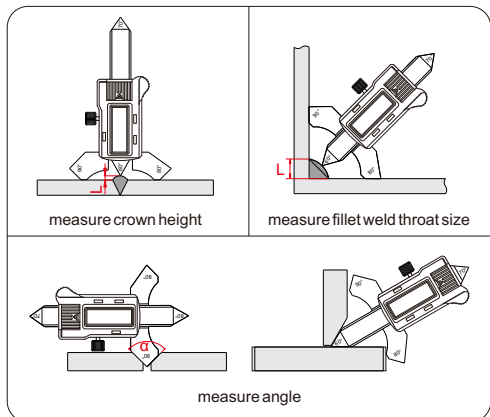


Code	Range	Accuracy	L	Ød1	Ød2
964-006-11	1-6.5mm	±0.05mm	62.5	7	0.8
964-015-11	3-15mm	±0.05mm	143	17	2.8
964-030-11	15-30mm	±0.05mm	165	31	14.7
964-045-11	30-45mm	±0.05mm	165	46	29.6
964-060-11	45-60mm	±0.05mm	167	61	44

**970**

**DIGITAL WELDING GAUGE**

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



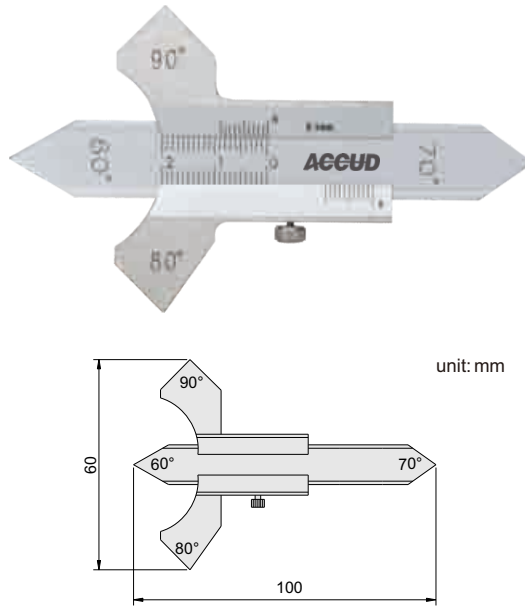
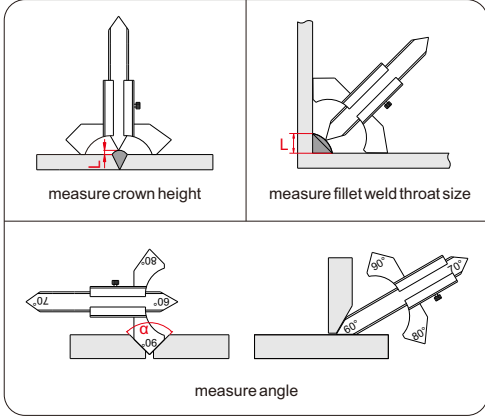
Code	Range	Accuracy	Resolution	Application
970-010-11	0 - 10mm	±0.03mm	0.01mm/0.0005"	measure crown height
	0 - 20mm	±0.1mm	0.01mm/0.0005"	measure fillet weld throat size
	60°, 70°, 80°, 90°	±1°	—	measure angle



971

WELDING GAUGE

- ◆ Made of stainless steel
- ◆ Stain chrome plated reading surface



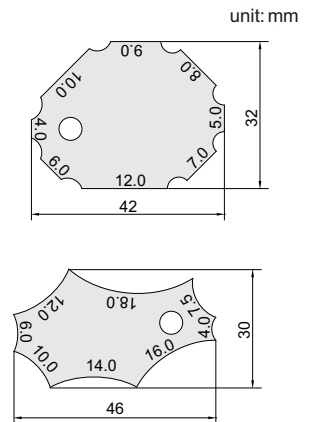
Code	Range	Graduation	Accuracy	Application
971-008-01	0 - 8mm	0.1mm	±0.1mm	measure crown height
	0 - 20mm	0.1mm	±0.3mm	measure fillet weld throat size
	60°, 70°, 80°, 90°	—	±1°	measure angle

972

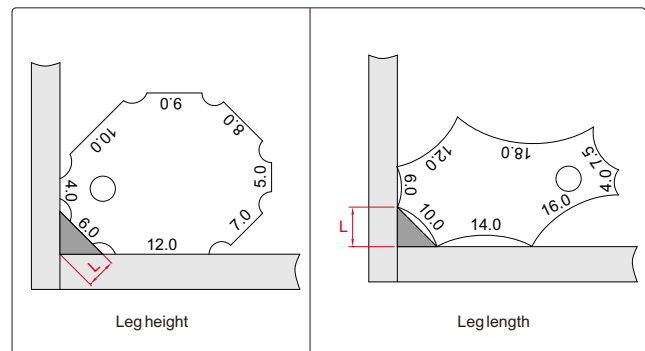
WELDING GAUGE

- ◆ Double printing in front and reverse side
- ◆ Made of the stainless steel

Package



Code	Leg height	Leg length	Accuracy
972-012-01	4, 5, 6, 7, 8, 9, 10, 12mm	4, 6, 7.5, 10, 12, 14, 16, 18mm	±0.5mm



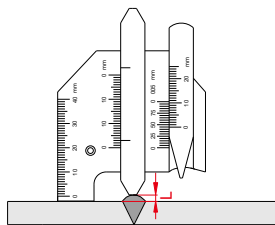
◆ Made of stainless steel



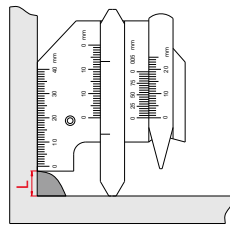
front side



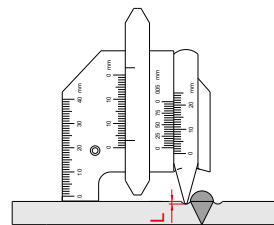
reverse side



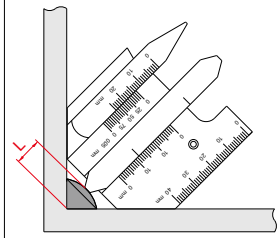
measure crown height



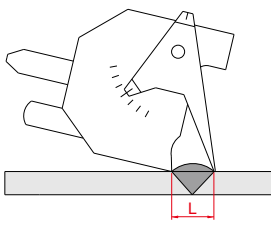
measure leg height



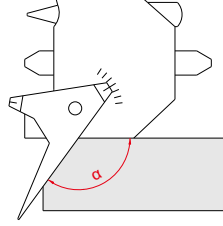
measure undercut depth



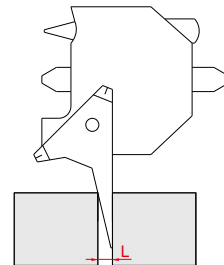
measure throat size



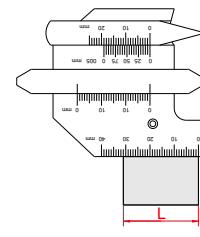
measure weld length



measure angle



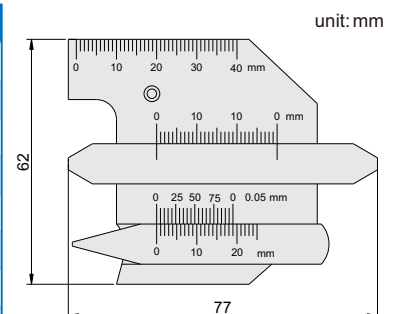
measure gap



measure length

SIMPLE  
MEASURING TOOL

Code	Application	Range	Graduation	Accuracy
973-014-01	measure crown height	0 - 10mm	1mm	±0.5mm
	measure leg height	0 - 14mm	1mm	±0.5mm
	measure undercut depth	0 - 5mm	0.05mm	±0.05mm
	measure throat size	0 - 13mm	1mm	±0.5mm
	measure weld length	0 - 40mm	1mm	±1mm
	measure angle	90° - 150°	5°	±1°
	measure gap	0.5 - 5mm	1mm	±0.5mm
	measure length	0 - 40mm	1mm	±0.5mm



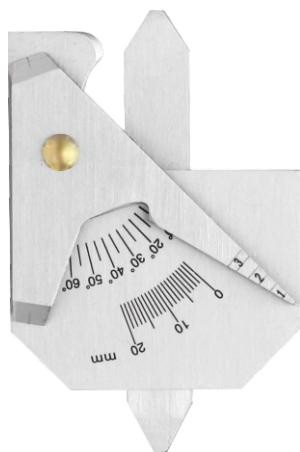




974

WELDING GAUGE

- ◆ Made of stainless steel
- ◆ Stain chrome plated surface

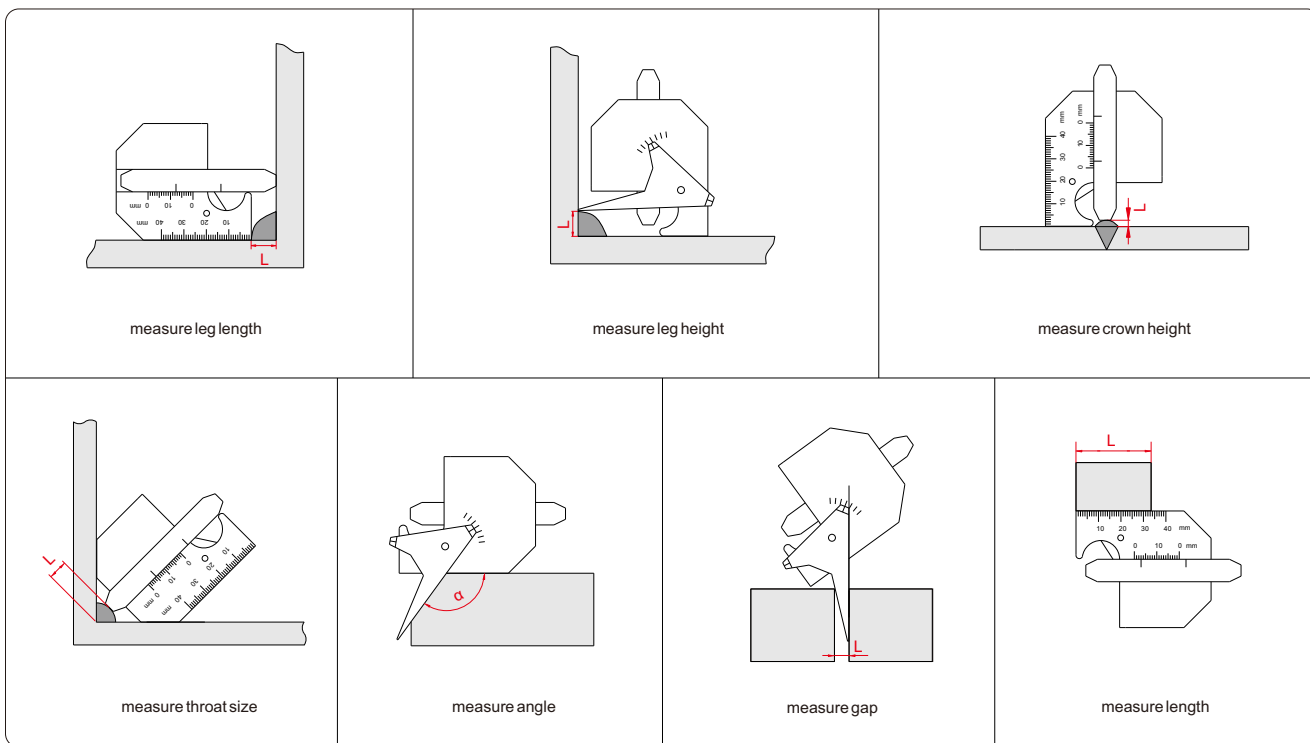


reverse side

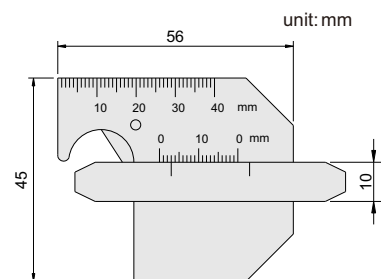


front side

MEASURING TOOL  
SIMPLE



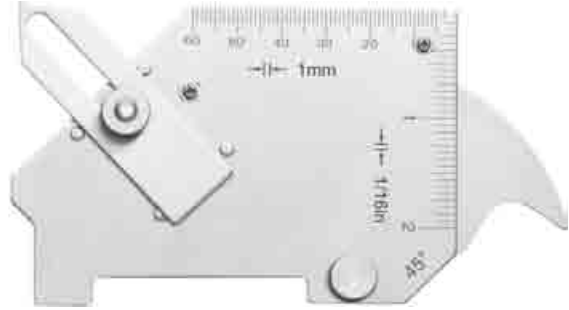
Code	Application	Range	Graduation	Accuracy
974-013-01	measure leg length	0 - 10mm	0.1mm	±0.1mm
	measure leg height	0 - 20mm	1mm	±0.5mm
	measure crown height	0 - 10mm	0.1mm	±0.1mm
	measure throat size	0 - 10mm	0.1mm	±0.1mm
	measure angle	0° - 60°	5°	±1°
	measure gap	1 - 3.5mm	0.5mm	±0.5mm
	measure length	0 - 40mm	1mm	±0.5mm



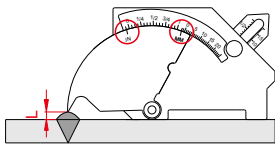
- ◆ Adjustable scale to compensate pointer wear
- ◆ Made of stainless steel



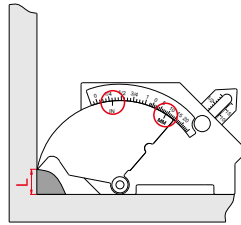
front side



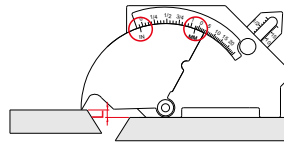
reverse side



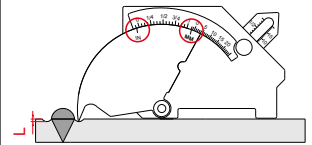
measure crown height



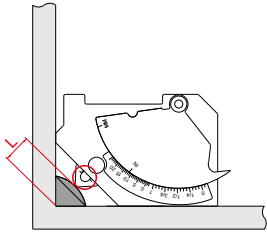
measure fillet weld leg height



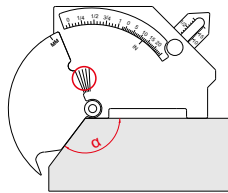
measure misalignment



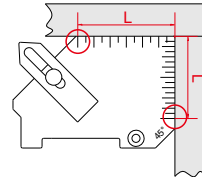
measure undercut depth



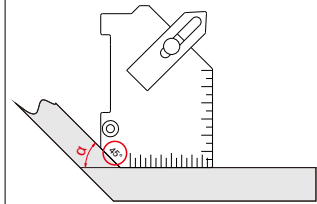
measure fillet weld throat size



measure angle of preparation



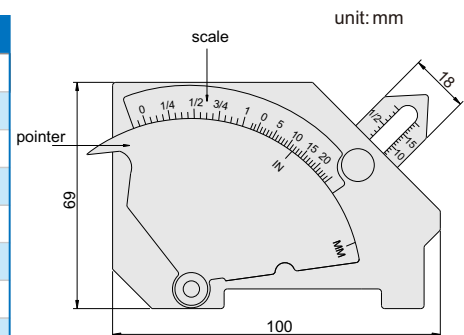
measure length



measure 45° angle

MEASURING TOOL  
SIMPLE

Code	Application	Range	Graduation	Accuracy
975-025-01	measure crown height	0 - 25mm (0 - 1")	1mm (1/16")	±0.5mm
	measure fillet weld leg height	0 - 25mm (0 - 1")	1mm (1/16")	±0.5mm
	measure misalignment	0 - 25mm (0 - 1")	1mm (1/16")	±0.5mm
	measure undercut depth	0 - 2mm (0 - 1/8")	1mm (1/16")	±0.5mm
	measure fillet weld throat size	0 - 20mm (0 - 3/4")	1mm (1/16")	±0.5mm
	measure angle of preparation	0 - 60°	5°	±1°
	measure length	0 - 60mm (0-2")	1mm (1/16")	±0.5mm
	measure 45° angle	—	—	±1°





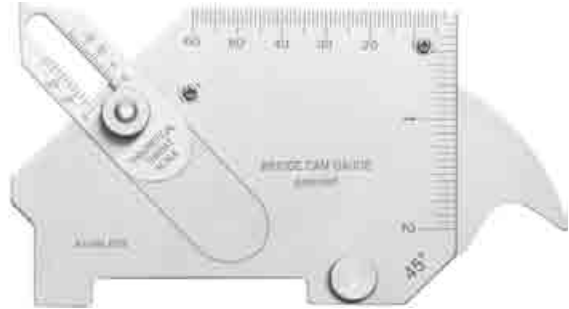
975

WELDING GAUGE

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



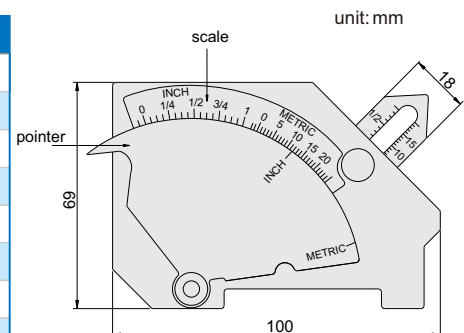
front side



reverse side

measure crown height	measure fillet weld leg height	measure misalignment	measure undercut depth
measure fillet weld throat size	measure angle of preparation	measure length	measure 45° angle

Code	Application	Range	Graduation	Accuracy
975-025-02	measure crown height	0 - 25mm (0 - 1")	1mm (1/16")	±0.5mm
	measure fillet weld leg height	0 - 25mm (0 - 1")	1mm (1/16")	±0.5mm
	measure misalignment	0 - 25mm (0 - 1")	1mm (1/16")	±0.5mm
	measure undercut depth	0 - 2mm (0 - 1/8")	1mm (1/16")	±0.5mm
	measure fillet weld throat size	0 - 20mm (0 - 3/4")	1mm (1/16")	±0.5mm
	measure angle of preparation	0 - 60°	5°	±1°
	measure length	0 - 60mm (0-2")	1mm (1/16")	±0.5mm
	measure 45° angle	—	—	±1°



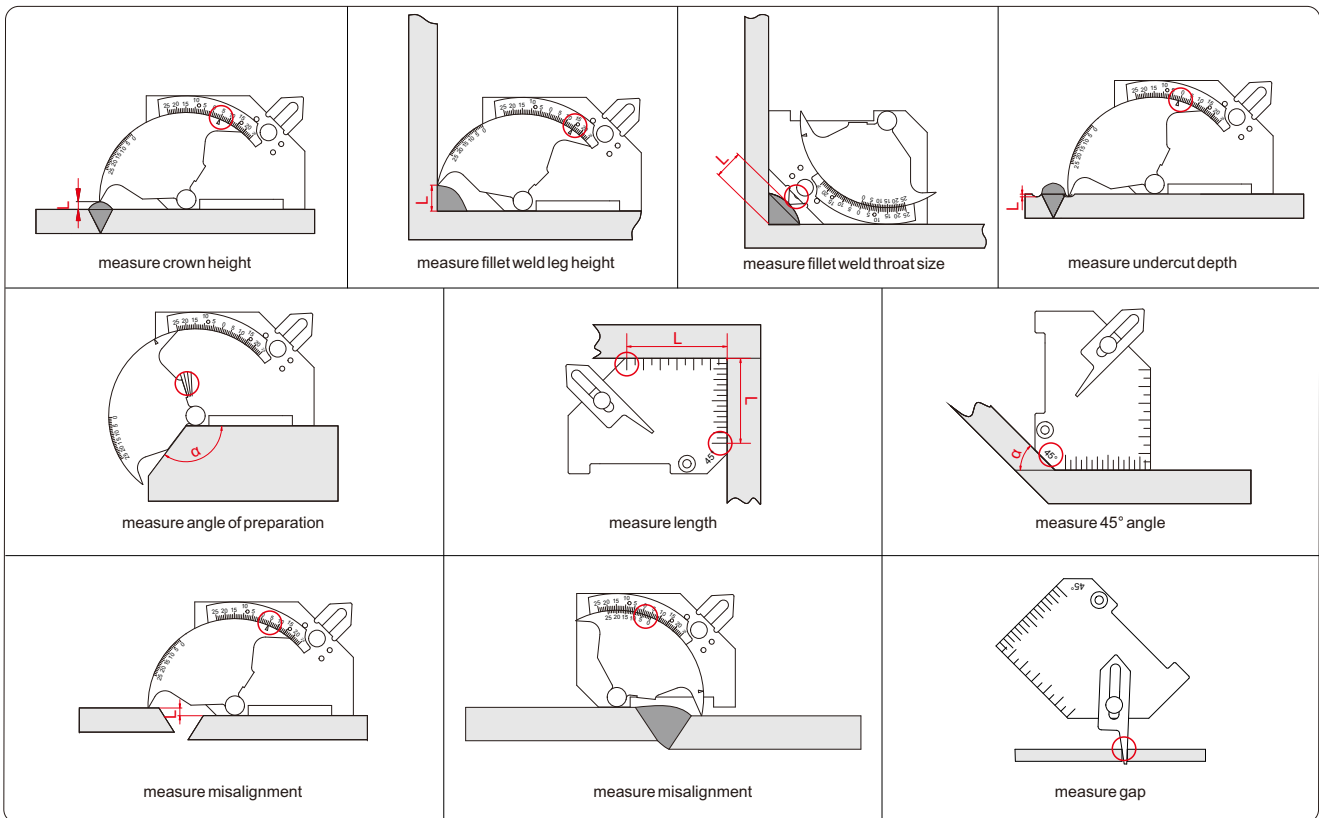
- ◆ Adjustable scale to compensate pointer wear
- ◆ Made of stainless steel



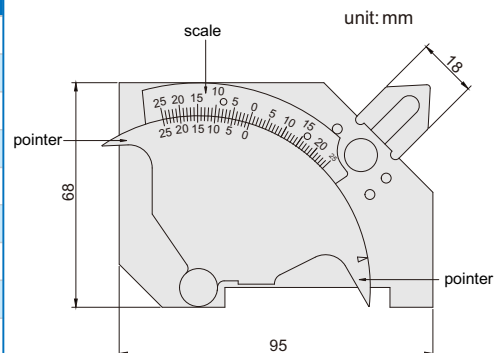
front side



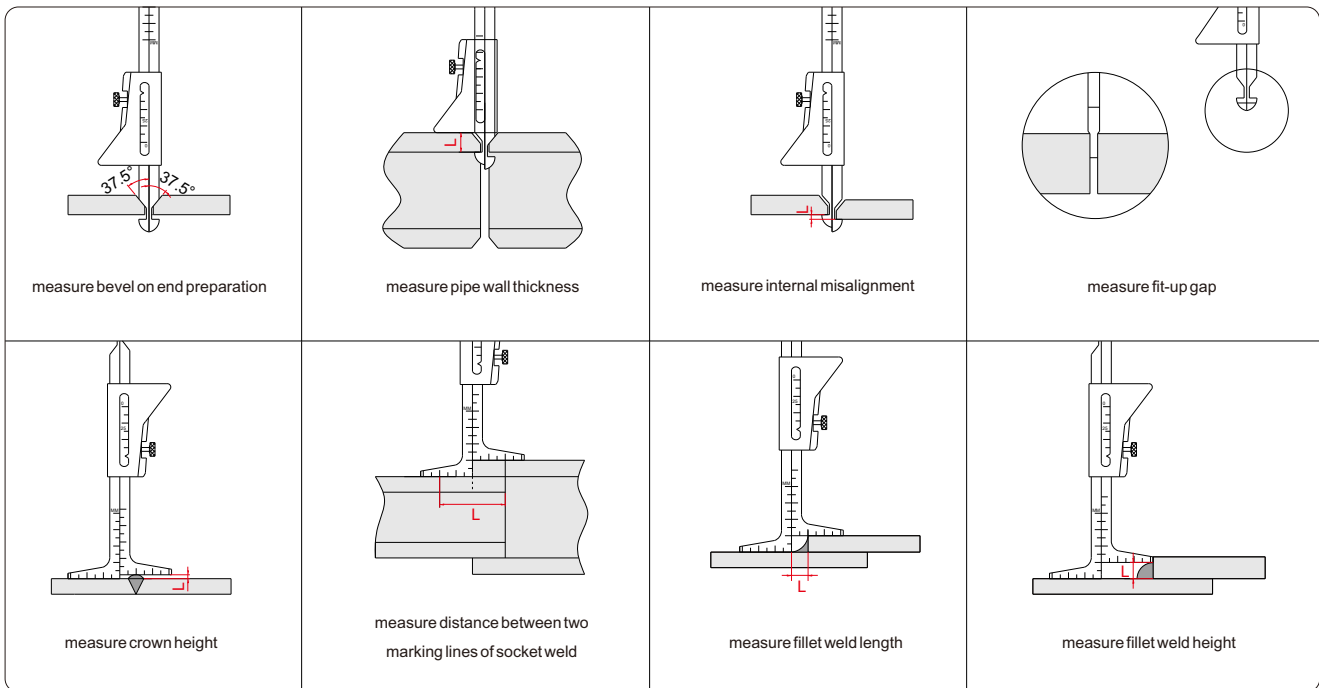
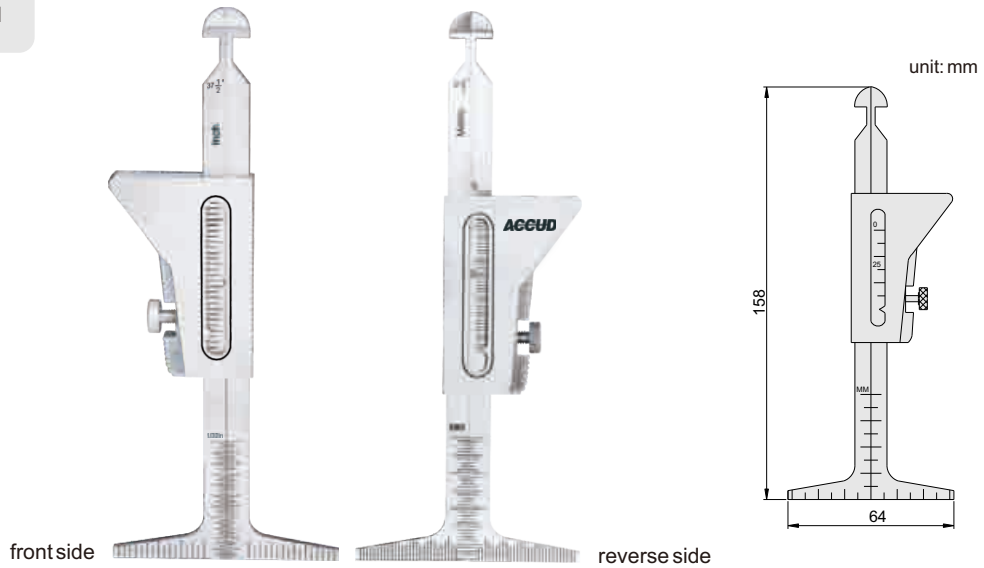
reverse side



Code	Application	Range	Graduation	Accuracy
975-025-21	measure crown height	0 - 25mm	1mm	±0.5mm
	measure fillet weld leg height	0 - 25mm	1mm	±0.5mm
	measure fillet weld throat size	0 - 15mm	1mm	±0.5mm
	measure undercut depth	0 - 25mm	1mm	±0.5mm
	measure angle of preparation	0 - 60°	5°	±1°
	measure length	0 - 60mm	1mm	±0.5mm
	measure 45° angle	—	—	±1°
	measure misalignment	0 - 25mm	1mm	±0.5mm
	measure gap	2-5mm	1mm	±0.5mm



◆ Made of stainless steel



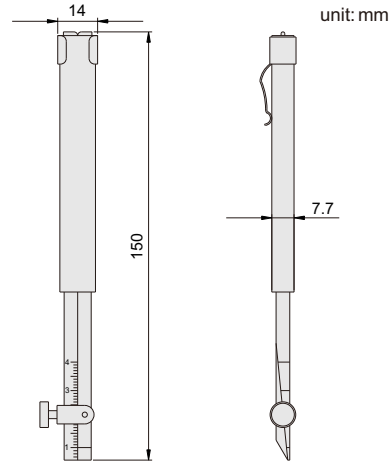
MEASURING TOOL  
SIMPLE

Code	Application	Range	Graduation	Accuracy
976-045-01	measure bevel on end preparation	37.5°	—	±1°
	measure pipe wall thickness	0 - 45mm (0 - 1-3/4")	1mm (1/16")	±0.5mm
	measure internal misalignment	0 - 35mm (0 - 1-3/8")	1mm (1/32")	±0.5mm
	measure fit-up gap	1.6mm, 2.2mm	—	±0.1mm
	measure crown height	0 - 35mm (0 - 1-3/8")	1mm (1/32")	±0.5mm
	measure distance between two marking lines of socket weld	0 - 60mm (0 - 2-3/8")	1mm (1/16")	±0.5mm
	measure fillet weld length	0 - 30mm (0 - 1-1/4")	1mm (1/16")	±0.5mm
	measure fillet weld height	0 - 35mm (0 - 1-3/8")	1mm (1/32")	±0.5mm

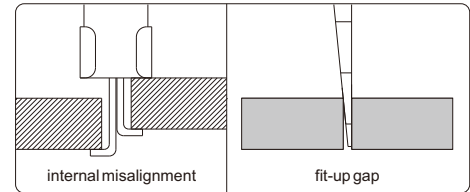
**960**

**PIP WELDING GAUGE**

- ◆ Made of stainless steel



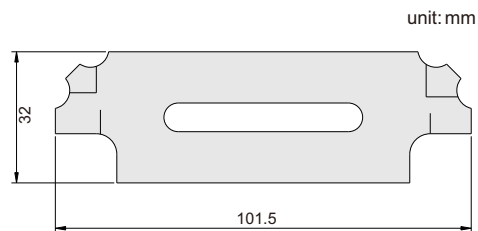
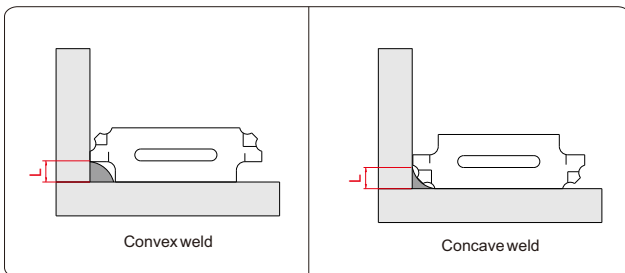
Code	Measurement	Range	Graduation	Accuracy
960-030-01	internal misalignment	0-30mm	1mm	±0.5mm
	fit-up gap	0.7-4mm	0.1mm	±0.1mm



**SERIES 977**

**FILLET WELD GAUGE**

- ◆ Measure concave and convex weld sizes
- ◆ 7 blades are included
- ◆ Each blade measures two sizes of concave and convex weld
- ◆ Made of stainless steel



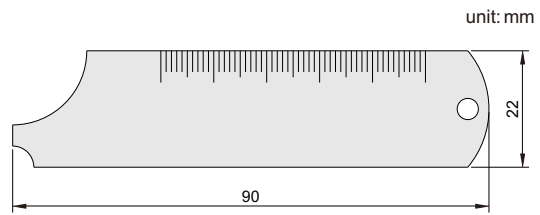
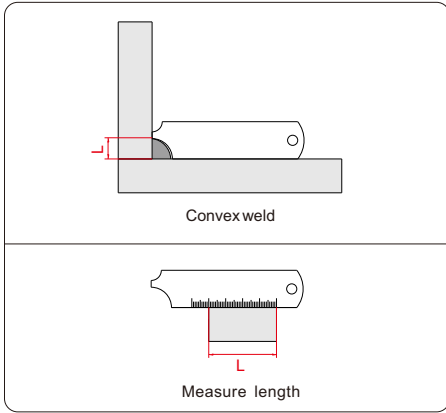
Code	Accuracy	Size
977-025-01	±0.5mm	3, 4, 5, 6, 8, 9, 10, 11, 12, 14, 16, 19, 22, 25
977-025-02	±0.02"	1/8", 3/16", 1/4", 5/16", 3/8", 7/16", 1/2", 5/8", 3/4", 7/8", 1"



745

FILLET WELDING GAUGE

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



Code	Measurement	Range	Graduation	Accuracy
745-050-03	convex weld size	4, 6, 8, 10, 12, 14mm	—	±0.5mm
	length	0-50mm	1mm	±0.5mm

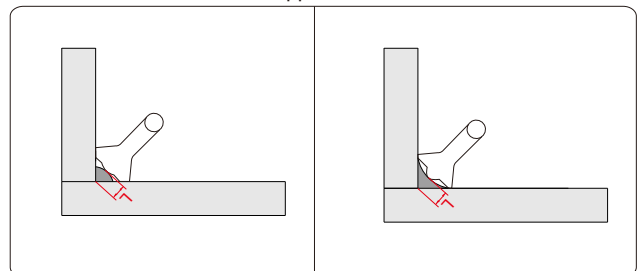
749

WELDING GAUGE

- ◆ Made of stainless steel



Application

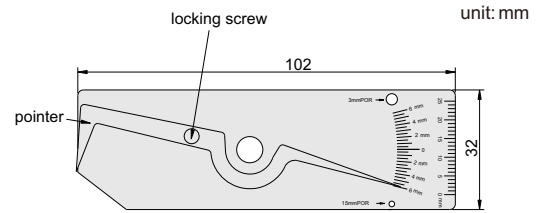
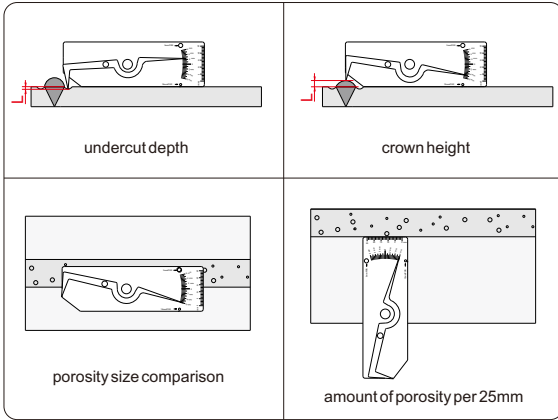


Code	Size
749-012-01	3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7, 8, 10, 12mm

978

WELDING GAUGE

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

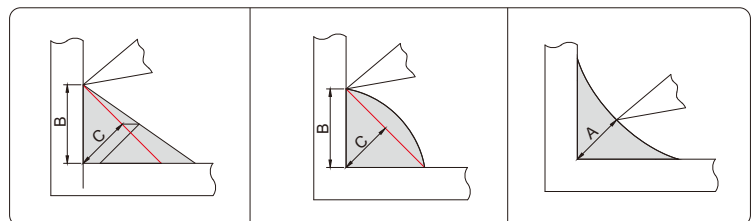
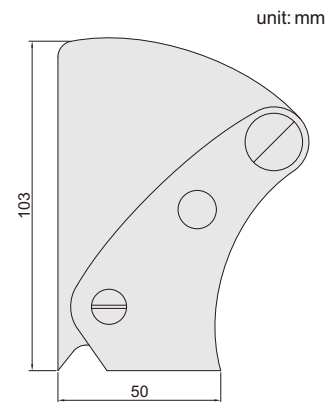
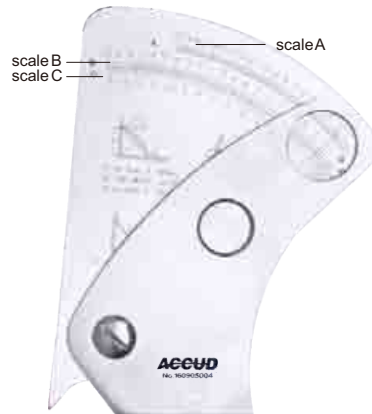


Code	Measurement	Range	Graduation	Accuracy
978-006-01	undercut depth	0 - 6mm	0.5mm	±0.5mm
	crown height	0 - 6mm	0.5mm	±0.5mm
	porosity size comparison	1.5mm, 3mm	—	±0.2mm
	amount of porosity per 25mm	25mm	1mm	—

966

WELDING GAUGE

- ◆ Made of stainless steel



Code	Graduation	Accuracy
966-001-01	0.2mm	±0.3mm

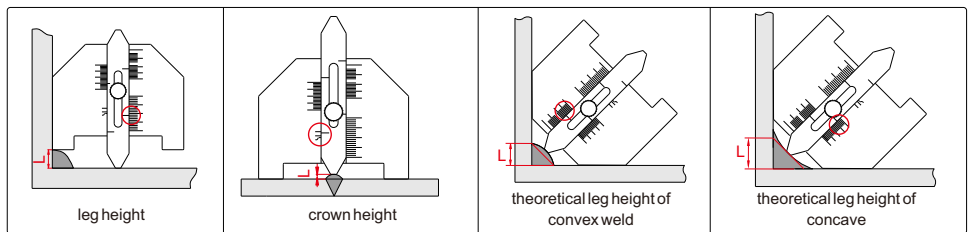
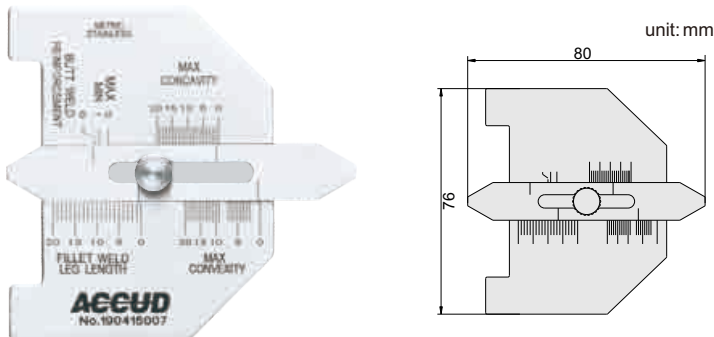




979

WELDING GAUGE

◆ Made of stainless steel

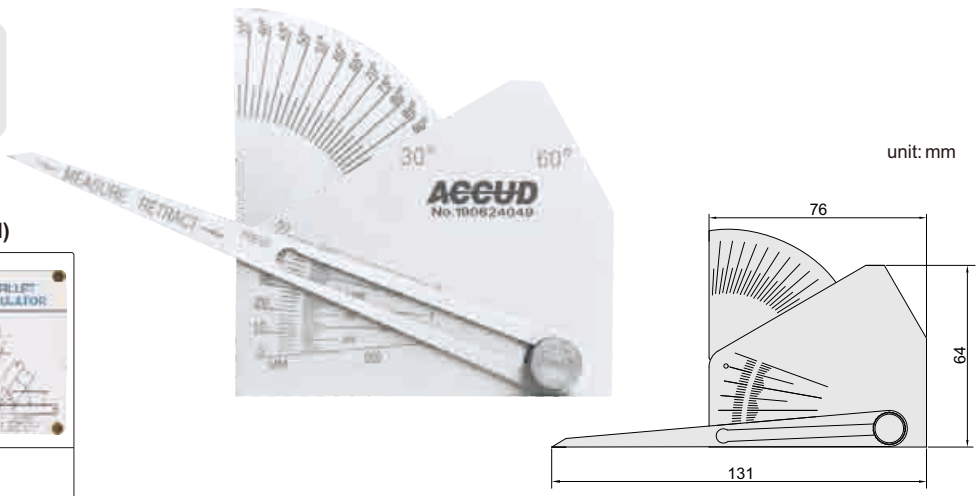


Code	Range	Graduation	Accuracy	Measurement
979-020-01	0-20mm	1mm	±0.5mm	leg height
	0-3mm	—	±0.5mm	crown height
	0-20mm	1mm	±0.5mm	theoretical leg height of convex weld
	0-20mm	1mm	±0.5mm	theoretical leg height of concave

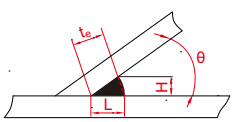
969

FILLET WELDING GAUGE

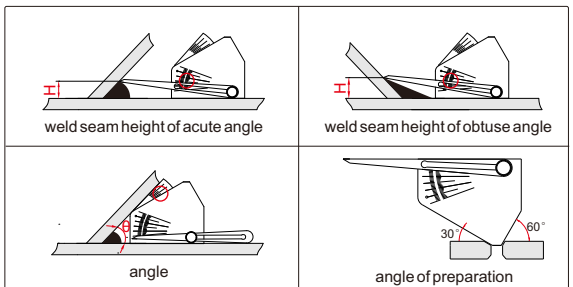
◆ Calculating card is included  
◆ Made of stainless steel



Calculating card (included)



measure weld seam height  $H$  and angle  $\theta$ , calculate theoretical throat size  $t$  and leg height  $L$  according to  $H$  and  $\theta$ .



Code	Measurement	Range	Graduation	Accuracy
969-050-01	weld seam height $H$	0 - 50mm / 0-2"	2mm/.050"	±1mm
	angle $\theta$	30° - 90°	2.5°	±1°
	90° angle	—	—	±0.5°

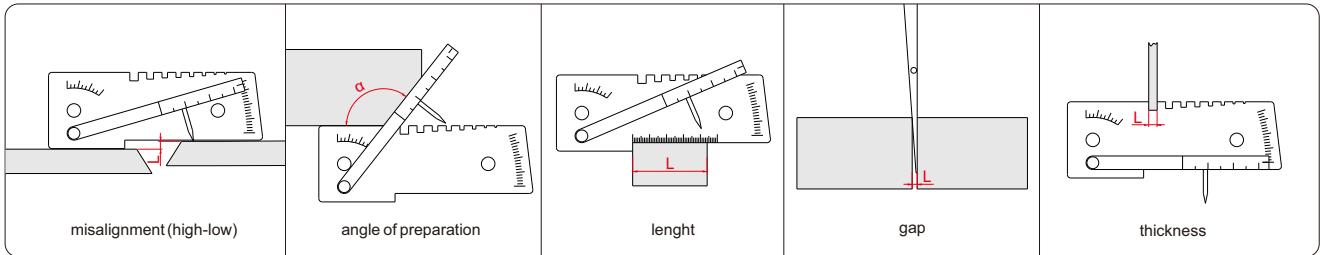
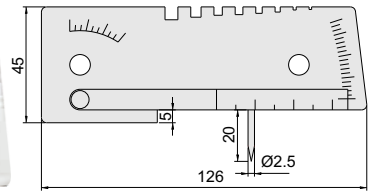
746

WELDING GAUGE

◆ Made of stainless steel



unit: mm



Code	Measurement	Range	Graduation	Accuracy
746-050-01	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

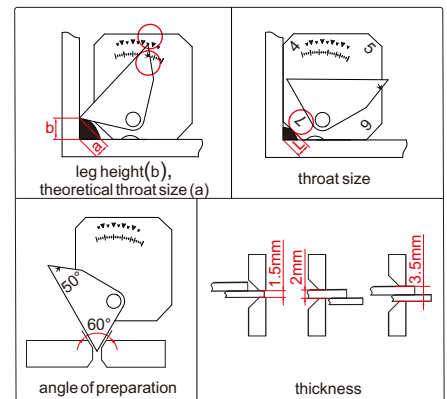
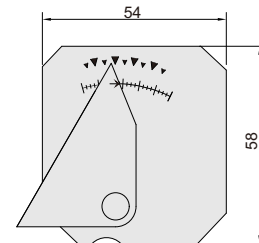
747

WELDING GAUGE

◆ Made of stainless steel



unit: mm



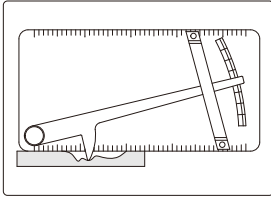
Code	Measurement	Range	Graduation	Accuracy
747-018-01	theoretical throat size (a)	2-12mm	1mm	±0.5mm
	leg height (b)	0-18mm	1mm	±0.5mm
	throat size	4, 5, 6, 7mm	—	±0.5mm
	angle of preparation	50°, 60°	—	±1°
	thickness	1.5, 2, 3.5mm	—	±0.2mm

748

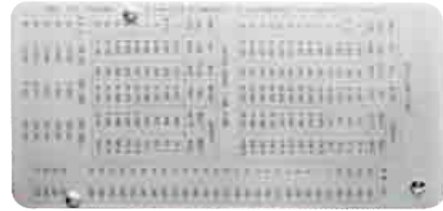
PIPE PIT GAUGE

- ◆ Made of stainless steel

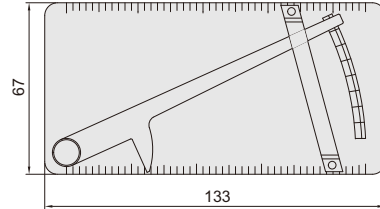
Application



front side



reverse side

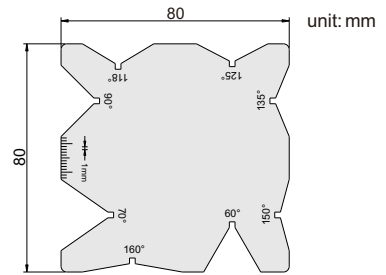
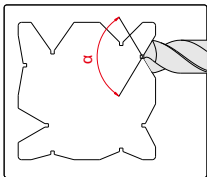


Code	Range	Graduation	Accuracy
748-012-01	0-0.5"(0-1/2")	0.01"(1/16")	±0.02"

968

DRILL ANGLE GAUGE

- ◆ Check drills with angle 60°, 70°, 90°, 118°, 125°, 135°, 150° or 160°
- ◆ Made of stainless steel



unit: mm

Code	Accuracy
968-001-01	±0.5°

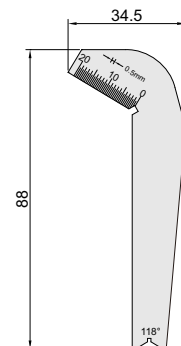
965

DRILL POINT GAUGE

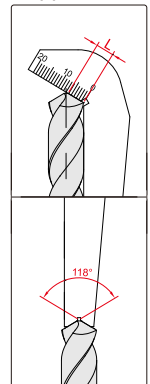
- ◆ For twist drills with 118° angle, to check if the center of tip is concentric with the drill body
- ◆ Made of stainless steel



unit: mm



Application



Code	Accuracy	
	Angle	Length
965-005-01	±0.5°	±0.5mm

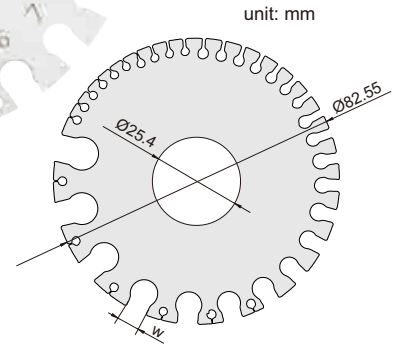
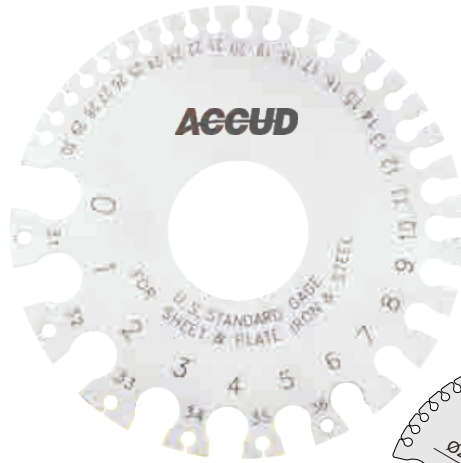
**SERIES 741**

**U.S. STANDARD SHEET METAL GAUGE**

Code	Range
<b>741-036-12</b>	0-36(7.938-0.179mm/.3125-.0070")

NO.	W
0	7.938mm(.3125")
1	7.144mm(.2813")
2	6.747mm(.2656")
3	6.350mm(.2500")
4	5.953mm(.2344")
5	5.556mm(.2188")
6	5.159mm(.2031")
7	4.763mm(.1875")
8	4.366mm(.1719")
9	3.969mm(.1563")
10	3.572mm(.1406")
11	3.175mm(.1250")
12	2.778mm(.1094")
13	2.381mm(.0938")
14	1.984mm(.0781")
15	1.786mm(.0703")
16	1.588mm(.0625")
17	1.429mm(.0563")
18	1.270mm(.0500")

NO.	W
19	1.111mm(.0438")
20	0.953mm(.0375")
21	0.873mm(.0344")
22	0.794mm(.0313")
23	0.714mm(.0281")
24	0.635mm(.0250")
25	0.556mm(.0219")
26	0.476mm(.0188")
27	0.437mm(.0172")
28	0.397mm(.0156")
29	0.357mm(.0141")
30	0.318mm(.0125")
31	0.278mm(.0109")
32	0.258mm(.0102")
33	0.238mm(.0094")
34	0.218mm(.0086")
35	0.198mm(.0078")
36	0.179mm(.0070")



- ◆ For gaging sheet metal, plate iron and steel
- ◆ Hardened

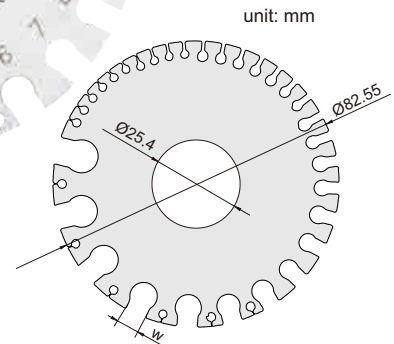
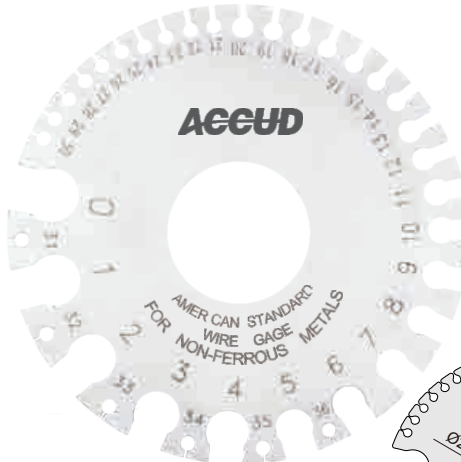
**SERIES 741**

**AMERICAN STANDARD WIRE GAUGE**

Code	Range
<b>741-036-11</b>	0-36(8.250-0.127mm/.3249-.0050")

NO.	W
0	8.250mm(.3249")
1	7.350mm(.2893")
2	6.540mm(.2576")
3	5.830mm(.2294")
4	5.190mm(.2043")
5	4.620mm(.1819")
6	4.110mm(.1620")
7	3.670mm(.1443")
8	3.260mm(.1285")
9	2.910mm(.1144")
10	2.590mm(.1019")
11	2.300mm(.0907")
12	2.050mm(.0808")
13	1.820mm(.0720")
14	1.630mm(.0641")
15	1.450mm(.0571")
16	1.290mm(.0508")
17	1.150mm(.0453")
18	1.020mm(.0403")

NO.	W
19	0.912mm(.0359")
20	0.813mm(.0320")
21	0.724mm(.0285")
22	0.643mm(.0253")
23	0.574mm(.0226")
24	0.511mm(.0201")
25	0.440mm(.0179")
26	0.404mm(.0159")
27	0.361mm(.0142")
28	0.320mm(.0126")
29	0.287mm(.0113")
30	0.254mm(.0100")
31	0.226mm(.0089")
32	0.203mm(.0080")
33	0.180mm(.0071")
34	0.160mm(.0063")
35	0.142mm(.0056")
36	0.127mm(.0050")



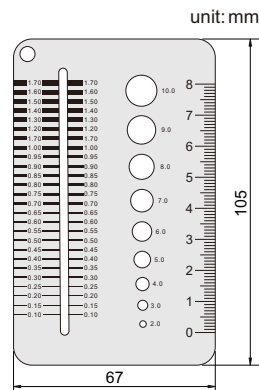
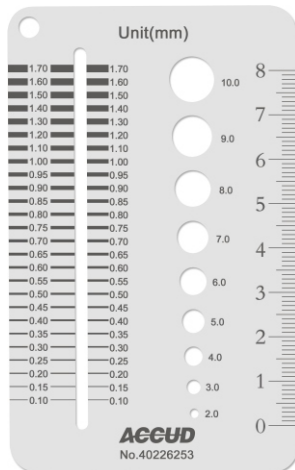
- ◆ For gaging non-ferrous wire and metals such as copper, brass and aluminum
- ◆ Hardened



940

GAP/DIAMETER GAUGE

◆ Made of stainless steel

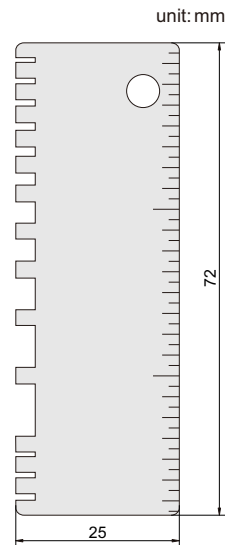
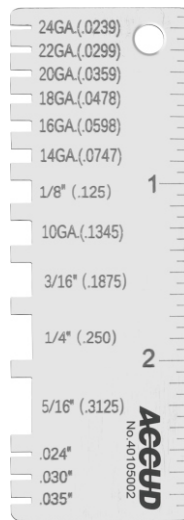
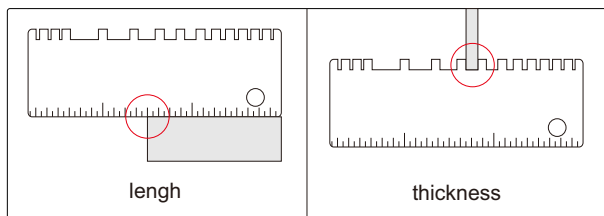


Code	Standard diameter	Gap
940-010-01	2, 3, 4, 5, 6, 7, 8, 9, 10mm	0.1-1.7mm

742

THICKNESS GAUGE

◆ Made of stainless steel

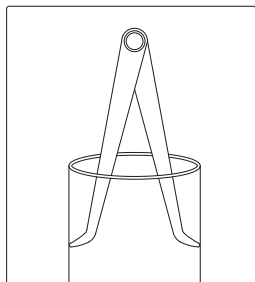


Code	Application	Range	Graduation	Accuracy
742-003-11	length	0-2 3/4"	1/16"	1/32"
	thickness	24GA.(0.0239"), 22GA.(0.0299"), 20GA.(0.0359")	—	±0.002"
		18GA.(0.0478"), 16GA.(0.0598"), 14GA.(0.0747"), 1/8"(0.125"), 10GA.(0.1345"), 3/16"(0.1875"), 1/4"(0.250"), 5/16"(0.3125")	—	±0.004"
		0.024", 0.030", 0.035"	—	±0.002"

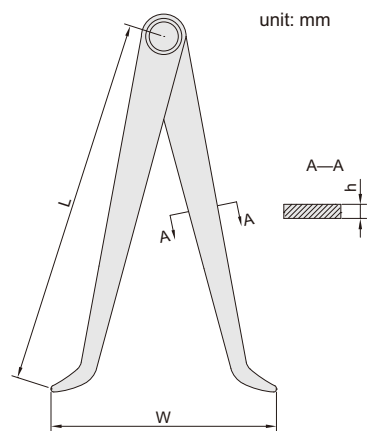
## SERIES 981

## INSIDE CALIPER

◆ Made of carbon steel



981-006-01



unit: mm

Code	Size(L)	Range(W)	h
981-006-01	150mm	15-150mm	2
981-008-01	200mm	15-200mm	2
981-010-01	250mm	15-250mm	3
981-012-01	300mm	15-300mm	3
981-016-01	400mm	30-400mm	3
981-020-01	500mm	30-500mm	3
981-024-01	600mm	30-600mm	3
981-032-01	800mm	30-800mm	4
981-040-01	1000mm	30-1000mm	4

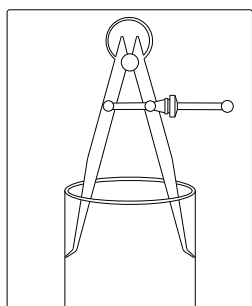
Package (size ≤ 300mm)



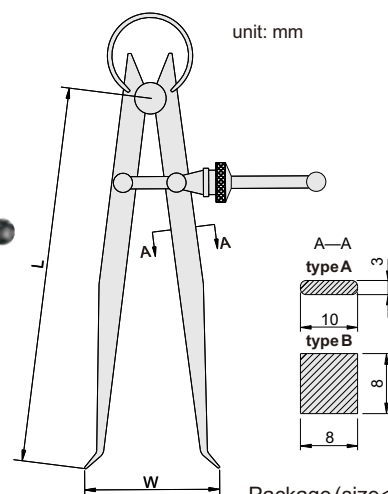
## SERIES 982

## INSIDE SPRING CALIPER

◆ Made of carbon steel



982-006-01



unit: mm

Code	Size(L)	Range(W)	Type
982-005-01	125mm	15-115mm	A
982-006-01	150mm	15-140mm	A
982-008-01	200mm	18-190mm	A
982-010-01	250mm	20-240mm	A
982-012-01	300mm	20-290mm	A
982-016-01	400mm	20-390mm	B
982-020-01	500mm	25-490mm	B
982-024-01	600mm	25-590mm	B

Package (size ≤ 300mm)

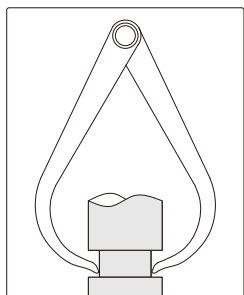




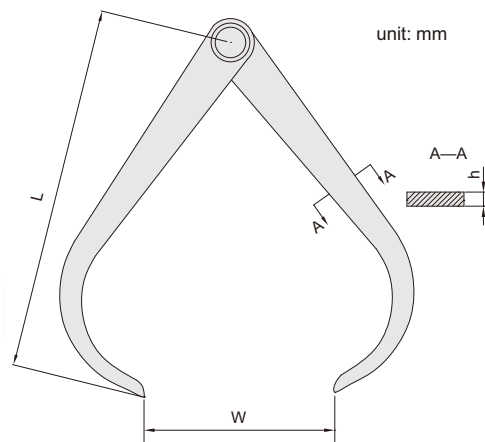
**SERIES 983**

**OUTSIDE CALIPER**

◆ Made of carbon steel



983-006-01



unit: mm

Code	Size(L)	Range(W)	h
983-006-01	150mm	0 - 150mm	2
983-008-01	200mm	0 - 200mm	2
983-010-01	250mm	0 - 250mm	3
983-012-01	300mm	0 - 300mm	3
983-016-01	400mm	0 - 400mm	3
983-020-01	500mm	0 - 500mm	3
983-024-01	600mm	0 - 600mm	3
983-032-01	800mm	0 - 800mm	4
983-040-01	1000mm	0 - 1000mm	4

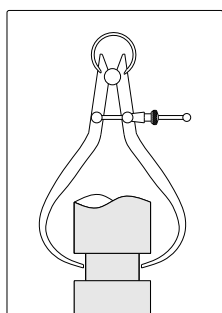
Package (size ≤ 300mm)



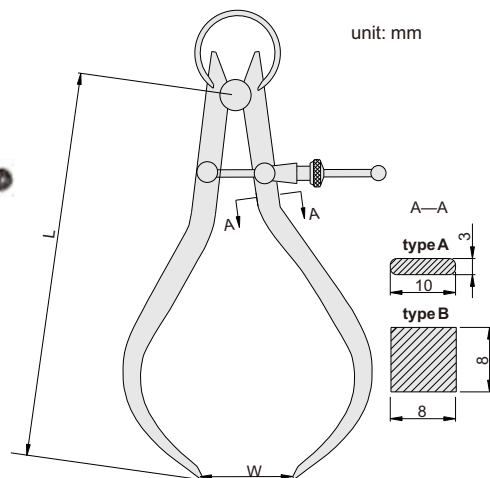
**SERIES 984**

**OUTSIDE SPRING CALIPER**

◆ Made of carbon steel



984-005-01



unit: mm

Code	Size(L)	Range(W)	Type
984-005-01	125mm	0 - 115mm	A
984-006-01	150mm	0 - 140mm	A
984-008-01	200mm	0 - 190mm	A
984-010-01	250mm	0 - 240mm	A
984-012-01	300mm	0 - 290mm	A
984-016-01	400mm	0 - 390mm	B
984-020-01	500mm	0 - 490mm	B
984-024-01	600mm	0 - 590mm	B

Package (size ≤ 300mm)



**SERIES 985**

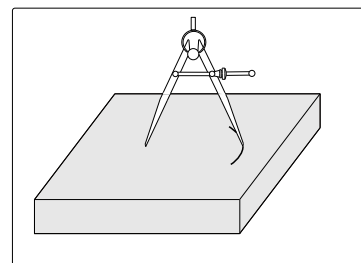
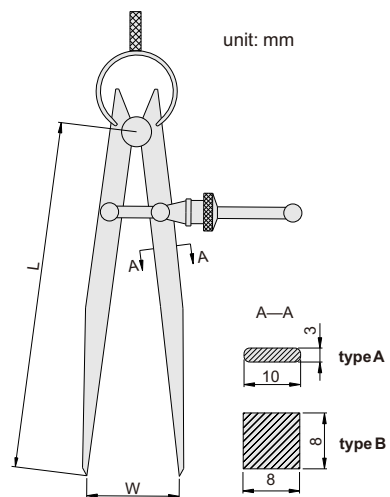
**SPRING DIVIDER**

- ◆ Made of carbon steel
- ◆ Hardened points

Package (size ≤ 300mm)



985-005-01



Code	Size(L)	Range(W)	Type
985-005-01	125mm	0 - 115mm	A
985-006-01	150mm	0 - 140mm	A
985-008-01	200mm	0 - 190mm	A
985-010-01	250mm	0 - 240mm	A
985-012-01	300mm	0 - 290mm	B
985-016-01	400mm	0 - 390mm	B
985-020-01	500mm	0 - 490mm	B
985-024-01	600mm	0 - 590mm	B

**SERIES 986**

**DIVIDER**

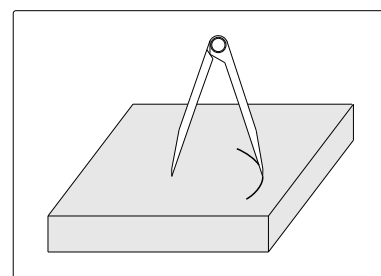
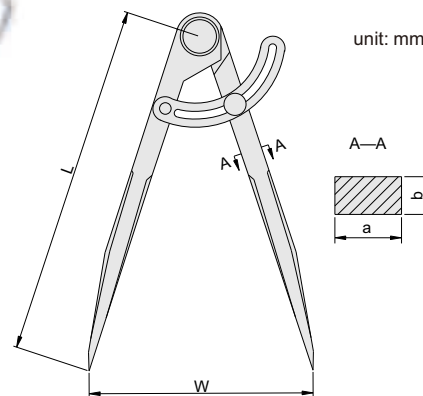
- ◆ Made of carbon steel
- ◆ Hardened points

Code	Size(L)	Range(W)	a	b
986-005-01	125mm	0 - 115mm	8.5	7
986-006-01	150mm	0 - 140mm	8.5	7
986-008-01	200mm	0 - 190mm	10	7
986-010-01	250mm	0 - 240mm	11	7
986-012-01	300mm	0 - 290mm	12	7
986-016-01	400mm	0 - 390mm	12	7
986-020-01	500mm	0 - 490mm	12	7
986-024-01	600mm	0 - 590mm	12	7
986-032-01	800mm	0 - 790mm	16	11
986-040-01	1000mm	0 - 990mm	16	11



986-005-01

Package (size ≤ 300mm)



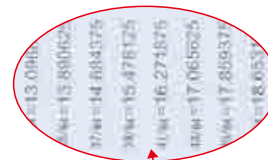
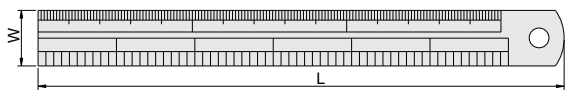


**SERIES 990**

**STEEL RULE**



990-006-11



Range >1000mm

- ◆ Graduation: 0.5mm, 1mm, 1/64", 1/32", 1/16"
- ◆ Made of stainless steel



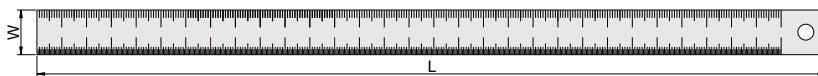
Code	Range	Accuracy	T	L	W	Remark
990-006-11	150mm/6"	±0.18mm	1	170	18	graduation on front and back
990-008-11	200mm/8"	±0.18mm	1	220	18	graduation on front and back
990-012-11	300mm/12"	±0.27mm	1	330	25	graduation on front and back
990-020-11	500mm/20"	±0.27mm	1	530	30	graduation on front and back
990-040-11	1000mm/40"	±0.45mm	1.5	1040	32	graduation on front and back
990-060-11	1500mm/60"	±0.63mm	1.5	1550	38	graduation on front
990-080-11	2000mm/80"	±0.80mm	2	2065	38	graduation on front

**SERIES 990**

**STEEL RULE**



990-012-11H



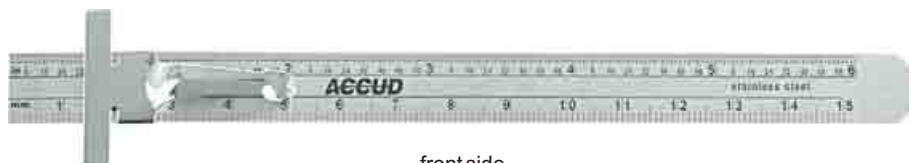
- ◆ Graduation: 0.5mm, 1mm, 1/64", 1/50", 1/32", 1/20", 1/16", 1/10"
- ◆ Matt finished
- ◆ Made of stainless steel

Code	Range	Accuracy	T	L	W
990-006-11H	150mm/6"	±0.08mm	1	170	14
990-012-11H	300mm/12"	±0.11mm	1	334	25
990-020-11H	500mm/20"	±0.14mm	1.2	534	28.5
990-024-11H	600mm/24"	±0.16mm	1.2	638	28.5
990-040-11H	1000mm/40"	±0.24mm	1.2	1043	35

909

POCKET RULE WITH SLIDING CLIP

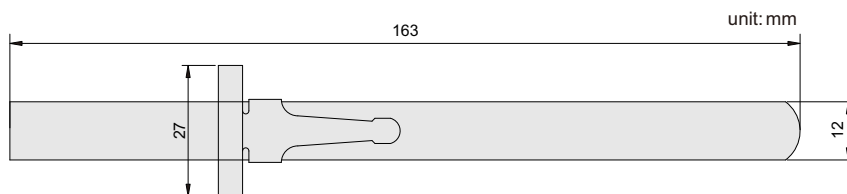
- ◆ With sliding clip, clip can be inserted in the pocket, also can be used as depth gage base
- ◆ Inch/metric conversion table on the back
- ◆ Made of stainless steel



front side



reverse side



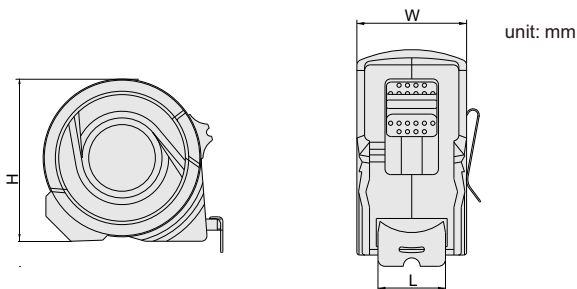
Code	Range	Graduation	Accuracy
909-006-11	150mm/6"	1mm, 1/64"	±0.15mm

SERIES 989

MEASURING TAPE



989-005-01



- ◆ Matt Nylon coating tape, wear resistance

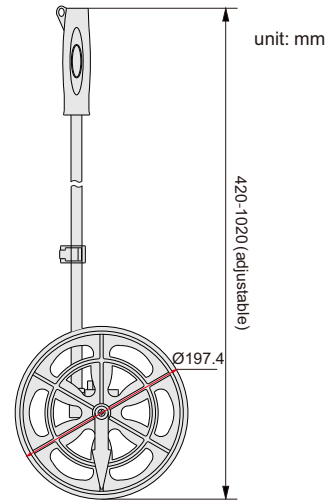
Code	Range	Graduation	Width of tape L	W	H
989-003-01	0-3m	1mm	16mm	33	60
989-005-01	0-5m	1mm	19mm	33	68



988

MEASURING WHEEL

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



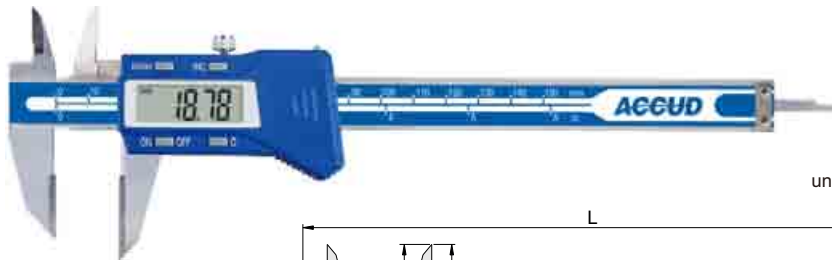
Code	Range	Resolution
988-100-11	0.1-9999.9m	0.1m

SERIES 155

DIGITAL SCRIBING CALIPER



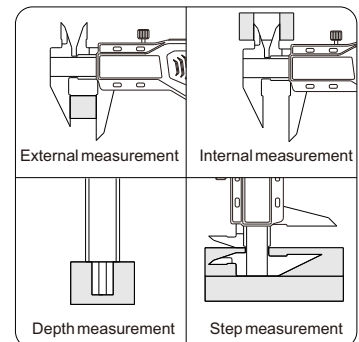
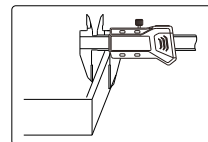
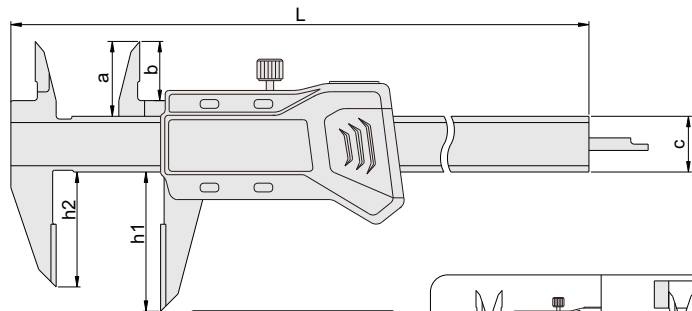
MEASURING TOOL  
SIMPLE



Carbide tipped jaws

155-006-11

- ◆ Carbide -tipped jaws facilitate fine scribing on workpiece
- ◆ Resolution:0.01mm/0.0005"
- ◆ Automatic power on/off
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Data output(cable code: 100-03 or 100-04)
- ◆ Made of stainless steel



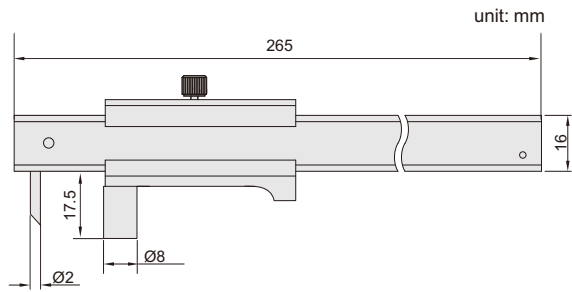
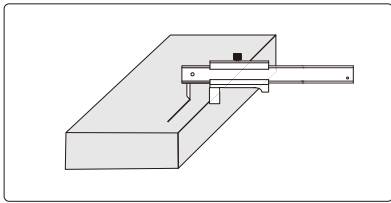
Code	Range	Accuracy	a	b	c	h1	h2	L
155-006-11	0-150mm/0-6"	±0.03mm	21	16.5	16	40	33	236
155-008-11	0-200mm/0-8"	±0.03mm	24	19.5	16	50	43	286
155-012-11	0-300mm/0-12"	±0.04mm	25	20.5	17	60	53	386

900

SCRIBING CALIPER



- ◆ Made of stainless steel
- ◆ Satin chrome plated reading surface
- ◆ Carbide scriber tip
- ◆ With accessory: carbide scriber tip

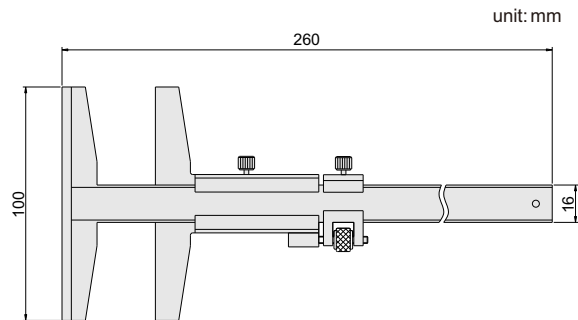
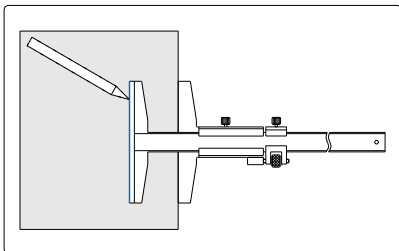


Code	Range	Graduation	Accuracy
900-008-11	0-200mm/0-8"	0.1mm, 1/128"	±0.1mm

902

T-SHAPE MARKING GAUGE

- ◆ Made of stainless steel
- ◆ Satin chrome plated reading surface

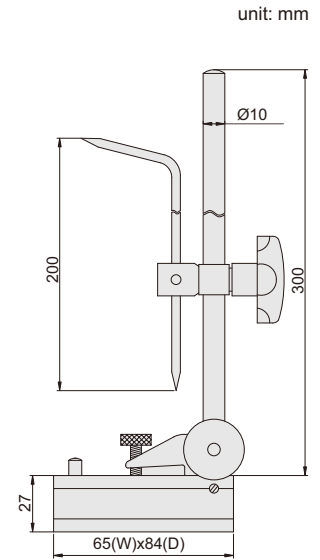
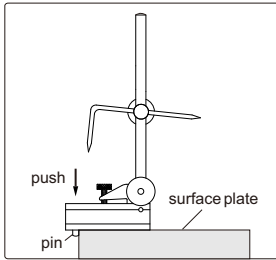
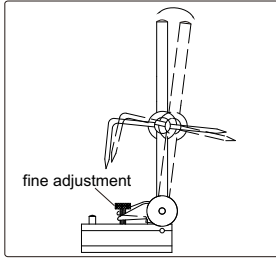


Code	Range	Graduation	Accuracy
902-006-51	0-150mm	0.05mm	±0.05mm

903

HEIGHT SCRIBER

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



Code

903-012-11

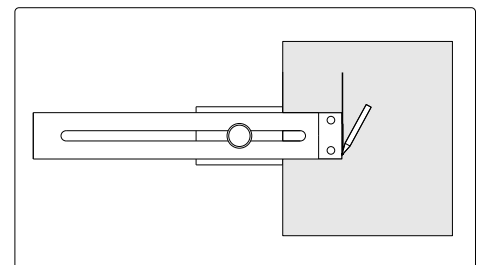
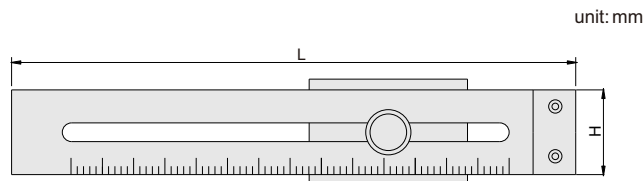
SERIES 992

MARKING GAUGE

- ◆ Made of stainless steel
- ◆ Stain chrome finish



992-008-01



Code	Range	Accuracy	Graduation	H	L
992-008-01	0 - 200mm	±0.1mm	0.1mm	40	250
992-010-01	0 - 250mm	±0.1mm	0.1mm	40	300
992-012-01	0 - 300mm	±0.1mm	0.1mm	40	350

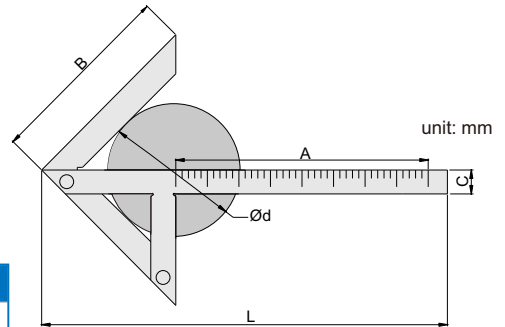
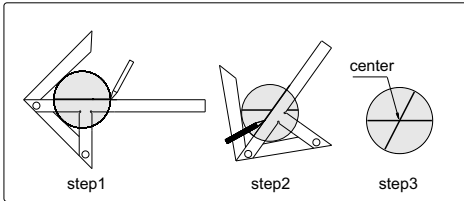
**SERIES 993**

**CENTER MARKING GAUGE**

- ◆ Find the center of round plates and shafts
- ◆ Made of stainless steel
- ◆ Stain chrome plated



993-004-01



Code	Size (AxB)	Diameter(Ød)	Accuracy	C	L
993-004-01	100x70mm	4 - 90mm	±0.15mm	12	153
993-006-01	150x130mm	4 - 190mm	±0.15mm	15	245
993-008-01	200x150mm	6 - 220mm	±0.15mm	15	310
993-012-01	300x180mm	6-270mm	±0.15mm	20	435

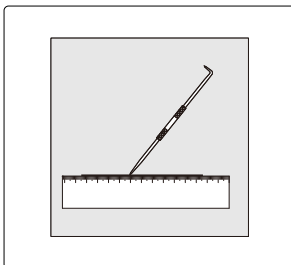
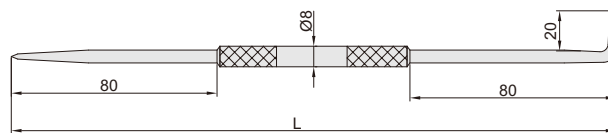
**995**

**SCRIBER**

- ◆ Nickel plated



unit: mm



Package



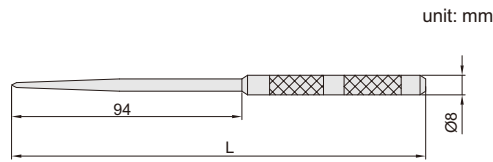
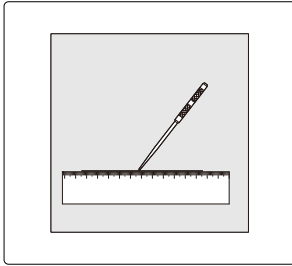
Code	Tips	L
995-009-01	hardened tips	235



**995**

**SCRIBER**

◆ Nickel plated



Package

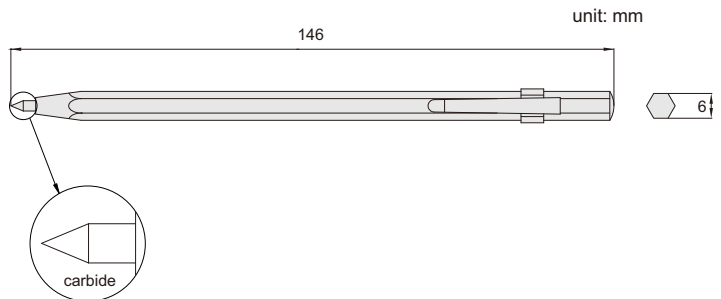
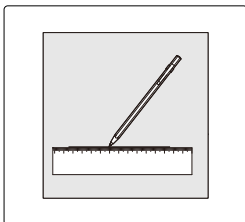


Code	Tips	L
995-007-01	hardened tips	167

**995**

**SCRIBER**

◆ Nickel plated



Code	Tips
995-006-11	carbide

## SERIES 996

## DIGITAL HORIZONTAL SCALE



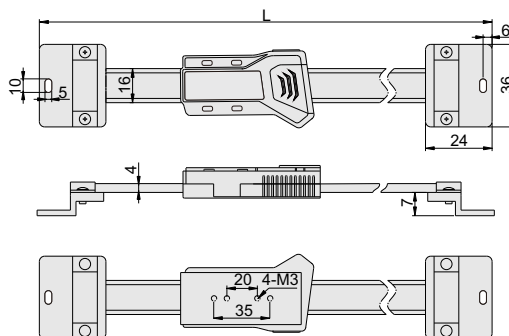
### Type A

- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/inch
- ◆ Automatic power off
- ◆ Data output(cable code:100-03 or 100-04)
- ◆ Made of stainless steel
- ◆ Supplied with bracket
- ◆ Optional accessory: SPC cable



996-006-11

unit: mm



Type A

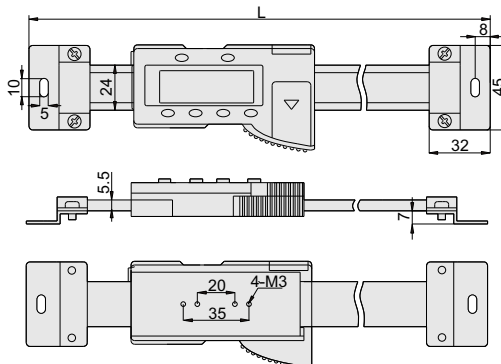
### Type B

- ◆ Resolution: 0.01mm/0.0005"
- ◆ Absolute and incremental measurement
- ◆ Data output
- ◆ Made of stainless steel
- ◆ Supplied with bracket



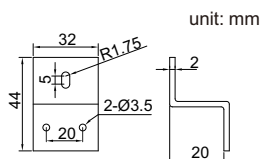
996-020-11

unit: mm



Type B

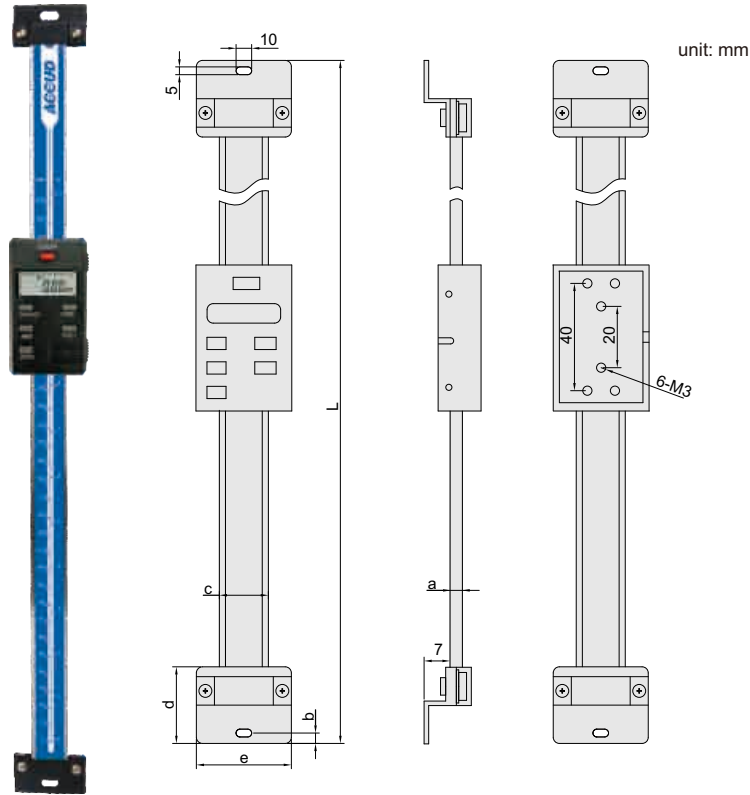
### Bracket(included)



unit: mm

Code	Range	Accuracy	Type	L
996-004-11	100mm	±0.03mm	A	209
996-006-11	150mm	±0.03mm	A	259
996-008-11	200mm	±0.03mm	A	310
996-012-11	300mm	±0.04mm	A	444
996-020-11	500mm	±0.05mm	B	682
996-024-11	600mm	±0.08mm	B	790
996-032-11	800mm	±0.10mm	B	990
996-040-11	1000mm	±0.10mm	B	1240

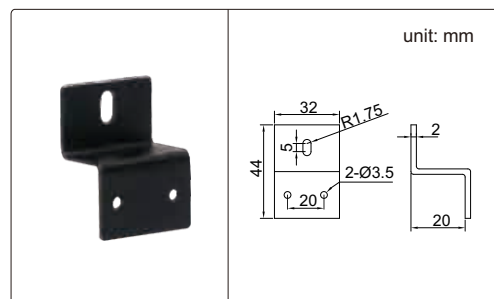




**997-012-11**

- ◆ Resolution: 0.01mm/0.0005"
- ◆ Data output
- ◆ Button: on/off, zero, mm/inch, ABS, data preset
- ◆ Made of stainless steel
- ◆ Supplied with bracket

**Bracket(included)**



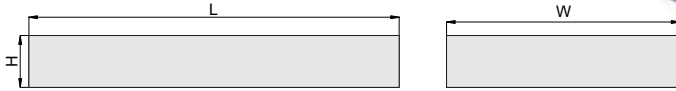
Code	Range	Accuracy	a	b	c	d	e	L
997-004-11	100mm	±0.03mm	4	6	20	24	40	245
997-006-11	150mm	±0.03mm	4	6	20	24	40	296
997-008-11	200mm	±0.03mm	4	6	20	24	40	345
997-012-11	300mm	±0.04mm	4	6	20	24	40	444
997-020-11	500mm	±0.05mm	5.5	8	24	32	45	682
997-024-11	600mm	±0.08mm	5.5	8	24	32	45	790
997-032-11	800mm	±0.10mm	10.5	9.5	31	32	60	990
997-040-11	1000mm	±0.10mm	10.5	9.5	31	40	60	1240

**SERIES 611**

**GRANITE SURFACE PLATE**



- ◆ Made of fine-grained granite
- ◆ Customized size can be ordered



**Grade 00**

Code	Size(LxWxH)	Flatness	Weight(Kg)
611-032-00	300x200x60mm	2.7µm	11
611-042-00	400x250x60mm	2.9µm	18
611-044-00	400x400x60mm	3.1µm	29
611-053-00	500x315x70mm	3.2µm	33
611-064-00	630x400x80mm	3.5µm	60
611-066-00	630x630x100mm	3.8µm	119
611-085-00	800x500x100mm	3.9µm	120
611-106-00	1000x630x140mm	4.4µm	265
611-107-00	1000x750x150mm	4.5µm	337
611-101-00	1000x1000x150mm	4.8µm	450
611-121-00	1200x800x160mm	4.9µm	461
611-161-00	1600x1000x180mm	5.8µm	864
611-201-00	2000x1000x220mm	6.5µm	1320
611-215-00	2000x1500x250mm	7.0µm	2250

**Grade 0**

**611-032-00**

Code	Size(LxWxH)	Flatness	Weight(Kg)
611-032-10	300x200x60mm	5.4µm	11
611-042-10	400x250x60mm	5.9µm	18
611-044-10	400x400x60mm	6.3µm	29
611-053-10	500x315x70mm	6.4µm	33
611-064-10	630x400x80mm	7.0µm	60
611-066-10	630x630x100mm	7.6µm	119
611-085-10	800x500x100mm	7.8µm	120
611-106-10	1000x630x140mm	8.7µm	265
611-107-10	1000x750x150mm	9.0µm	337
611-101-10	1000x1000x150mm	9.7µm	450
611-121-10	1200x800x160mm	9.8µm	461
611-161-10	1600x1000x180mm	11.5µm	864
611-201-10	2000x1000x220mm	12.9µm	1320
611-215-10	2000x1500x250mm	14.0µm	2250

With manufacturer inspection certificate

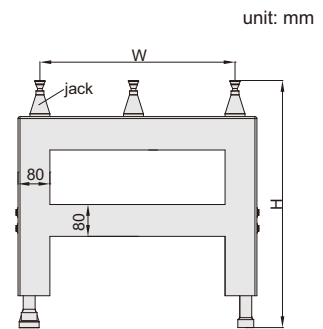
**SERIES 621**

**STAND FOR GRANITE SURFACE PLATE**

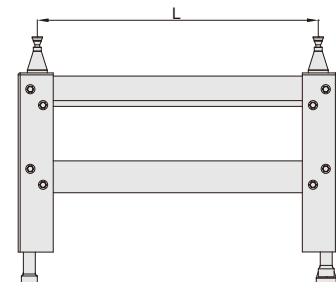
- ◆ For medium size granite surface plates
- ◆ Adjusting range of jacks: 10mm
- ◆ One foot on the bottom is adjustable
- ◆ The height can be made under customer requirement



621-064-01



Code	L	W	H	For granite surface plate
621-064-01	352	224	700-710	630x400x80mm
621-066-01	352	352	700-710	630x630x100mm
621-085-01	448	280	700-710	800x500x100mm
621-106-01	560	352	685-695	1000x630x140mm
621-107-01	560	416	685-695	1000x750x150mm
621-101-01	560	560	685-695	1000x1000x150mm
621-121-01	672	448	685-695	1200x800x160mm
621-161-01	896	560	585-595	1600x1000x180mm



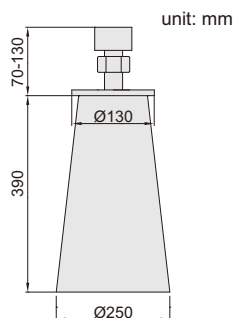


625

JACK SET FOR GRANITE SURFACE PLATE



- ◆ 5 jacks per set
- ◆ Adjustable height
- ◆ For large granite surface plates:  
2000x1000mm  
2000x1500mm  
2500x1500mm  
3000x2000mm



Code

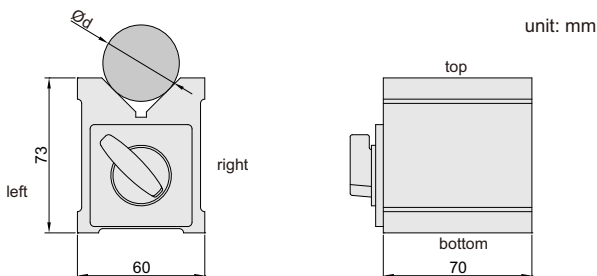
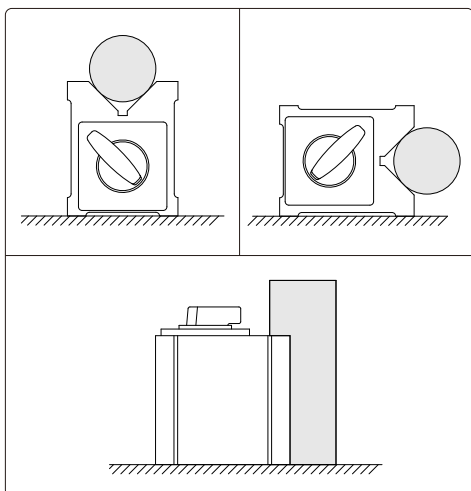
625-000-00

633

MAGNETIC V-BLOCK

ATTENTION:  
NOT HARDENED

- ◆ Hold cylindrical workpiece for inspection and machining



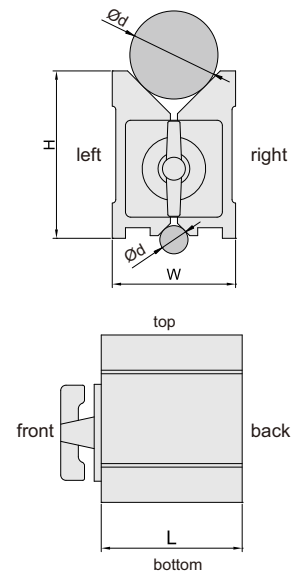
Code	For shaft range(Ød)	Magnetic force	Top and bottom, left and right parallelism	V-grooves and back side squareness
633-044-01	6-44mm	56kgf	10µm	10µm

**SERIES 634**

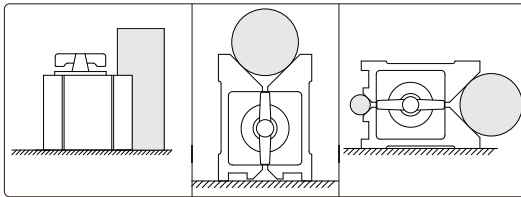
**MAGNETIC V-BLOCK**

**ATTENTION:  
NOT HARDENED**

- ◆ Hold cylindrical workpiece for inspection and machining
- ◆ Top groove for large shafts
- ◆ Bottom grooves for small shafts



634-067-01

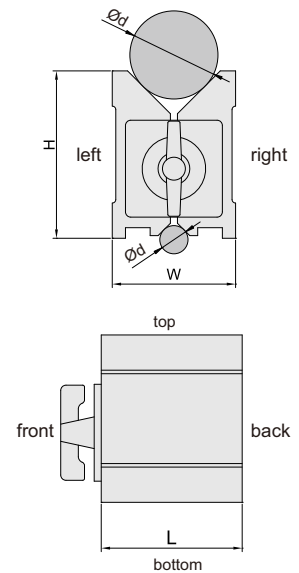


Code	Size(LxWxH)	For shaft range(Ød)	Magnetic force	V-grooves and back side squareness	Top and bottom, left and right parallelism
634-067-01	80x70x95mm	6-67mm	64kgf	10µm	10µm
634-067-02	100x70x95mm	6-67mm	80kgf	10µm	10µm
634-067-03	120x70x95mm	6-67mm	96kgf	10µm	10µm

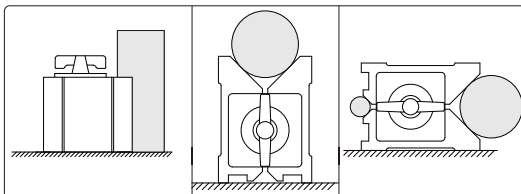
**SERIES 634**

**MAGNETIC V-BLOCK (PROFESSIONAL TYPE)**

- ◆ Hardened, high accuracy, for grinding, milling, drilling and inspection of round and square workpieces
- ◆ All working surfaces are hardened to HRC55-60°
- ◆ Hold cylindrical workpiece for inspection and machining
- ◆ Top groove for large shafts
- ◆ Bottom grooves for small shafts



634-067-01H



Code	Size(LxWxH)	For shaft range(Ød)	Magnetic force	V-grooves and back side squareness	Top and bottom, left and right parallelism
634-067-01H	80x70x95mm	6-67mm	64kgf	5µm	5µm
634-067-02H	100x70x95mm	6-67mm	80kgf	5µm	5µm
634-067-03H	120x70x95mm	6-67mm	96kgf	6µm	6µm



**SERIES 635**

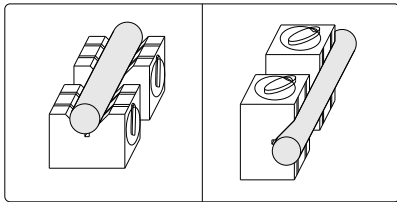
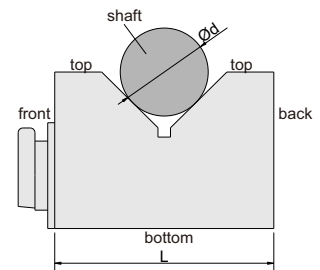
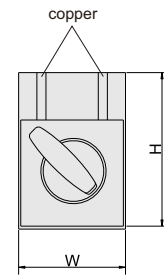
**MAGNETIC V-BLOCK SET**

**ATTENTION:  
NOT HARDENED**

- ◆ Hold cylindrical workpieces for inspection, not suitable for machining due to weak magnetic force
- ◆ Two V-blocks per set
- ◆ Hardness HRB 70



635-150-01



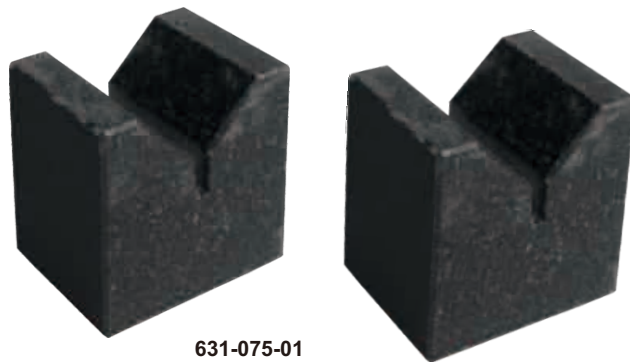
Code	Size(LxWxH)	Range of shafts (Ød)	Magnetic force	Parallelism of V groove to bottom and back sides	Height difference of a matched pair
635-070-01	70x40x50mm	6 - 46mm	8kgf	10µm	10µm
635-150-01	150x50x100mm	6 - 125mm	14kgf	10µm	10µm

**SERIES 631**

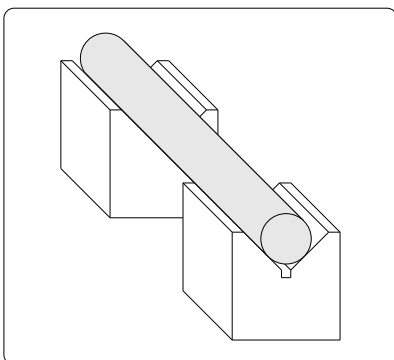
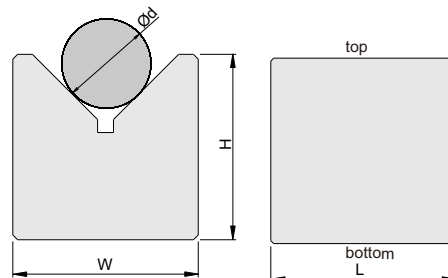
**GRANITE V-BLOCK SET**



- ◆ Supplied a pair, for holding long cylindrical workpiece



631-075-01



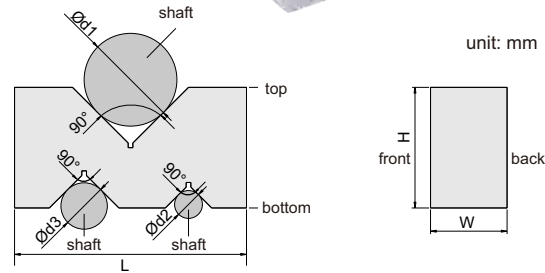
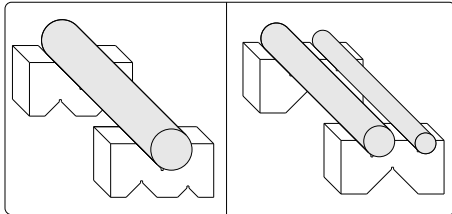
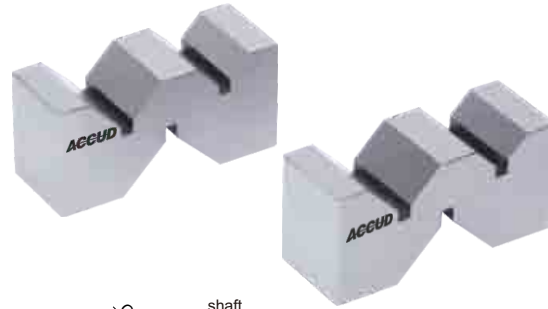
Code	Size(LxWxH)	For shaft range(Ød)	Parallelism between top and bottom, left and right	Height difference between a pair
631-075-01	50x70x70mm	6 - 70mm	5µm	5µm
631-099-01	50x100x70mm	6 - 84mm	5µm	5µm

With manufacturer inspection certificate

**SERIES 632**

**V-BLOCK SET**

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

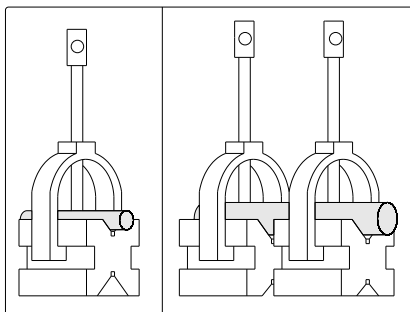


Code	Size (LxWxH)	Range of shafts(Ød1)	Range of shafts(Ød2)	Range of shafts(Ød3)	Parallelism of V grooves to top and bottom sides	Squareness of V grooves to front and back sides	Height difference of a matched pair
632-002-01	50x19x24mm	3-32mm	3-16mm	3-22mm	5µm	5µm	5µm
632-003-01	75x24x35mm	3-50mm	3-20mm	3-32mm	5µm	5µm	5µm
632-004-01	100x33x52mm	6-68mm	5-26mm	5-40mm	5µm	5µm	5µm
632-006-01	150x50x80mm	6-100mm	5-40mm	5-60mm	5µm	5µm	5µm

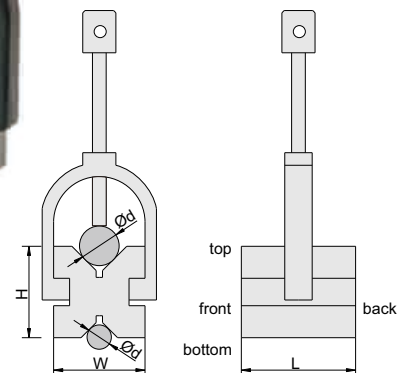
**SERIES 636**

**V-BLOCK SET**

- ◆ Hold cylindrical workpieces for inspection and machining
- ◆ Two V-blocks per set
- ◆ V groove on the top for large shafts
- ◆ V groove on the bottom for small shafts



636-045-01



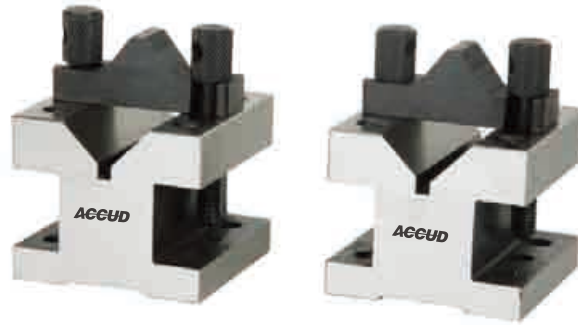
Code	Size(LxWxH)	For shaft range(Ød)	V grooves to top and bottom sides parallelism	V grooves to front and back sides squareness	Height difference of a matched pair
636-045-01	45x41x35mm	5-40mm	5µm	5µm	5µm
636-070-01	70x63x44mm	7-60mm	5µm	5µm	5µm
636-125-01	125x90x70mm	7-80mm	5µm	5µm	5µm



**SERIES 637**

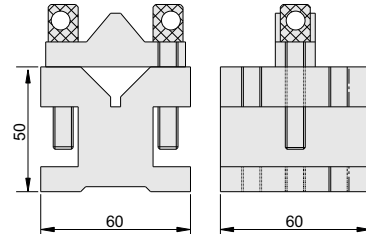
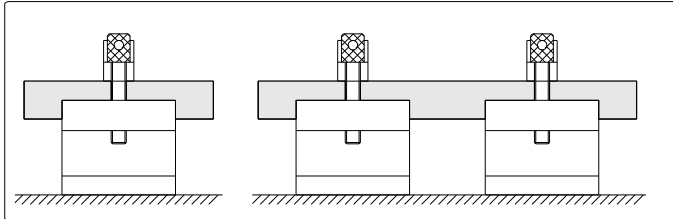
**V-BLOCK SET**

- ◆ Hold cylindrical workpieces for inspection and machining
- ◆ Two V-blocks per set
- ◆ V groove on the top for large shafts



637-035-01

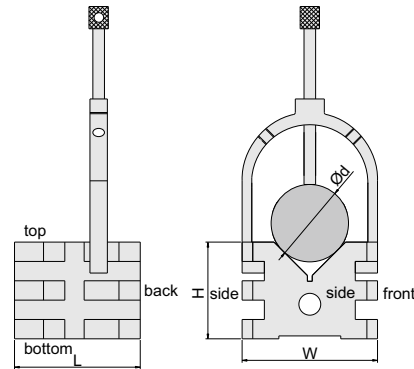
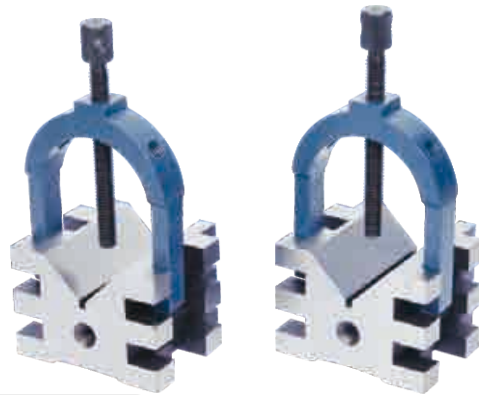
unit: mm



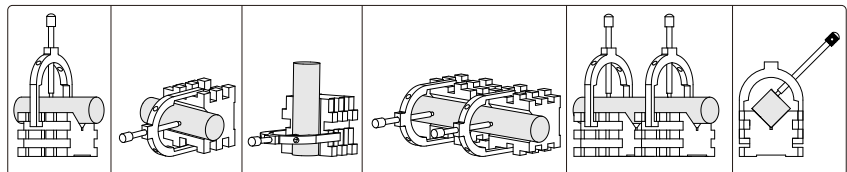
Code	Size(LxWxH)	For shaft range(Ød)	V grooves to top and bottom sides parallelism	V grooves to front and back sides squareness	Height difference of a matched pair
637-035-01	35x35x30mm	3 - 16mm	5µm	5µm	5µm
637-060-01	60x60x50mm	5 - 34mm	5µm	5µm	5µm
637-105-01	105x105x78mm	8 - 66mm	5µm	5µm	5µm

**638**

**V-BLOCK SET**



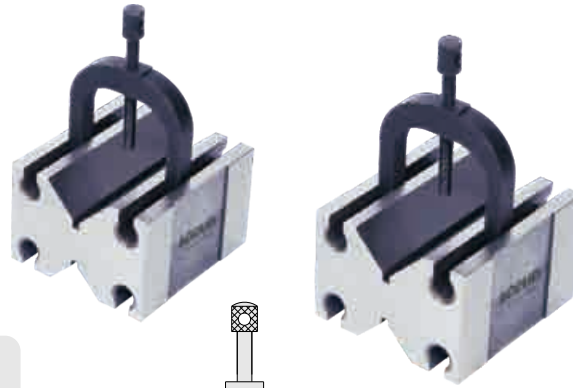
- ◆ Hold cylindrical or rectangular workpieces for inspection and machining
- ◆ Two V-blocks per set
- ◆ Hardened to HRC60±2
- ◆ Applicable for cylinder with diameter (Ød): 5 - 50mm
- ◆ Applicable for rectangular workpieces with thickness: ≤35mm



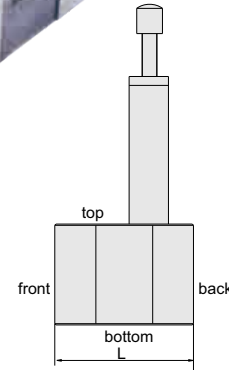
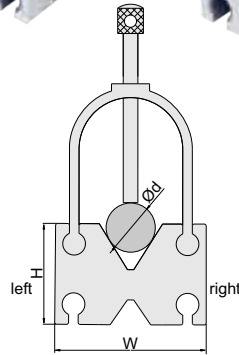
Code	Size (LxWxH)	Parallelism of V groove to top and bottom sides	Squareness of V groove to front and back sides	Height difference of a matched pair
638-070-01	60x70x50mm	8µm	8µm	8µm

640

V-BLOCK SET



- ◆ Hold cylindrical workpieces for inspection and machining
- ◆ Two V-blocks per set
- ◆ Side lie-down use is possible
- ◆ Hardened to HRC60±2
- ◆ V groove on the top for large shafts
- ◆ V groove on the bottom for small shafts



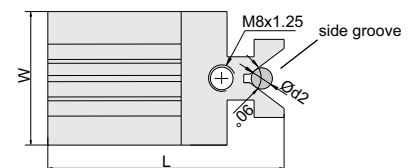
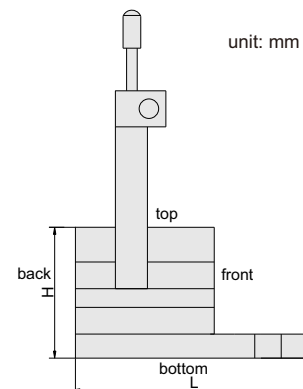
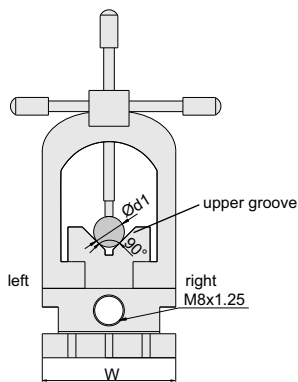
Code	Size (LxWxH)	Range of shafts ( $\varnothing d$ )	Parallelism of both V grooves to top, bottom, left, right sides	Squareness of both V grooves to front and back sides	Height difference of a matched pair
640-001-01	65x70x45mm	4-35mm	5 $\mu$ m	5 $\mu$ m	5 $\mu$ m

V-BLOCK

639

V-BLOCK

- ◆ Hold cylindrical workpieces for inspection and machining
- ◆ Hardened to HRC60±2



Code	Size (LxWxH)	Range of shafts ( $\varnothing d1$ and $\varnothing d2$ )	Parallelism of upper groove to bottom, left and right sides	Squareness of upper groove to back side	Parallelism of side groove to back side
639-090-01	90x48x48mm	5-33mm	5 $\mu$ m	5 $\mu$ m	5 $\mu$ m



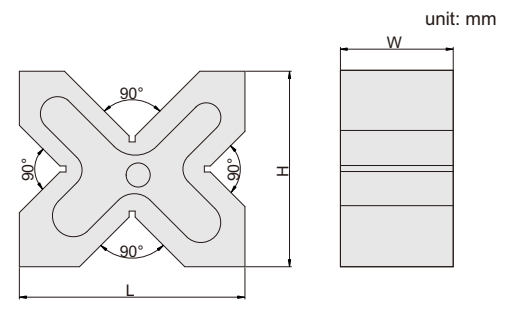
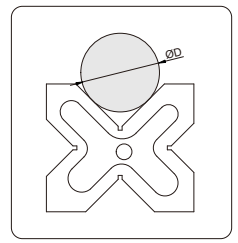


**SERIES 630 V-BLOCK SET**

- ◆ For positioning cylindrical workpieces
- ◆ Two V-blocks per set
- ◆ Each V-block has four 90° V-grooves
- ◆ Hardness HB 170-241



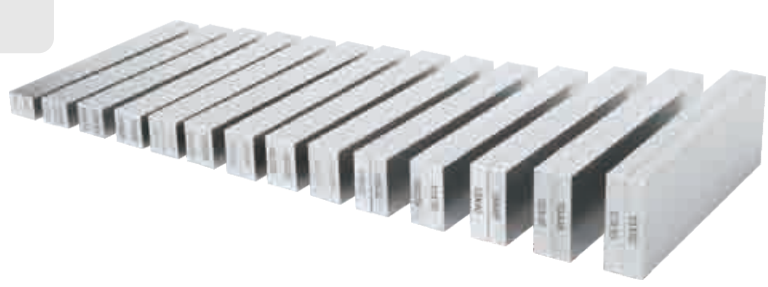
630-006-11



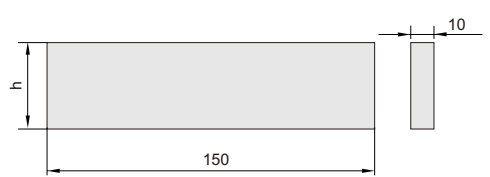
Code	Size(LxHxW)	Range of shafts(Ød)	Parallelism of four grooves to all sides	Height difference of a matched pair
630-006-11	150×130×75mm	8-120mm	15µm	20µm
630-008-11	200×170×90mm	12-180mm	15µm	20µm

**641 PARALLEL SET**

- ◆ Parallelism between top and bottom: 5µm
- ◆ Height difference of a matched pair: 5µm
- ◆ Hardened to HRC55-60



unit: mm

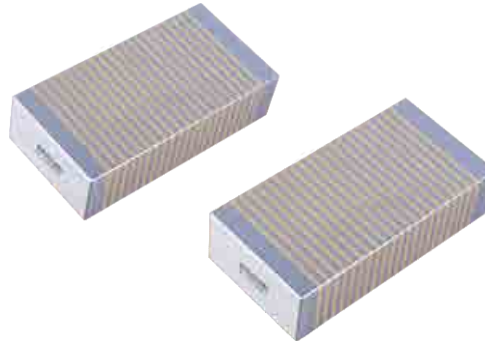


Code	Parallels per set	Length	Thickness	Height(h)
641-014-01	14pairs	150mm	10mm	14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 35, 40, 45, 50mm

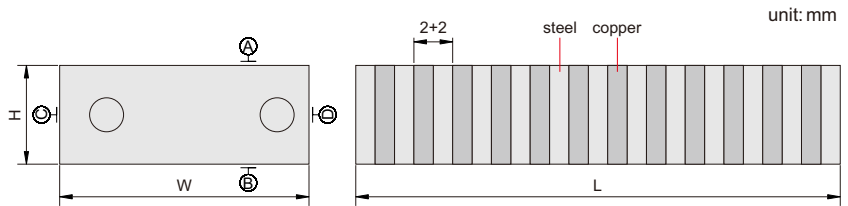
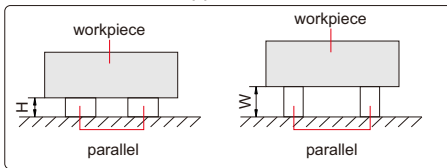
615

MAGNETIC INDUCTION PARALLEL SET

- ◆ To be used on magnetic chucks
- ◆ Two parallels per set
- ◆ Hardness HRB70
- ◆ Copper magnetic strips



Application



Code	Size(LxWxH)	Pole pitch	Parallelism between A and B	Parallelism between C and D	Height difference of a matched pair
615-004-02	100x50x25mm	2+2mm	10µm	10µm	10µm

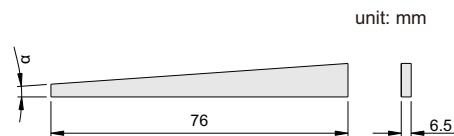
SERIES 571

ANGLE GAUGE BLOCK SET

- ◆ For angle set-up in tooling, production and inspection
- ◆ Hardness HRC55



571-010-02



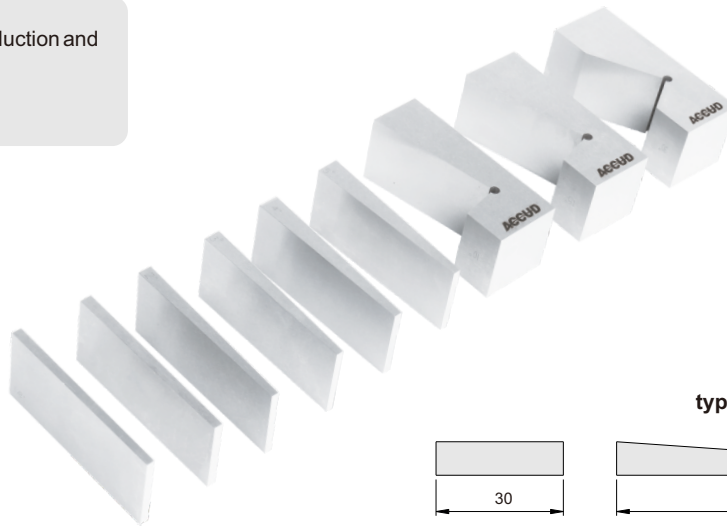
Code	Blocks per set	Accuracy	Sharp	Angle
571-010-02	10	±20"	triangle	1°, 2°, 3°, 4°, 5°, 10°, 15°, 20°, 25°, 30°
571-012-01	12	±20"	triangle	1/4°, 1/2°, 1°, 2°, 3°, 4°, 5°, 10°, 15°, 20°, 25°, 30°



646

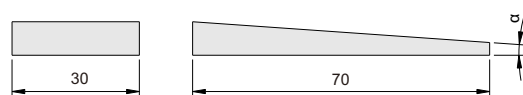
UNIVERSAL ANGLE PLATE SET

- ◆ For angle set-up in tooling, production and inspection
- ◆ Hardness HRC55

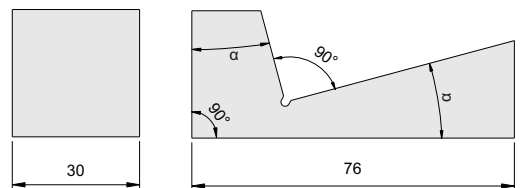


unit: mm

type A



type B



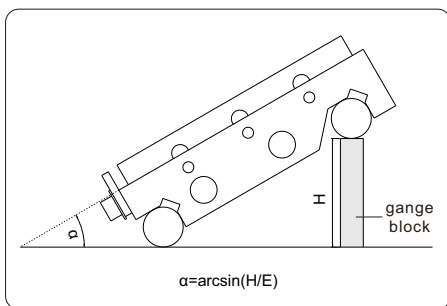
Code	Quantity	Angle $\alpha$	Type	Accuracy
646-009-01	9pcs	1/2°, 1°, 2°, 3°, 4°, 5°	type A	±1'
		10°, 15°, 30°	type B	

SERIES 651

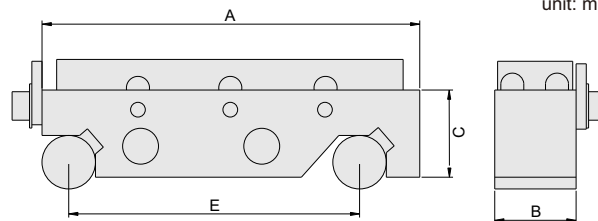
SINE BAR



651-005-01



unit: mm

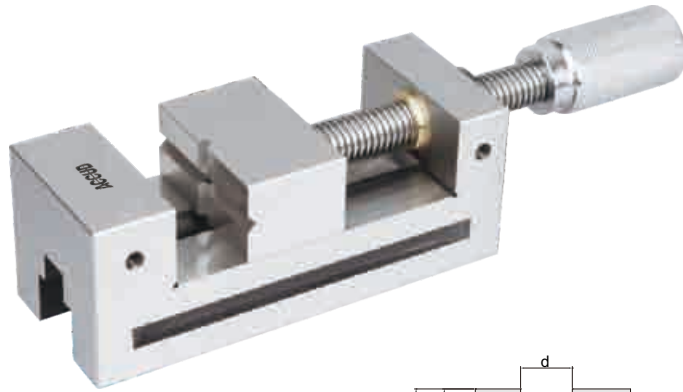


Code	Roller distance (E)	Table size (AxB)	Accuracy of $\alpha$ at 30°	C
651-005-01	100mm	130x25mm	±8"	25
651-005-02	100mm	130x83mm	±16"	30
651-010-01	200mm	250x40mm	±8"	40
651-010-02	200mm	250x85mm	±16"	40

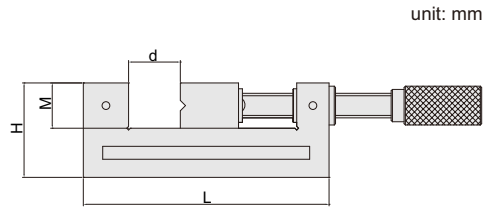
**SERIES 652**

**PRECISION VISE**

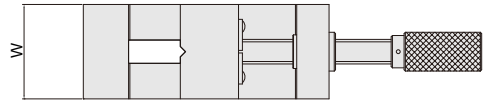
- ◆ Parallelism: 5µm/100mm
- ◆ Squareness: 5µm/100mm
- ◆ Made of alloy steel
- ◆ Hardness HRC56-58



652-120-01



unit: mm

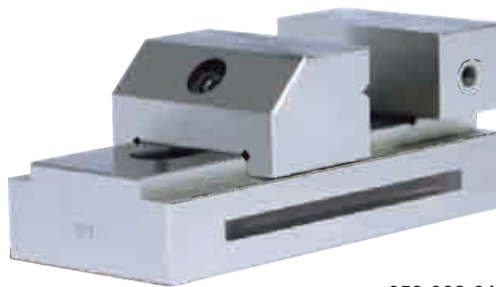


Code	Jaw opening(d)	Jaw width(W)	L	H	M
652-073-01	73mm	63mm	176	63	30
652-076-01	76mm	73mm	190	73	35
652-120-01	120mm	98mm	255	82	40

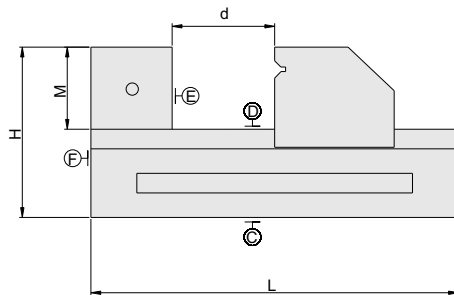
**SERIES 653**

**PRECISION VISE**

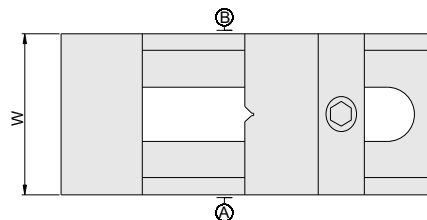
- ◆ Made of hardened alloy steel
- ◆ Parallelism and squareness between A, B, C, D, E and F: 5µm/100mm
- ◆ Hardness HRC56-58



653-003-01



unit: mm



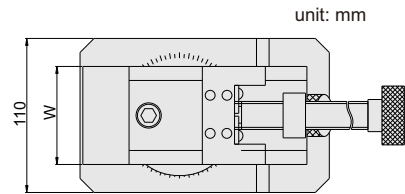
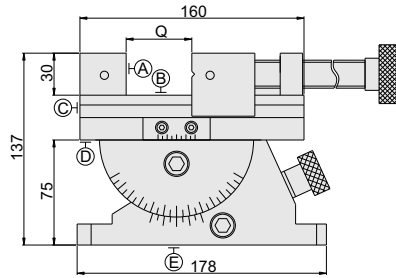
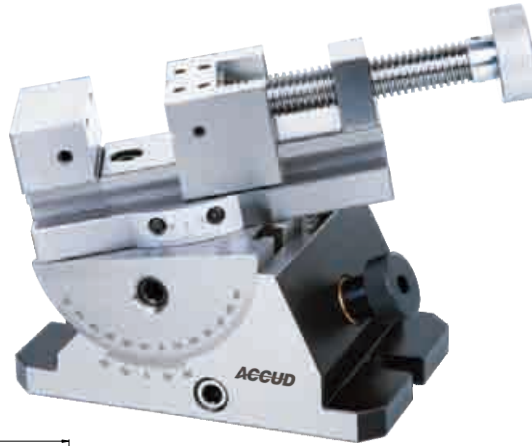
Code	Jaw opening(d)	Jaw width(W)	L	H	M
653-003-01	80mm	50mm	150	53	25
653-005-01	100mm	73mm	190	70	35



656

PRECISION UNIVERSAL VISE

- ◆ Horizontal rotary:  
range 360°, graduation 0.05°  
Vertical incline: range 45°, graduation 0.05°
- ◆ With vertical incline adjust knob
- ◆ Parallelism and squareness between A, B, C and D: 5µm/100mm, parallelism between D and E at 0°: 10µm/100mm
- ◆ Made of tool steel
- ◆ Hardness HRC56-58

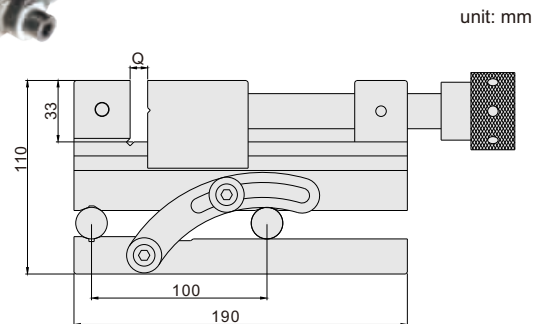
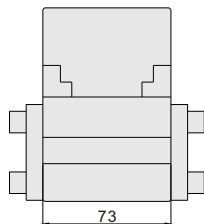


Code	Jaw opening(Q)	Jaw width(W)
656-080-01	0-80mm	70mm

657

PRECISION SINE VISE

- ◆ Parallelism: 3µm/100mm
- ◆ Squareness: 5µm/100mm
- ◆ Accuracy of angle: ±20"
- ◆ Made of SKS tool steel, subzero treatment
- ◆ Hardness HRC58-60

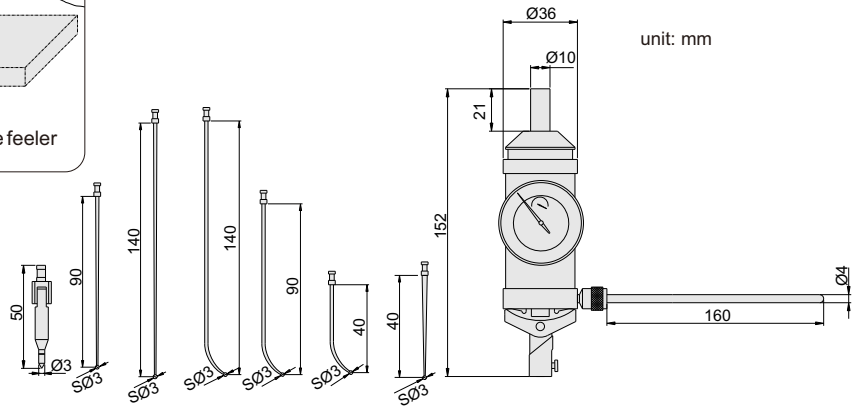
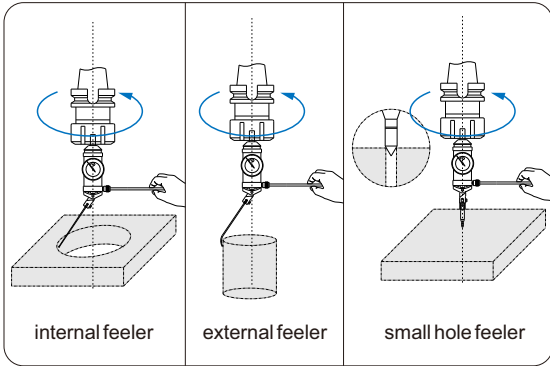


Code	Jaw opening (Q)	Jaw width	Adjustable angle
657-090-01	0-90mm	73mm	0-45°

297

**CENTERING INDICATOR**

- ◆ For quick and accurate centering in boring and milling set-up
- ◆ Jeweled bearing
- ◆ Supplied with 7 type feelers



Code

297-003-11

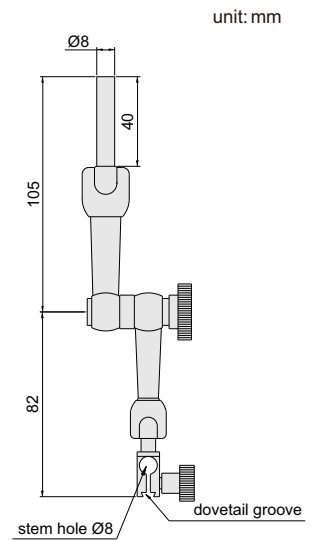
EDGE FINDER  
ZERO SET

685

**DIAL TEST INDICATOR CENTERING HOLDER**

- ◆ Center cylinders or holes on machine tools
- ◆ Can be used with dial test indicators

Application



Code

685-040-01



686

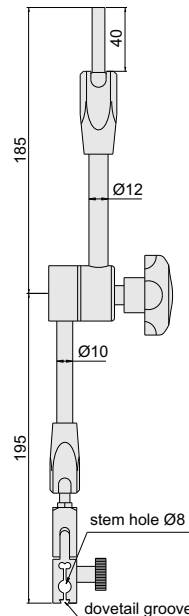
INDICATOR CENTERING HOLDER

- ◆ Center cylinders or holes on machine tools
- ◆ Can be used with dial test indicators or dial indicators

Application



unit: mm



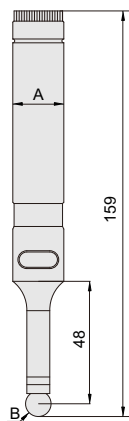
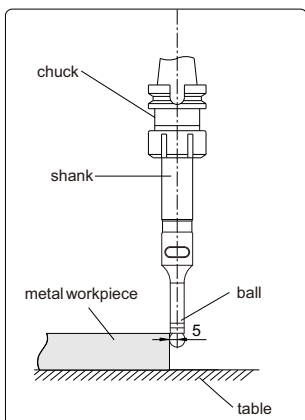
Code

686-080-01

SERIES 692

ELECTRONIC EDGE FINDER

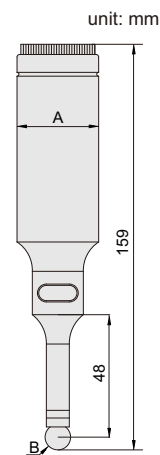
- ◆ The LED will be light with alarm when the ball contacts the workpiece
- ◆ Not suitable for rotating use
- ◆ Hardened shank and contact point
- ◆ Battery: 23A, 12V



692-010-03N



692-010-32



unit: mm

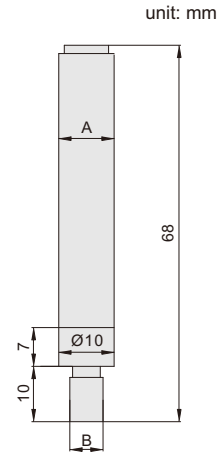
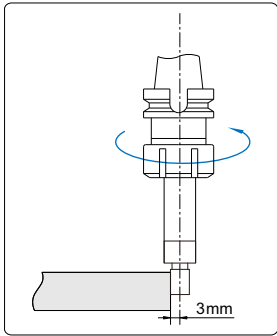
Code	Shank(A)	Contact point (B)	Accuracy
692-010-03N	Ø20mm	SØ10mm	5µm
692-010-32	Ø32mm	SØ10mm	5µm

**SERIES 693**

**NON-MAGNETIC EDGE FINDER**



- ◆ Non-magnetic
- ◆ TIN coating, hardness HV2300, extremely wear resistance
- ◆ Suitable for machine speed 400~600rpm



693-010-01N

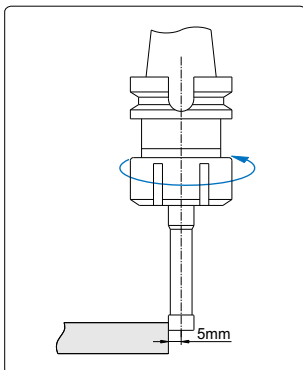
693-010-31

Code	Shank(A)	Contact surface(B)	Accuracy	Titanium plated
693-010-01N	Ø10mm	Ø6mm	5µm	without
693-010-31	Ø10mm	Ø6mm	5µm	with

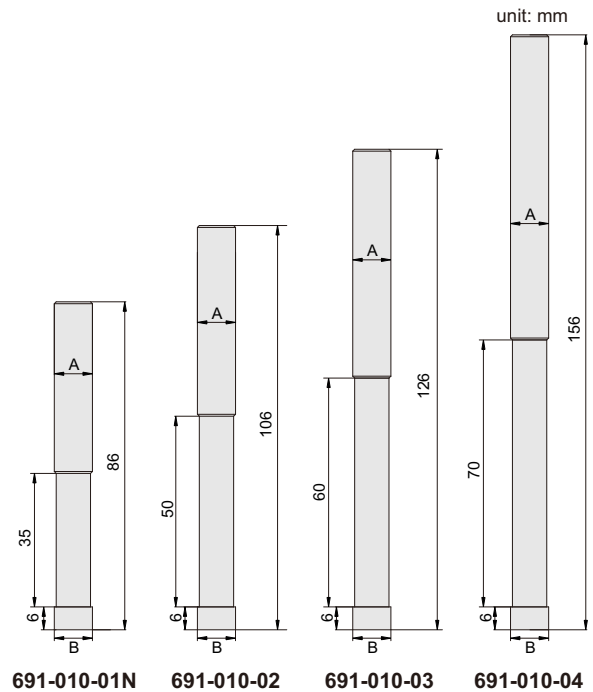
**SERIES 691**

**CERAMIC EDGE FINDER**

- ◆ Ceramic contact point, non magnetic
- ◆ Hardened shank
- ◆ Suitable for machine speed: 400-600rpm



691-010-01N



Code	Shank(A)	Contact point (B)	Accuracy
691-010-01N	Ø10mm	Ø10mm	5µm
691-010-02	Ø10mm	Ø10mm	5µm
691-010-03	Ø10mm	Ø10mm	5µm
691-010-04	Ø10mm	Ø10mm	5µm

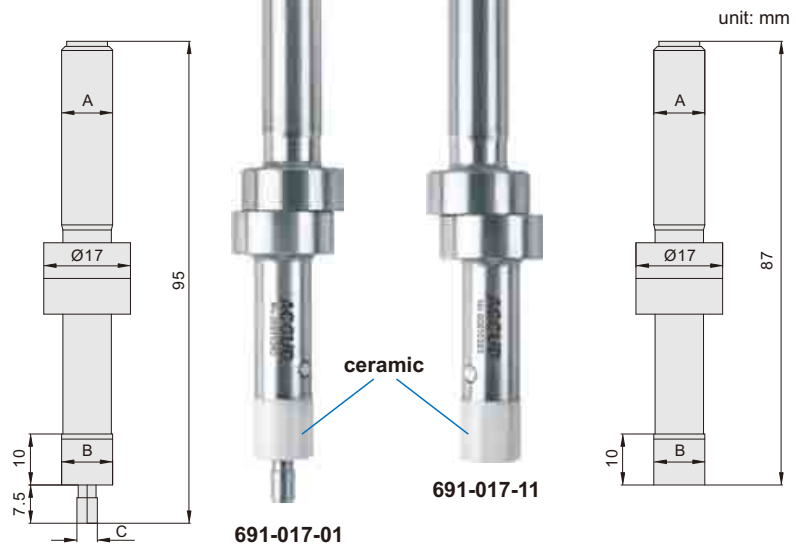
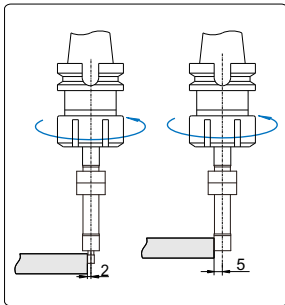


## SERIES 691

## CERAMIC EDGE FINDER



- ◆ Non-magnetic
- ◆ CrN coating, hardness HV2000, extremely wear resistance
- ◆ Suitable for machine speed 400~600rpm

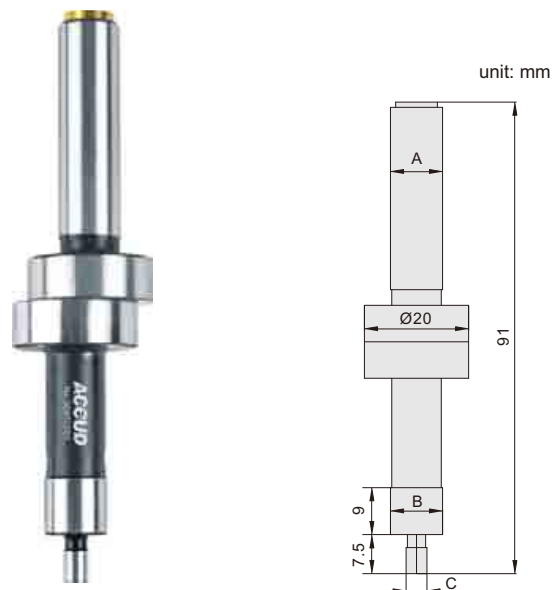
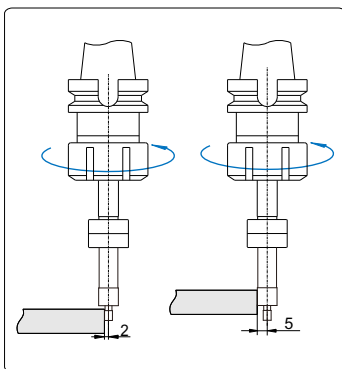


Code	Shank(A)	Contact point(B)	Contact point(C)	Accuracy
691-017-01	Ø10mm	Ø10mm	Ø4mm	5µm
691-017-11	Ø10mm	Ø10mm	-	5µm

## 694

## EDGE FINDER

- ◆ Hardened shank and contact point
- ◆ Suitable for machine speed 400~600rpm



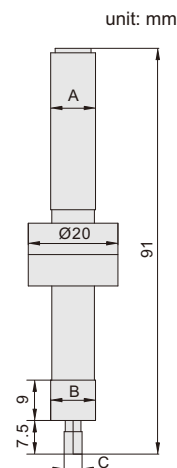
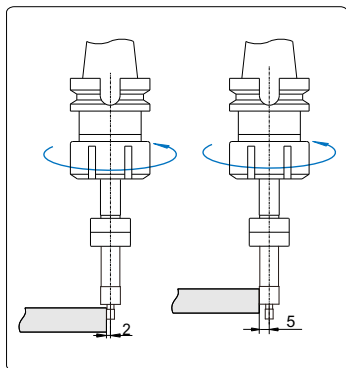
Code	Shank(A)	Contact point(B)	Contact point(C)	Accuracy
694-020-01N	Ø10mm	Ø10mm	Ø4mm	5µm

## SERIES 694

## NON-MAGNETIC EDGE FINDER



- ◆ Non-magnetic
- ◆ TIALN coating, hardness HV3500; TIN coating, hardness Hv2300, extremely wear resistance
- ◆ Suitable for machine speed 400~600rpm

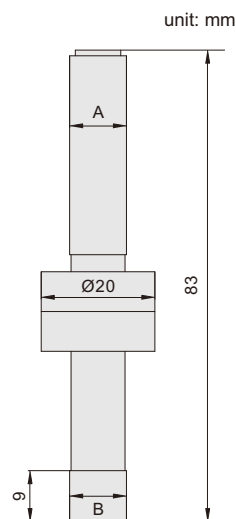
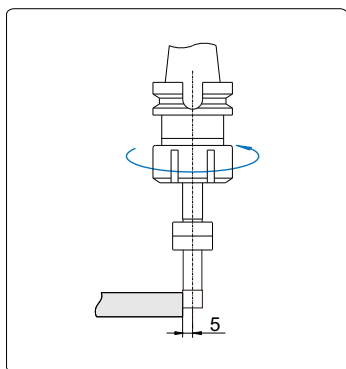


Code	Shank(A)	Contact point(B)	Contact point(C)	Accuracy
694-020-02	Ø10mm	Ø10mm	Ø4mm	5µm
694-020-03	Ø10mm	Ø10mm	Ø4mm	5µm

## 694

## EDGE FINDER

- ◆ Hardened shank and contact point
- ◆ Suitable for machine speed 400~600rpm



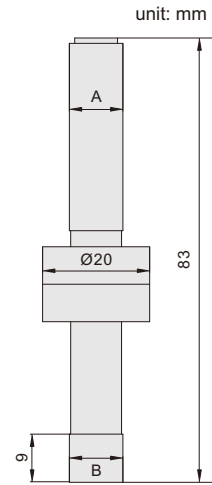
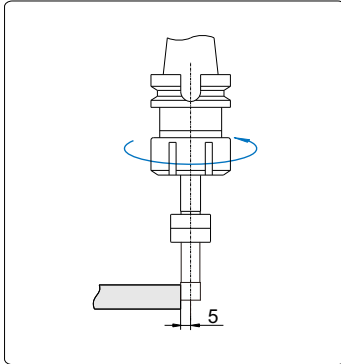
Code	Shank(A)	Contact point(B)	Accuracy
694-020-11	Ø10mm	Ø10mm	5µm

## SERIES 694

## NON-MAGNETIC EDGE FINDER



- ◆ Non-magnetic
- ◆ TIALN coating, hardness HV3500; TIN coating, hardness HV2300, extremely wear resistance
- ◆ Suitable for machine speed 400~600rpm



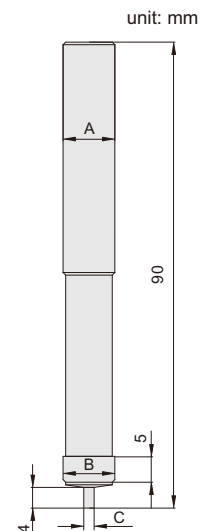
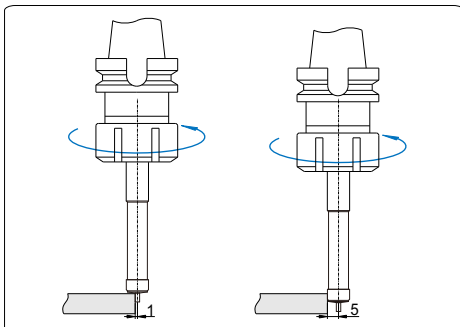
Code	Shank(A)	Contact point(B)	Accuracy
694-020-12	Ø10mm	Ø10mm	5µm
694-020-13	Ø10mm	Ø10mm	5µm

## 689

## NON-MAGNETIC EDGE FINDER



- ◆ Non-magnetic
- ◆ TIN coating, hardness HV2300, extremely wear resistance
- ◆ Suitable for machine speed 400~600rpm



Code	Shank(A)	Contact point(B)	Contact point(C)	Accuracy
689-010-02	Ø10mm	Ø10mm	Ø2mm	5µm

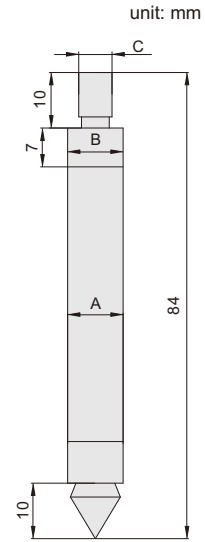
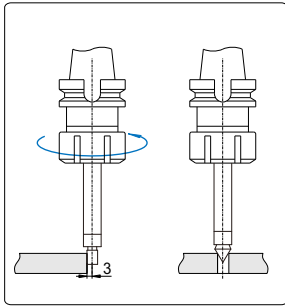


690

NON-MAGNETIC EDGE FINDER (DOUBLE HEAD)



- ◆ Non-magnetic
- ◆ TIN coating, hardness HV2300, extremely wear resistance
- ◆ Suitable for machine speed 400~600rpm
- ◆ Find edge or hole center



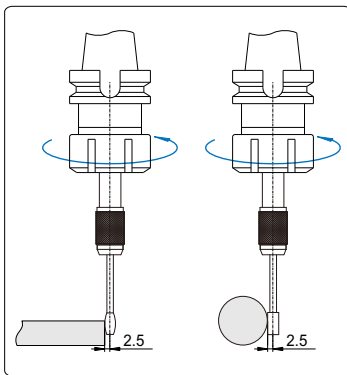
Code	Shank(A)	Contact point(B)	Contact point(C)	Accuracy
690-010-01	Ø10mm	Ø10mm	Ø6mm	5µm

SERIES 688

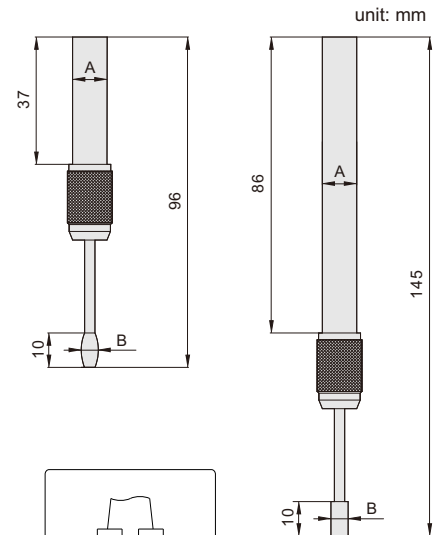
EDGE FINDER (WITH ROTARY HEAD)



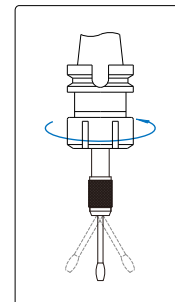
- ◆ Non-magnetic
- ◆ TIN coating, hardness HV2300, extremely wear resistance
- ◆ Suitable for machine speed 500~2000rpm



688-010-01



Code	Shank(A)	Contact point(B)	Accuracy	Application
688-010-01	Ø10mm	Ø5mm	5µm	flat surface
688-010-12	Ø10mm	Ø5mm	5µm	arc surface

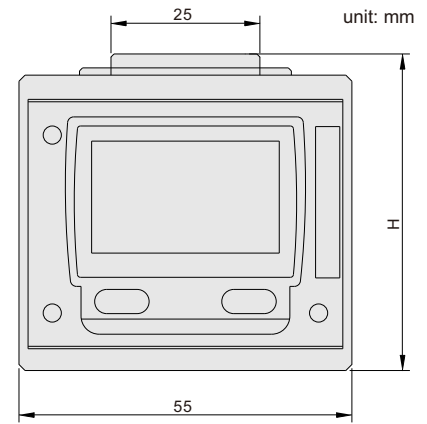


697

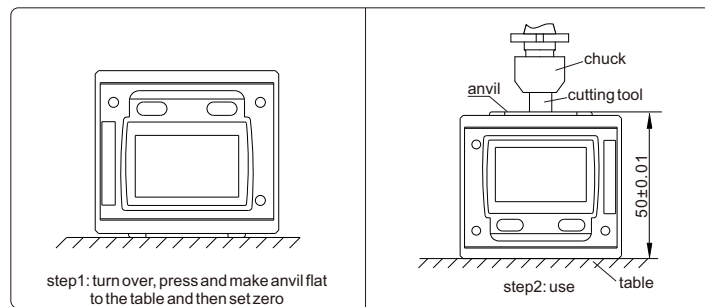
DIGITAL ZERO SETTER



- ◆ IP65 protection level
- ◆ Magnetic base
- ◆ With backlight, will turn on automatically when close to zero ( $\pm 0.002\text{mm}$ )
- ◆ Turn off automatically



Application

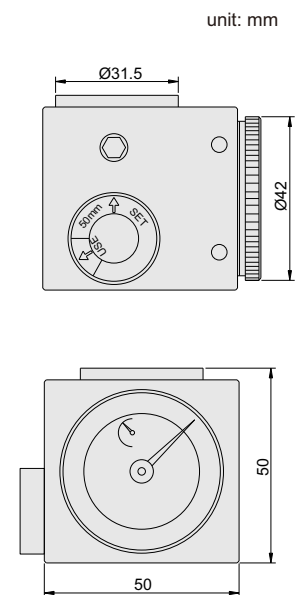
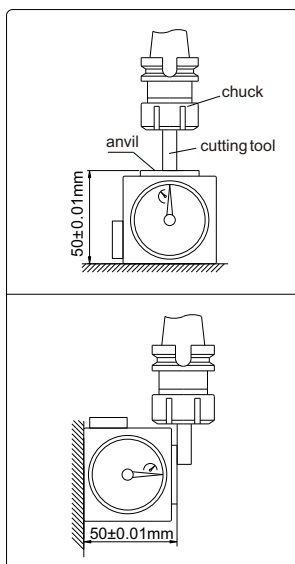


Code	Accuracy
697-050-01	$\pm 10\mu\text{m}$

695

ZERO SET

- ◆ Magnetic base

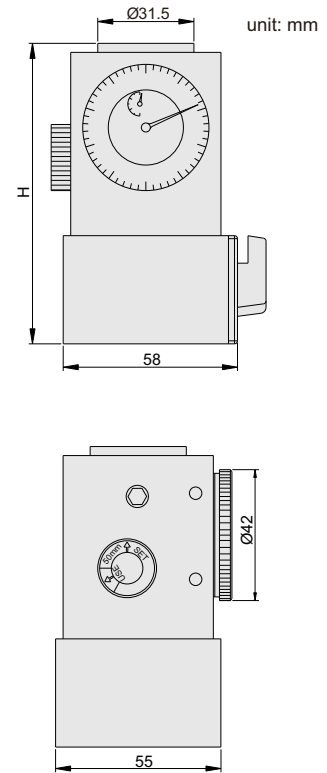
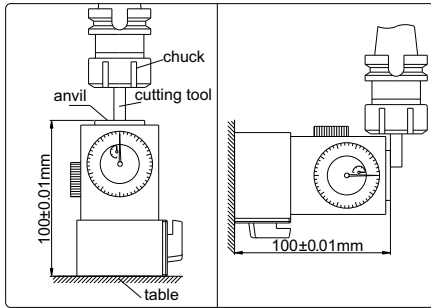


Code	Accuracy
695-050-01	$\pm 10\mu\text{m}$

696

ZERO SET

- ◆ Magnetic base with on/off switch



Code	Height (H)	Accuracy	Force
696-100-01	100mm	±10µm	9N

MEASURING  
TOOL SET

EDGE FINDER  
ZERO SET

SERIES 280

2-PIECE MEASURING TOOLS SET



280-000-02

Package



Code	Include
280-000-02	10mm dial indicator (222-010-11) Magnetic stand (281-060-01)
280-001-02	1 inch dial indicator (225-025-11) Magnetic stand (281-060-01)

**280****2-PIECE MEASURING TOOLS SET**

## ◆ Include:

- 1) Digital caliper, range 0-150mm/0-6"  
(code **111-006-12**)
- 2) Digital outside micrometer, range 0-25mm  
(code **312-001-03**)

**Code****280-123-02**MEASURING  
TOOL SET**280****3-PIECE MEASURING TOOL SET**

## ◆ Includes:

- 1) Vernier caliper, range 0-150mm/0-6",  
(code **120-006-12**)
- 2) Outside micrometer, range 0-25mm  
(code **321-001-01**)
- 3) 90° beveled edge square, 100x70mm  
(code **832-004-10**)

**Code****280-000-03**

280

3-PIECE MEASURING TOOL SET

◆ Includes:

- 1) Digital caliper, range 0-150mm/0-6"  
(code 111-006-12)
- 2) Outside micrometer, range 0-25mm  
(code 321-001-01)
- 3) 90° beveled edge square, 100x70mm  
(code 832-004-10)



Code

280-000-13

SERIES 280

3-PIECE MEASURING TOOL SET



Digital indicator for  
280-200-03



Inch dial indicator for  
280-202-03



280-201-03

Code	Include
280-200-03	digital indicator, range 12.7mm/0.5" (code 212-010-13) flex arm locking pliers, adjustable jaw opening from 0 to 25mm
280-201-03	10mm dial indicator (code 222-010-11) flex arm locking pliers, adjustable jaw opening from 0 to 25mm
280-202-03	1" inch dial indicator (code 225-025-11) flex arm locking pliers, adjustable jaw opening from 0 to 25mm



**280****5-PIECE MEASURING TOOL SET**

## ◆ Includes:

- 1) Digital caliper, range 0-150mm/0-6"  
(code **111-006-12**)
- 2) Outside micrometer, range 0-25mm  
(code **321-001-01**)
- 3) Dial indicator, range 10mm  
(code **222-010-11**)
- 4) Magnetic stand (code **281-060-01**)
- 5) Micrometer stand (code **383-000-00**)

**Code****280-000-05**MEASURING  
TOOL SET**280****5-PIECE MEASURING TOOL SET**

## ◆ Includes:

- 1) Digital caliper, range 0-150mm/0-6"  
(code **111-006-12**)
- 2) Outside micrometer, range 0-25mm  
(code **321-001-01**)
- 3) Dial indicator, range 10mm  
(code **222-010-11**)
- 4) 90° beveled edge square, 100x70mm  
(code **832-004-10**)
- 5) Scriber, 250mm  
(code **995-009-01**)

**Code****280-000-15**

280

**8-PIECE MEASURING TOOL SET**

◆ Includes:

- 1) Digital caliper, range 0-150mm/0-6" (code **111-006-12**)
- 2) Outside micrometer, range 0-25mm (code **321-001-01**)
- 3) Protractor (code **812-003-01**)
- 4) Pitch gauge, range 0.25-7mm, 24pcs (code **922-007-24**)
- 5) Radius gauge (code **941-007-34**)
- 6) Feeler gauge, range 0.05-1.00mm, 20pcs (code **912-100-20**)
- 7) 90° beveled edge square, 100x70mm (code **832-004-10**)
- 8) Scriber (code **995-009-01**)



Code

**280-000-08**

280

**12-PIECE MEASURING TOOL SET**

◆ Includes:

- 1) Digital caliper, range 0-150mm/0-6" (code **111-006-12**)
- 2) Outside micrometer, range 0-25mm (code **321-001-01**)
- 3) Dial indicator, range 10mm (code **222-010-11**)
- 4) Magnetic stand (code **281-060-01**)
- 5) Protractor (code **812-003-01**)
- 6) Pitch gauge, range 0.25-7mm, 24pcs (code **922-007-24**)
- 7) Radius gauge (code **941-007-34**)
- 8) Feeler gauge, range 0.05-1.00mm, 20pcs (code **912-100-20**)
- 9) 90° beveled edge square, 100x70mm (code **832-004-10**)
- 10) Scriber (code **995-009-01**)
- 11) Depth base (code **179-000-00**)
- 12) Zero setting bar



Code

**280-000-12**

280

## 12-PIECE MEASURING TOOL SET

## ◆ Includes:

- 1) Digital caliper, range 0-150mm/0-6" (code 111-006-12)
- 2) Digital outside micrometer, range 0-25mm/0-1" (code 313-001-01)
- 3) Digital indicator, range 12.7mm/0.5" (code 212-010-13)
- 4) Magnetic stand (code 281-060-01)
- 5) Protractor (code 812-003-01)
- 6) Pitch gauge, range 0.25-7mm, 24pcs (code 922-007-24)
- 7) Radius gauge (code 941-007-34)
- 8) Feeler gauge, range 0.05-1.00mm, 20pcs (code 912-100-20)
- 9) 90° beveled edge square, 100x70mm (code 832-004-10)
- 10) Scriber (code 995-009-01)
- 11) Depth base (code 179-000-00)
- 12) Zero setting bar



## Code

280-001-12

MEASURING  
TOOL SET

280

## 6-PIECE WELDING GAUGE SET

## ◆ Includes:

- 1) Outside micrometer, range 0-25mm (code 321-001-01)
- 2) Pipe welding gauge (code 976-045-01)
- 3) Welding gauge (code 978-006-01)
- 4) Welding gauge (code 979-020-01)
- 5) Steel rule, range 150mm/6" (code 990-006-11)
- 6) Magnifier



## Code

280-000-56



- ◆ The cable with lens can be rotated at 360°
- ◆ With adjustable LED light



**SPECIFICATION**

Probe diameter	6mm
Cable length	1.5m
Cable type	steel wired weaved cable
Dust/waterproof probe	IP65
Camera pixel	1M Pixel
Picture resolution	1280x720
Bend control	manual joystick
Frame rate	30fps
Illumination	6 steps adjustable LED
Display size	3.5inch LCD, Max.20000Lux
Max.magnification	5X
Video format	MP4/JPEG
Memory	16G TF card
Power supply	rechargeable battery(for 4 hours working)
Weight	550g

**INCLUDED ACCESSORIES**

Main unit	1pc
Cable with probe	1pc
16G TF card	1pc
AC/DC adapter	1pc
USB cable	1pc

# ES2320

# ENDOSCOPE FOR PIPE



- ◆ The cable length into the pipe can be shown the display
- ◆ With adjustable LED light
- ◆ Language: English, Japanese, Korean, Russian, German, French, Italian, Spanish, Portuguese, Thai, Finish, Swedish



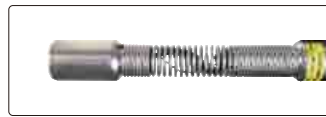
46mm support guide



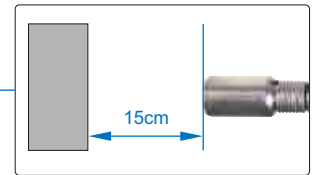
80mm support guide



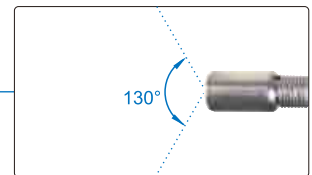
Remote control



23mm lens



focus distance:15cm



angle of view field:130°

### SPECIFICATION

Probe diameter	23mm
Cable length	20m
Probe head material	304 stainless steel
Dust/waterproof probe	IP67
Camera pixel	2MPixel
Picture resolution	1920x1080
Focus distance	15cm
Angle of view field	130°
Illumination	4 steps adjustable LED
Display size	7inch LCD
Max.magnification	3X
Video format	HD 1080P
Memory	16G SD card
Power supply	rechargeable battery(for 7 hours working)
Weight	10kg

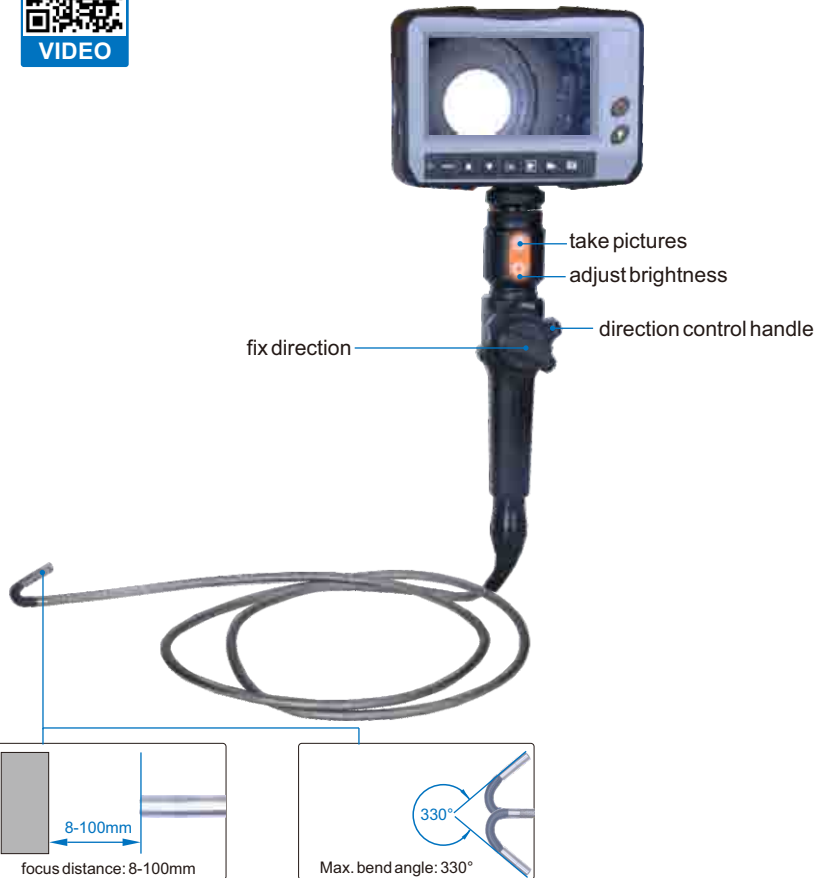
### INCLUDED ACCESSORIES

Main unit	1pc
16G SD card	1pc
12V AC/DC adapter	1pc

USB cable	1pc
Remote control	1pc
Support guide	2pcs



- ◆ 2-way directions
- ◆ With adjustable LED light
- ◆ Take pictures and record videos



### SPECIFICATION

Code	ES5515	ES5530	ES4015
Probe diameter	6mm	6mm	4.0mm
Cable length*	1.5m	3m	1.5m
Dust/waterproof probe	IP65		
Camera	0.45M Pixel		
Picture resolution	640x480		
Frame rate	30fps		
Illumination	8pcs LEDs	4pcs LEDs	
Video format	AVI or MPEG4		
Memory	8G SD card		
Power supply	rechargeable battery (for 4 hours working)		
Weight	550g	750g	500g

### INCLUDED ACCESSORIES

Main unit	1pc
Cable with probe	1pc
SD card 8G	1pc
AC/DC adapter	1pc
Video output cable	1pc
USB cable	1pc

\* The cable length are available upon request



- ◆ Economic type
- ◆ 2-way directions
- ◆ With adjustable LED light
- ◆ Take pictures and record videos



**SPECIFICATION**

Code	ESE80	ESE60	ESE40
Probe diameter	8.0mm	6.0mm	4.0mm
Cable length	1m		
Dust/waterproof probe	IP65		
Camera	1M Pixel		
Picture resolution	1280x720		
Frame rate	30fps		
Scree size	4.5 inch		
Illumination	8pcs LEDs	6pcs LEDs	
Video format	AVI		
Memory	32G SD card		
Power supply	rechargeable battery (for 4 hours working)		
Weight	500g	450g	400g

**INCLUDED ACCESSORIES**

Main unit	1pc
Cable with probe	1pc
SD card 32G	1pc
AC/DC adapter	1pc

EST0810

WIFI ENDOSCOPE



- ◆ The cable can be fixed in any sharp
- ◆ With adjustable LED light

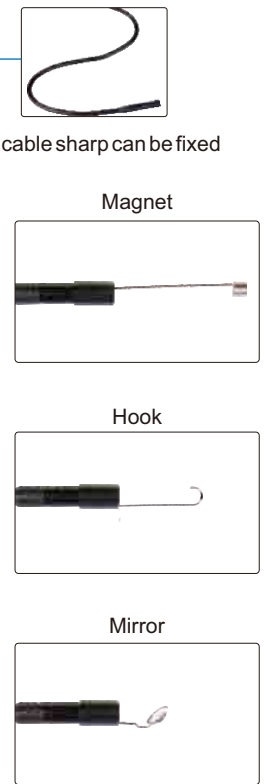


SPECIFICATION

Probe diameter	8.5mm
Cable length	1m
Cable type	steel wired cable (the sharp can be fixed)
Dust/waterproof probe	IP65
Camera pixel	2MPixel
Picture resolution	1600x1200
Video format	JPEG/MP4
Illumination	6 steps adjustable LED
Power supply	rechargeable battery (for 4 hours working)
Weight	287g

INCLUDED ACCESSORIES

Main unit	1pc
Cable with probe	1pc
Hook	1pc
Mirror	1pc
Magnet	1pc
USB cable	1pc



MG305

MAGNIFICATION GLASSES

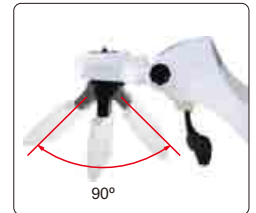


- ◆ Lenses are made of resin
- ◆ Interchangeable lenses
- ◆ Powered: 3 pcs AAA batteries (included)

Adjustable holder angle



Adjustable lens position



Focus can be adjusted



Adjustable LED angle



2 pcs LED



Interchangeable lenses



Head band (included)



Magnification	1X, 1.5X, 2X, 2.5X, 3.5X
Lens number	5 pcs

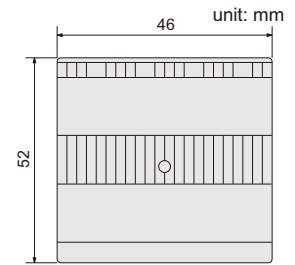
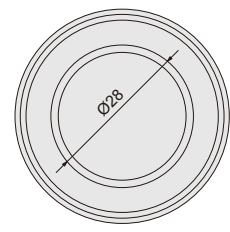
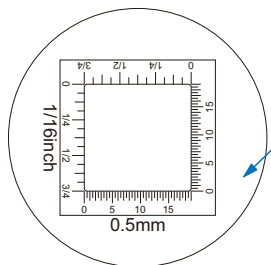




**MG30X**

**MEASURING MAGNIFIER (WITH ILLUMINATION)**

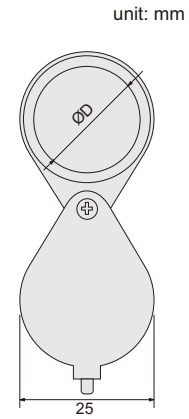
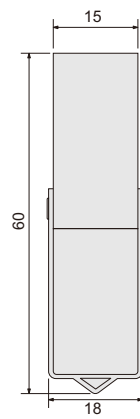
- ◆ Base with scale
- ◆ With 3 white LED and 3 UV LED
- ◆ Magnification: 30X



**MG10**

**FOLDING MAGNIFIER**

- ◆ Glass lens



<b>Magnification</b>	10X
<b>Lens diameter(ØD)</b>	Ø21

**DM200**

**DIGITAL MICROSCOPE**

- ◆ Magnification: 10X-200X
- ◆ Pixel: 2M
- ◆ Interface: USB2.0
- ◆ Snap pictures and record videos
- ◆ 8 pcs adjustable LED lights
- ◆ With measuring software and calibration rule



Magnification, View Field and Focus Relationship

Magnification	Focus	View field
50X	21mm	9.5x7.1mm
100X	13mm	4.8x3.6mm
150X	16mm	3.2x2.4mm
200X	19mm	2.4x1.8mm



**WIFI200**

**DIGITAL WIFI MICROSCOPE**



- Magnification: 10X-200X
- Pixel: 2M
- Interface: USB2.0 or WiFi
- Snap pictures and record videos
- 8 pcs adjustable LED lights
- With measuring software and calibration rule



It can connected to smart phone, Ipad or computer via WIFI



**Optional Stand**



Magnification, View Field and Focus Relationship

Magnification	Focus	View field
50X	21mm	9.5x7.1mm
100X	13mm	4.8x3.6mm
150X	16mm	3.2x2.4mm
200X	19mm	2.4x1.8mm

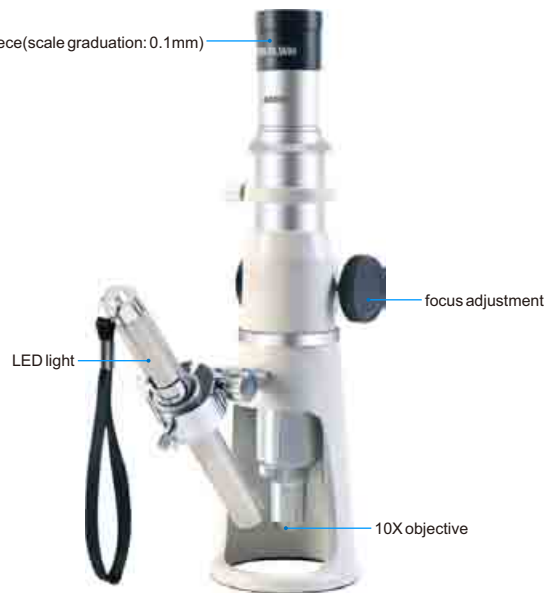
**PM100**

**PORTABLE MEASURING MICROSCOPE**



**SPECIFICATION**

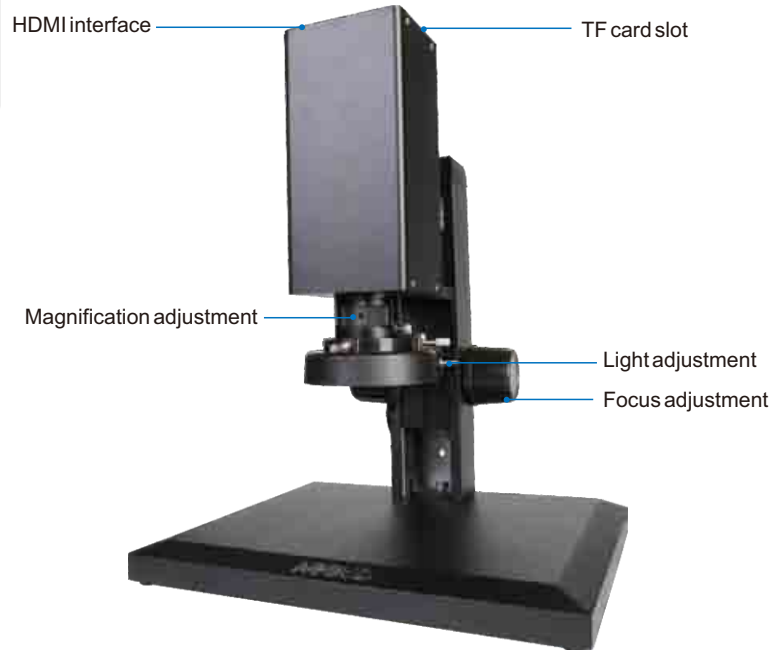
<b>Total magnification</b>	100X
<b>Eyepiece</b>	10X
<b>Objective(achromatic)</b>	10X
<b>Working distance</b>	7mm
<b>Focus range</b>	30mm
<b>Viewing field</b>	Ø1.8mm
<b>Graduation</b>	0.01mm
<b>Illumination</b>	LED light
<b>Diameter of base</b>	Ø63mm
<b>Height</b>	210mm
<b>Weight</b>	650g



**INCLUDED ACCESSORIES**

<b>Main unit</b>	1pc
<b>Pen light</b>	1pc
<b>Battery (AAA)</b>	2pcs

- ◆ High resolution color camera
- ◆ With TF card, can save pictures and videos
- ◆ High frame rate, without any delay in quick movement
- ◆ With crosshair on the screen



### SPECIFICATION

<b>Objective</b>		0.7X~5X (zoom)
<b>Total magnification( with 22 inch monitor )</b>		25X-180X
<b>View field</b>		3.2mm-23mm
<b>Working distance</b>		105mm
	<b>Resolution</b>	1920x1080
<b>Camera</b>	<b>Pixel size</b>	2.75*2.75 $\mu$ m
	<b>Frame rate</b>	60fps
<b>Illumination</b>		adjustable light
<b>Base size</b>		320mmx285mm(LxW)
<b>Weight</b>		6kg

### INCLUDED ACCESSORIES

<b>Main unit</b>		1pc
<b>Wireless mouse</b>		1pc
<b>HDMI connection cable</b>		1pc
<b>Ø95mm black/white plastic plate</b>		1pc
<b>8G TF card</b>		1pc
<b>TF card reader</b>		1pc
<b>AC/DC adapter</b>		1pc



- ◆ 12 inch wide screen HD LCD is included
- ◆ Can take pictures and record videos
- ◆ With USB interface, for transferring pictures or measuring data
- ◆ High frame rate, without any delay in quick movement
- ◆ With measuring function



**SPECIFICATION**

<b>Objective</b>	0.7X ~ 5X (zoom, fixed at 0.7X, 1X, 1.5X, 2X, 2.5X, 3X, 4X, 5X)	
<b>Total magnification</b>	13X-97X	
<b>View field</b>	3mm-22.7mm	
<b>Working distance</b>	96mm	
<b>Camera</b>	<b>Pixel</b>	2M HDMI
	<b>Pixel size</b>	2.75*2.75µm
	<b>Frame rate</b>	60fps
<b>Illumination</b>	144pcs LEDs adjustable light	
<b>LCD display</b>	12 inch HD LCD display, 1080P	
<b>Base size</b>	260mmx320mm(LxW)	
<b>Weight</b>	5.5kg	

**INCLUDED ACCESSORIES**

<b>Main unit</b>	1pc
<b>12 inch HD LCD</b>	1pc
<b>Wireless mouse</b>	1pc
<b>HDMI connection cable</b>	1pc
<b>Calibration rule</b>	1pc
<b>AC/DC adapter</b>	1pc

**OPTIONAL ACCESSORIES**

<b>0.5X Objective</b>	DVM2000-05-O
<b>2X Objective</b>	DVM2000-20-O

- ◆ 10.6 inch HD LCD is included
- ◆ Can take pictures and record videos
- ◆ High frame rate, without any delay in quick movement
- ◆ Automatic exposure, white balance



### SPECIFICATION

<b>Objective</b>		0.7X~4.5X
<b>Total magnification</b>		14X~100X
<b>Max.view field</b>		16.2mmx9.2mm
<b>Working distance</b>		88mm
	<b>Pixel</b>	1.2M
<b>Camera</b>	<b>Resolution</b>	1366x768
	<b>Frame rate</b>	60fps
<b>Illumination</b>		top/side LED adjustable light
<b>LCD display</b>		10.6 inch HD LCD display, 1080P
<b>Base size</b>		260mmx320mm(LxW)
<b>Weight</b>		5.7kg

### INCLUDED ACCESSORIES

<b>Main unit</b>	1pc
<b>Stand</b>	1pc
<b>Glass rule</b>	1pc
<b>AC/DC adapter</b>	1pc
<b>SD card</b>	1pc

- ◆ Auto focus
- ◆ High frame rate, without any delay in quick movement
- ◆ Automatic exposure, white balance
- ◆ With measuring functions



DVM4000S

**SPECIFICATION**

Code	DVM4000	DVM4000S
Display	without	with 21.5" HD monitor
Objective	0.7X ~ 4.5X	
Total magnification	26.5X~170X	
Max.view field	19mmx10.8mm	
Working distance	100mm	
Camera	Pixel	2M
	Resolution	1920x1080
	Frame rate	60fps
Illumination	LED adjustable light	
Base size	380mmx260mm(LxW)	
Weight	5.7kg	

**INCLUDED ACCESSORIES**

Main unit	1pc
Stand	1pc
Calibration rule	1pc
AC/DC adapter	1pc
U-disk	1pc
Mouse	1pc

**OPTIONAL ACCESSORIES**

X-Y stage(range: 76x65mm)	DVM-STAGE
0.5X objective	DVM-05-O
2X objective	DVM-20-O



- ◆ 1080P HD image
- ◆ High frame rate, without any delay in quick movement
- ◆ Automatic exposure, white balance
- ◆ With taking photos functions



**DVM3DS**

**SPECIFICATION**

Code		DVM3D	DVM3DS
Display		without	with 21.5" HD monitor
Total magnification		25X~150X	
Direction/rotation adjustment		by controller	
Max.view field		16mmx9mm	
Working distance		20mm	
Camera	Pixel	2M	
	Resolution	1920x1080	
	Frame rate	60fps	
Frame rate		LED adjustable light (adjusted by controller)	
Base size		380mmx260mm(LxW)	
Weight		5.7kg	

**INCLUDED ACCESSORIES**

Main unit	1pc
Stand	1pc
Controller	1pc
AC/DC adapter	1pc
USB flash disk	1pc

**OPTIONAL ACCESSORIES**

X-Y stage(range: 76x65mm)	DVM-STAGE
---------------------------	-----------

**SERIES ZS1045 ZOOM STEREO MICROSCOPE**

◆ Trinocular head is used to connect to camera



ZS1045

**SPECIFICATION**

Code	ZS1045	ZS1045T
Optical	binocular	trinocular
Magnification	10X ~ 45X	
Eyepiece	10X (vive field: Ø20mm)	
Objective	1X ~ 4.5X (zoom)	
Pupil distance	55 ~ 75mm	
Diopter adjustment	±5 diopter	
Working distance	97mm	
Illumination	selectable incident and transmitted LED light	
Dimension(L×W×H)	310×250×420mm	
Weight	6kg	

**INCLUDED ACCESSORIES**

Main unit	1pc
10X eyepiece	1pair
Eyepiece patch	1pair
Ø95mm frosted glass plate	1pc
Ø42mm frosted glass plate	1pc
Ø95mm black/white plastic plate	1pc
Dustproof cover	1pc

**OPTIONAL ACCESSORIES**

0.5X Eyepiece	ZS1045-05-O
0.75X Eyepiece	ZS1045-75-O
2X Eyepiece	ZS1045-02-O
10X Eyepiece with scale	ZS1045-10-FE
WF15X Eyepiece	ZS1045-15-E
WF20X Eyepiece	ZS1045-20-E
Camera	1300KPA



- ◆ For high magnification observation and metallurgical image analysis
- ◆ Infinite optical system, can add accessories like polarizer, analyzer into optical path without image quality influence



(camera is optional)

Filter



### SPECIFICATION

<b>Eyepiece(wide field)</b>	10X(view field: Ø22mm)			
<b>Objective(plan achromatic)</b>	10X	20X	50X	100X(dry type)
<b>Numerical aperture</b>	0.25	0.40	0.70	0.85
<b>Working distance</b>	5mm	8.8mm	3.68mm	0.4mm
<b>Stage</b>	double layer			
	size: 242×200mm			
	travel: 30×30mm			
<b>Pupil distance</b>	53-75mm(adjustable)			
<b>Diopter adjustment</b>	±5 diopter(one eyepiece)			
<b>Illumination</b>	6V/30W halogen lamp, brightness is adjustable with polarizer and analyzer, built-in green, yellow, blue filters and frosted glass			
<b>Weight</b>	11kg			

### INCLUDED ACCESSORIES

<b>Main unit</b>	1pc
<b>Anti-dust cover</b>	1pc
<b>Filter</b>	1set
<b>Camera adapter(1X)</b>	1pc

### OPTIONAL ACCESSORIES

<b>10X dividing eyepiece(0.1mm/div.)</b>	<b>MM-EP10D</b>
<b>Digital camera</b>	<b>1300KPA</b>
<b>5X Objective</b>	<b>MM-OB5</b>

<b>40X Objective</b>	<b>MM-OB40</b>
<b>60X Objective</b>	<b>MM-OB60</b>
<b>80X Objective</b>	<b>MM-OB80</b>





- ◆ Large screen of the read out
- ◆ With manufacturer inspection certificate



VIDEO

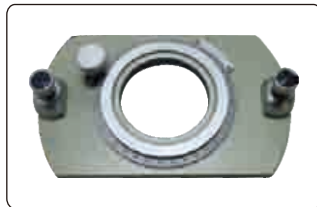


PP3015

OPTIONAL ACCESSORIES



20X, 50X, 100X  
lens with half-reflection mirror (glass diameter 100mm, graduation 2°)



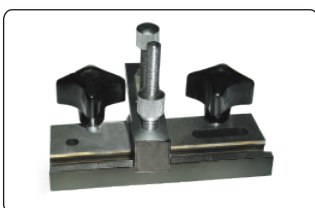
rotary table



5X magnifier



Series 552 glass scale



holder with clamp



swivel center support









V-block with clamp



Overlay chart

**SPECIFICATION**

Code	PP3015	PP3020
X-Y stage travel	150×50mm	200×100mm
Metal stage size	340×152mm	400×225mm
Glass stage size	195×95mm	245×145mm
Screen diameter	diameter: Ø300mm	
Image	inverted	
Linear scale resolution	1µm	
Accuracy	(4+L/25)µm L is the measuring length in mm	
Z(focus) travel range	80mm	
Max. load capacity	4kg	
Rotation scale	range: 0°~360°, resolution: 1' or 0.01°, accuracy: 6'	
Magnification accuracy	±0.1%	
Illumination	contour illumination: 12V/100W halogen lamp, 2-step(high/low) brightness adjustment	
	surface illumination: 24V/150W halogen lamp	
Readout display	X-Y stage travel, screen rotation	
Output	RS232 and USB	
Readout functions	 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	
	 coordinate transform	
Dimension (L×W×H)	480×780×1150mm	
Weight	135kg	

**INCLUDED ACCESSORIES**

Main unit	1pc
10X lens with half-reflection mirror	1pc
Overlay chart clip	4pcs
Level	1pc
Anti-dust cover	1pc

**OPTIONAL ACCESSORIES**

20X lens with half-reflection mirror	PP3000-LENS20X
50X lens with half-reflection mirror	PP3000-LENS50X
100X lens with half-reflection mirror	PP3000-LENS100X
Rotary table	PP3000-TABLE
5X magnifier	PP3000-MAGNIFIER
Holder with clamp	PP3000-HOLDER
Swivel center support	PP3000-SUPPORT
V-block with clamp	PP3000-VBLOCK
Calibration scale	Series 552
Overlay chart	PP3015-CHART





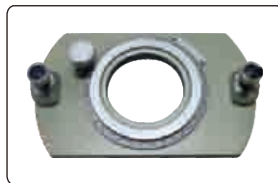
◆ With manufacturer inspection certificate



OPTIONAL ACCESSORIES



20X, 50X, 100X lens



Rotary table



Series 552 glass scale



Series 636 V-block









Series 652 Vise



Overlay chart



**SPECIFICATION**

X-Y stage travel	200×100mm
Metal stage size	400×150mm
Screen diameter	Ø300mm
Linear scale resolution	1µm
Accuracy	(4+L/25)µm L is the measuring length in mm
Focus travel range	75mm
Focus	77.7mm(10X lens)
Max. load capacity	50kg
Workpiece rotation range	±15°
Rotation scale	range: 0°~360°, resolution: 1' or 0.01°, accuracy: 6'
Magnification accuracy	±0.08%
Illumination	contour illumination: 24V/150W halogen lamp, brightness is adjustable surface illumination: 12V/150W halogen lamp, brightness is adjustable
Readout display	X-Y stage travel, screen rotation
Output	RS232 and USB
Data processing unit	 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  coordinate transform
Dimension(L×W×H)	1090×830×1010mm
Weight	160kg

**INCLUDED ACCESSORIES**

Main unit	1pc
10X lens	1pc
Overlay chart clip	4pcs
Foot-switch	1pc
Anti-dust cover	1pc

**OPTIONAL ACCESSORIES**

20X lens	PP3020W-LENS20X
50X lens	PP3020W-LENS50X
100X lens	PP3020W-LENS100X
Rotary table	PP3020W-TABLE
Overlay chart	PP3015-CHART
Vise	Series 652
V-block	Series 636
Glass scale	Series 552



◆ With manufacturer inspection certificate



OPTIONAL ACCESSORIES



5X, 20X, 50X, 100X lens









Rotary table



Series 552 glass scale



## SPECIFICATION

X-Y stage travel		200×100mm				
Metal stage size		404×265mm				
Screen diameter		Ø600mm				
Linear scale resolution		1µm				
Accuracy		(4+L/25)µm L is the measuring length in mm				
Focus travel range		75mm				
Lens	Magnification	5X (Optional)	10X (Standard)	20X (Optional)	50X (Optional)	100X (Optional)
	View field	Ø120mm	Ø60mm	Ø30mm	Ø12mm	Ø6mm
	Focus	242.8mm	143.2mm	85.5mm	92mm	48.5mm
	Magnification accuracy	0.08%				
Max. load capacity		5kg				
Rotation scale		range: 0°~360°, resolution: 1' or 0.01°				
Illumination		contour illumination: 24V/150W halogen lamp, brightness is adjustable				
		surface illumination: 12V/150W halogen lamp, brightness is adjustable				
Readout display		X-Y stage travel, screen rotation				
Output		RS232 and USB				
Data processing unit		 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  coordinate transform				
Dimension(L×W×H)		1200×1140×1940mm				
Weight		360kg				

## INCLUDED ACCESSORIES

Main unit	1pc
10X lens	1pc
Overlay chart clip	4pcs
Foot-switch	1pc
Anti-dust cover	1pc

## OPTIONAL ACCESSORIES

5X lens	PP6020-LENS5X
20X lens	PP6020-LENS20X
50X lens	PP6020-LENS50X
100X lens	PP6020-LENS100X
Rotary table	PP6020-TABLE
Glass scale	Series 552

## SERIES QVM

## QUICK MEASUREMENT VISION MACHINE

- ◆ Put the workpieces in view filed, and press one button, the measuring results will be shown immediately
- ◆ Can measure Max. 99 pieces workpieces at a time
- ◆ Workpiece can be put at any position
- ◆ Auto focus

### SPECIFICATION

Code	QVM120	QVM80B
Lens	single field telecentric	double field telecentric
Measuring range	120x80mm	82x55mm(wide view field) 20x13mm(small view field)
Accuracy	$\pm(2.5+L/50)\mu\text{m}$	$\pm(2.5+L/50)\mu\text{m}$ (wide view field) $\pm(1.5+L/50)\mu\text{m}$ (small view field)
Repeatability	$\pm 1.5\mu\text{m}$	$\pm 1.5\mu\text{m} \pm 1\mu\text{m}$ (small view field)
Resolution	0.01 $\mu\text{m}$	
Focus method	auto	
Focus (mm)	145mm	
Moving range (Z axis)	45mm(motorized)	
Measuring time	<1s (less than 100 measuring dimensions)	
Illumination system	1000 steps programmable light contour light: telecentric parallel light surface light: LED	
Camera pixel	20M	
Image processing	256 gray scale, 20:1 sub-pixel processing technology	
Dimension	540x260x650mm	
Weight	50kg	

QVM120



### INCLUDED ACCESSORIES

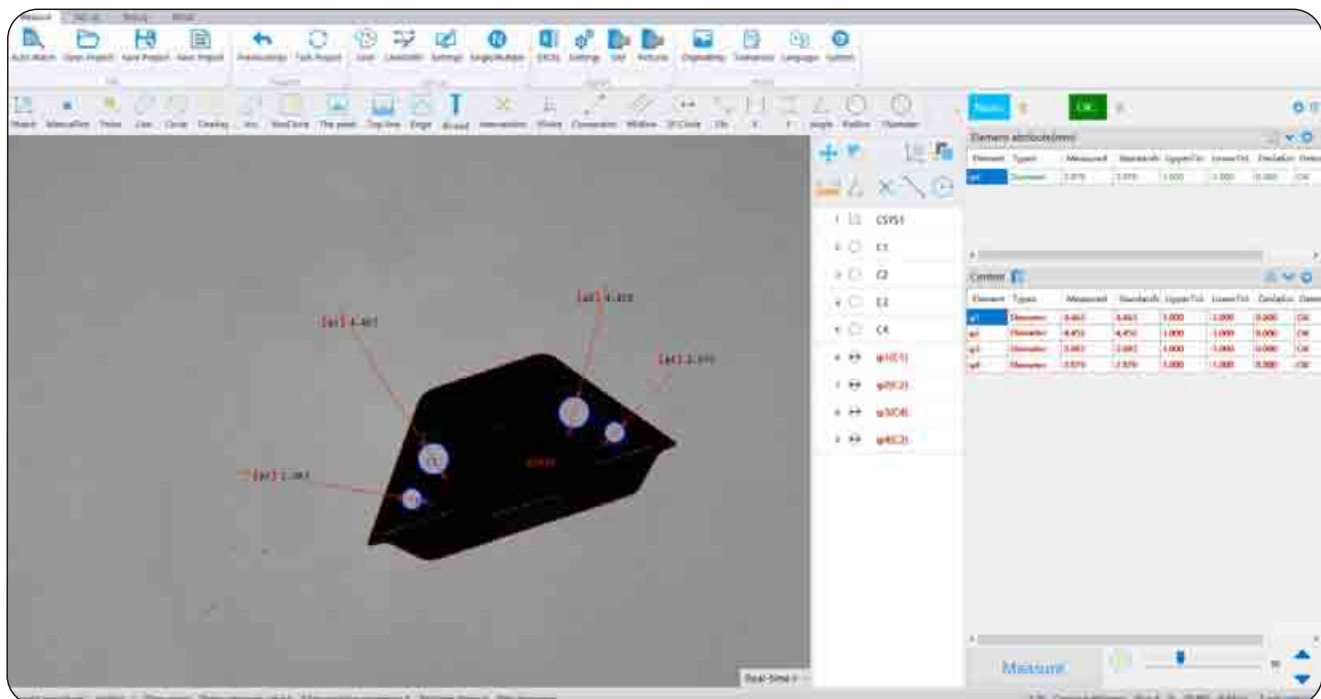
Main unit	1pc
Computer	1pc
USB dongle	1pc

### OPTIONAL ACCESSORIES

Coaxial light *	QVM-LG
Special angle surface light *	QVM-SL

\* The light should be bought with main unit if needed

### Software interface







**QVM100**

**QUICK MEASUREMENT VISION MACHINE**

- ◆ Put the workpieces in view filed, and press one button, the measuring results will be shown immediately
- ◆ Can measure Max. 99 pieces workpieces at a time
- ◆ Workpiece can be put at any position
- ◆ Auto focus



**SPECIFICATION**

<b>Lens</b>	double field telecentric
<b>Measuring range</b>	100x80mm
<b>Accuracy</b>	$\pm(3+L/50)\mu\text{m}$
<b>Repeatability</b>	$\pm 2\mu\text{m}$
<b>Resolution</b>	0.01 $\mu\text{m}$
<b>Focus method</b>	auto
<b>Focus (mm)</b>	80
<b>Moving range (Z axis)</b>	45mm(motorized)
<b>Measuring time</b>	<1s (less than 100 measuring dimensions)
<b>Illumination system</b>	1000 steps programmable light contour light: telecentric parallel light surface light: LED
<b>Camera pixel</b>	20M
<b>Image processing</b>	256 gray scale, 20:1 sub-pixel processing technology
<b>Dimension</b>	260x450x660mm
<b>Weight</b>	28kg

**INCLUDED ACCESSORIES**

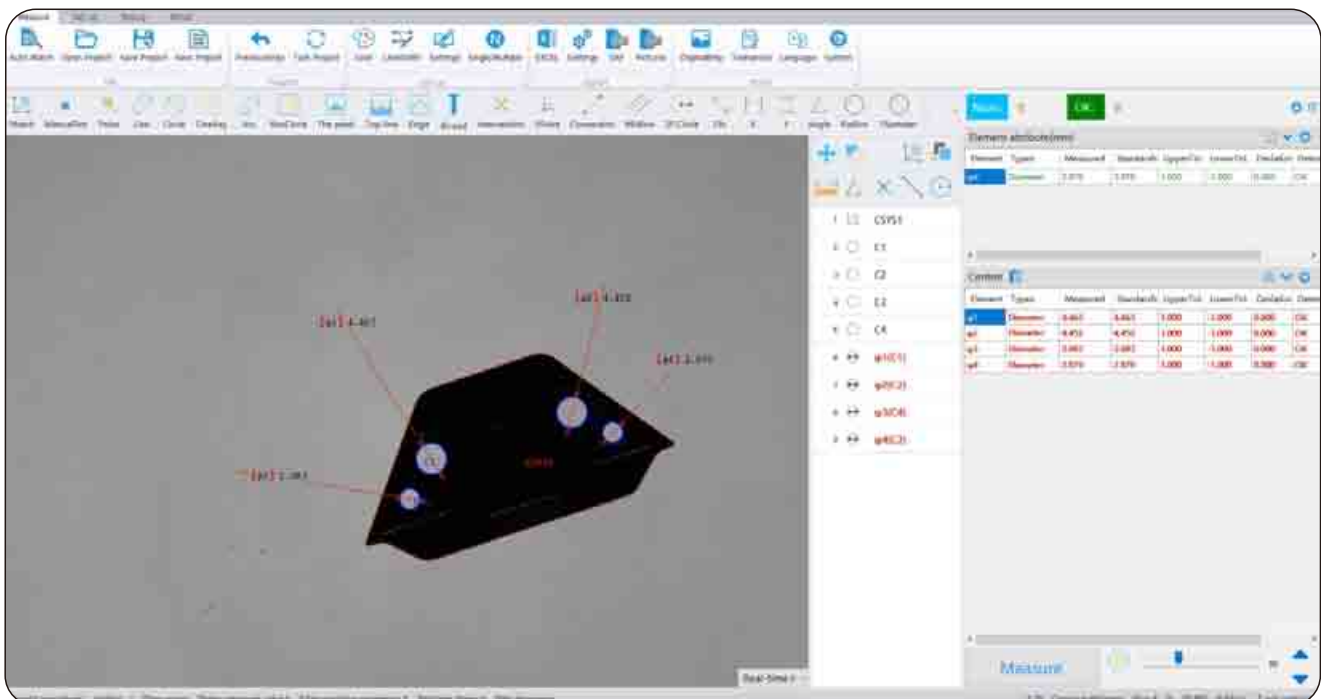
<b>Main unit</b>	1pc
<b>Computer</b>	1pc
<b>USB dongle</b>	1pc

**OPTIONAL ACCESSORIES**

<b>Coaxial light *</b>	<b>QVM-LG</b>
<b>Special angle surface light *</b>	<b>QVM-SL</b>

\* The light should be bought with main unit if needed

Software interface





- ◆ With counter and measuring software
- ◆ With manufacturer inspection certificate



MTM300

SPECIFICATION

Code	MTM200	MTM300	MTM400
Measuring range(X/Y axis)	200×100mm	300×200mm	400×300mm
Z axis travel with scale	150mm, with fine adjustment		
Stage moving method	manual		
Linear scale resolution (X/Y/Z axis)	0.5μm		
Accuracy (X/Y axis)	(3+L/150)μm L is measuring length , unit:mm		
Repeatability	1μm		
Objective magnification	5X/10X/20X/50X		
Eyepiece magnification	10X		
Focus	5X:10.8mm/10X:12.2mm/20X:4mm/50X:7.8mm		
Camera	Color CCD, 1.3M pixel		
Illumination	contour illumination: LED, brightness adjustment		
	surface illumination: coaxial LED, brightness adjustment		
Max. glass stage loading	20kg	20kg	20kg
Dimension (L×W×H)	900×1000×1050mm	1000×1100×1050mm	1200×1300×1200mm
Weight	140kg	175kg	210kg

INCLUDED ACCESSORIES

Main unit	1pc
Calibration block	1pc
Software with USB dongle	1pc(Same as series VM )
Controller	1pc
Objective	4pcs
Eyepiece	1pair

OPTIONAL ACCESSORIES

Computer	VM-PC
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- ◆ Granite base and column
- ◆ With manufacturer inspection certificate



**VM5040**

**SPECIFICATION**

Code	VM2010	VM3020	VM4030	VM5040
Measuring range(X/Y axis)	200×100mm	300×200mm	400×300mm	500×400mm
Z axis travel with scale	200mm*			
Stage moving method	manual			
Linear scale resolution (X/Y/Z axis)	1µm			
Accuracy (X/Y axis)	(3+L/200)µm L is the measuring length in mm			
Repeatability	2µm			
Focus	90mm			
Lens magnification	0.7X-4.5X			
Total magnification	30-220X			
Camera	Color CCD, 1.3M pixel			
Illumination	contour illumination: LED, brightness adjustment			
	surface illumination: LED, brightness adjustment			
Max. glass stage loading	20kg	20kg	20kg	30kg
Dimension (L×W×H)	580×680×880mm	770×650×1080mm	960×750×1080mm	1250×860×1690mm
Weight	140kg	188kg	230kg	450kg

\* The Z axis travel are available upon request

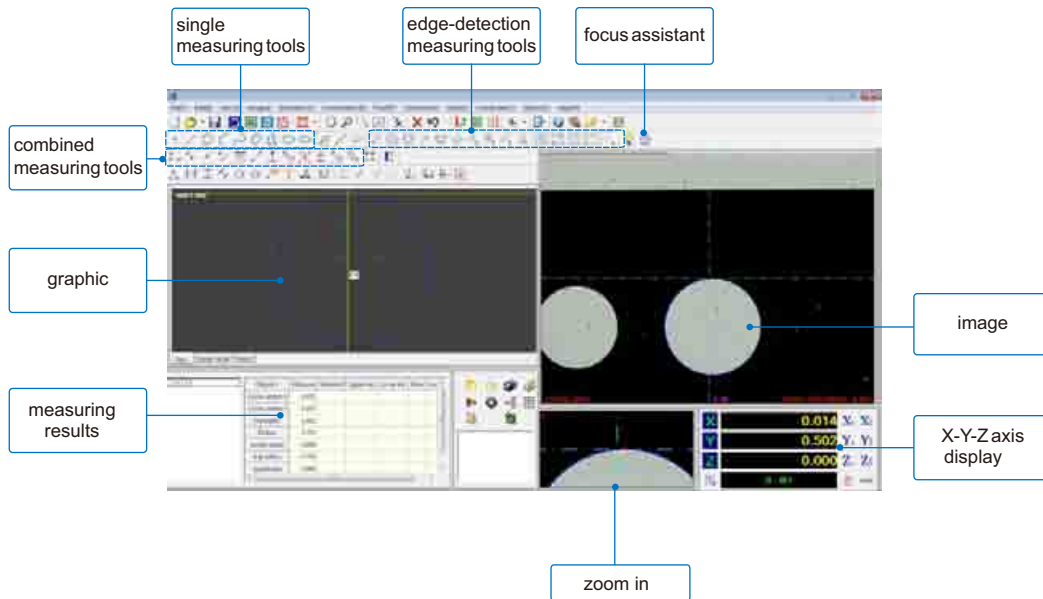
**INCLUDED ACCESSORIES**

Main unit	1pc
Calibration block	1pc
Software with USB dongle	1pc
Controller	1pc
Operating table(only VM5040 included)	1pc





### OPTIONAL ACCESSORIES





0.5X auxiliary objective	VM-OB05X
2X auxiliary objective	VM-OB2X
Computer	VM-PC
Operating table (except for VM5040)	VM-Table
Calibration scale	Series 552

### SOFTWARE FOR ALL MANUAL VISION MACHINES















#### ◆ Single measuring tools:

-  measure coordinate of point
-  measure length of line
-  measure center coordinate, radius, diameter and area of circle
-  measure length and diameter of arc

-  measure length of curve
-  measure width, length and area of rectangle
-  measure length and area of polygon
-  measure center coordinate, axis length and area of ellipse

#### ◆ Combined measuring tools:

-  measure distance between two objects like, two points, two lines, a point to a line, a point to a circle and so on.
-  create a intersection point
-  find midpoint of a line
-  create a line
-  create a line, a circle and a arc based on points
-  measure distance between two points

-  measure distance from point to line
-  create tangent lines between point and circle
-  create angular bisector between two lines
-  measure distance from circle to line
-  measure distance between two circles
-  find tangent lines between two circles



- ◆ The stage can move automatically by programming
- ◆ The light can be changed automatically by programming
- ◆ Automatic focus
- ◆ Granite stage and column
- ◆ With manufacturer inspection certificate



**VM400CNC**

**MCP probe (optional)**



**0.5X auxiliary objective (optional)**



**2X auxiliary objective (optional)**



SPECIFICATION

Code	VM300CNC	VM400CNC	VM500CNC
Measuring range(X/Y axis)	300×200mm	400×300mm	500×400mm
Z axis travel with scale	200mm* (automatic)		
Stage moving method	automatic		
Linear scale resolution (X/Y/Z axis)	1μm		
Accuracy (X/Y axis)	(2.2+L/200)μm L is the measuring length in mm		
Repeatability	2μm		
Focus	90mm		
Lens magnification	0.7X-4.5X		
Total magnification	30-220X		
Camera	Color CCD, 2M pixel		
Illumination	contour illumination: LED, brightness adjustment		
	surface illumination: LED(8 sections), brightness adjustment		
Max. glass stage loading	20kg	20kg	25kg
Glass stage size	358mm×258mm	458×358mm	558×458mm
Weight	320kg	400kg	500kg

\* The Z axis travel are available upon request

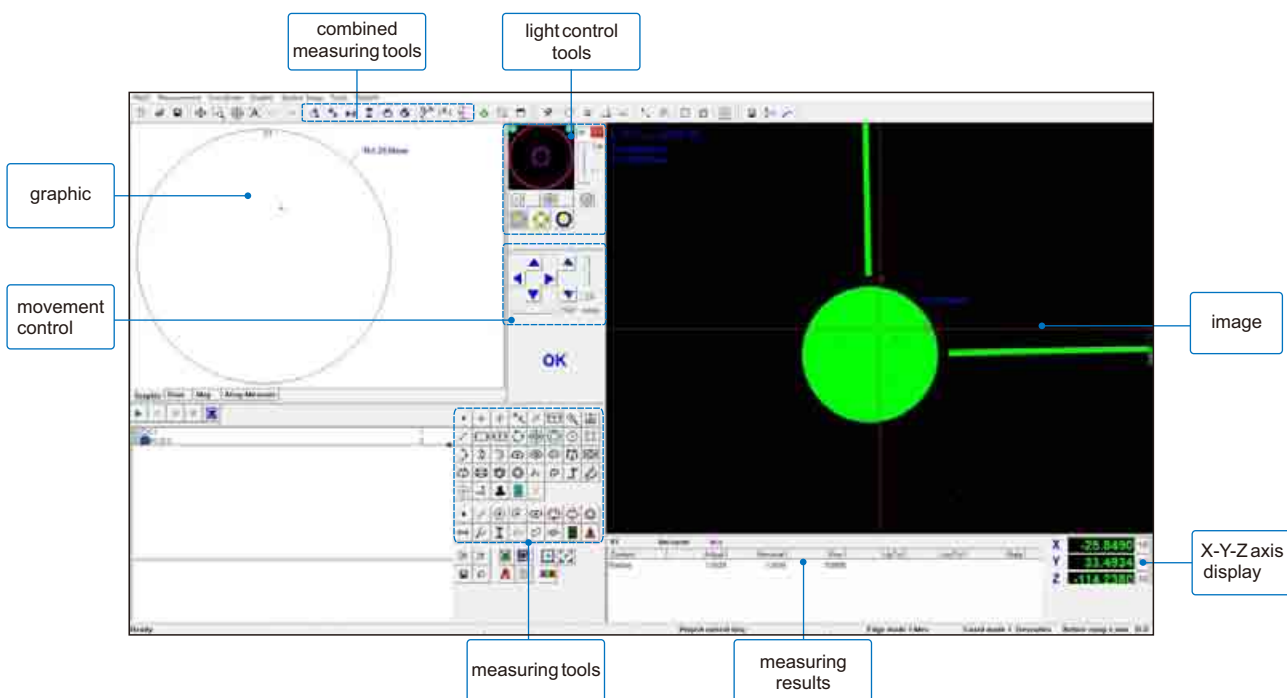
INCLUDED ACCESSORIES

Main unit	1pc
Calibration block	1pc
Software with USB dongle	1pc
Computer	1pc
Count card	1pc
Video card	1pc

OPTIONAL ACCESSORIES

0.5X auxiliary objective	VM-OB05X
2X auxiliary objective	VM-OB2X
Calibration scale	Series 552
MCP probe*	VM-MCP

\* Should be bought with vision machine

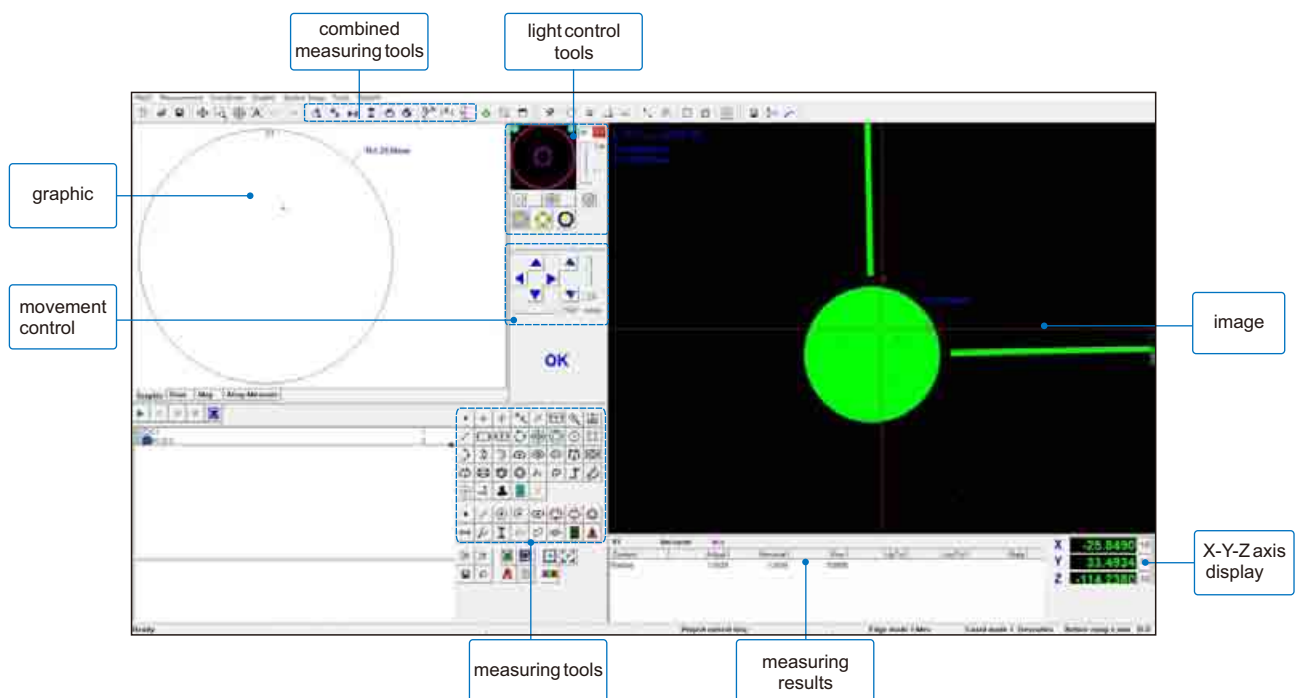




- ◆ The stage is fixed, X/Y/Z Axis can move automatically by programming
- ◆ The light can be changed automatically by programming
- ◆ Automatic focus
- ◆ Granite stage and column with good stability
- ◆ With manufacturer inspection certificate



**VM1000CNC**



**SERIES VM**

**AUTOMATIC VISION MACHINE**

**SPECIFICATION**

Code	VM600CNC	VM800CNC	VM1000CNC	VM1200CNC	VM1500CNC
Measuring range(Y/X axis)	600×500mm	840×620mm	1000×800mm	1200×1000mm	1500×1200mm
Z axis travel with scale	200mm(automatic)				
Stage moving method	automatic				
Linear scale resolution (X/Y/Z axis)	0.5μm				
Accuracy (X/Y axis)	(2+L/200)μm		(2.5+L/200)μm		(3.5+L/200)μm
	L is the measuring length in mm				
Repeatability	2μm				
Focus	90mm				
Lens magnification	0.7X-4.5X				
Total magnification	23-190X				
Camera	Color CCD, 2M pixel				
Illumination	contour illumination: coaxial light, brightness adjustment				
	surface illumination: LED(8 sections), brightness adjustment				
Max. glass stage loading	45kg	50kg	50kg	60kg	60kg
Glass stage size	755×678mm	995×798mm	1155×978mm	1218×1395mm	1378×1655mm
Weight	1050kg	1400kg	1600kg	1800kg	2100kg

**INCLUDED ACCESSORIES**

Main unit	1pc
Calibration block	1pc
Software with USB dongle	1pc
Computer	1pc
Count card	1pc
Video card	1pc

**OPTIONAL ACCESSORIES**

0.5X auxiliary objective	VM-OB05X
2X auxiliary objective	VM-OB2X
Calibration scale	Series 552
MCP probe*	VM-MCP

\* Should be bought with vision machine

**SERIES WE6800**

**DIGITAL READOUT**

- ◆ Recalls the last position after power failure without power
- ◆ Can be connected with linear scale or encoder to carry out processing and measuring for various kinds of machines.



WE6800-3

**SPECIFICATION**

Code	WE6800-2	WE6800-3
Axis	2	3
RS232 output	Yes	No
Functions	set zero, numerical analysis, pre-sets value, absolute coordinate/relative coordinate, filters numerical value, metric units/imperial units conversion, diameter/semi-diameter conversion, shrinkage rate, find mechanical original point (RI), calculator, circular point hole, oblique line hole, arc processing, bevel processing, lathe	
Resolution	0.1, 0.2, 0.5, 1, 2, 5, 10μm	
Input signal	Orthogonality TTL square wave; frequency<2MHZ; electric current>1mA	
Input voltage	AC 90V~240V	
Dimension	296 x 184 x 45 mm	
Weight	1.5kg	

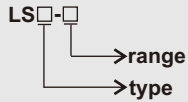
**INCLUDED ACCESSORIES**

Main unit	1pc
Mounting bracket	1pc
Ground cable	1pc





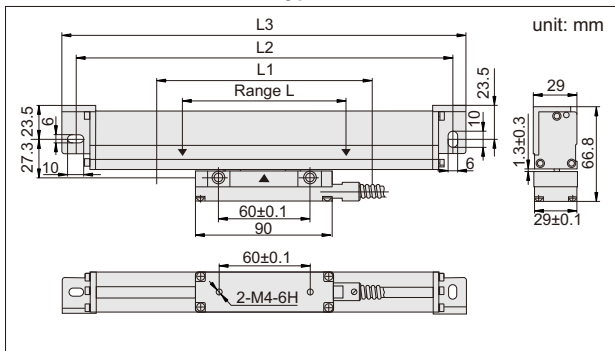
◆ Code explanation:



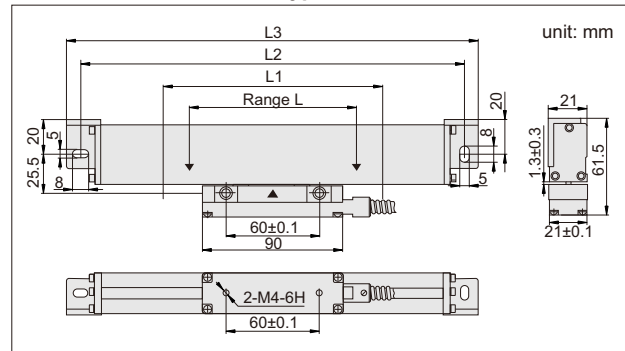
Example:

Code	Type	Range
LSA1-50	A1	50mm
LSB5-1000	B5	1000mm

**Type A1**



**Type B5**



**SPECIFICATION**

Code	Series LSA1		Series LSB5	
	A1		B5	
Type	A1		B5	
Range	50-1000mm (step 50mm)		50-1000mm (step 50mm), 1000-3000mm(step 100mm)	
Max. travel length (L1)	L+30(L<950)	L+50(L≥950)	L+30(L<950)	L+50(L≥950)
Mounting hole pitch (L2)	L+132(L<950)	L+152(L≥950)	L+136(L<950)	L+156(L≥950)
Total length (L3)	L+149(L<950)	L+169(L≥950)	L+154(L<950)	L+174(L≥950)
Resolution	1μm		5μm	
Max. response speed	50m/min		60m/min	
Scale grating pitch	20μm			
Scale reference point pitch	50mm			
Accuracy	(5+5L/1000)μm L is the range in mm			
Cable length	3.5m (L: 50-950mm), 5m (L: 1000-1500mm), 10m (L: 1 600-3000mm)			

**INCLUDED ACCESSORIES**

Main unit	1pc
Shape support	1pc
Anti-dust cover	1pc
Plain base (for range >1500mm)	1pc
Mounting accessories	one package

1300KPA

CAMERA

- ◆ Easy to connect computer by USB
- ◆ Supplied with measuring software



SPECIFICATION

Camera sensor	1/3" CMOS
Pixel	1.3 Mega
Interface	USB
Dimension (L×W×H)	65 × 48 × 43(mm)
Weight	400g



Connect with Vickers hardness tester



Connect with microscope

OPTIONAL ACCESSORIES

INCLUDED ACCESSORIES

Main unit	1pc
USB cable	1pc
Software	1pc

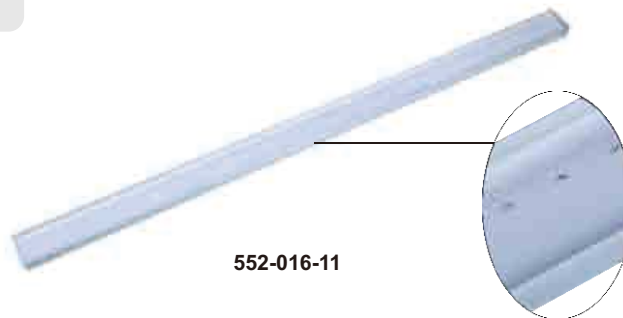
C-mount	1300KPA-CM
Calibration rule (graduation: 0.1mm)	RU01
Ø30mm eyepiece adaptor	AD30
Ø30.5mm eyepiece adaptor	AD305

SERIES 552

GLASS SCALE



- ◆ For calibrating the accuracy of vision machine or profile projector
- ◆ Graduation:1mm
- ◆ With manufacturer inspection certificate



552-016-11

Code	Range (mm)	Accuracy (µm)
552-008-11	200	1.5
552-012-11	300	2
552-016-11	400	2
552-024-11	600	2.5



**TP340/560**

**IMAGE TYPE TOOL PRESETTER**

- ◆ One key type graphic function for easy understanding.
- ◆ Edge detection is convenient and error-free.



TP340

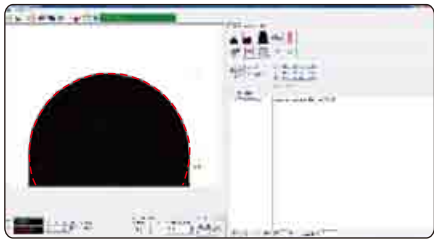


Standard rod

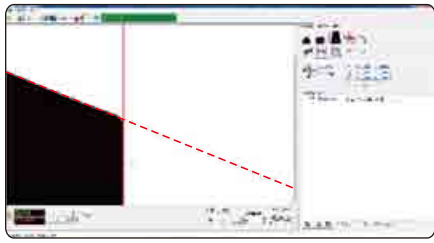
(Optional)



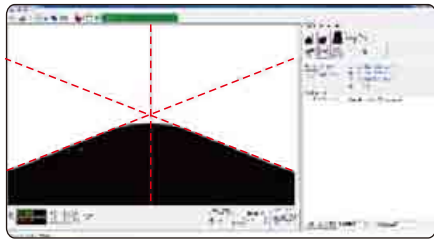
Sleeve (BT50, 40, 30 / HSK63, 50, 40)



Radius Inspection



Automatic Angle Inspection



Automatic Angle Inspection

SPECIFICATION

Code		TP340	TP560
Axis travel	X axis	D: 130mm	D: 230mm
	Z axis	L: 60-400mm	L: 60-600mm
	Snape	20mm	20mm
Drive mode	X/Z Axis move	manual	manual
	Fine adjustment	with	with
	C axis spindle auto drive	manual	
Accuracy		5µm	
Spindle		ISO50	
Spindle rotation concentricity		2µm	
Resolution		1µm	
Magnification		50X	
Camera		CMOS	
Light		surface light	
Computer		with	
Screen		24"	
Edge finder		with	
Power supply		110V or 220V	
Ampere		2A	
Weight		300 kg	320 kg
Dimension	Length	1 200 mm	1 200 mm
	Width	750 mm	750 mm
	Height	1 700 mm	1 900 mm

INCLUDED ACCESSORIES

Main unit	1pc
BT50 spindle	1pc
Computer with 24" monitor	1pc
Stand	1pc
Measuring software	1pc

OPTIONAL ACCESSORIES

BT50/BT40 sleeve	BT50-40
BT50/BT30 sleeve	BT50-30
BT50-HSK100 sleeve	BT50-HSK100
BT50-HSK63 sleeve	BT50-HSK63
BT50-HSK50 sleeve	BT50-HSK50
BT50-HSK40 sleeve	BT50-HSK40
40mm standard rod	BT40
30mm standard rod	BT30
Label printer	TP340-PR
Vacuum tool clamping	TP340-VTC



- ◆ Manual loading control
- ◆ Economic type
- ◆ With manufacturer inspection certificate



Small flat anvil



Large flat anvil



V-type anvil



**SPECIFICATION**

<b>Load force</b>	10kgf (98N)
<b>Total load force</b>	60kgf (588N), 100kgf (980N), 150kgf (1471N)
<b>Stage elevation</b>	manual
<b>Loading control</b>	manual
<b>Graduation</b>	0.5HR
<b>Max. test height</b>	155mm
<b>Max. throat</b>	130mm
<b>Dimension</b>	460×180×620mm
<b>Weight</b>	65kg

**INCLUDED ACCESSORIES**

<b>Main unit</b>	1pc
<b>Ø1.5875mm ball carbide indenter</b>	1pc
<b>Diamond indenter</b>	1pc
<b>Flat anvil</b>	2pcs
<b>V-type anvil</b>	1pc
<b>Rockwell test block</b>	5pcs
<b>Screw driver</b>	2pcs



- ◆ Manual loading control
- ◆ With manufacturer inspection certificate



Small flat anvil



Large flat anvil



V-type anvil



## SPECIFICATION

Load force	10kgf (98N)
Total load force	60kgf (588N), 100kgf (980N), 150kgf (1471N)
Stage elevation	manual
Loading control	manual
Graduation	1HR
Max. test height	170mm
Max. throat	160mm
Dimension	487×265×726mm
Weight	73kg

## INCLUDED ACCESSORIES

Main unit	1pc
Ø1.5875mm ball carbide indenter	1pc
Diamond indenter	1pc
Flat anvil	2pcs
V-type anvil	1pc
Rockwell test block	3pcs
Dustproof cover	1pc



- ◆ Manual loading control
- ◆ The hardness scale can be converted to HV and HB
- ◆ With USB interface, for transferring data
- ◆ With manufacturer inspection certificate



Small flat anvil



Large flat anvil



V-type anvil



PR100 printer (optional)

### SPECIFICATION

Load force	10kgf (98N)
Total load force	60kgf (588N), 100kgf (980N), 150kgf (1471N)
Stage elevation	manual
Loading control	manual
Resolution	0.1HR
Max. test height	170mm
Max. throat	160mm
Dimension	487×265×726mm
Weight	73kg

### INCLUDED ACCESSORIES

Main unit	1pc
Ø1.5875mm ball carbide indenter	1pc
Diamond indenter	1pc
Flat anvil	2pcs
V-type anvil	1pc
Rockwell test block	3pcs
Dustproof cover	1pc

### OPTIONAL ACCESSORIES

Wireless printer	PR100
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## HR150C

## DIGITAL ROCKWELL HARDNESS TESTER



- ◆ Motorized loading control
- ◆ The hardness scale can be converted to HV and HB
- ◆ With USB interface, for transferring data
- ◆ With manufacturer inspection certificate



VIDEO



Small flat anvil



Large flat anvil



V-type anvil



PR100 printer (optional)

HARDNESS

### SPECIFICATION

Load force	10kgf (98N)
Total load force	60kgf (588N), 100kgf (980N), 150kgf (1471N)
Stage elevation	manual
Loading control	auto
Loading time	1-99s
Resolution	0.1HR
Max. test height	170mm
Max. throat	160mm
Dimension	487×265×726mm
Weight	73kg

### INCLUDED ACCESSORIES

Main unit	1pc
Ø1.5875mm ball carbide indenter	1pc
Diamond indenter	1pc
Flat anvil	2pcs
V-type anvil	1pc
Rockwell test block	3pcs
Dustproof cover	1pc

### OPTIONAL ACCESSORIES

Wireless printer	PR100
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- ◆ Motorized loading control
- ◆ Economic type
- ◆ With manufacturer inspection certificate



Small flat anvil



Large flat anvil



V-type anvil



### SPECIFICATION

Load force	10kgf (98N)
Total load force	60kgf (588N), 100kgf (980N), 150kgf (1471N)
Stage elevation	manual
Loading control	auto
Loading time	1-99s
Resolution	0.5HR
Max. test height	200mm
Max. throat	130mm
Dimension	470×230×680mm
Weight	75kg

### INCLUDED ACCESSORIES

Main unit	1pc
Ø1.5875mm ball carbide indenter	1pc
Diamond indenter	1pc
Flat anvil	2pcs
V-type anvil	1pc
Rockwell test block	5pcs

**HR150CNC**

**AUTOMATIC ROCKWELL/SUPERFICIAL ROCKWELL HARDNESS TESTER**



- ◆ The stage is fixed, and indenter moves up and down
- ◆ Motorized loading control
- ◆ High-precision closed loop force loading system
- ◆ The hardness scale can be converted to HV and HB
- ◆ With touch screen, easy to operate
- ◆ With wireless printer
- ◆ With manufacturer inspection certificate



**SPECIFICATION**

Type	Rockwell	Superficial Rockwell
Load force	10kgf (98N)	3kgf (29.4N)
Total load force	60kgf (588N), 100kgf (980N), 150kgf (1471N)	15kgf (147.1N), 30kgf (294.2N), 45kgf (441.3N)
Hardness scale	HRA, HRB, HRC, HRD, HRF, HRG	HR15N, HR30N, HR45N, HR15T, HR30T, HR45T,
Indenter elevation	auto	
Loading control	auto	
Loading time	1-60s	
Resolution	0.1HR	
Max. test height	280mm	
Max. throat	170mm	
Dimension	400×855×620mm	
Weight	80kg	

**INCLUDED ACCESSORIES**

Main unit	1pc
Ø1.5875mm ball carbide indenter	1pc
Diamond indenter	1pc
Small flat anvil	1pc
V-type anvil	1pc
HRA test block	1pc
HRB test block	1pc

HRC test block	3pcs
HR15N test block	1pc
HR30N test block	2pcs
HR45N test block	1pc
Ø1.5875mm ball	5pcs
Wireless printer	1pc



- ◆ Motorized loading control
- ◆ High-precision closed loop force loading system
- ◆ The hardness scale can be converted to HV and HB
- ◆ With touch screen, easy to operate
- ◆ With printer
- ◆ With manufacturer inspection certificate



### SPECIFICATION

Type	Rockwell	Superficial Rockwell
Load force	10kgf (98N)	3kgf (29.4N)
Total load force	60kgf (588N), 100kgf (980N), 150kgf (1471N)	15kgf (147.1N), 30kgf (294.2N), 45kgf (441.3N)
Hardness scale	HRA, HRB, HRC, HRD, HRF, HRG	HR15N, HR30N, HR45N, HR15T, HR30T, HR45T,
Stage elevation	manual	
Loading control	auto	
Loading time	1-60s	
Resolution	0.1HR	
Max. test height	200mm	
Max. throat	160mm	
Dimension	510×290×730mm	
Weight	95kg	

### INCLUDED ACCESSORIES

Main unit	1pc
Ø1.5875mm ball carbide indenter	1pc
Diamond indenter	1pc
Small flat anvil	1pc
Large flat anvil	1pc
V-type anvil	1pc

HRA test block	1pc
HRB test block	1pc
HRC test block	3pcs
HR15N test block	1pc
HR30N test block	2pcs
HR45N test block	1pc

## HB3000

## DIGITAL BRINELL HARDNESS TESTER



VIDEO



Certificate

- ◆ Electronic close-loop load control system
- ◆ Can converted to HV, HK, HRA, HRB, HRC, HRD, HRE, HRF, HRG, HRK, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T, HS
- ◆ Touch screen
- ◆ With manufacturer inspection certificate



Small flat anvil



Large flat anvil



V-type anvil



### SPECIFICATION

Measuring range	8-650HBW
Loading force	62.5, 100, 125, 187.5, 250, 500, 750, 1000, 1500, 3000kgf
Measuring result	read from LCD
Stage elevation	manual
Load control	automatic
Load dwell time	5-60 seconds
Max. test height	225mm
Max. throat	135mm
Dimension	545×235×79mm
Weight	130kg

### INCLUDED ACCESSORIES

Main unit	1pc
20X measuring microscope	1pc
Ø10mm carbide ball indenter	1pc
Ø5mm carbide ball indenter	1pc
Ø2.5mm carbide ball indenter	1pc
Small flat anvil	1pc

Large flat anvil	1pc
V-type anvil	1pc
Hardness test block 150-250HBW10/3000	1pc
Hardness test block 150-250HBW5/700	1pc
Anti-dust cover	1pc



- ◆ For measuring the hardness of the thin, small workpiece or coating
- ◆ Automatic turret
- ◆ The hardness scale can be changed to Rockwell and Brinell scales
- ◆ Touch screen
- ◆ With manufacturer inspection certificate



Measuring system (optional)



### SPECIFICATION

Measuring range	8-2900HV
Test load	0.01, 0.025, 0.05, 0.1, 0.2, 0.3, 0.5, 1kgf
Unit	HV0.01, HV0.025, HV0.05, HV0.1, HV0.2, HV0.3, HV0.5, HV1
Stage elevation	manual
Loading control	automatic (loading/dwell/unloading)
Loading time	1~99s
Objective	10X (observation), 40X (measurement)
Eyepiece	10X
Total magnification	100X (observation), 400X (measurement)
Max. test height	100mm
Max. throat	130mm
X-Y stage	size: 100×100mm
	travel range: 25×25mm
	graduation: 0.01mm
Dimension	540×260×650mm
Weight	50kg

### INCLUDED ACCESSORIES

Main unit	1pc
10X eyepiece	1pc
X-Y stage	1pc
Test block	1pc
Touch screen pen	1pc
Level	1pc
Dustproof cover	1pc
Slice holder	1pc
Cylinder holder	1pc
Vice	1pc

### OPTIONAL ACCESSORIES

Measuring system	HVS-MS
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## HVS1000S

## MICRO-VICKERS HARDNESS TESTER



- ◆ Basic type
- ◆ For measuring the hardness of the thin, small workpiece or coating
- ◆ Automatic turret
- ◆ The hardness scale can be changed to Rockwell and Brinell scales
- ◆ With manufacturer inspection certificate



Measuring system (optional)

HARDNESS

### SPECIFICATION

Measuring range	8-2900HV
Test load	0.01, 0.025, 0.05, 0.1, 0.2, 0.3, 0.5, 1kgf
Unit	HV0.01, HV0.025, HV0.05, HV0.1, HV0.2, HV0.3, HV0.5, HV1
Stage elevation	manual
Loading control	automatic (loading/dwell/unloading)
Loading time	1~60s
Objective	10X (observation), 40X (measurement)
Eyepiece	10X
Total magnification	100X (observation), 400X (measurement)
Max. test height	100mm
Max. throat	110mm
X-Y stage	size: 100×100mm
	travel range: 25×25mm
	graduation: 0.01mm
Dimension	530×290×490mm
Weight	40kg

### INCLUDED ACCESSORIES

Main unit	1pc
10X eyepiece	1pc
X-Y stage	1pc
Test block	1pc
Level	1pc
Dustproof cover	1pc
Slice holder	1pc
Cylinder holder	1pc
Vice	1pc

### OPTIONAL ACCESSORIES

Measuring system	HVS-MS
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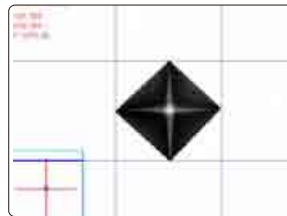
- ◆ Automatic turret
- ◆ Touch screen
- ◆ The hardness scale can be changed to Rockwell and Brinell scales
- ◆ With manufacturer inspection certificate



HVS50M



X-Y Stage(Optional)



Measuring System(Optional)

### SPECIFICATION

Code	HVS10M	HVS50M
Test load	0.3, 0.5, 1, 3, 5, 10kgf	1, 5, 10, 20, 30, 50kgf
Stage elevation	manual	
Loading control	automatic (loading/dwell/unloading)	
Loading time	1-99s (adjustable)	
Objective	10X(observation), 20X( measurement)	
Eyepiece	10X	
Total magnification	100X(observation), 200X( measurement)	
Max. test height	160mm	
Max. throat	135mm	
X-Y stage(optional)	size: 100×100mm	
	travel range: 25×25mm	
	graduation: 0.01mm	
Dimension	530×280×630mm	
Weight	35kg	

### INCLUDED ACCESSORIES

Main unit	1pc
10X,20X Objective	1pc.each
Indenter	1pc
Test block	2pcs
V- avail	1pc
Flat avail	2pcs
Level	1pc
Dustproof cover	1pc

### OPTIONAL ACCESSORIES

Measuring system	HVS-MS
X-Y stage	HVS-STAGE



- ◆ Mainly used for various metal parts and parts after thermal treatment Vickers hardness measurement. It is also suitable for the determination of effective hardening depth, coating and heat affected parts of welding parts.
- ◆ It can also be used to observe the metallographic structure of various metal parts and collect, display and print the image
- ◆ Automatic turret
- ◆ The hardness scale can be changed to Rockwell and Brinell scales
- ◆ With manufacturer inspection certificate



HVS1000MCNC

## SPECIFICATION

Code	HVS1000MS	HVS1000MCNC
Measuring range	8-2900HV	
Test load	0.01, 0.025, 0.05, 0.1, 0.2, 0.3, 0.5, 1kgf	
Unit	HV0.01, HV0.025, HV0.05, HV0.1, HV0.2, HV0.3, HV0.5, HV1	
Stage elevation	Manual	Automatic
Focus	Manual	Automatic
Repeatability	±1.0%	
Loading control	automatic (loading/dwell/unloading)	
Loading time	1~99s	
Objective	10X (observation), 40X (measurement)	
Eyepiece	10X	
Total magnification	10X (observation), 40X (measurement)	
Camera pixel	5M	
Max. test height	160mm	
Max. throat	160mm	
X-Y stage	size: 150×150mm	
	travel range: 50×50mm	
	movement graduation: 0.001mm	
	movement speed: 1-10mm/s, adjustable	
	movement position repeatability: 1-3um	
	control: the software system can control the X-Y stage movement automatically by programming, click any point to set the random moving position	
Dimension	540×260×650mm	
Weight	50kg	

## INCLUDED ACCESSORIES

Main unit	1pc
10X eyepiece	1pc
Camera	1pc
C-mount	1pc
Computer (with software)	1pc
USB dongle	1pc
Level	1pc
Test block	2pcs
X-Y stage	1pc
Controller	1pc
Vice	1pc
Slice holder	1pc
Cylinder holder	1pc
Touch screen pen	1pc
Dustproof cover	1pc





- ◆ For Rockwell, Brinell and Vickers testing
- ◆ Rockwell testing value gets from screen, and the Brinell and Vickers hardness gets from table in the operation manual
- ◆ With manufacturer inspection certificate



Small flat anvil



Large flat anvil



V-type anvil

**SPECIFICATION**

<b>Load force for Rockwell</b>	Preload force:98N, Total force: 588 , 980 ,1471 N
<b>Rockwell resolution</b>	0.1HR
<b>Load force for Brinell</b>	306, 613, 1839N
<b>Load force for Vickers</b>	294N
<b>Stage elevation</b>	manual
<b>Loading control</b>	motorized
<b>Max. test height</b>	175mm(Rockwell),100mm(Brinell), 115mm(Vickers)
<b>Max. throat</b>	165mm
<b>Dimension</b>	520×240×700mm
<b>Weight</b>	105kg

**INCLUDED ACCESSORIES**

<b>Main unit</b>	1pc
<b>Ø1.5875mm ball carbide indenter</b>	1pc
<b>Diamond indenter for Rockwell</b>	1pc
<b>Ø5mm ball indenter for Brinell</b>	1pc
<b>Ø2.5mm ball indenter for Brinell</b>	1pc
<b>Indenter for Vickers</b>	1pc
<b>Small flat anvil for Rockwell</b>	1pc

<b>Large flat anvil for Rockwell</b>	1pc
<b>V-type anvil</b>	1pc
<b>HRC hardness test block</b>	2pcs
<b>HRB hardness test block</b>	1pc
<b>Brinell hardness test block</b>	1pc
<b>Vickers hardness test block</b>	1pc
<b>Dustproof cover</b>	1pc

## HL100

## PORTABLE HARDNESS TESTER



- ◆ Large LCD display with backlight
- ◆ Based on HL scale, converted to other hardness scales (HV, HB, HRC, HRB, HS) and tensile strength MPa
- ◆ With wireless printer
- ◆ Can set impact direction
- ◆ With average value calculation function
- ◆ Automatic power off
- ◆ Conforms to the standard ASTM A956-02
- ◆ With manufacturer inspection certificate



Wireless printer (included)



Support ring (12pcs/set, **optional**)

HARDNESS

### SPECIFICATION

Resolution	1HLD, 1HV, 1HB, 0.1HRC, 0.1HRB, 1HS, 1MPa
Accuracy	±6HLD/0.6HRC(HLD=800)
Min. workpiece weight	5kg (directly)
	2kg (on solid support)
	0.1kg (coupled on large plate)
Min. workpiece thickness	5mm
Min. workpiece diameter	22mm
Max. workpiece surface roughness	1.6μm(Ra)
Power	3 x AAA batteries
Dimension	150 × 80 × 24mm

### INCLUDED ACCESSORIES

Main unit	1pc
Wireless printer	1pc
Test block	1pc
Small support ring	1pc
Brush	1pc
Charger for printer	1pc

### OPTIONAL ACCESSORIES

Support ring (12pcs/set)	HL-SP
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- ◆ Touch screen, with backlight
- ◆ Based on HL scale, converted to other hardness scales (HV, HB, HRC, HRB, HS) and tensile strength Mpa
- ◆ With wireless printer
- ◆ Can set impact direction
- ◆ Memory : 500
- ◆ Low and high limits with judgement
- ◆ Automatic power off
- ◆ Conforms to the standard ASTM A956-02
- ◆ With manufacturer inspection certificate



Wireless printer (included)



Support ring (12pcs/set, optional)



DC(optional) C(optional) D(included) D+15(optional) DL(optional) G(optional)

### SPECIFICATION

Resolution	1HLD, 1HV, 1HB, 0.1HRC, 0.1HRB, 1HS, 1MPa
Accuracy	±6HLD/0.6HRC(HLD=800)
Min. workpiece weight	5kg (directly)
	2kg (on solid support)
	0.1kg (coupled on large plate)
Min. workpiece thickness	5mm
Min. workpiece diameter	22mm
Max. workpiece surface roughness	1.6µm(Ra)
Power	Rechargeable battery
Dimension	135×83×24mm

### INCLUDED ACCESSORIES

Main unit	1pc
Wireless printer	1pc
Test block	1pc
Small support ring and brush	1pc.each
USB cable and software	1pc
Charger	2pcs

### OPTIONAL ACCESSORIES

Impact device DC	HL200-DC
Impact device C	HL200-C
Impact device D+15	HL200-D15
Impact device DL	HL200-DL
Impact device G	HL200-G
Support ring (12pcs/set)	HL-SP



### HL350

### PORTABLE HARDNESS TESTER



- ◆ Economic type
- ◆ Based on HL scale, converted to other hardness scales (HV, HB, HRC, HRB, HS) and tensile strength MPa
- ◆ Impact direction can be set
- ◆ With average value calculation function
- ◆ Conforms to the standard ASTM A956-02



Supporting ring (12pcs/set, optional)

#### SPECIFICATION

<b>Resolution</b>	1HLD, 1HV, 1HB, 0.1HRC, 0.1HRB, 1HS, 1MPa
<b>Accuracy</b>	±8HLD/0.8HRC(HLD=800)
<b>Min. workpiece weight</b>	5kg (directly)
	2kg (on solid support)
	0.1kg (coupled on large plate)
<b>Min. workpiece thickness</b>	5mm
<b>Min. workpiece diameter</b>	22mm
<b>Max. workpiece surface roughness</b>	1.6µm(Ra)
<b>Power</b>	3xAAA batteries
<b>Dimension</b>	121×68×30mm

#### INCLUDED ACCESSORIES

<b>Main unit</b>	1pc
<b>Test block</b>	1pc
<b>Small support ring</b>	1pc
<b>Brush</b>	1pc
<b>Batteries</b>	3pcs

#### OPTIONAL ACCESSORIES

<b>Support ring (12pcs/set)</b>	<b>HL-SP</b>
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### HL400

### PORTABLE HARDNESS TESTER



- ◆ Based on HL scale, converted to other hardness scales (HV, HB, HRC, HRB, HS) and tensile strength MPa
- ◆ Impact direction can be set
- ◆ With average value calculation function
- ◆ Automatic power off
- ◆ Conforms to the standard ASTM A956-02
- ◆ With manufacturer inspection certificate



#### SPECIFICATION

<b>Resolution</b>	1HLD, 1HV, 1HB, 0.1HRC, 0.1HRB, 1HS, 1MPa
<b>Accuracy</b>	±6HLD/0.6HRC(HLD=800)
<b>Min. workpiece weight</b>	5kg (directly)
	2kg (on solid support)
	0.1kg (coupled on large plate)
<b>Min. workpiece thickness</b>	5mm
<b>Min. workpiece diameter</b>	22mm
<b>Max. workpiece surface roughness</b>	1.6µm(Ra)
<b>Power</b>	3xAAA batteries
<b>Dimension</b>	150×80×24mm

#### INCLUDED ACCESSORIES

<b>Main unit</b>	1pc
<b>Test block</b>	1pc
<b>Small support ring</b>	1pc
<b>Brush</b>	1pc
<b>USB cable</b>	1pc
<b>Batteries</b>	3pcs

## HL450/HL450W

## PORTABLE HARDNESS TESTER



- ◆ Pocket size, easy to carry
- ◆ Based on HL scale, converted to other hardness scales (HV, HB, HRC, HRB, HS) and tensile strength MPa
- ◆ Impact direction can be set
- ◆ With average value calculation function
- ◆ Conforms to the standard ASTM A956-02
- ◆ With manufacturer inspection certificate



Supporting ring (12pcs/set, optional)



HL450

### SPECIFICATION

Code	HL450	HL450W
Printer	with	without
Resolution	1HLD, 1HV, 1HB, 0.1HRC, 0.1HRB, 1HS, 1MPa	
Accuracy	±6HLD/0.6HRC(HLD=800)	
Min. workpiece weight	5kg (directly)	
	2kg (on solid support)	
	0.1kg (coupled on large plate)	
Min. workpiece thickness	5mm	
Min. workpiece diameter	30mm	
Max. workpiece surface roughness	1.6μm(Ra)	
Output	USB and wireless	
Power supply	rechargeable battery	
Dimension	147×35×22mm	
Weight	65g	

### INCLUDED ACCESSORIES

Main unit	1pc	Brush	1pc
Test block	1pc	Charger	1pc
Small supporting ring	1pc		

### OPTIONAL ACCESSORIES

Supporting ring (12pcs/set)	HL-SP
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## GY-2

## FRUIT HARDNESS TESTER

- ◆ Used to measure the hardness of some fruit like apples, pears
- ◆ Hardness can judge ripeness of the fruit



### SPECIFICATION

Range	0.5-4kg/cm <sup>2</sup> (0.5-4×10 <sup>5</sup> pa)
Graduation	0.02kg/cm <sup>2</sup> (0.02×10 <sup>5</sup> pa)
Accuracy	±2%
Probe diameter	Ø3.5mm
Probe depth	10mm
Dimension	151x55x30mm
Weight	220g

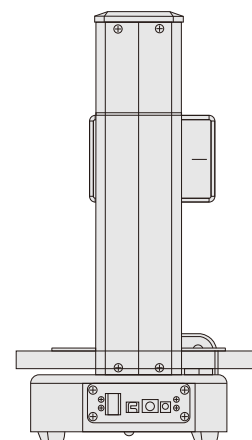
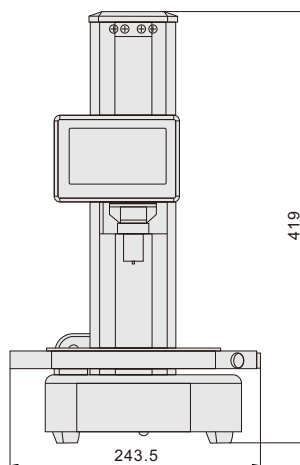
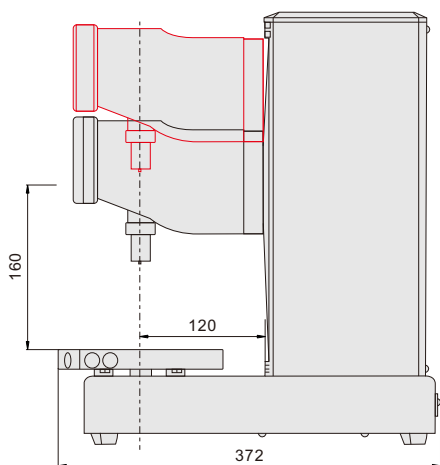
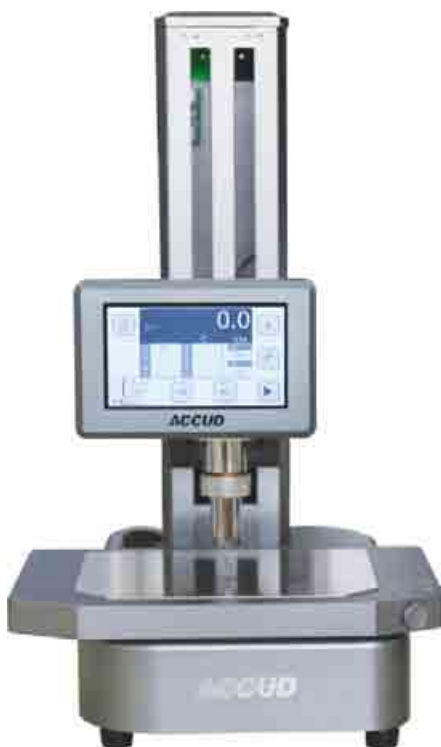
### INCLUDED ACCESSORIES

Main unit	1pc
Probe	1pc





- ◆ Put the workpiece under the indenter, and press one button, the measuring results will be shown soon
- ◆ Can measure plastic, rubber, sponge with different hardness
- ◆ Include three indenters (type A, D, OO)
- ◆ Touch screen
- ◆ With data output
- ◆ With manufacturer inspection certificate



unit: mm

### SPECIFICATION

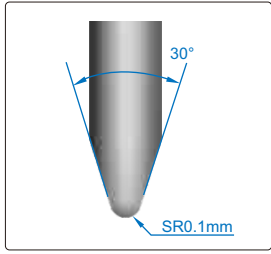
Probe moving range	160mm
Stage moving range(X)	80mm
Loading control	Stepping motor
Loading force	Spring force
Max. workpiece height	120mm
Accuracy	±1
Resolution	0.1
Output	USB
Power supply	DC24V/5A

### INCLUDED ACCESSORIES

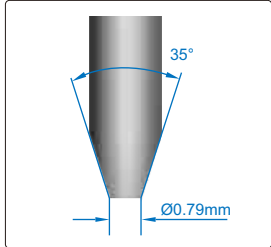
Main unit	1pc
AD/DC adapter	1pc
Software and USB cable	1pc.each
A/D/OO indenter	1pc.each
Calibration block	2pcs



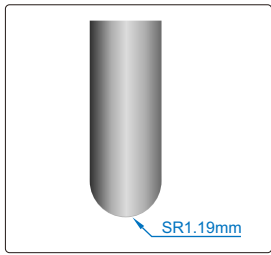
- ◆ Conforms to ISO868, ISO7619,ASTMD 2240
- ◆ Testing time is adjustable
- ◆ With average calculation function
- ◆ With manufacturer inspection certificate



HS5D indenter



HS1A indenter



HSOO indenter



HS1A



Standard block (included)



PR100 printer (optional)



Standard (optional)



**SPECIFICATION**

Code	HS1A	HS5D	HSOO
Scale	HA(Shore A)	HD(Shore D)	HOO(Shore OO)
For material	soft plastic, rubber, leather, etc.	hard plastic, hard rubber, etc.	soft sponge, soft rubber, etc.
Measuring range	20~90HA	20~90HD	20~90HOO
Resolution	0.1HA	0.1HD	0.1HOO
Accuracy	±1HA	±1HD	±1HOO
Indenter protrusion	2.5mm		
Power	rechargeable battery		
Weight	180g		

**INCLUDED ACCESSORIES**

Main unit	1pc
Standard block	1pc
Charger	1pc
Software	1pc

**OPTIONAL ACCESSORIES**

Printer	PR100
Stand for HS1A	HS-1A-STD
Stand for HS5D	HS-5D-STD
Stand for HSOO	HS-OO-STD

- ◆ Conforms to ISO868, ISO7619, ASTM D 2240
- ◆ With peak value indicator



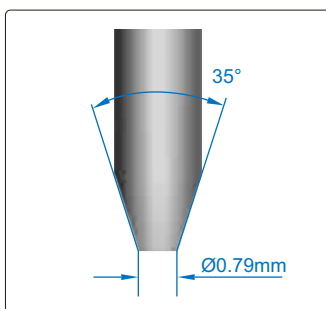
HARDNESS



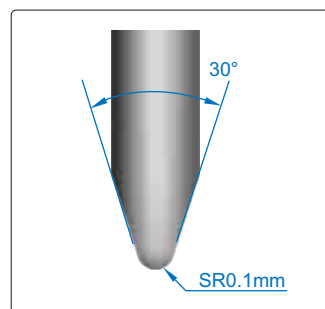
HSM-1A-ST stand (optional)



HSM1A



HSM1A indenter



HSM5D indenter

SPECIFICATION

Code	HSM1A	HSM5D
Scale	HA(Shore A)	HD(Shore D)
For material	soft plastic, rubber, leather, etc.	hard plastic, hard rubber, etc.
Measuring range	20~90HA	20~90HD
Graduation	1HA	1HD
Accuracy	±1HA	±1HD
Indenter protrusion	2.5mm	
Weight	500g	

OPTIONAL ACCESSORIES

Stand for HSM1A	HSM-1A-ST
Stand for HSM5D	HSM-5D-ST





**SERIES HS**

**TEST STAND FOR DIGITAL SHORE HARDNESS TESTER**

- ◆ For digital shore hardness tester
- ◆ Perform repeatable hardness measurement due to fewer possibilities of human error or measurement variations
- ◆ Special structure for stable loading



HS-1A-STD

**SPECIFICATION**

Code	HS-1A-STD	HS-5D-STD	HS-00-STD
For hardness tester	HS1A	HS5D	HS00
Test force (weight block)	1kg	5kg	0kg
Stage diameter	Ø115mm		
Max. workpiece height	45mm		
Max. testing width	63mm (from test point to the column)		
Dimension	Ø195x370mm		
Weight	5.6kg	11kg	4.5kg

**SERIES HSM**

**TEST STAND FOR SHORE HARDNESS TESTER**

- ◆ For shore hardness tester
- ◆ Perform repeatable hardness measurement due to fewer possibilities of human error or measurement variations



HSM-1A-ST

**SPECIFICATION**

Code	HSM-1A-ST	HSM-5D-ST
For hardness tester	HSM1A	HSM5D
Test force (weight block)	1kg	5kg
Stage diameter	Ø100mm	
Max. workpiece height	75mm	
Max. testing width	65mm (from test point to the column)	
Weight	2kg	7kg

## UHT200

## ULTRASONIC HARDNESS TESTER



- ◆ Mainly used for small or thin-walled products as well as parts of complex shape or with areas that need to be tested in hard-to-reach places
- ◆ With a shockproof silicone case that prevents the device from malfunctioning
- ◆ Hardness scales: HV, HB, HRC and tensile strength Mpa
- ◆ Memory : 256
- ◆ Automatic power off
- ◆ With special software for data processing
- ◆ With manufacturer inspection certificate



Measure gear teeth



Measure small part



### SPECIFICATION

Measuring range	HRC	20-70
	HB	90-650
	HV	230-940
	Mpa	370-1740
Accuracy	HRC	±1.5
	HB	±3%
	HV	±3%
Min. workpiece thickness		1mm
Min. workpiece diameter		5mm
Max. workpiece surface roughness		Ra:2.5µm
Min. thickness of surface hardening layer		0.1mm
Min. test area		Ø1mm
Power supply		Rechargeable battery
Dimension		122×65×24mm

### INCLUDED ACCESSORIES

Main unit	1pc
Probe (50N)	1pc
Rechargeable battery	2pcs
USB cable and software	1pc.each
Charger	1pc

## HB937-1

## BARCOL HARDNESS TESTER



- ◆ To measure the hardness of thick workpieces made of pure aluminum, aluminum alloy, fiber reinforced plastic, hard plastic, etc.
- ◆ Comforms to ASTM B648-2000
- ◆ With manufacturer inspection certificate



### SPECIFICATION

Hardness range	0 ~ 100HBa (25 ~ 150HBW)
Graduation	1HBa
Accuracy	±2HBa (42 ~ 52HBa) ±1HBa (84 ~ 88HBa)
Min. workpiece thickness	0.8mm
Dimension	142×65×90mm
Weight	500g

### INCLUDED ACCESSORIES

Main unit	1pc
Spare indenter	2pcs
Hardness test block	2pcs
Wrench	1pc

## SERIES DHB937

## DIGITAL BARCOL HARDNESS TESTER



- ◆ To measure the hardness of thick workpieces made of pure aluminum, aluminum alloy, fiber reinforced plastic, hard plastic, etc.
- ◆ Comforms to ASTM B648-2000
- ◆ The scale of DHB937-2 can be converted to HW, HV, HBW and HRE



DHB937-1

### SPECIFICATION

Code	DHB937-1	DHB937-2
Scale conversion	No	Yes
Hardness range	0 ~ 100HBa (25 ~ 150HBW)	
Graduation	0.1HBa	
Accuracy	±2HBa (42 ~ 48HBa) ±1HBa (84 ~ 88HBa)	
Min. workpiece thickness	0.8mm	
Power supply	3×AAA batteries	
Dimension	180×70×90mm	
Weight	800g	

### INCLUDED ACCESSORIES

Main unit	1pc
Spare indenter	2pcs
Calibration block	1pc
Battery	3pcs
Hardness test block	2pcs
Wrench	1pc

**SERIES HW**

**WEBSTER HARDNESS TESTER**

- ◆ To measure the hardness of soft metal such as aluminum alloy, copper, brass, soft steel
- ◆ Conforms to the standard ASTM B647



HW-L20

**SPECIFICATION**

Code	HW-L20	HW-L20A	HW-L20B	HW-B75	HW-C75	HW-B92
Application	aluminum alloy			hard aluminum alloy and brass	soft brass and copper	soft steel and cold-rolled steel
Measuring hardness range	58-131HV			63-105HRF	18-100HRE	50-92HRB
Thickness range to be measured of flat workpiece	0.4 ~ 6mm	0.4 ~ 13mm	0.4 ~ 8mm	0.4 ~ 6mm	0.4 ~ 6mm	0.4 ~ 6mm
Min. Internal diameter of tube workpiece	Ø10mm	Ø10mm	Ø6mm	Ø10mm	Ø10mm	Ø10mm
Hardness range	0 ~ 20HW					
Min. reading	1HW					
Accuracy	±0.5HW (at 5 ~ 17HW)					
Dimension	205×30×85mm					
Weight	500g					

**INCLUDED ACCESSORIES**

Main unit	1pc	Hardness test block	1pc
Spare indenter	1pc	Wrench	1pc

**STE70**

**DIGITAL REBOUND TESTER**



- ◆ Measure the strength of general building components, bridges and various concrete components (slabs, beams, columns, bridges and so on.)
- ◆ Built in national unified curve (JGJ/T23-2011)
- ◆ Small size, modular design, easy to use
- ◆ Built in large capacity memory, can store 999 standard components, and a single component can set up 99 measuring areas and 159840 measuring point data



**SPECIFICATION**

Measuring range	10-60Mpa
Impact energy	2.207J
Accuracy	±1
Sifness of spring	785±30N.m
Working length of spring	61.5±0.3mm
Tensile length of spring	75±0.3mm
Rated value of steel anvil	80±2
Operating temperature	-4°C-40°C
Display	2.08 inch OLED display
Power supply	rechargeable battery
Weight	1.1kg

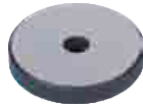
**INCLUDED ACCESSORIES**

Main unit	1pc
Sander	1pc
Spare spring	1set
Screwdriver	3pcs
Software and cable	1set
AD/DC adapter	1pc



**SERIES BLK**

**STANDARD HARDNESS BLOCK**



Rockwell/Vickers/Brinell



Shore A



Leeb

**SPECIFICATION**

Code	Type	Hardness
BLK-HRC1	Rockwell C	60-70HRC
BLK-HRC2		20-30HRC
BLK-HRC3		30-35HRC
BLK-HRC4		40-50HRC
BLK-HRC5		50-55HRC
BLK-HRB1	Rockwell B	85-95HRB
BLK-HRB2		60-70HRB
BLK-HV1	Vickers	700-800HV5
BLK-HV2		700-800HV10
BLK-HV3		400-600HV5
BLK-HV4		400-600HV10
BLK-HB1	Brinell	150-250HBW 10/3000
BLK-HB2		150-250HBW 5/750
BLK-HLD	Leeb	750-830HLD
BLK-HSA	Shore A	7pcs/set: 30-39HA, 40-49HA, 50-59HA, 60-69HA, 70-79HA, 80-89HA, 90-99HA

**RC30**

**SURFACE ROUGHNESS SPECIMEN**

- ◆ For checking, identifying and specifying the roughness by symbol
- ◆ Accuracy: -17% ~ +12%



Machining method	Quantity	Roughness (Ra)
Flat lapping	2	0.1, 0.05µm
External grinding	4	0.2, 0.4, 0.8, 1.6µm
Plain grinding	6	0.05, 0.1, 0.2, 0.4, 0.8, 1.6µm
Horizontal milling	6	0.4, 0.8, 1.6, 3.2, 6.3, 12.5µm
Vertical milling	6	0.4, 0.8, 1.6, 3.2, 6.3, 12.5µm
Turning	6	0.4, 0.8, 1.6, 3.2, 6.3, 12.5µm

**SERIES RP100XS**

**PROFILE AND ROUGHNESS MEASURING MACHINE**



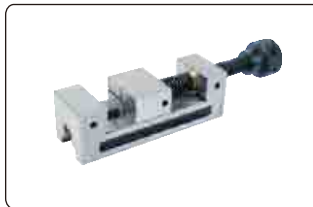
- ◆ Measure the surface profile and roughness with same probe at same time(for **RP100RS**)
- ◆ With high precision and good linearity digital probe(for **RP100RS and RP100TS**)
- ◆ Easy to install and replace without calibration
- ◆ Stylus can contact, lift and return automatically
- ◆ CAD file can be exported and imported(for **RP100RS and RP100JS**)
- ◆ With manufacturer inspection certificate



**RP100RS**



stage



vice



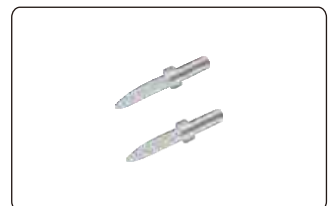
profile calibration block  
(for **RP100RS and RP100JS**)



roughness calibration block  
(for **RP100RS and RP100TS**)



Φ3\*20mm point stylus



Φ3\*21mm knife stylus

**SPECIFICATION**

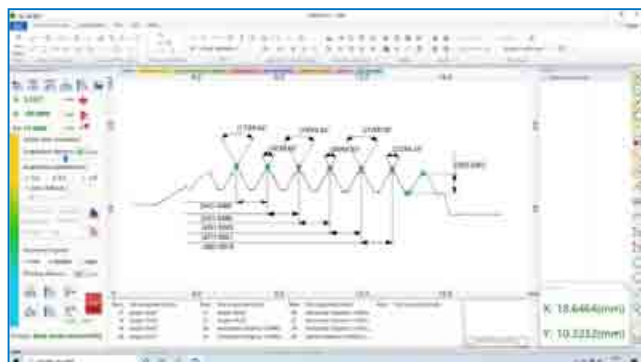
Code		RP100RS	RP100TS	RP100JS
Measuring object		profile and roughness	roughness	profile
Roughness parameter		Ra, Rq, Rz(Ry), R3z, Rz(DIN), Rz(JIS), Rz(ISO), Rp, Rv, Rt, Rsk, Rsm, Rc, Rpm, Rku, Rdq, Roc, Mr1, Mr2, Rpk, Rvk, Rk, Rdc, A1, A2, R, Rx, AR, Rcp, Rmax		\
Wave parameter		wt, wa, wp, wv, wq, wc, wku, wsk, w, wx, wz, wsm, wdc, wte, wmr, Aw, c(wmr), wmr(c), wdq		\
Profile parameter		Pt, Pa, Pp, Pv, Pq, Pc, Pku, Psk, Pdq/p△q, Psm, Pdc, Pmr(c), Pz, pmr, C(pmr)		\
Profile	X axis range	100mm	\	100mm
	X axis straightness	0.8μm/100mm	\	0.8μm/100mm
	Z axis range	650mm	\	650mm
	Z1 axis range (probe)	40mm	\	40mm
	Accuracy	±(1+0.12H)μm, H is measuring height in mm	\	±(1+0.12H)μm, H is measuring height in mm
	Measuring arc accuracy	±(1.5+R/8)μm, R is measuring radius in mm	\	±(1.5+R/8)μm, R is measuring radius in mm
	Measuring angle accuracy	±2'	\	±2'
Roughness	Z1 axis range (probe)	40mm	20mm	\
	Accuracy	±5%		\
	Repeatability	±3%		\
	Resolution	0.0001μm		\
	Number of cut-offs	3-7		\
	Cut off	0.025, 0.08, 0.25, 0.8, 2.5, 8mm		\
Climbing ability		77°(up), 88°(down)		
Measuring speed		0.02mm- 4.0mm/s		
Measuring mode		probe movement		
Movement control		joystick		
Power supply		220V		
Size		985x710x1450mm		

**INCLUDED ACCESSORIES**

Main unit	1pc
Profile calibration block(for RP100RS and RP100JS)	1pc
Roughness calibration block(for RP100RS and RP100TS)	1pc
Stage	1pc
Vise	1pc
Φ3x21mm R0.025mm knife stylus	2pcs

Φ3x20mm R5μm point stylus	1pc
Φ8x150mm measuring rod	1pc
Computer	1pc
Printer	1pc
Anti-dust cover	1pc

**Measuring profile**



**Measuring roughness**



## SR200

## ROUGHNESS TESTER



VIDEO



Certificate



Data output



Charge

- ◆ 13 roughness parameters
- ◆ With probe position indicator
- ◆ Roughness values, profile, and curve can be shown on the display
- ◆ Memory of maximum 100 results
- ◆ With a mini SD card slot, can save the result into SD card
- ◆ Automatic power off
- ◆ With manufacturer inspection certificate



ROUGHNESS

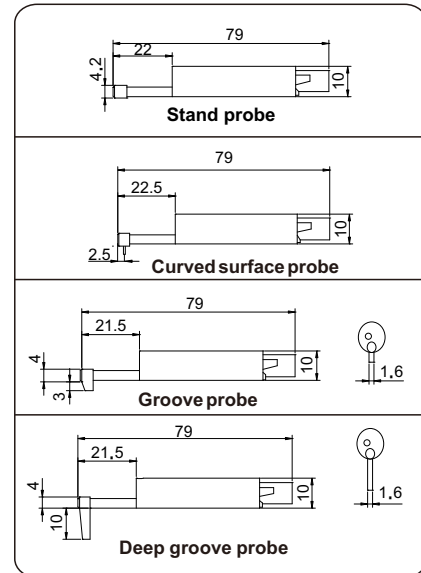


SR200-STD Stand(optional)



Measuring software

unit: mm



### SPECIFICATION

Parameters	Ra, Rz, Ry, Rq, Rp, Rm, Rt, R3z, Rmax, Sk, S, Sm, tp	
Range	160μm(±80μm)	
Accuracy	±10%	
Resolution (Ra)	0.001μm	
Probe	type	inductive
	stylus radius/angle	5μm/90°
	stylus material	diamond
Measuring force	0.4mN	
Measuring unit	μm/μin	
Cut off	0.25/0.8/2.5mm	
Number of cut-offs	1-5	
Traverse speed	0.5mm/s, 1mm/s	
Memory	100 measurement results	
Output	USB	
Power	built-in rechargeable battery	
Dimension(L×W×H)	140×52×48mm	
Weight	440g	

### INCLUDED ACCESSORIES

Main unit	1pc
Standard probe	1pc
Calibration block	1pc
Calibration support	1pc
Adjustable stand	1pc
Probe cover	1pc
USB cable and software	1pc
AC/DC adapter	1pc
Software	1pc

### OPTIONAL ACCESSORIES

Extension rod	SR200-ER
Curved surface probe	SR200-02
Groove probe	SR200-03
Deep groove probe	SR200-04
Test stand	SR200-STD
Printer	SR200-PR

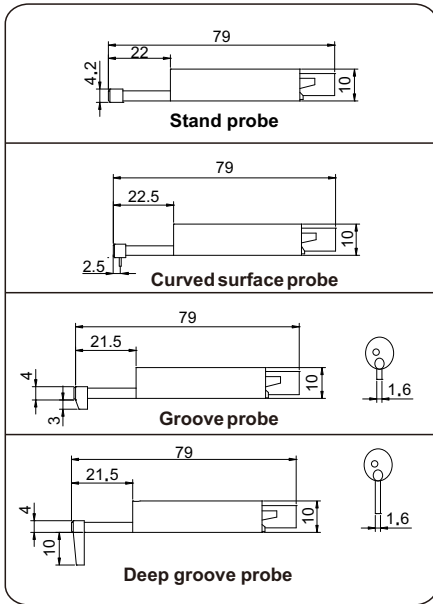




- ◆ Pocket size
- ◆ With a tablet, can set the parameter quickly
- ◆ Connected with tablet via bluetooth
- ◆ Roughness values, profile, and curve can be shown on the display
- ◆ With manufacturer inspection certificate



unit: mm



Measuring software



SR200-STD Stand(optional)

SPECIFICATION

Parameters	Ra, Rz, Ry, Rq, Rp, Rm, Rt R3z, Rmax, Sk, S, Sm, tp	
Range(Ra)	0.025-12.5μm	
Accuracy	±10%	
Resolution (Ra)	0.001μm	
Probe	type	inductive
	stylus radius/angle	5μm/90°
	stylus material	diamond
Measuring force	0.4mN	
Measuring unit	μm/μin	
Cut off	0.25/0.8/2.5mm	
Number of cut-offs	1-5	
Traverse speed	0.5mm/s, 1mm/s	
Output file format	Word, Excel	
Power	built-in rechargeable battery	
Dimension(L×W×H)	130×40×44mm	
Weight	340g	

INCLUDED ACCESSORIES

Main unit	1pc
Standard probe	1pc
Tablet	1pc
Calibration block	1pc
Calibration support	1pc
USB cable	1pc
AC/DC adapter	1pc

OPTIONAL ACCESSORIES

Extension rod	SR200-ER
Curved surface probe	SR200-02
Groove probe	SR200-03
Deep groove probe	SR200-04
Test stand	SR200-STD
Printer	SR200-PR

## SR400

## ROUGHNESS TESTER



- ◆ The probe can be working with the main unit separately
- ◆ 22 roughness parameters
- ◆ With probe position indicator
- ◆ Roughness values, profile, and curve can be shown on the display
- ◆ Memory of maximum 100 results
- ◆ Automatic power off
- ◆ With manufacturer inspection certificate



unit: mm

<b>Stand probe</b>	
<b>Curved surface probe</b>  $\varnothing > 15\text{mm}$ $\varnothing > 10\text{mm}$	
<b>Groove probe</b> (groove height < 10mm)	
<b>Small hole probe</b> (hole dia. > 2mm)	
<b>Extension rod</b>	

Working with height gauge



Work together



SR200-STD Stand (optional)

### SPECIFICATION

<b>Parameters</b>	Ra, Rz, Rq, Rp, Ry, Rv, Rs, R3z, R3y, Rc, Rt, Rmax, Rk, Rku, Rsm, Rpc, Rpk, Rvk, Rsk, Mr1, Mr2, Rz(JIS)	
<b>Range</b>	±160μm	
<b>Accuracy</b>	±10%	
<b>Resolution(Ra)</b>	0.001μm	
<b>Probe</b>	type	inductive
	stylus radius/angle	5μm/90°
	stylus material	diamond
<b>Measuring force</b>	4mN	
<b>Measuring unit</b>	μm/μin	
<b>Cut off</b>	0.25/0.8/2.5mm	
<b>Number of cut-offs</b>	1-5	
<b>Traverse speed</b>	0.5mm/s, 1mm/s	
<b>Memory</b>	100 measurement results	
<b>Output</b>	USB	
<b>Power</b>	built-in rechargeable battery	
<b>Dimension(L×W×H)</b>	158×64×52mm	
<b>Weight</b>	400g	

### INCLUDED ACCESSORIES

<b>Main unit</b>	1pc
<b>Standard probe</b>	1pc
<b>Calibration block</b>	1pc
<b>Calibration support</b>	1pc
<b>Adjustable stand</b>	1pc
<b>Cable(long and short)</b>	2pcs
<b>USB cable and software</b>	1pc
<b>AC/DC adapter</b>	1pc

### OPTIONAL ACCESSORIES

<b>50mm extension rod</b>	SR400-ER
<b>Curved surface probe</b>	SR400-02
<b>Deep groove probe</b>	SR400-03
<b>Small hole probe</b>	SR400-04
<b>Test stand</b>	SR200-STD
<b>Printer</b>	SR400-PR
<b>Connector for height gage</b>	SR400-SP1

# SR110

# ROUGHNESS TESTER



- ◆ Pocket size
- ◆ Automatic power off
- ◆ With manufacturer inspection certificate



### SPECIFICATION

Parameters	Ra, Rz, Rq, Rt	
Range (Ra)	±10μm	
Accuracy	±15%	
Resolution (Ra)	0.001μm	
Probe	type	piezoelectric
	stylus radius/angle	10μm/90°
	stylus material	diamond
Measuring force	0.5N	
Measuring unit	μm/μin	
Cut off	0.25/0.8/2.5mm	
Evaluation length	1.25/4/5mm	
Power	built-in rechargeable battery	
Dimension(L×W×H)	114×82×33mm	
Weight	160g	

### INCLUDED ACCESSORIES

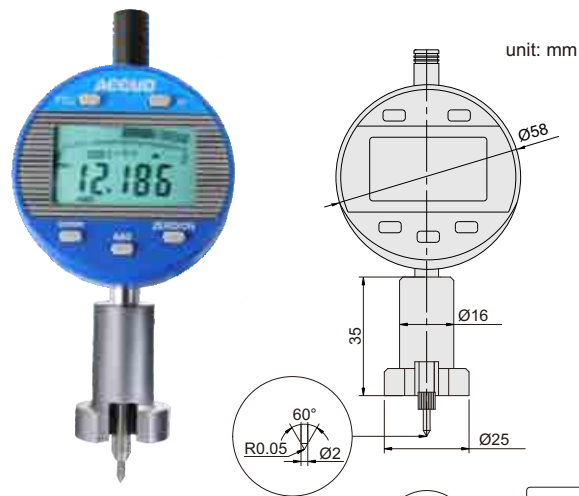
Main unit	1pc
Calibration block	1pc
Calibration support	1pc
USB cable	1pc
AC/DC adapter	1pc

# 489

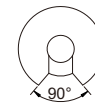
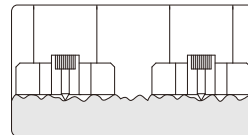
# DIGITAL SURFACE PROFILE GAUGE



- ◆ 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, it is dangerous that the profile peaks will remain non-coating, rust spots maybe occur.
- ◆ Meet ASTM D 4417-B
- ◆ Zero set block is included, set zero before measurement
- ◆ Buttons: tolerance Go and No-Go display, data preset, measuring direction change, max./min./TIR measurement, inch/metric conversion, ABS/INC measurement
- ◆ Automatically power off (time is adjustable)
- ◆ Data output (cable code:200-03 or 200-04)
- ◆ Stainless steel base



measure peak-to-valley height of blast cleaned surface



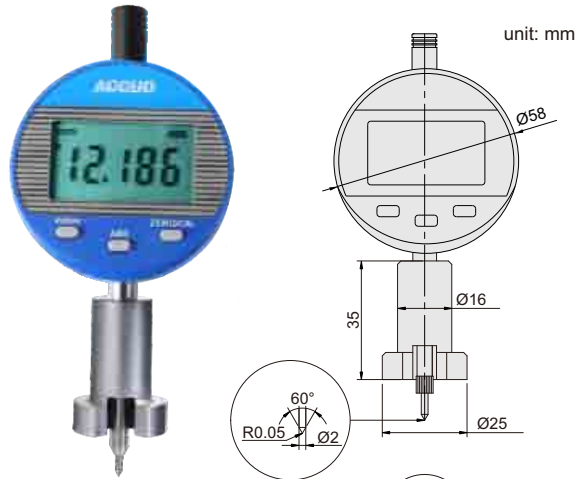
Code	Range	Digital indicator stroke	Digital indicator resolution	Accuracy
489-010-01	0-12.7mm/0-0.5"	12.7mm/0.5"	0.001mm/0.00005"	±0.005mm

489

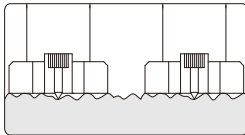
DIGITAL SURFACE PROFILE GAUGE



- ◆ 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, it is dangerous that the profile peaks will remain non-coating, rust spots may occur.
- ◆ Meet ASTM D 4417-B
- ◆ Zero set block is included, set zero before measurement
- ◆ Buttons: on/off, zero, mm/inch, ABS/INC measurement
- ◆ Automatically power off (time is adjustable)
- ◆ Data output (cable code: 200-03 or 200-04)
- ◆ Stainless steel base



measure peak-to-valley height of blast cleaned surface



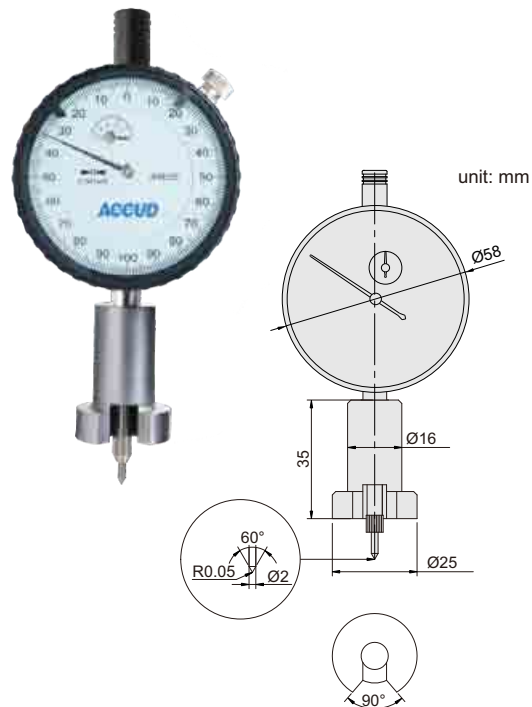
Code	Range	Digital indicator stroke	Digital indicator resolution	Accuracy
489-010-02	0-12.7mm/0-0.5"	12.7mm/0.5"	0.001mm/0.00005"	±0.005mm



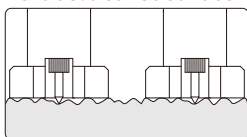
489

SURFACE PROFILE GAUGE

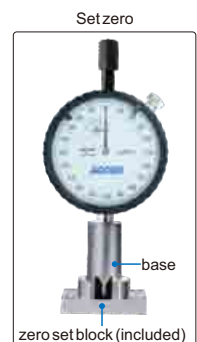
- ◆ Measure peak-to-valley height of blast cleaned surface.  
If the profile is too low, the adhesion of the coating to the surface will be reduced.  
If the profile is too high, it is dangerous that the profile peaks will remain non-coating, rust spots may occur.
- ◆ Meet ASTM D 4417-B
- ◆ Zero set block is included, set zero before measurement
- ◆ Stainless steel base



measure peak-to-valley height of blast cleaned surface



Code	Range	Dial indicator stroke	Dial indicator graduation	Accuracy
489-001-01	0-1mm	1mm	0.001mm	±0.005mm



- ◆ High precision air-floating spindle, never wear, can keep high accuracy for long time
- ◆ High accuracy and good stability
- ◆ Large arc can be measured
- ◆ Automatic identification of contour discontinuities, can eliminate automatically or manually



## SPECIFICATION

Measuring range	Max. dia.	Ø180mm
	Min. inner dia.	Ø5mm
	Max. height	420mm
Spindle accuracy	Radial error	$\pm(0.025+5H/10000)\mu\text{m}$
	Axial error	$\pm(0.02+6X/10000)\mu\text{m}$
Stage	Stage dia.	Ø180mm
	Rotation dia.	Ø300mm
	Max. load weight	25kg
	Adjustment range	adjust the eccentricity: $\pm 2\text{mm}$ ; adjust the level: $\pm 1^\circ$
	Rotation speed	0-12 rpm(adjustable)
Horizontal arm	Horizontal moving distance	150mm
	Probe moving speed	0.5-6mm/s (adjustable)
Sensor	Range	500 $\mu\text{m}$
	Resolution	0.005 $\mu\text{m}$
	Stylus	Ø2mm ruby ball
	Measuring force	1-12g
Air source		0.45-0.80Mpa
Air consumption		0.2m <sup>3</sup> /min
Power supply		110~220V
Dimension		920x530x1600mm

## INCLUDED ACCESSORIES

Main unit	1pc
Stage	1pc
Precision chuck	1pc
Standard ball	1pc
Standard elliptical part	1pc
Probe	1pc

## OPTIONAL ACCESSORIES

Computer	1pc
Printer	1pc
Anti-dust cover	1pc

## ST200

## ULTRASONIC THICKNESS GAUGE



- ◆ Measure the thickness of tank, pipe and big workpiece
- ◆ LCD with backlight
- ◆ With manufacturer inspection certificate



VIDEO



Transducer PT-06 (optional)



Transducer ZT-12 (optional)



Transducer GT-12 (optional)



### SPECIFICATION

Graduation	0.01mm(<100mm)
	0.1mm(≥100mm)
Repeatability	0.03mm(<100mm)
	0.1mm(≥100mm)
Accuracy	±0.04mm (<10mm)
	±(0.04+H/1000)mm (10~100mm)
	±H/333mm (≥100mm)
	H is the thickness in mm
Velocity	1000-9999m/s
Power	3×AAA batteries
Dimension	69×150×29mm
Weight	220g

### INCLUDED ACCESSORIES

Main unit	1pc
Transducer PT-08	1pc
AAA battery	3pcs
Couplant	1bottle
USB cable	1pc

### OPTIONAL ACCESSORIES

Transducer	PT-06, ZT-12, GT-12
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### SPECIFICATION OF TRANSDUCERS

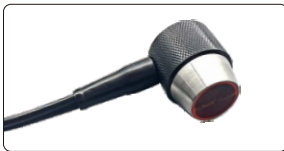
Code	Application	Range	Frequency	Min. pipe dimension diameter×thickness	Working temperature
PT-08	general use	0.8-300mm	5.0MHz	20×1.2mm	<60°C
PT-06	thin workpiece	0.75-40mm	7.5MHz	15×1.2mm	<60°C
ZT-12	casting steel	2-400mm	2.0MHz	30×4mm	<60°C
GT-12	high temperature	3-100mm	5.0MHz	25×3mm	<310°C



- ◆ Measure the thickness of tank, pipe and big workpiece
- ◆ Can measure thickness of workpiece with coating
- ◆ Wide measuring range with optional transducer
- ◆ LCD with backlight
- ◆ With manufacturer inspection certificate



Transducer **ST300-P6 (optional)**



Transducer **ST300-ZT12 (optional)**



Transducer **ST300-GT12 (optional)**



**SPECIFICATION**

<b>Graduation</b>	0.01mm(<100mm)
	0.1mm(≥100mm)
<b>Repeatability</b>	0.03mm(<100mm)
	0.1mm(≥100mm)
<b>Accuracy</b>	±0.05mm (<10mm)
	±(0.05+H/100)mm (≥100mm) H is the thickness in mm
<b>Max. coating thickness</b>	1000um
<b>Velocity</b>	1000-9999m/s
<b>Power</b>	2×AA batteries
<b>Dimension</b>	71×150×33mm
<b>Weight</b>	160g

**INCLUDED ACCESSORIES**

<b>Main unit</b>	1pc
<b>Transducer PT-10</b>	1pc
<b>AA battery</b>	2pcs
<b>Couplant</b>	1bottle

**OPTIONAL ACCESSORIES**

<b>Transducer</b>	<b>ST300-P6</b>
<b>Transducer</b>	<b>ST300-ZT12</b>
<b>Transducer</b>	<b>ST300-GT12</b>
<b>Couplant (high temperature)</b>	<b>ST300-CP</b>

**SPECIFICATION OF TRANSDUCERS**

Code	Application	Range	Frequency	Min. pipe dimension diameter×thickness	Working temperature
<b>PT-10</b>	general use	1-300mm	5.0MHz	20×1.2mm	<70°C
<b>ST300-P6</b>	thin workpiece	0.75-35mm	7.0MHz	15×1.2mm	<70°C
<b>ST300-ZT12</b>	casting steel	4-500mm	2.0MHz	30×5mm	<70°C
<b>ST300-GT12</b>	high temperature	4-80mm	5.0MHz	25×5mm	<480°C

## ST100A

## ULTRASONIC THICKNESS GAUGE



- ◆ Measure the thickness of tank, pipe and big workpiece
- ◆ LCD with backlight
- ◆ With manufacturer inspection certificate



### SPECIFICATION

Measuring range	1.2-225mm(steel)
Graduation	0.01mm(<100mm)
	0.1mm(≥100mm)
Repeatability	0.05mm(<100mm)
	0.1mm(≥100mm)
Accuracy	±0.5%L+0.04mm L is the thickness in mm
Velocity	1000-9999m/s
Min.measured tube	Ø20×3mm
Power	rechargeable battery
Dimension	64×116×27mm
Weight	220g

### INCLUDED ACCESSORIES

Main unit	1pc
Transducer	1pc
Battery	1 set
Couplant	1 bottle
Brush	1pc

## CFN150B

## COATING THICKNESS GAUGE



- ◆ Integrated F and N type probe
- ◆ F type probe is used to measure the thickness of non-magnetic coatings (zinc, copper, enamel, plastic and so on) on magnetic substracts (iron, steel)  
N type probe is used to measure the thickness of non-conductive coatings (varnish, enamel, plastic and so on) on conductive substracts (zinc, copper, aluminum)
- ◆ Large display screen
- ◆ V-type probe to make the cylinder measurement easier
- ◆ With um/mil unit conversion
- ◆ Automatic power on/ off
- ◆ With back light
- ◆ With manufacturer inspection certificate



### SPECIFICATION

Range	0~1500μm
Accuracy	2μm(0~100μm)
	3%(100~1500μm)
Resolution	0.1μm (0~99.9μm)
	1μm (100~1500μm)
Min. measuring area	25×25mm
Min. curvature	convexity: 5mm; concave: 30mm
Min substrate thickness	magnetic material: 0.2mm; non magnetic material: 0.05mm
Memory	30 sets
Power supply	AAA batteries
Dimension(L×W×H)	120×52×26mm
Weight	170g

### INCLUDED ACCESSORIES

Main unit	1pc
Calibration foil	1set
Calibration base	1set
AAA battery	2pcs





- ◆ F type probe is used to measure the thickness of non-magnetic coatings (zinc, copper, enamel, plastic and so on) on magnetic substracts (iron, steel)
- N type probe is used to measure the thickness of non-conductive coatings (varnish ,enamel, plastic and so on) on conductive substracts (zinc, copper, aluminum)
- ◆ External interchangeable probe
- ◆ Single and continuous working mode
- ◆ Low and high limits setting with judgement
- ◆ With average calculation
- ◆ With comparison measurement function
- ◆ With temperature compensation
- ◆ Turn off automatically
- ◆ With manufacturer inspection certificate



**CN1500**

**SPECIFICATION**

Code	CF1500H	CF1500	CN1500	CFN1500
Probe type		F	N	F and N
Range		0 ~ 1500µm		
Accuracy		2µm (0 ~ 100µm)		
		2%(100 ~ 1500µm)		
Resolution		0.1µm (0 ~ 999µm)		
		1µm (1000 ~ 1500µm)		
Memory		500		
Working temperature	-10°C~150°C		-10°C~50°C	
Power		3×AAA batteries		
Dimension(L×W×H)		150×50×29mm		
Weight		170g		

**INCLUDED ACCESSORIES**

Main unit	1pc
Calibration foil	1set
Calibration base	1set
USB cable	1pc
AAA battery	3pcs

## CN/CF/CFN1000S

## COATING THICKNESS GAUGE (BASIC TYPE)



- ◆ F type probe is used to measure the thickness of non-magnetic coatings (zinc, copper, enamel, plastic and so on) on magnetic substrates (iron, steel)
- N type probe is used to measure the thickness of non-conductive coatings (varnish, enamel, plastic and so on) on conductive substrates (zinc, copper, aluminum)
- ◆ External interchangeable probe
- ◆ Low and high limits setting with judgement
- ◆ With average/Max/Min. calculation
- ◆ Turn off automatically
- ◆ With manufacturer inspection certificate



CF1000S



probe for bores and grooves  
(Code:CF1000S-F90)



probe for large range  
(Code:CF1000S-F10)

### SPECIFICATION

Code	CF1000S	CN1000S	CFN1000S
Probe type	F	N	F and N
Range	0 ~ 1250µm		
Accuracy	3µm (0 ~ 50µm)		
	3%+1µm (50 ~ 1250µm)		
Resolution	0.1µm (0 ~ 999µm)		
	1µm (1000 ~ 1250µm)		
Memory	500		
Power	2xAA batteries		
Dimension(LxWxH)	128x68x32mm		
Weight	340g		

### INCLUDED ACCESSORIES

Main unit	1pc
Calibration foil	1set
Calibration base	1set
USB cable	1pc
AA battery	2pcs

### OPTIONAL ACCESSORIES

Magnetic induction probe for bores and grooves	CF1000S-F90
Magnetic induction probe for large range (500µm-10mm)	CF1000S-F10

**SERIES 740**

**WET FILM GAUGE**

- ◆ Made of stainless steel

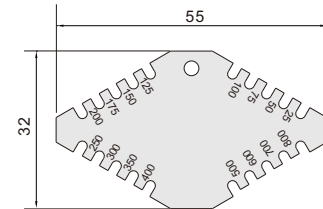
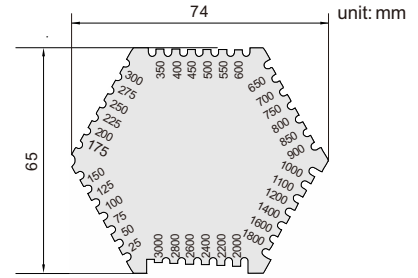
package



740-300-01



740-800-11

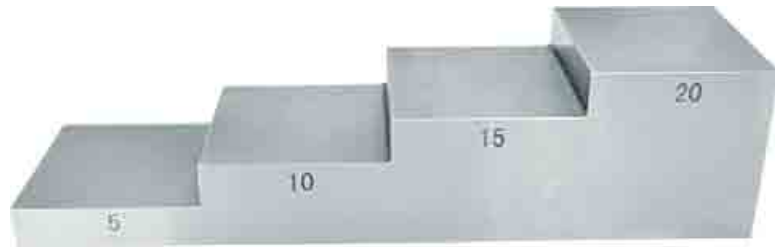


Code	Range	Accuracy	Thickness
740-800-11	25-800μm	±5μm	1.8mm
740-300-01	25-3000μm	25μm-100μm:±5μm 100μm-3000μm:±5%	1mm

**SERIES STB**

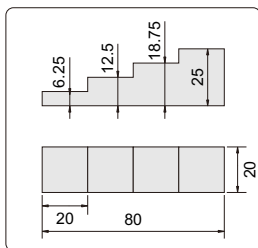
**STANDARD TEST BLOCK FOR ULTRASONIC THICKNESS GAUGE**

- ◆ Material of step wedge blocks can be customized
- ◆ Accuracy: ±0.02mm
- ◆ Stainless steel material: 45#

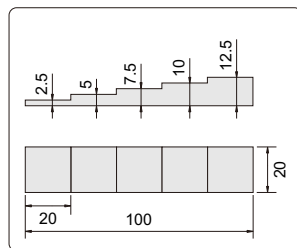


STB-4B

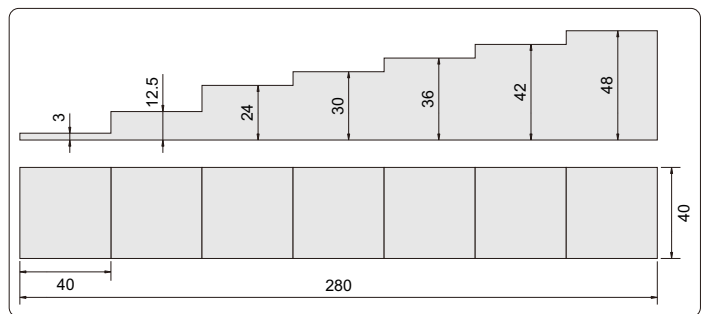
unit:mm



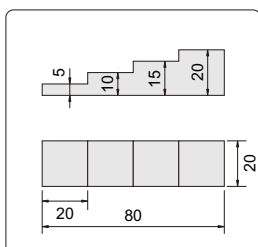
STB-4A



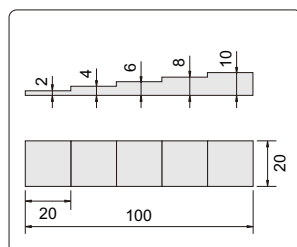
STB-5A



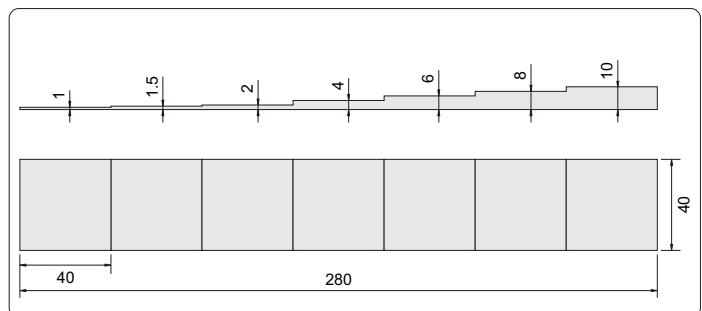
STB-7A



STB-4B



STB-5B



STB-7B

THICKNESS

## MTT3600

## X-RAY FLUORESCENCE SPECTROMETER

- ◆ Fast and non-destructive test to identify alloy grade and composition
- ◆ For all kinds of high and low temperature alloy steel, stainless steel, tool steel, chromium/molybdenum steel, nickel alloy, cobalt alloy, nickel/cobalt heat resistant alloy, titanium alloy
- ◆ Can measure the coating thickness like PCB, range: 0.01-30μm
- ◆ IP54 dust/waterproof



Iron-base alloy	
957A C1	
304	
Monday, 28	
Element	%
Fe	71.51
Cr	18.45
Ni	8.43
Mn	1.18
Cu	0.23
V	0.09
Mo	0.05
Sn	0.02
Ti	0.02
Nb	0.00

### SPECIFICATION

<b>Excitation source</b>	50KV/200μA; Ag target, integrated end window, micro X-ray tube and high voltage power supply, matching power≥4W
<b>Detector</b>	Si-PIN, window area 25mm²
<b>Elemental analysis range</b>	Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Se, Zr, Nb, Mo, Rh, Pd, Ag, Cd, Sn, Sb, Hf, Ta, W, Re, Pb, Bi
<b>Alloy analysis mode</b>	automatically identify alloy grade/alloy material qualified test mode
<b>Collimator filter</b>	7 groups
<b>Display</b>	5-inch LCD touch screen
<b>Analysis</b>	3-60 sec (adjustable)
<b>Memory</b>	built-in 64G, storage data, >500000 groups
<b>Data transmission</b>	built-in WIFI, U disk, blue-tooth (support blue-tooth printer)
<b>Data export format</b>	EXCEL, BMP, PDF, CSV
<b>Battery</b>	6800mAh lithium battery, for 8 hours working time
<b>Air pressure compensation</b>	built-in pressure measurement module for system compensation and correction
<b>System</b>	Win-IOT operation system
<b>Work environment</b>	temperature: 0~40°C, relative humidity: 10%~90%
<b>Dimension</b>	250×320×80mm
<b>Weight</b>	1900g

### INCLUDED ACCESSORIES

<b>Main unit</b>	1pc
<b>Charger</b>	1pc
<b>Battery</b>	2pcs
<b>Test film</b>	1pc
<b>Sample with cup</b>	1pc
<b>Protection support (including calibration silver)</b>	1pc
<b>USB cable</b>	1pc

## HTC-1

## TEMPERATURE METER



ACCUD



VIDEO



### SPECIFICATION

Temperature range	-20°C-60°C
Temperature accuracy	1%
Temperature resolution	0.1°C
Humidity range	10%RH-99%RH
Humidity accuracy	5%
Humidity resolution	1%
Power supply	AAA battery
Dimension	98×106×20 mm
Weight	50g

### INCLUDED ACCESSORIES

Main unit	1pc
Battery	1pc

## HTC-70

## TEMPERATURE METER



TEMPERATURE

- ◆ External probe
- ◆ Probe is IP67 protection level, can measure the water temperature in fish tank



### SPECIFICATION

Temperature range	-5°C-70°C
Temperature accuracy	±1°C
Temperature resolution	0.1°C
Humidity range	10%RH-99%RH
Humidity accuracy	5%
Humidity resolution	1%
Power supply	AAA battery
Dimension	98×120×21 mm
Weight	60g

### INCLUDED ACCESSORIES

Main unit	1pc
Battery	1pc

## HTC-300

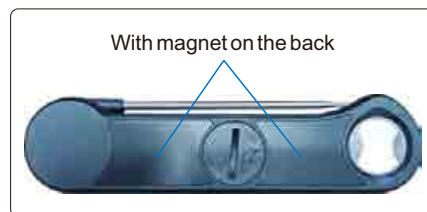
## TEMPERATURE METER FOR FOOD



- ◆ Used to measure the temperature inside of food
- ◆ With magnet on the back
- ◆ Automatic power on/off
- ◆ With calibration function



Temperature range	-50°C-300°C(-58°F-572°F)
Temperature accuracy	0.8°C(0-150°C)
Temperature resolution	0.1°C/0.1°F
Max. protrusion depth	110mm
Power supply	CR2032
Dimension	164×42×20 mm
Weight	100g



### INCLUDED ACCESSORIES

Main unit	1pc
CR2032 Battery	1pc

## IT700/IT1650S

## INFRARED THERMOMETER



- ◆ For quick measuring remote temperature
- ◆ Easy to operate



IT700

### SPECIFICATION

Code	IT700	IT1650S
Measuring temperature range	-50°C-950°C	-50°C-1650°C
Accuracy	1.5°C(<75°C)/2%(75-500°C)/3%(>500°C)	
Repeatability	0.5°C or 1%	
Distance spot ratio	12:1	50:1
Response time	500ms	
Resolution	0.1°C	
Power supply	9V battery	
Emissivity	0.1-1.00 (adjustable)	
Dimension	186×119×50 mm	225×160×66 mm
Weight	185g	320g

### INCLUDED ACCESSORIES

Main unit	1pc
Battery	1pc

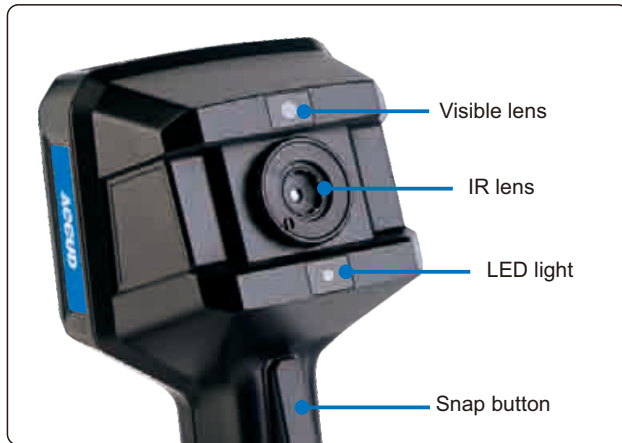
# ITC450

# INFRARED THERMAL IMAGING CAMERA



AEEUD

- ◆ Trigger button for taking pictures
- ◆ The IR image can be mixed with visible image
- ◆ Built-in 5000mA rechargeable battery
- ◆ With USB/WIFI data output interface
- ◆ With measuring software
- ◆ Menu in Chinese, English, Spanish, French, Japanese, Korean, Russian, Arabian



### SPECIFICATION

IR image	Resolution	220x160
	Measuring range	-10°C - 450°C
	Accuracy	±2°C (<100°C), 2% (≥100°C)
	Detector	8-14um
	Frame rate	9Hz
	Field of view	Horizontal :56°, vertical:42°
	Lens	Ø4mm
	Measuring method	Max, Min, center spot and average
	Emissivity	0.1-1 (adjustable)
	Color palettes	8 types
Visible camera	Resolution	640x480
	Frame rate	25Hz
	Illumination	LED
Screen size		3.5 inch
Image		outline fusion, overlay fusion, picture in picture, IR image, visible
Data output		USB/WIFI
Image storage		8G, can save 20,000 pictures
Image format		TIFF
Working temperature		-10°C - 50°C
Protection level		IP54
Power supply		Rechargeable battery, for 5 hours working
Size		230×100×90mm
Weight		420g

### INCLUDED ACCESSORIES

Main unit	1pc
USB cable and software	1pc

THICKNESS

**DMT600**

**DIGITAL MULTIMETER**



- ◆ With protective case
- ◆ With backlight
- ◆ With low battery indicator
- ◆ Safety rating: CAT III 600V



test leads (included)



**SPECIFICATION**

Function	Range	Resolution(d)	Accuracy
DC Voltage	200mV/2V/20V/200V	0.1mV/1mV/10mV/100mV	±(0.5%+4d)
	600V	1V	±(1%+5d)
AC Voltage	200V/600V	100mV/1V	±(1.2%+10d)
DC Current	2mA/20mA/200mA	1µA/10µA/100µA	±(1.5%+3d)
	10A	100mA	±(2%+5d)
Resistance	200Ω	0.1Ω	±(1%+5d)
	2kΩ/20kΩ/200kΩ	1Ω/10Ω/100Ω	±(0.8%+3d)
	2MkΩ	1kΩ	±(1%+15d)
Diode test	open circuit voltage 2.8V DC		
Continuity check	<50Ω		
Power supply	9V battery		
Dimension	150×75×50 mm		
Weight	325g		

**INCLUDED ACCESSORIES**

Main unit	1pc
9V battery	1pc
Test lead	2pcs

**DCM600**

**DIGITAL AC/DC CLAMP METER**



- ◆ 35mm open size
- ◆ With data hold function
- ◆ With low battery indicator
- ◆ Safety rating: CAT III 600V



test leads (included)



**SPECIFICATION**

Function	Range	Resolution(d)	Accuracy
AC Current	2A	1mA	±(2.5%+20d)
	20A	10mA	±(2.5%+5d)
	200A	100mA	±(2.5%+8d)
	400A	1A	±(2.5%+8d)
	600A	1A	for reference
DC Voltage	600V	1V	±(1.5%+5d)
AC Voltage	600V	1V	±(1.5%+5d)
Resistance	2000KΩ	10KΩ	±(1.2%+3d)
Continuity check	<30Ω		
Power supply	2×AAA batteries		
Dimension	195×48×30 mm		
Weight	380g		

**INCLUDED ACCESSORIES**

Main unit	1pc
AAA battery	2pcs
Test lead	2pcs



**WMM700**

**WOOD MOISTURE METER**



- ◆ For quick measuring wood moisture
- ◆ Easy to operate



Extension probe (Optional)



**SPECIFICATION**

Moisture	Measuring range	2-40%/50%/60%/70%(for different wood)
	Accuracy	±1%+0.5
	Resolution	0.5%
Temperature	Measuring range	-10°C-60°C
	Accuracy	±1%
	Resolution	0.1 °C
Humidity	Measuring range	20%RH-95%RH
	Accuracy	±5% RH
	Resolution	0.1% RH
Power supply		2×AAA
Dimension		136×55×60mm
Weight		107g

**INCLUDED ACCESSORIES**

Main unit	1pc
Battery	2pcs

**OPTIONAL ACCESSORIES**

Extension probe	WMM700-EP
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**WMM900**

**CONCRETE MOISTURE METER**



PORTABLE

- ◆ Use high frequency electromagnetic wave method to measure wall or concrete moisture
- ◆ Different density can be selected according to different building materials, increase the accuracy

Measure wall moisture



Measure concrete moisture



**SPECIFICATION**

Measuring range	0-40%
Accuracy	±2%
Resolution	0.5%
Working temperature	0°C-40°C
Power supply	3×AAA
Dimension	132×67×26mm95g
Weight	95g

**INCLUDED ACCESSORIES**

Main unit	1pc
Battery	3pcs

## LT900

## LASER TACHOMETER



- ◆ With back light
- ◆ Real-time/ Max/Min/average measurement
- ◆ Can review the last measuring value



VIDEO



### SPECIFICATION

<b>Measuring range</b>	2.5-99999rpm	
<b>Resolution</b>	< 1000rpm	0.1rpm
	≥ 1000rpm	1rpm
<b>Accuracy</b>	< 1000rpm	± (0.1%+5d)rpm, d is resolution
	≥ 1000rpm	± (1%+5d)rpm, d is resolution
<b>Measuring distance</b>	50-500mm	
<b>Power supply</b>	2x1.5V AAA batteries	
<b>Dimension</b>	56×30×127 mm	
<b>Weight</b>	106g	

## CT900

## CONTACT TYPE TACHOMETER



- ◆ Measure rotary speed, line speed
- ◆ With back light
- ◆ Real-time/ Max/Min/average measurement
- ◆ Can review the last measuring value



### SPECIFICATION

<b>Range</b>	<b>rotary speed</b>	0.5-19999rpm
	<b>line speed</b>	0.05-1999.9m/min
<b>Resolution(d)</b>	<b>rotary speed</b>	0.1rpm (< 1000rpm), 1rpm (≥ 1000rpm)
	<b>line speed</b>	0.01m/min (< 100m/min), 0.1m/min (≥ 100m/min)
<b>Accuracy</b>	<b>rotary speed</b>	± (0.5%+d)rpm (< 300rpm)
		± (0.05%+d)rpm (≥ 300rpm)
	<b>line speed</b>	± (0.1%+d)m/min
<b>Sampling time</b>	0.8s (above 60rpm)	
<b>Power supply</b>	2x1.5V AAA battery	
<b>Dimension</b>	55×33×158 mm	
<b>Weight</b>	106g	

### OPTIONAL ACCESSORIES

<b>Main unit</b>	1pc
<b>Accessories (5 types)</b>	1pc.each
<b>AAA battery</b>	2pcs

## DS40K

## DIGITAL TACHOMETER/STROBPSCOPE



- ◆ Used to measure the rotation and vibration speed
- ◆ With back light
- ◆ With fine and coarse adjustment



### SPECIFICATION

Measuring range	60 ~ 40000rpm	
Resolution	<400rpm	0.01rpm
	400-4000rpm	0.1rpm
Accuracy	≥4000rpm	1rpm
	≥1000rpm	±0.05%rpm
Memory	10	
Power supply	Lithium ion rechargeable batteries	
Dimension	195×73×38 mm	
Weight	220g	

## VT63

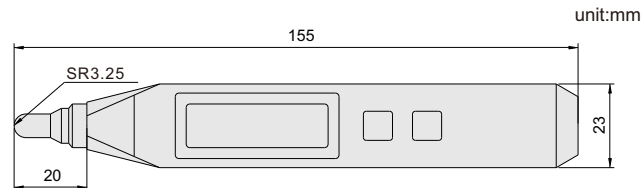
## PEN TYPE VIBRATION TESTER



- ◆ Measure the motor, fan, compressor and measuring tools vibration
- ◆ Power off automatically
- ◆ Pocket size



VIDEO



### SPECIFICATION

Range	Speed	0.1-199.9m/s (frequency range:10-1KHz)
	Accelerated speed	0.1-199.9m/s <sup>2</sup> (frequency range: 10-15KHz)
	Displacement	0.001-1.999mm (frequency range:10-500Hz)
Accuracy	±5%+2 digit	
Power supply	rechargeable battery	
Operation temperature	0-40℃	
Operation humidity	0-90%	
Dimension	152x23x12mm	
Weight	75g	

### INCLUDED ACCESSORIES

Main unit	1pc
Charger	1pc

PORTABLE

ACCUD



TM100

LASER DISTANCE METER



- ◆ IP54 protection
- ◆ With a level in the body
- ◆ With distance, area, volumn and height measurement function
- ◆ With Max, Min measuring function
- ◆ With back light
- ◆ Power off automatically



SPECIFICATION

Measuring range	0.1m-100m
Accuracy (at the prefect reflection surface)	1.5mm
Resolution	1mm
Unit	m/inch/ft
Light spot	Φ8mm@40m
Memory	20
Power supply	2x1.5VAAA batteries
Laser	635nm<1mW
Dimension	120×54×30 mm
Weight	110g

INCLUDED ACCESSORIES

Main unit	1pc
Battery	2pcs

TM40/100B

LASER DISTANCE METER



- ◆ Economic type
- ◆ With a level in the body
- ◆ With distance, area, volumn and height measurement function
- ◆ With Max, Min measuring function
- ◆ With backlight
- ◆ Power off automatically



TM100B

SPECIFICATION

Code	TM40	TM100B
Measuring range	0.1m-40m	0.1m-100m
Accuracy (at the prefect reflection surface)	2mm	
Resolution	1mm	
Unit	m/inch/ft	
Light spot	Φ8mm@40m	
Memory	20	
Power supply	2x1.5VAAA batteries	
Laser	635nm<1mW	
Dimension	120×54×30 mm	
Weight	110g	

INCLUDED ACCESSORIES

Main unit	1pc
Battery	2pcs

## TM1200

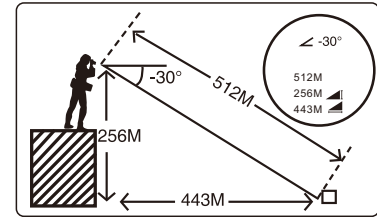
## LASER DISTANCE METER



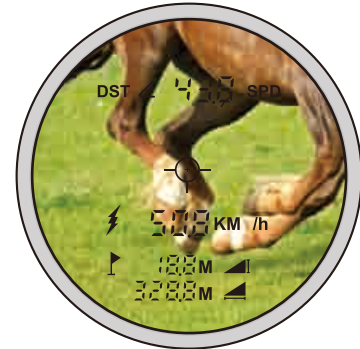
- ◆ IP54 protection
- ◆ Can measure distance, angle and speed
- ◆ Power off automatically



Distance, angle measurement



Speed measurement



### SPECIFICATION

Measuring range	3m-1500m
Magnification	8X
View field	7°
Distance measuring accuracy	±1m
Speed measuring accuracy	±5km/h
Power supply	Rechargeable battery(for 30000 times)
Laser	635nm<1mW
Dimension	104×77×41 mm
Weight	197g

### INCLUDED ACCESSORIES

Main unit	1pc
USB cable	1pc

## LM100

## LIGHT METER



- ◆ Unit: LUX/FC
- ◆ Max/Min/average measurement
- ◆ With data hold function
- ◆ Power off automatically

### SPECIFICATION

Range	0.1-200000LUX/0.01-20000FC
Accuracy	±(6%+d) d is resolution
Resolution	0.1LUX (< 1000), 1LUX (≥ 1000)
Temperature range	0-60°C
Temperature accuracy	2°C
Sampling time	8 times/s
Repeatability	±2%
Light wavelength range	400-700nm
Power supply	-10-50°C
Dimension	152×55×33 mm
Weight	136g



### INCLUDED ACCESSORIES

Main unit	1pc
AAA battery	3pcs

## LL030

## LASER LEVEL



- ◆ 2 lines (cross line)
- ◆ With auto-level mode



### SPECIFICATION

Laser beam	green
Leveling range	4°±1°
Leveling accuracy	±3mm/10m
Horizontal/vertical accuracy	±3mm/10m
Laser class	Class II
Laser wavelength	510-530nm
Working distance(Line)	30m
Protection level	IP54
Power supply	2×AA
Operation temperature	-10°C- 50°C
Dimension	66x75x76mm
Weight	255g

### STANDARD DELIVERY

Main unit	1pc
Stand	1pc
Battery	2pcs



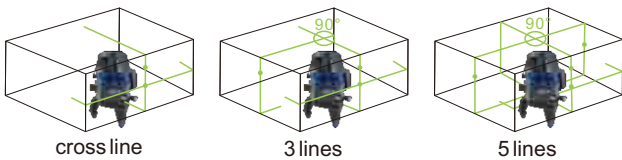
Stand

## LL025/325/525

## LASER LEVEL



- ◆ With auto-level mode



cross line

3 lines

5 lines

### SPECIFICATION

Code	LL025	LL325	LL525
Laser beam	cross line	3 lines	5 lines
Laser beam color	green		
Leveling range	<3°		
Leveling accuracy	±1mm/7m		
Horizontal/vertical accuracy	±1mm/7m		
Laser class	Class II		
Laser wavelength	635-650nm		
Max.working distance(Line)	30m		
Line width	3mm@10m		
Power supply	rechargeable battery		
Operation temperature	-10°C- 50°C		
Dimension	115x115x200mm		
Weight	1kg		



LL025

### STANDARD DELIVERY

Main unit	1pc
Battery	2pcs
AC/DC adapter	1pc

### OPTIONAL ACCESSORIES

Stainless steel stand	LL025-ST
-----------------------	----------

Stand(optional)



## SLM130

## DIGITAL SOUND LEVEL METER



- ◆ Fast(2 time/sec)/slow(1 time/sec) display
- ◆ With back light
- ◆ Real-time and Max/Min measurement
- ◆ High limits setting with judgement and alarm



VIDEO



### SPECIFICATION

Measuring sound range	30-130db
Accuracy	1.5db
Resolution	0.1db
Power supply	9V battery
Dimension	143×56×35 mm
Weight	64g

## AM30

## DIGITAL ANEMOMETER



- ◆ With temperature display
- ◆ With back light
- ◆ Real-time/ Max/Average measurement
- ◆ Unit: m/s, km/h, ft/min, Knots, mph



VIDEO



### SPECIFICATION

Measuring range	0.3-30m/s
Accuracy	±5%
Resolution	0.1m/s
Power supply	9Vbattery
Dimension	155×56×35 mm
Weight	154g



PH12

PEN-TYPE PH METER



- ◆ Measure PH value and temperature
- ◆ Automatic temperature compensation
- ◆ Temperature unit conversion function
- ◆ Used for PH measurements like water or paper
- ◆ Waterproof button, more than 20,000 press times working life
- ◆ Calibration method can be selected for multi-point calibration or single-point calibration
- ◆ Electrode loss can be viewed for timely replacement of the electrode head
- ◆ ASTM and European standard are available
- ◆ Automatic power off



SPECIFICATION

PH range	-2.00~+16.00PH
PH accuracy	±0.01PH
Temperature measuring range	0-100.0°C/32-212°F
Type of electrode	Bubble electrodes
Display	LCD screen with backlight
Power supply	2×AAA batteries
Working temperature	0-60.0°C/32-140°F
Dimension	∅39×180
Weight	108g

INCLUDED ACCESSORIES

Main unit	1pc
Battery	2pcs
PH buffer powder	3pcs

LSM25/LSM50

LASER SCAN MICROMETER

PORTABLE

- ◆ It can be used to measure the diameter of wires, cables and steel bars, as well as the width or thickness of steel strips and copper strips
- ◆ Can be accurately measured whether the product shakes or not
- ◆ Non contact and precision measurement



SPECIFICATION

Code	LSM25	LSM50
Range	0.1-20mm	0.4-50mm
Accuracy (d is diameter in mm)	±(0.2d+2)μm	±(0.3d+2)μm
Resolution	1μm	
Laser wavelength	650nm	
Sampling time	600 times/s	
Output	RS485/MODBUS	
Alarm output	DC24V/1A	
Working temperature	5-45°C	
Power supply	AC100-240V	
Dimension	298×72×167 mm	400×76×164 mm
Weight	8kg	10kg

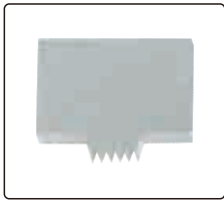
LSM25

OPTIONAL ACCESSORIES

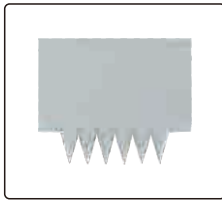
Main unit	1pc
Display	1pc
Power cable	1pc



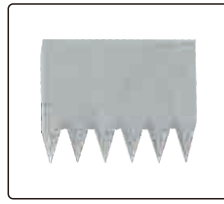
- ◆ Used to test the adhesion of paint on metal, plastic and so on
- ◆ Conforms to ISO 2409, ASTM D3359, BS00E6
- ◆ Blade hardness: 58-62HRC



blade(1mm pitch)



blade(2mm pitch)



blade(3mm pitch)



3M tape



Magnifier



step 1: make grid cutting on surface



step 2: paste and remove the tape

0	5B	0	
1	4B	0-5%	
2	3B	5-15%	
3	2B	15-35%	
4	1B	35-65%	
5	0B	>65%	

step 3: according to the shedding status, judge the adhesion grade

SPECIFICATION

<b>Blade pitch</b>		1mm	2mm	3mm
<b>Applied paint thickness</b>	<b>on hard substrate (like metal)</b>	0-60μm	61-120μm	121-250μm
	<b>on soft substrate (like wood, plaster)</b>	—	0-120μm	121-250μm
<b>Minimum substrate thickness</b>	<b>hard substrate (like metal)</b>	0.25mm	0.25mm	0.25mm
	<b>soft substrate (like wood, plaster)</b>	—	10mm	10mm
<b>Minimum size of test sample</b>		150x100mm		
<b>Dimension</b>		130x25x30mm		
<b>Weight</b>		130g		

INCLUDED ACCESSORIES

<b>Main unit</b>	1pc
<b>1mm pitch blade</b>	1pc
<b>2mm pitch blade</b>	1pc
<b>3mm pitch blade</b>	1pc
<b>Test tape</b>	1pc
<b>Magnifier</b>	1pc
<b>Small brush</b>	1pc

PORTABLE

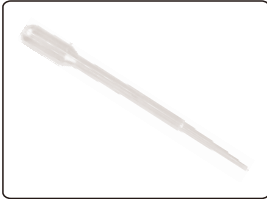
**DRM50**

**DIGITAL PORTABLE REFRACTOMETER**



- ◆ Used to measure the concentration of coolant, honey water and salt water
- ◆ Power off automatically

Pipette (included)



**SPECIFICATION**

Measuring range	0-50%
Graduation	0.1%
Accuracy	±0.2%
Battery	rechargeable battery
Dimension	143x42x22mm
Weight	115g

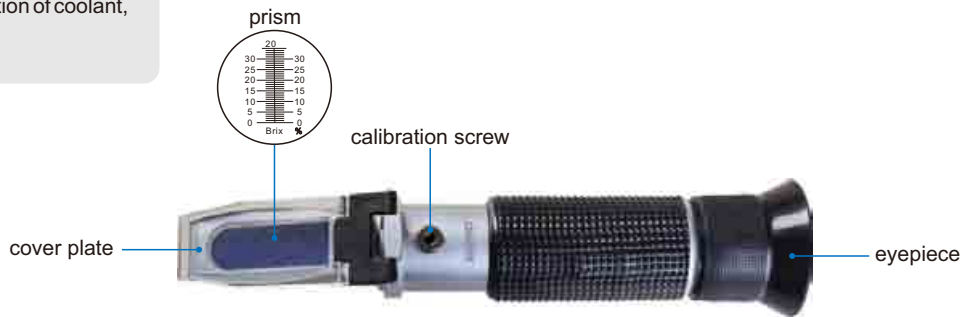
**INCLUDED ACCESSORIES**

Main unit	1pc
Pipette	1pc
Cable for recharging	1pc

**SERIES RM**

**PORTABLE REFRACTOMETER**

- ◆ Used to measure the concentration of coolant, honey water and salt water



RM32

**SPECIFICATION**

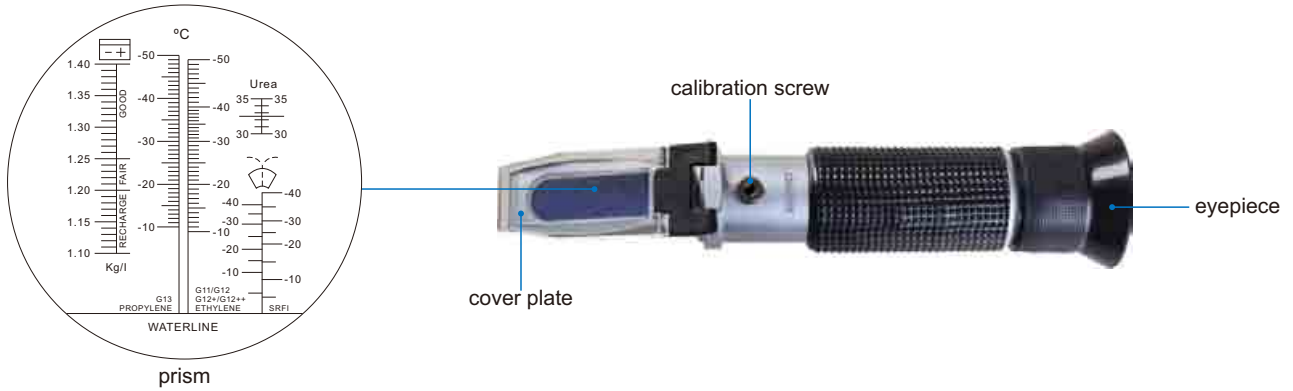
Code	RM10	RM20	RM32
Measuring range	0-10%	0-20%	0-32%
Graduation	0.2%		
Accuracy	±0.1%	±0.1%	±0.2%
Dimension	160x27x40mm		
Weight	175g		

**INCLUDED ACCESSORIES**

Main unit	1pc
Pipette	1pc
Screwdriver	1pc

RM50S

AUTOMOTIVE REFRACTOMETER



SPECIFICATION

<b>Range (ethylene)</b>	<b>Glycol</b>	0-50°C
	<b>Propylene Glycol</b>	0-50°C
	<b>Battery fluid</b>	1.10-1.40kg/L
	<b>Cleaning liquid</b>	0-40°C
	<b>Adblue(Urea)</b>	30-35%
<b>Accuracy (ethylene)</b>	<b>Glycol</b>	5°C
	<b>Propylene Glycol</b>	5°C
	<b>Battery fluid</b>	0.01kg/L
	<b>Cleaning liquid</b>	10°C
	<b>Adblue(Urea)</b>	0.2%

INCLUDED ACCESSORIES

<b>Main unit</b>	1pc
<b>Pipette</b>	1pc
<b>Screwdriver</b>	1pc

GM268

20°/60°/85°GLOSS METER

- ◆ To test the gloss of painting, printing ink, surfaces of future metal, granite, ceramic, plastic, paper, etc.
- ◆ Conforms to ISO 2813, ASTM D 2457, ASTM D 523
- ◆ Large display screen



THICKNESS

SPECIFICATION

<b>Incidence angle</b>	20°	60°	85°
<b>Measuring range</b>	0~2000GU	0~1000GU	0~160GU
<b>Resolution</b>	0.1GU (range<119.9GU)		
<b>Accuracy</b>	±1.5GU (range≤100GU)		
	±1.5% (range>100GU)		
<b>Repeatability</b>	±0.1GU (range<10GU)		
	±0.2GU (range: 10~100GU)		
	±0.2% (range>100GU)		
<b>Measuring speed</b>	1s		
<b>Measuring area</b>	10×10mm	15×9mm	36×5mm
<b>Power supply</b>	Rechargeable battery		
<b>Dimension</b>	160×75×90mm		
<b>Weight</b>	350g		

INCLUDED ACCESSORIES

<b>Main unit</b>	1pc
<b>Calibration block</b>	1pc
<b>USB cable and software</b>	1pc

**GM60**

**60° GLOSS METER**



- ◆ Basic type
- ◆ To test the gloss of painting, printing ink, surfaces of future metal, granite, ceramic, plastic, paper, etc.
- ◆ Conforms to ISO 2813,ASTMD 2457, ASTMD 523
- ◆ With manufacturer inspection certificate



**SPECIFICATION**

Incidence angle	60°
Measuring range	0~200GU
Measuring area	9x15mm
Resolution	1GU
Repeatability	±1GU (0-100GU), ±1%GU (100-200GU)
Measuring speed	0.5S
Power supply	AA battery
Dimension	160x52x84mm
Weight	300g

**INCLUDED ACCESSORIES**

Main unit	1pc
Calibration block	1pc
AA battery	1pc

**HM1000**

**HAZE METER**



- ◆ Conform to the standards: ASTMD1003/1044, GB/T 2410, JJF 1303-2011, CIE 15.2, JIS K7105, JIS K7361, JIS K 7136
- ◆ The instrument can easily achieveASTMD1003 non-compensation method
- ◆ With quality control software

**SPECIFICATION**

Measuring range	0~100%
Accuracy	<0.4
Repeatability	0.1
Resolution	0.1
Integrating sphere size	Φ154mm
Light source	400nm to 700nm, combined LED light
Sensor	The PD array detector, satisfies CIE V(λ)2 degree visual response
Measuring aperture	Φ20mm
Sample size	Thickness<170mm
Observer angle	2°
Illumination	D65, A, C
Measuring time	about 1.5s
Data output	USB
Illumination life span	5 years, more than 3 million times measurements
Display	7-inch TFT color LCD, capacitive touch screen
Size	290×211×511mm
Weight	7.6kg



**INCLUDED ACCESSORIES**

Main unit	1pc
Calibration cover	1pc
USB cable and software	1pc
AC/DC adapter	1pc

## CM100

## COLOR METER



- ◆ Pocket size, easy to carry
- ◆ Press one button to get the measure result in one second
- ◆ With software

### SPECIFICATION

illuminating/viewing geometry	8/d
Measuring aperture	Ø8mm
Measuring wave length	400~700nm
Wave length step	10nm
View angle	2°/10°
Light source device	LED light
Memeory	10pcs standards
Measuring time	1s
Power supply	rechargeable lithium-ion battery
Lamp Life	5 years, more than 3 million measurements
Charging Time	12 thousand measurements(full electricity)
Output	USB/bluetooth
Dimension	Ø30×100 mm
Weight	88g



### INCLUDED ACCESSORIES

Main unit	1pc
White calibration block	1pc
Charger	1pc
USB cable and software	1pc

## CM200

## COLOR METER



- ◆ Convenient and fast locating
- ◆ Portable structure design which is more conducive to keep the instrument stable



### SPECIFICATION

illuminating/Viewing Geometry	8/d
Measuring Aperture	Φ8mm
Light Source	D65
Light Source Device	LED blue light excitation
Memeory	5000pcs standards
Repeatability	<0.08ΔE*ab
Power supply	rechargeable lithium-ion battery
Lamp Life	3 years, more than 1 million measurements
Charging Time	2 hours (first time 8 hours~100% electricity)
Dimension	205×70×100 mm
Weight	500g

### INCLUDED ACCESSORIES

Main unit	1pc
White calibration block	1pc
Charger	1pc
USB cable and software	1pc



CM3010

SPECTROPHOTO METER



- ◆ Concave grating spectrophotometric
- ◆ 3.5-inch TFT color LCD
- ◆ D/8 geometrical optics, conforms with CIE No. 15, ISO7724/1, ASTM E1164, DIN5033
- ◆ Use long life and low power consumption combined LED light source
- ◆ Switchable 8mm/4mm aperture, support both SCI and SCE at the same time
- ◆ Large storage capacity, over 20,000 measurement data
- ◆ USB port and Bluetooth 4.0
- ◆ With software



SPECIFICATION

Optical geometry	reflect: di:8°, de:8°(diffused illumination, 8-degree viewing angle)	
Integrating sphere size	Ø48mm	
Light source	combined LED light	
Spectrophotometric mode	concave grating	
Sensor	256 image element double array CMOS image sensor	
Wavelength range	400~700nm	
Wavelength interval	10nm	
Semiband width	10nm	
Measured reflectance range	0~200%	
Measuring aperture	dual aperture: MAV: Ø8mm; SAV: Ø4mm	
Specular component	SCI&SCE	
Color space	CIE LAB, XYZ, Yxy, LCh, CIE LUV, HunterLAB	
Color difference formula	$\Delta E^*ab, \Delta E^*uv, \Delta E^*94, \Delta E^*cmc(2:1), \Delta E^*cmc(1:1), \Delta E^*00v, \Delta E$ (Hunter)	
Other colorimetric index	WI(ASTM E313, CIE/ISO, AATCC, Hunter), YI(ASTM D1925, ASTM 313), Metamerism index MI, Staining fastness, Color fastness, Color strength, Opacity	
Observer angle	2°/10°	
Illuminant	A, C, D50, D55, D65, D75, F1, F2, F3, F4, F5, F6, F7, F8, F9, F10, F11, F12, CWF, U30, T183, T184, U35	
Displayed data	spectrogram/values, samples chromaticity values, color difference values/graph, PASS/FAIL result, color offset	
Measuring time	2.6s	
Repeatability	Spectral reflectance	MAV/SCI, within 0.1% of standard deviation(400~700nm: 0.2%)
	Colorimetric values	MAV/SCI: $\Delta E^* \leq 0.04$
Inter-instrument error	MAV/SCI: $\Delta E^* \leq 0.2$	
Measurement mode	single measurement, average measurement	
Data port	USB, Bluetooth 4.0	
Data storage	standard 1000 pcs, sample 20000 pcs	
Illuminant life span	5 years, more than 3 million times measurements	
Battery	Li-ion battery, 5000 measurements within 8 hours	
Dimension	184×77×105mm	
Weight	600g	

INCLUDED ACCESSORIES

Main unit	1pc
White and black calibration cavity	1pc
USB cable and software	1pc
AC/DC adapter	1pc

OPTIONAL ACCESSORIES

Printer	CM3010-PT
Powder test box	CM3010-PB

PORTABLE



- ◆ For pull and push measurement
- ◆ Adjusting the display direction automatically
- ◆ With overload protection
- ◆ Peak and real-time working mode
- ◆ Unit: mN, N, gf, kgf, ozf, lbf
- ◆ Memory: 1000
- ◆ Power off automatically
- ◆ Low and high limits setting with judgement
- ◆ With software, can show the force graph
- ◆ With manufacturer inspection certificate



**DF200**



Stand(Code: **FS1000**, **Optional**)



**PR100** printer (**Optional**)



flat



v-type



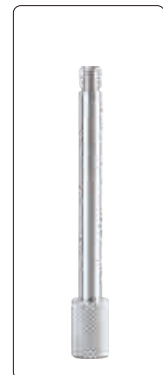
knife-edge



point



pull clamp



extension rod

**SPECIFICATION**

Code	DF10	DF20	DF50	DF100	DF200	DF500	DF1000
Range	10N	20N	50N	100N	200N	500N	1000N
Resolution	0.001N	0.005N	0.005N	0.005N	0.005N	0.01N	0.1N
Accuracy	±0.2% x FS (full scale)						
Power	rechargeable battery						
Dimension	153x73x34mm						
Weight	700g						

**INCLUDED ACCESSORIES**

Main unit	1pc
Charger	1pc
Software	1pc
Push/pull clamps	6pcs(flat, V type, knife-edge, point, pull clamp, extension rod)

**OPTIONAL ACCESSORIES**

Wireless printer	<b>PR100</b>
Stand	<b>FS1000</b>

## SERIES DF

## DIGITAL FORCE GAUGE



- ◆ For pull and push measurement
- ◆ Adjusting the display direction automatically
- ◆ With overload protection
- ◆ Peak and real-time working mode
- ◆ Unit: mN, N, gf, kgf, ozf, lbf
- ◆ Memory: 1000
- ◆ Power off automatically
- ◆ Low and high limits setting with judgement
- ◆ With software, can show the force graph
- ◆ With manufacturer inspection certificate



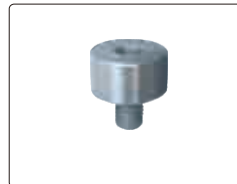
DF5K



PR100 printer (Optional)



flat clamp (Optional)



extension (Optional)



pull clamp (Optional)

### SPECIFICATION

Code	DF2K	DF5K	DF10K	DF20K
Range	2000N	5000N	10000N	20000N
Resolution	0.5N	1N	1N	1N
Accuracy	±0.2% x FS (full scale)			
Power	rechargeable battery			
Dimension	153x73x34mm			
Weight	700g			

### INCLUDED ACCESSORIES

Main unit	1pc
Sensor	1pc
Charger	1pc
Software	1pc

### OPTIONAL ACCESSORIES

M12 Flat clamp (for DF2K, DF5K and DF10K)	DF2K-FC
M12 Extension (for DF2K, DF5K and DF10K)	DF2K-ER
M12 Pull clamp (for DF2K, DF5K and DF10K)	DF2K-PC
M18 Flat clamp (for DF20K)	DF20K-FC
M18 Extension (for DF20K)	DF20K-ER
M18 Pull clamp (for DF20K)	DF20K-PC
Wireless printer	PR100





- ◆ For pull and push measurement
- ◆ Adjusting the display direction automatically
- ◆ With overload protection
- ◆ Peak and real-time mode
- ◆ Unit: N, gf, kgf, ozf, lbf
- ◆ Memory: 500
- ◆ Power off automatically
- ◆ With manufacturer inspection certificate



**DF1000E**



Stand(Code: **FS1000**, **Optional**)



**PR100** printer (**Optional**)



flat



v-type



knife-edge



point



pull clamp



extension rod

**SPECIFICATION**

Code	DF10E	DF50E	DF100E	DF500E	DF1000E
Range	10N	50N	100N	500N	1000N
Resolution	0.01N	0.01N	0.1N	0.1N	1N
Accuracy	±0.3% x FS (full scale)				
Power	rechargeable battery				
Dimension	150x72x33mm				
Weight	450g				

**INCLUDED ACCESSORIES**

Main unit	1pc
Charger	1pc
Software	1pc
Push/pull clamps	6pcs(flat, V type, knife-edge, point, pull clamp, extension rod)

**OPTIONAL ACCESSORIES**

Wireless printer	<b>PR100</b>
Stand	<b>FS1000</b>

## SERIES DFXXS DIGITAL FORCE GAUGE



- ◆ Basic type
- ◆ For pull and push measurement
- ◆ Unit: N, kgf, ozf, lbf
- ◆ Low and high limits setting with judgement
- ◆ With backlight
- ◆ Power off automatically
- ◆ With manufacturer inspection certificate



DF500S



flat



v-type



knife-edge



point



pull clamp



extension rod

### SPECIFICATION

Code	DF10S	DF20S	DF50S	DF100S	DF200S	DF500S
Range	10N	20N	50N	100N	200N	500N
Resolution	0.01N	0.01N	0.01N	0.1N	0.1N	0.1N
Accuracy	±1% x FS (full scale)					
Power	2xAAA batteries					
Dimension	124x60x31mm					
Weight	400g					

### INCLUDED ACCESSORIES

Main unit	1pc
AAA batteries	2pcs
Push/pull clamps	6pcs(flat, V type, knife-edge, point, pull clamp, extension rod)



- ◆ Push and pull test
- ◆ Peak(max.) or tracking work mode
- ◆ With manufacturer inspection certificate



Stand(Code: **FS1000**, **Optional**)



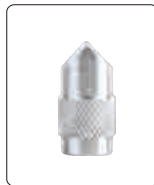
**NK-500**



flat



v-type



point



knife-edge



pull clamp



extension rod

**SPECIFICATION**

Code	NK-20	NK-30	NK-50	NK-100	NK-200	NK-300	NK-500
Range(N)	20	30	50	100	200	300	500
Range(Kg)	2	3	5	10	20	30	50
Resolution(N)	0.1	0.2	0.25	0.5	1	2	2.5
Accuracy	±2% xFS (full scale)						

**INCLUDED ACCESSORIES**

Main unit	1pc
Push tip	4pcs (flat, V type, knife-edge, point)
Pull clamp	1pc
Extension rod	1pc

**OPTIONAL ACCESSORIES**

Stand	FS1000
-------	--------

## SERIES FS

## TEST STAND FOR FORCE GAUGE

- ◆ For force gauges
- ◆ To be used in vertical and horizontal orientation



Force gauge is not included



FS1000

### SPECIFICATION

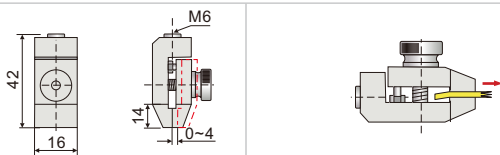
Code	FS1000S	FS1000
Scale	with	without
Load capacity	1000N	
Travel	200mm (3mm vertical movement per revolution of handwheel)	
Dimension	96x250x446mm	
Weight	13kg	

## SERIES DF

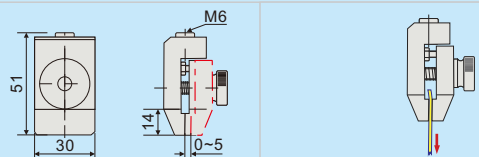
## CLAMPS FOR FORCE GAUGE

unit:mm

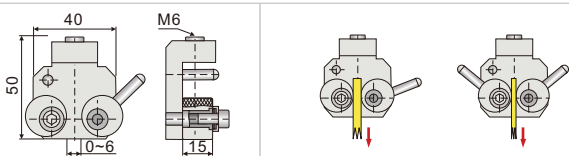
### FLAT CHUCK (Code: DF-FC1)



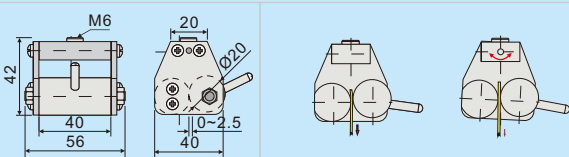
### FLAT CHUCK (Code: DF-FC2)



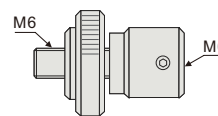
### CAM GRIP (Code: DF-CG1)



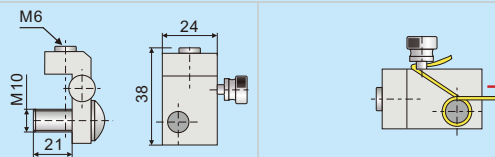
### CAM GRIP (Code: DF-CG2)



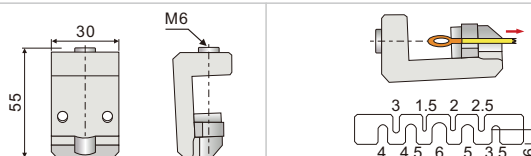
### LOCK THREAD ADAPTER (Code: DF-TA)



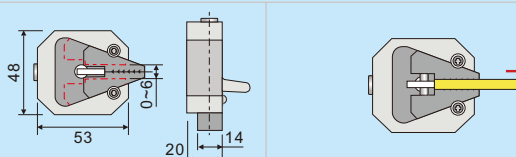
### WIRE GRIP (Code: DF-WG1)



### WIRE TERMINAL GRIP (Code: DF-TWG1)



### WEDGE GRIP (Code: DF-WT1)





**DFS500**

**MOTORIZED VERTICAL TEST STAND**

- ◆ Used to measure the force of pull or push with series DF force gauge
- ◆ Programmable, can do automatic testing cycle
- ◆ Can set three working modes: displacement cycle, force cycle, user-defined cycle
- ◆ With alarm: position, force and motor block

**SPECIFICATION**

Max. capacity	650N
Max. travel	220mm
Moving speed	30-720mm/min(adjustable)
Resolution of speed	1mm/min
Moving speed accuracy	2%
Displacement resolution	0.01mm
Displacement accuracy	±0.3mm
Output	USB, RS232
Working temperature	10-40°C
Power supply	AC100-240V
Dimension	340×180×630 mm
Weight	15kg



**INCLUDED ACCESSORIES**

Main unit	1pc
Software and USB cable	1pc
Power cable	1pc

**DFS500H**

**MOTORIZED HORIZONTAL TEST STAND**

- ◆ Used to measure the force of pull or push with series DF force gauge
- ◆ Programmable, can do automatic testing cycle
- ◆ Can set three working modes: displacement cycle, force cycle, user-defined cycle
- ◆ With alarm: position, force and motor block

**SPECIFICATION**

Max. capacity	650N
Max. travel	220mm
Moving speed	30-720mm/min(adjustable)
Resolution of speed	1mm/min
Moving speed accuracy	2%
Displacement resolution	0.01mm
Displacement accuracy	±0.3mm
Output	USB, RS232
Working temperature	10-40°C
Power supply	AC100-240V
Dimension	671×120×278 mm
Weight	13kg



**INCLUDED ACCESSORIES**

Main unit	1pc
Software and USB cable	1set
Power cable	1pc

- ◆ For spring force testing
- ◆ Peak and real-time working mode
- ◆ Unit: N, kgf, lbf
- ◆ Power off automatically
- ◆ Low and high limits setting with judgement
- ◆ With digital scale, resolution:0.01mm



DST50

**SPECIFICATION**

Code	DST10	DST20	DST30	DST50	DST100	DST200	DST300	DST500
Capacity	10N	20N	30N	50N	100N	200N	300N	500N
Resolution	0.001N	0.002N	0.01N	0.01N	0.02N	0.05N	0.1N	0.1N
Test range	5%-100% capacity							
Accuracy	±1% x FS (full scale)							
Max. spring length(free status)	65mm			95mm				
Range of digital scale	65mm			95mm				
Disk diameter	Ø30mm			Ø49mm				
Power	220V/110V							
Dimension	300x235x600mm			300x235x620mm				
Weight	13.2kg	13.2kg	13.2kg	17.3kg	19.1kg	19.1kg	19.1kg	20.8kg

**INCLUDED ACCESSORIES**

Main unit	1pc
Power cable	1pc
Foot screw	4pcs

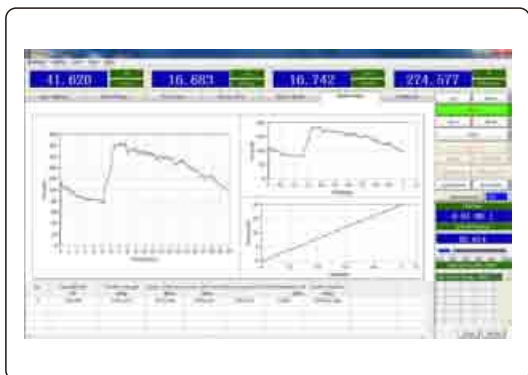


**SERIES UTT**

**ELECTRONIC UNIVERSAL TENSILE TESTING MACHINE**

- ◆ For tensile, tear testing of different kinds of materials
- ◆ With testing analysis software
- ◆ Unit: N, kN, Kg, Lbf, Mpa, Lbf/in<sup>2</sup>, Kg/mm<sup>2</sup>

Software



UTT100



UTT1000

**SPECIFICATION**

Code	UTT50	UTT100	UTT200	UTT500	UTT1000	UTT2000	UTT10000	UTT20000
Type	single column				double column			
Max.capacity	50kg	100kg	200kg	500kg	1000kg	2000kg	10000kg	20000kg
Accuracy	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Resolution	1/1000000xFS (Max. capacity)				1/500000xFS (Max. capacity)			
Max. travel	600mm				800mm			
Width	180mm				450mm			
Test speed	0.1-500mm/min							
Moving speed accuracy	±0.3%							
Movement controller	servo motor							
Power supply	100-240AC							
Dimension	500×420×1250mm				750×500×1850mm		1100×760×2100mm	
Weight	50kg				260kg		750kg	

**INCLUDED ACCESSORIES**

Main unit	1pc
Computer	1pc
USB dongle	1pc
Fixture	1set

**SERIES TWM**

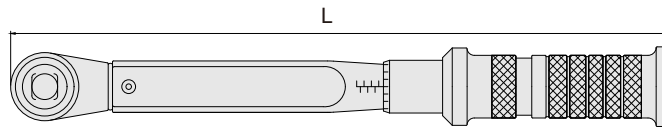
**TORQUE WRENCH**



- ◆ Easy to set the torque value
- ◆ Accuracy:  $\pm 4\%$  \*
- ◆ According to ISO6789, ASMEB107. 14
- ◆ With manufacturer inspection certificate



TWM25



**SPECIFICATION**

Code	TWM25	TWM50	TWM100	TWM200	TWM340
Range	5~25N.m	10~50N.m	20~100N.m	40~200N.m	70~340N.m
Size of square drive	3/8"	3/8"	3/8"	1/2"	1/2"
Length(L)	275mm	275mm	380mm	505mm	695mm
Weight	420g	420g	580g	1.3kg	1.9kg

\* Accuracy is available upon request

**SERIES TWM-B**

**TORQUE WRENCH**



- ◆ Economic type
- ◆ Easy to set the torque value
- ◆ Accuracy:  $\pm 4\%$  (clockwise)
- ◆ According to ISO6789, ASMEB107. 14
- ◆ With manufacturer inspection certificate



TWM25B

**SPECIFICATION**

Code	TWM25B	TWM60B	TWM60D	TWM110B	TWM110C	TWM210B	TWM330B
Range(N.m)	5~25	12~60	12~60	22~110	22~110	42~210	66~330
Size of square drive	1/4"	3/8"	1/2"	3/8"	1/2"	1/2"	1/2"
Length	250mm	415mm	425mm	460mm	470mm	490mm	565mm
Weight	350g	920g	980g	1.06kg	1.17kg	1.26kg	1.34kg

Code	TWM550B	TWM800B	TWM1000B	TWM1500B	TWM2000B	TWM3000B
Range(N.m)	110~550	160~800	200~1000	300~1500	400~2000	600~3000
Size of square drive	3/4"	3/4"	3/4"	1"	1"	1"
Length	900mm	1200mm	1200mm	1260mm	1260mm	1260mm
Weight	4.3kg	5.6kg	5.6kg	9.2kg	9.2kg	10.5kg





◆ Accuracy: ±4%(clockwise)



STWM25



STWM110

**SPECIFICATION**

Code	STWM25	STWM110	STWM210
Torque wrench code	TWM25B	TWM110C	TWM210B
Range	5~25N.m	22~110N.m	42~210N.m
Size of square drive	1/4"	1/2"	1/2"
Bit size	Hexagon type: H2-H2.5-H3-H4-H5-H6-H8 Torx type: T10-T15-T20-T25-T27-T30 Extension rod: 100mm	Hexagon type: 17-19-21-22-23mm Extension rod: 125mm	
Main application	bicycle industry	automotive industry	
Torque wrench length	250mm	460mm	490mm
Weight	790g	2200g	2300g

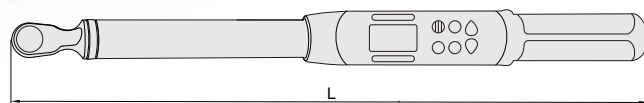


- ◆ Clockwise or anti-clockwise operation
- ◆ Unit: N.m, in.lb, ft.lb, kg.cm
- ◆ Peak or real-time working mode
- ◆ Automatic power off
- ◆ With calibration certificate



TW200

unit: mm



**SPECIFICATION**

Code	TW12	TW20	TW30	TW135	TW200	TW340	TW550	TW850	TW1500	TW2000
Range(N.m)	2.4~12	4~20	6~30	27~135	40~200	68~340	110~550	170~850	300~1500	400~2000
Resolution	0.01N.m	0.01N.m	0.1N.m	0.1N.m	1N.m	1N.m	1N.m	1N.m	1N.m	1N.m
Accuracy	Clockwise	±3%	±3%	±2%	±2%	±2%	±2%	±2.5%	±2.5%	±2.5%
	Anti-clockwise	±4%	±4%	±3%	±3%	±3%	±3%	±3.5%	±3.5%	±3.5%
Size of square drive	1/4"	1/4"	1/4"	3/8"	1/2"	1/2"	3/4"	3/4"	1"	1"
Length(L)	390mm	390mm	390mm	415mm	530mm	650mm	950mm	1220mm	1800mm	1800mm
Weight	900g	900g	900g	950g	1400g	1800g	3400g	4400g	13kg	14kg
Power	2xAA batteries									

**SERIES TWD**

**DIAL TORQUE WRENCH**



- ◆ Clockwise and counter-clockwise operation
- ◆ Comforms to DIN ISO 6789, ASME B107.300
- ◆ With manufacturer inspection certificate



TWD70

**SPECIFICATION**

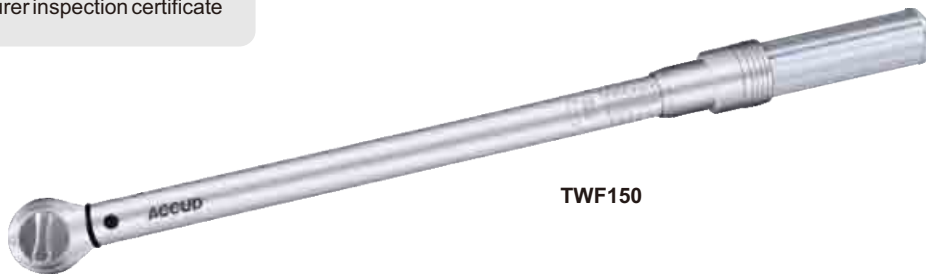
Code	TWD3	TWD9	TWD18	TWD35	TWD70	TWD140	TWD240	TWD350
<b>Range</b>	0.7~3.5N.m 6~30in.lb	1.8~9N.m 15~75in.lb	3.6~18N.m 30~150in.lb	7~35N.m 60~300in.lb	14~70N.m 120~600in.lb	28~140N.m 20~100ft.lb	48~240N.m 35~175ft.lb	70~350N.m 50~250ft.lb
<b>Accuracy</b>	±3%	±3%	±3%	±3%	±3%	±3%	±3%	±3%
<b>Graduation</b>	0.05N.m 0.5in.lb	0.1N.m 1in.lb	0.2N.m 2in.lb	0.5N.m 5in.lb	1N.m 10in.lb	2N.m 1ft.lb	3N.m 2.5ft.lb	2.5N.m 2.5ft.lb
<b>Square drive</b>	1/4"	1/4"	3/8"	3/8"	3/8"	1/2"	1/2"	1/2"
<b>Length</b>	254mm	254mm	254mm	254mm	378mm	546mm	546mm	546mm
<b>Weight</b>	480g	480g	480g	480g	820g	1300g	1300g	1300g

**SERIES TWI/TWF**

**TORQUE WRENCH**



- ◆ Easy to set the torque value
- ◆ According to ISO6789, ASME B107.300
- ◆ Metal construction
- ◆ With manufacturer inspection certificate



TWF150

**SPECIFICATION**

Code	TWI200	TWI250	TWF100	TWF150	TWF250	TWF600
<b>Range</b>	40~200lb.in	50~250lb.in	20~100lb.ft	30~150lb.ft	50~250lb.ft	100~600lb.ft
<b>Graduation</b>	1lb.in	1lb.in	0.5lb.ft	0.5lb.ft	1lb.ft	2.5lb.ft
<b>Accuracy</b>	±3%	±3%	±3%	±3%	±3%	±4%
<b>Size of square drive</b>	1/4"	3/8"	3/8"	1/2"	1/2"	3/4"
<b>Length</b>	11"	12.4"	16.7"	20"	26.7"	41.5"
<b>Weight</b>	1.5lb	1.8lb	2.3lb	2.6lb	2.9lb	13lb

## SERIES TWS

## WINDOWS TORQUE WRENCH



ACEUD

- ◆ Accuracy:  $\pm 4\%$ (clockwise)
- ◆ According to ISO6789
- ◆ Unit: N.m; Lbf.ft
- ◆ With manufacturer inspection certificate



TWS60



### SPECIFICATION

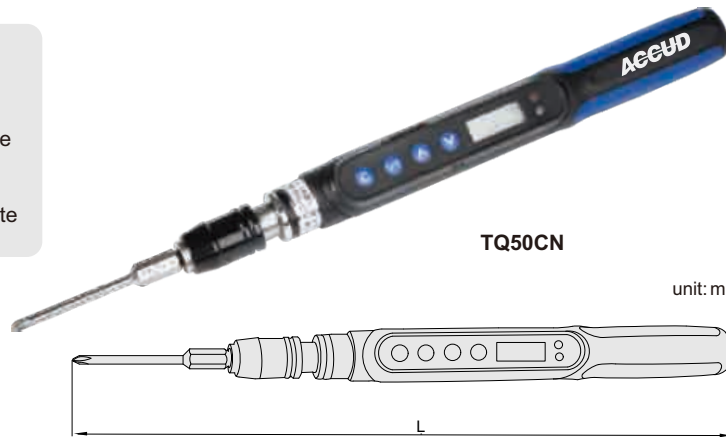
Code	Range (N.m)	Size of square drive	Length	Weight	Code	Range (N.m)	Size of square drive	Length	Weight
TWS12	2.4~12	1/4"	300mm	0.58kg	TWS330	66~330	1/2"	555mm	1.28kg
TWS20	4~20	1/4"	300mm	0.58kg	TWS400	80~400	1/2"	725mm	1.90kg
TWS20B	4~20	3/8"	300mm	0.60kg	TWS400B	80~400	3/4"	825mm	3.05kg
TWS30	6~30	3/8"	315mm	0.68kg	TWS550	110~550	3/4"	825mm	3.93kg
TWS60	12~60	3/8"	400mm	0.86kg	TWS1000	200~1000	3/4"	1115mm	5.28kg
TWS60B	12~60	1/2"	415mm	0.90kg	TWS1500	300~1500	1"	1250mm	8.20kg
TWS100B	20~100	1/2"	470mm	1.12kg	TWS2000	400~2000	1"	1250mm	8.20kg
TWS200	40~200	1/2"	495mm	1.18kg	TWS3000	600~3000	1"	1250mm	9.50kg

## SERIES TQ

## DIGITAL TORQUE SCREWDRIVER



- ◆ Clockwise or anti-clockwise operation
- ◆ Peak and track working mode
- ◆ With audible and visible alarm when the value is closed to setting target
- ◆ With manufacturer inspection certificate



TQ50CN

unit: mm

### SPECIFICATION

Code	TQ50CN	TQ200CN	TQ400CN
Range	10~50cN.m	40~200cN.m	80~400cN.m
Clockwise operation accuracy	$\pm 3\%$	$\pm 2.5\%$	$\pm 2.5\%$
Anti-clockwise operation accuracy	$\pm 4\%$	$\pm 3.5\%$	$\pm 3.5\%$
Resolution	0.1cN.m	0.1cN.m	0.1cN.m
Size of shank	1/4"	1/4"	1/4"
Length (L)	258mm	268mm	268mm
Weight	200g	200g	200g
Power	1xAAA battery		

TORQUE

## SERIES DT

## DIGITAL TORQUE INDICATOR



- ◆ Peak, preset and real-time working mode
- ◆ Unit: N.m, N.cm, kgf.cm, lbf.ft, lbf.in
- ◆ Memory: 999
- ◆ Power off automatically
- ◆ With backlight
- ◆ With manufacturer inspection certificate

### SPECIFICATION

Code	DT30	DT135	DT200
Range	5-30N.m	13.5-135N.m	20-200N.m
Drive size	1/2"	1/2"	1/2"
Resolution	0.01N.m	0.1N.m	0.1N.m
Accuracy	±2%(clockwise)/±2.5%(anti-clockwise)		
Memory	999		
Power	2xAAA batteries		
Weight	200g		



DT135

### Application



### INCLUDED ACCESSORIES

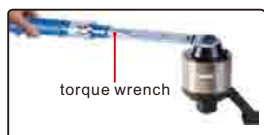
Main unit	1pc
AAA battery	2pcs
Wrench	1pc

## SERIES TWQ

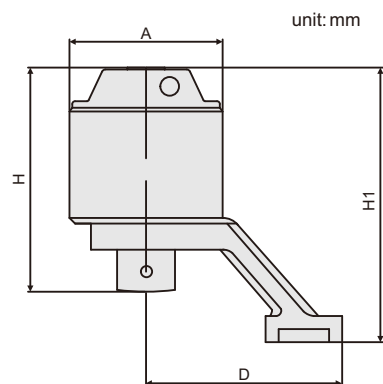
## TORQUE MULTIPLIERS

- ◆ Accuracy: ±5%

### Application



TWQ-5500



### SPECIFICATION

Code	TWQ-1000	TWQ-2000	TWQ-3500	TWQ-5500	TWQ-7500	TWQ-10000
Capacity	1000N.m	2000N.m	3500N.m	5500N.m	7500N.m	10000N.m
Torque ratio	1:4.5	1:12	1:15	1:18.5	1:20	1:26.5
Square socket	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Square driver	1"	1"	1"	1 1/2"	1 1/2"	1 1/2"
For bolt	M20-30	M22-35	M30-45	M38-52	M42-60	M52-72
For nut	S30-46	S32-55	S46-70	S55-80	S65-90	S80-105
Dimension(AxHxDxH1)	82x98.5x97x122.4	82x120x105x147	98x131x120x163	115x163.5x137x199	127x173x146x215	141x170x164x238
Weight	2.1kg	3.15kg	4.9kg	8.1kg	10.6kg	14kg



**SERIES TQM**

**TORQUE SCREWDRIVER**

- ◆ Clockwise operation
- ◆ When achieving the setting target, there is "chatter"



TQM300

**SPECIFICATION**

Code	TQM60	TQM120	TQM300	TQM600
Range	0.12~0.6N.m	0.24~1.2N.m	0.6~3N.m	1.2~6N.m
Clockwise operation accuracy	±6%	±6%	±6%	±6%
Graduation	0.01N.m	0.02N.m	0.05N.m	0.1N.m
Size of shank	1/4"	1/4"	1/4"	1/4"
Length (L)	161mm	161mm	186mm	186mm
Weight	300g	300g	400g	400g

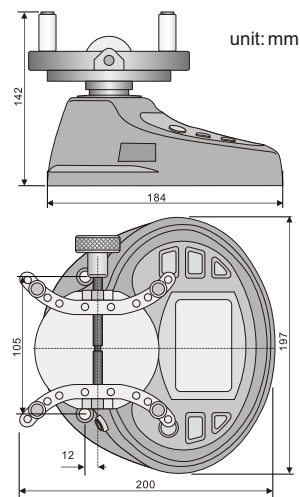
**SERIES TTM**

**DIGITAL BOTTLE CAP TORQUE METER**

- ◆ Test the open and tighten torque of bottle cap
- Peak, preset and real-time working mode
- ◆ Unit: N.m, N.cm, kgf.cm, lbf.cm, lbf.in
- ◆ Memory: 1000
- ◆ Power off automatically
- ◆ With software, can show the torque graph
- ◆ With manufacturer inspection certificate



TTM10



FORCE

**SPECIFICATION**

Code	TTM2	TTM5	TTM10	TTM20
Range	0.1-2N.m	0.25-5N.m	0.5-10N.m	1-20N.m
Accuracy	±0.5%			
Resolution	0.0002N.m	0.0005N.m	0.001N.m	0.002N.m
Open size	Ø19.5-190mm			
Output	USB and RS232			
Power	rechargeable battery			
Weight	2.5kg			

**INCLUDED ACCESSORIES**

Main unit	1pc
Charger	1pc
Software with cable	1pc

**OPTIONAL ACCESSORIES**

Wireless printer	PR100
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## SERIES TTB

## DIGITAL TORQUE METER

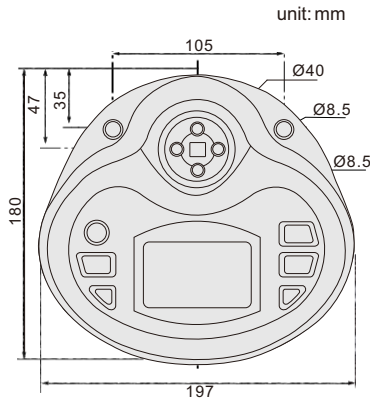


- ◆ For torque wrench and torque screwdriver calibration
- ◆ Peak, preset and real-time working mode
- ◆ Unit: N.m, N.cm, kgf.cm, lbf.cm, lbf.in
- ◆ Memory: 1000
- ◆ Power off automatically
- ◆ With software, can show the torque graph
- ◆ With manufacturer inspection certificate



TTB10

run down adapter for torque meter (optional)



TTB50

Stand (optional)



### SPECIFICATION

Code	TTB5	TTB10	TTB50	TTB100	TTB500	TTB1000
Range	0.25-5N.m	0.5-10N.m	2.5-50N.m	5-100N.m	25-500N.m	100-1000N.m
Accuracy	±0.3%					
Resolution	0.0005N.m	0.001N.m	0.005N.m	0.01N.m	0.05N.m	0.1N.m
Size of square drive	1/2"				3/4"	1"
Output	USB and RS232					
Power	rechargeable battery					
Weight	1.5kg				3kg	

### INCLUDED ACCESSORIES

Main unit	1pc
Charger	1pc
Software with cable	1pc
Convertor (TTB500 and TTB1000 doesn't include)	1pc

### OPTIONAL ACCESSORIES

Wireless printer	PR100	RUN DOWN ADAPTER FOR TORQUE METER(2N.m)	TTB-RDF2
Stand(Arm length:150-600mm)	TTB-ST1	RUN DOWN ADAPTER FOR TORQUE METER(6N.m)	TTB-RDF6
Stand(Arm length:150-1000mm)	TTB-ST2	RUN DOWN ADAPTER FOR TORQUE METER(40N.m)	TTB-RDF40
Stand(Arm length:150-1500mm)	TTB-ST4	RUN DOWN ADAPTER FOR TORQUE METER(100N.m)	TTB-RDF100



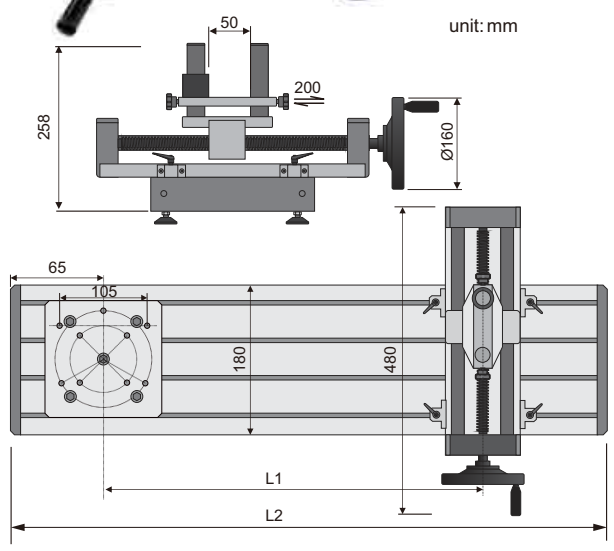
**TTB-ST1/ST2/ST4**

**STAND FOR TORQUE WRENCH TESTING**

- ◆ For calibrating torque wrench with TTB series torque meter



(Torque meter is not included)



**SPECIFICATION**

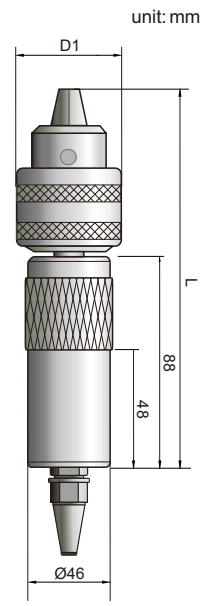
Code	TTB-ST1	TTB-ST2	TTB-ST4
Arm length(L1)	150-600mm	150-1000mm	150-1500mm
Max. travel	200mm		
Max. force	1000N		2000N
Length(L2)	770mm	1270mm	1800mm
Weight	12kg	16kg	30kg

**SERIES TTS**

**DIGITAL TORQUE METER**



- ◆ Adjustable open size for fixing
- ◆ Peak, preset and real-time working mode
- ◆ Unit: N.m, N.cm, kgf.cm, lbf.cm, lbf.in
- ◆ Memory: 1000
- ◆ Power off automatically
- ◆ With software, can show the torque graph
- ◆ With manufacturer inspection certificate



**SPECIFICATION**

Code	TTS1	TTS5	TTS10
Range	0.05-1N.m	0.25-5N.m	0.5-10N.m
Open size	Ø10mm	Ø10mm	Ø13mm
Resolution	0.0001N.m	0.0005N.m	0.001N.m
Accuracy	±0.3%		
Memory	1000		
Output	USB and RS232		
Power	rechargeable battery		
Weight	0.7kg		

**INCLUDED ACCESSORIES**

Main unit	1pc
Charger	1pc
Software with cable	1pc
Wrench	1pc

**OPTIONAL ACCESSORIES**

Wireless printer	PR100
------------------	-------

Code	L	D1
TTS1	156mm	Ø43
TTS5	156mm	Ø43
TTS10	178mm	Ø53

FORCE

## SERIES TWT

## TORQUE WRENCH TESTER

- ◆ Used to test or calibrate torque wrench
- ◆ Contains two torque sensors, with same touch screen LCD



TWT200

### SPECIFICATION

Code		TWT200	TWT500
Range	Sensor 1	1-20N.m	2.5-50N.m
	Sensor 2	10-200N.m	25-500N.m
Resolution	Sensor 1	0.002N.m	0.005N.m
	Sensor 2	0.02N.m	0.05N.m
Accuracy		0.3%	
Max. wrench length		830mm	
Driver size		1/2", 3/8", 1/4"	3/4", 1/2", 3/8"
Memory		1000	
Data output		USB	
Dimension		780×688×433 mm	
Weight		45kg	

### OPTIONAL ACCESSORIES

Main unit	1set
Charger	1pc
Driver adapter	2pcs
USB cable and software	1set

## SERIES TWT

## MOTORIZED TORQUE WRENCH TESTER

- ◆ Used to test or calibrate torque wrench
- ◆ Loading force: motorized
- ◆ Contains two torque sensors, with same touch screen LCD



TWT200M

### SPECIFICATION

Code		TWT200M	TWT500M	TWT1000M
Range	Sensor 1	1-20N.m	2.5-50N.m	10-100N.m
	Sensor 2	10-200N.m	25-500N.m	100-1000N.m
Resolution	Sensor 1	0.002N.m	0.005N.m	0.01N.m
	Sensor 2	0.02N.m	0.05N.m	0.1N.m
Accuracy		0.3%		
Max. wrench length		830mm		
Driver size		1/2", 3/8", 1/4"	3/4", 1/2", 3/8"	1", 3/4", 1/2", 3/8"
Memory		1000		
Data output		USB		
Dimension		780×635×443 mm		
Weight		55kg		

### OPTIONAL ACCESSORIES

Main unit	1set
Driver adapter	1set
Software and USB cable	1set
Power cable	1pc



**PS075**

**PORTABLE SCALE**



- ◆ Pocket size, easy to carry
- ◆ It can also measure the dimension
- ◆ With back light
- ◆ Power off automatically
- ◆ Can show temperature



**SPECIFICATION**

Range	0-75kg
Resolution	0.01kg
Accuracy	0.05kg (Weight≤50kg),0.2kg (Weight>50kg)
Unit	kg, lb, JIN, oz
Power supply	2xAAA battery
Dimension	70x135x30mm
Weight	185g

**STANDARD DELIVERY**

Main unit	1pc
AAA battery	2pcs

**WSC300G**

**ELECTRONIC WEIGHING SCALE FOR KITCHEN**



- ◆ LCD display, with backlight
- ◆ Automatic "Zero"
- ◆ Automatic power off



**SPECIFICATION**

Max. capacity	3kg
Min. capacity	0.5g
Division	0.1g
Verification interval	1g
Unit	g, ct, oz, tl, dwn, gn
Automatic "zero" range	0-60g
Power supply	9V AD/DC adapter or 6xAA battery
Dimension of pan	15x15cm
Dimension	23x15x4cm

## SERIES WSJ

## HIGH PRECISION ELECTRONIC BALANCE



- ◆ High accuracy, mainly used to measure weight of golden and jewellery
- ◆ LCD display, with backlight
- ◆ Overload and limits alarm
- ◆ RS232 output
- ◆ Automatic power off



WSJ2000G

### SPECIFICATION

Code	WSJ100G	WSJ200G	WSJ300G	WSJ600G	WSJ1000G	WSJ2000G
Max. capacity	100g	200g	300g	600g	1000g	2000g
Min. capacity	0.005g	0.005g	0.005g	0.05g	0.05g	0.05g
Division	0.001g	0.001g	0.001g	0.01g	0.01g	0.01g
Verification interval	0.01g	0.01g	0.01g	0.1g	0.1g	0.1g
Unit	g, ct, lb, oz, dr, gn, ozt, dwt					
Power supply	re-chargeable battery					
Dimension of pan	Ø9CM			Ø14CM		
Dimension	32x21x31cm					

## SERIES WS

## ELECTRONIC WEIGHING SCALE

- ◆ LCD display, with backlight
- ◆ Overload and limits alarm
- ◆ RS232 output
- ◆ Automatic power off



WS15K

### SPECIFICATION

Code	WS06K	WS15K	WS30K
Max. capacity	6kg	15kg	30kg
Min. capacity	1g	5g	10g
Division	0.1g	0.5g	1g
Verification interval	1g	5g	10g
Unit	kg, g, lb		
Power supply	9VAD/DC adapter		
Dimension of pan	32x23cm		
Dimension	32x36x11cm		

# SERIES WT/WTS

# WEIGHT



◆ With manufacturer inspection certificate

### TOLERANCE

Weight	M1	F2	F1	E2
1mg	0.2mg	0.06mg	0.02mg	0.006mg
2mg	0.2mg	0.06mg	0.02mg	0.006mg
5mg	0.2mg	0.06mg	0.02mg	0.006mg
10mg	0.25mg	0.08mg	0.025mg	0.008mg
20mg	0.3mg	0.1mg	0.03mg	0.01mg
50mg	0.4mg	0.12mg	0.04mg	0.012mg
100mg	0.5mg	0.16mg	0.05mg	0.016mg
200mg	0.6mg	0.2mg	0.06mg	0.02mg
500mg	0.8mg	0.25mg	0.08mg	0.025mg
1g	1mg	0.3mg	0.1mg	0.03mg
2g	1.2mg	0.4mg	0.12mg	0.04mg
5g	1.6mg	0.5mg	0.16mg	0.05mg
10g	2mg	0.6mg	0.2mg	0.06mg
20g	2.5mg	0.8mg	0.25mg	0.08mg
50g	3mg	1mg	0.3mg	0.1mg
100g	5mg	1.6mg	0.5mg	0.16mg
200g	10mg	3mg	1mg	0.3mg
500g	25mg	8mg	2.5mg	0.8mg
1kg	50mg	16mg	5mg	1.6mg
2kg	100mg	30mg	10mg	3mg
5kg	250mg	80mg	25mg	8mg
10kg	500mg	160mg	50mg	16mg
20kg	1000mg	300mg	100mg	30mg



### GRADE SELECTION

Weighing instrument resolution	Grade selection
0.001mg	E1
0.01mg	E2
0.1mg	E2 or F1
1mg	F2
0.01g/0.1g	M1

### INDIVIDUAL WEIGHT

Weight	Code	Grade and stainless steel type					Sharp
		M1(304)	F2(304)	F1(304)	F1(non-magnetic)	E2(non-magnetic)	
1mg	WT-M001M1	WT-M001F2	WT-M001F1	WT-M001F1B	WT-M001E2	sheet	
2mg	WT-M002M1	WT-M002F2	WT-M002F1	WT-M002F1B	WT-M002E2		
5mg	WT-M005M1	WT-M005F2	WT-M005F1	WT-M005F1B	WT-M005E2		
10mg	WT-M010M1	WT-M010F2	WT-M010F1	WT-M010F1B	WT-M010E2		
20mg	WT-M020M1	WT-M020F2	WT-M020F1	WT-M020F1B	WT-M020E2		
50mg	WT-M050M1	WT-M050F2	WT-M050F1	WT-M050F1B	WT-M050E2		
100mg	WT-M100M1	WT-M100F2	WT-M100F1	WT-M100F1B	WT-M100E2		
200mg	WT-M200M1	WT-M200F2	WT-M200F1	WT-M200F1B	WT-M200E2		
500mg	WT-M500M1	WT-M500F2	WT-M500F1	WT-M500F1B	WT-M500E2		
1g	WT-001M1	WT-001F2	WT-001F1	WT-001F1B	WT-001E2		cylinder
2g	WT-002M1	WT-002F2	WT-002F1	WT-002F1B	WT-002E2		
5g	WT-005M1	WT-005F2	WT-005F1	WT-005F1B	WT-005E2		
10g	WT-010M1	WT-010F2	WT-010F1	WT-010F1B	WT-010E2		
20g	WT-020M1	WT-020F2	WT-020F1	WT-020F1B	WT-020E2		
50g	WT-050M1	WT-050F2	WT-050F1	WT-050F1B	WT-050E2		
100g	WT-100M1	WT-100F2	WT-100F1	WT-100F1B	WT-100E2		
200g	WT-200M1	WT-200F2	WT-200F1	WT-200F1B	WT-200E2		
500g	WT-500M1	WT-500F2	WT-500F1	WT-500F1B	WT-500E2		
1kg	WT-1000M1	WT-1000F2	WT-1000F1	WT-1000F1B	WT-1000E2		
2kg	WT-2000M1	WT-2000F2	WT-2000F1	WT-2000F1B	WT-2000E2		
5kg	WT-5000M1	WT-5000F2	WT-5000F1	WT-5000F1B	WT-5000E2		
10kg	WT-10000M1	WT-10000F2	WT-10000F1	WT-10000F1B	WT-10000E2		
20kg	WT-20000M1	WT-20000F2	WT-20000F1	WT-20000F1B	WT-20000E2		

### WEIGHT SET

Weight	Code	Grade and stainless steel type					Quantity
		M1(304)	F2(304)	F1(304)	F1(non-magnetic)	E2(non-magnetic)	
1mg-200g	WTS-200M1	WTS-200F2	WTS-200F1	WTS-200F1B	WTS-200E2	23pcs	
1mg-500g	WTS-500M1	WTS-500F2	WTS-500F1	WTS-500F1B	WTS-500E2	24pcs	

Each set includes two pieces 2mg/20mg/200mg/2g/20g/200g and one piece each other sizes

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