

# ACCUD

## ACCURATE MEASUREMENT



## 2025-2026 EN110



## About ACCUD:

**ACCUD** is a dedicated supplier of measuring instruments.

**ACCUD** products line not only covers traditional gauges such as calipers, micrometers, dial indicators, height gauges, gauge blocks, but also covers high-technology measuring instruments like hardness tester, vision measuring machine.

**ACCUD** products are mainly manufactured in Asia, and further inspected according to strict quality criteria.

## Our key aims are:

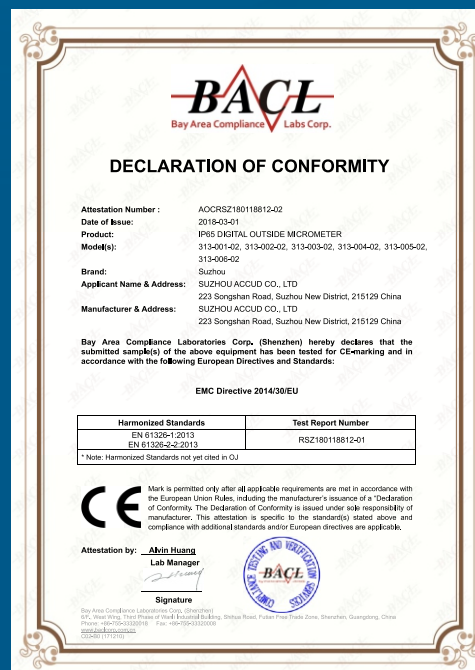
Quality: conforms to international standards with full guarantee.

Service: ensure user have trouble-free use of ACCUD products.

Professional: supply the user the best measuring solution.

Value: supply the product with high cost performance.

Brand: establish good brand impression.







## Search products:

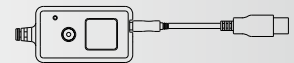
1. According to the product code, search in the code index (in the end of this catalogue)
2. According to the product functions, search following index.



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

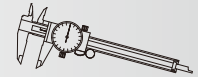
## P1-3

**OUTPUT INTERFACE  
WIRELESS DATA TRANSFER SYSTEM**



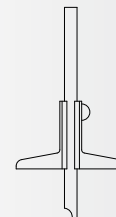
## P4-52

**DIGITAL CALIPER  
VERNIER CALIPER  
DIAL CALIPER**



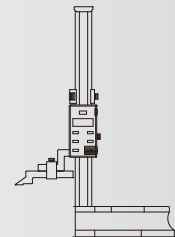
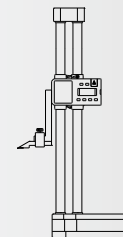
## P53-70

**DEPTH CALIPER  
DEPTH MICROMETER  
DEPTH INDICATOR**



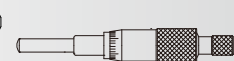
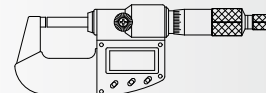
## P71-80

**HEIGHT GAGE**



## P81-129

**OUTSIDE MICROMETER  
MICROMETER HEAD  
MICROMETER STAND**

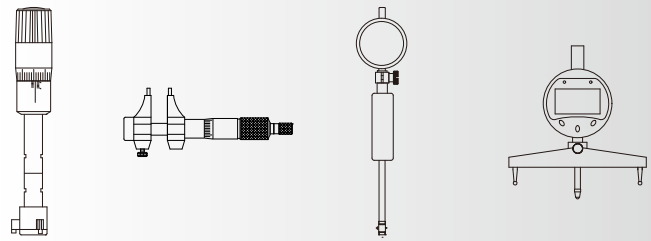




# INDEX

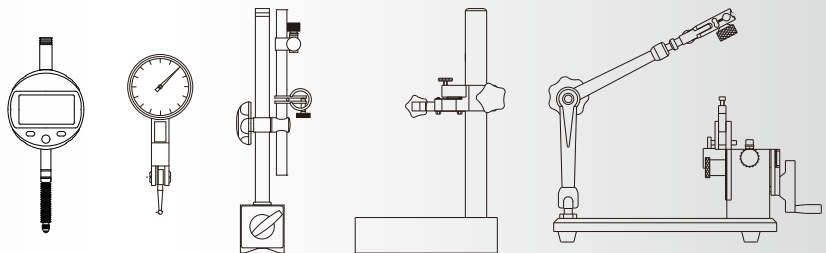
## P130-156

INSIDE MICROMETER  
BORE GAUGE  
RADIUS GAUGE  
CIRCUMFERENCE TAPE



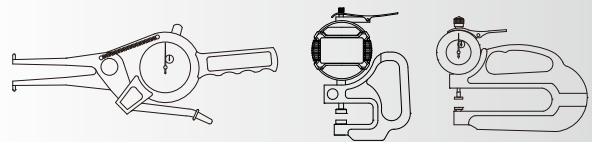
## P157-206

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



## P207-229

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



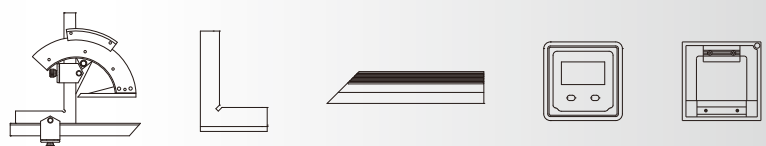
## P230-261

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



## P261-288

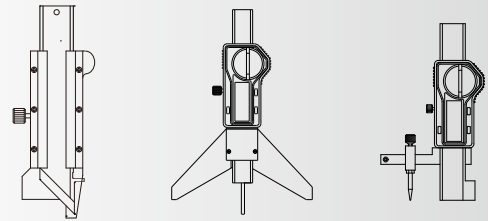
PROTRACTOR  
SQUARE  
STRAIGHT EDGE  
LEVEL





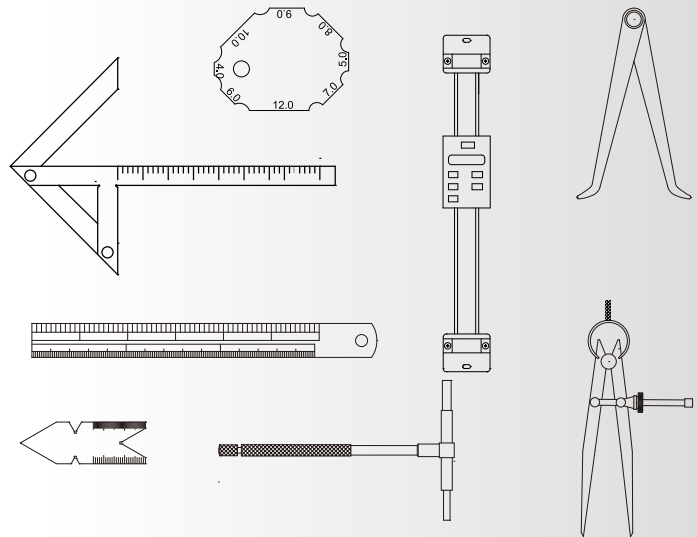
## P289-294

CHAMFER GAUGE  
DIGITAL KEYWAY GAUGE  
DIGITAL STEP GAUGE



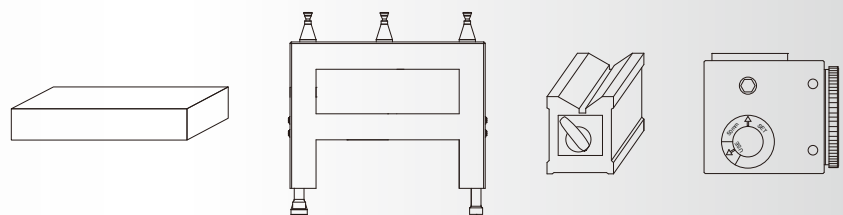
## P294-335

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



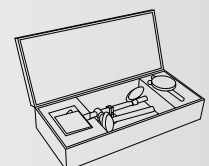
## P336-356

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



## P356-361

MEASURING TOOLS SET

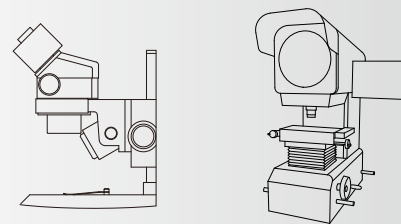




# INDEX

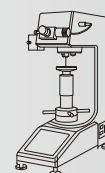
## P362-398

ENDOSCOPE  
MAGNIFIER  
MICROSCOPE  
CAMERA  
PROFILE PROJECTOR  
VISION MACHINE  
TOOL PRESETTER



## P399-426

HARDNESS TESTER



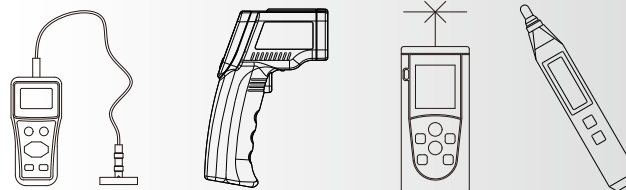
## P426-434

ROUGHNESS SPECIMEN  
ROUGHNESS TESTER  
ROUNDNESS TESTER



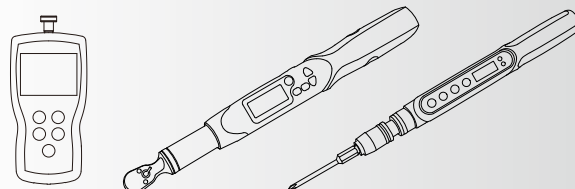
## P435-464

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



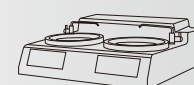
## P465-485

FORCE GAUGE  
TORQUE WRENCH  
TORQUE SCREWDRIVER  
TORQUE METER  
WEIGHING SCALE  
WEIGHT

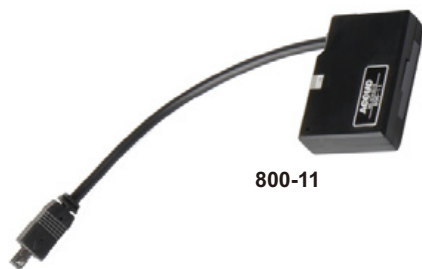


## P486

MANUAL GRINDING POLISHING MACHINE  
LOW SPEED PRECISION CUTTING MACHINE

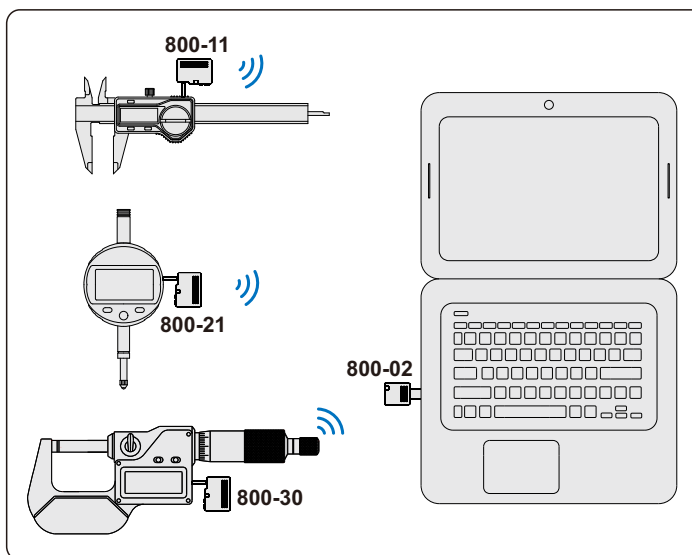




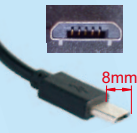






**VIDEO**

**800-11**





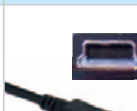

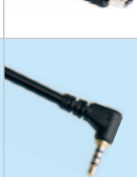

**800-02**

- ◆ 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 

\* Confirm the electronics output port type when placing orders

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 



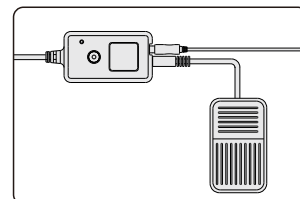
VIDEO



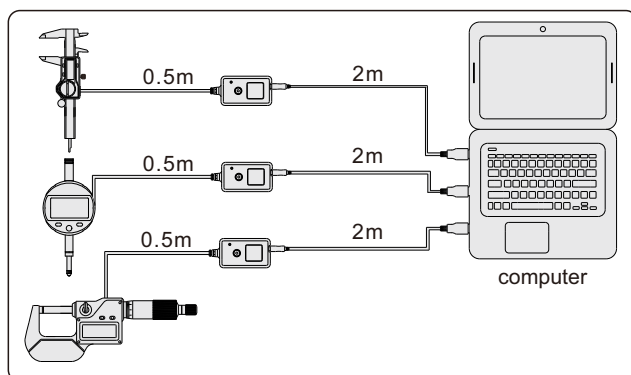
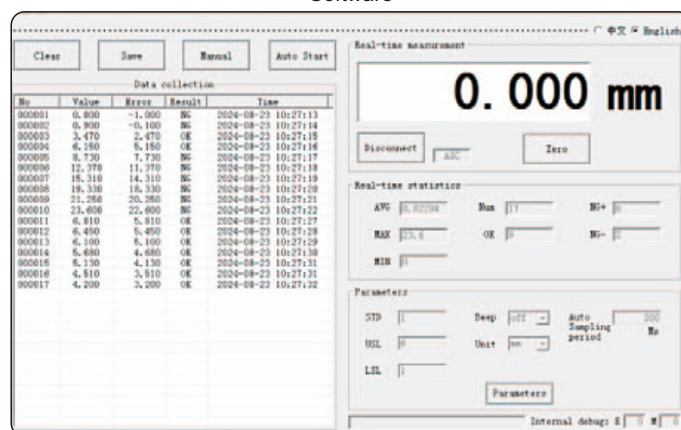
100-11

- ◆ 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

### CABLE FOR DIGITAL INDICATORS AND MULTI CHANNEL INTERFACE BOX

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

For following series 208  
(counter for linear gauge)



208-004-01



208-008-01

For following 206

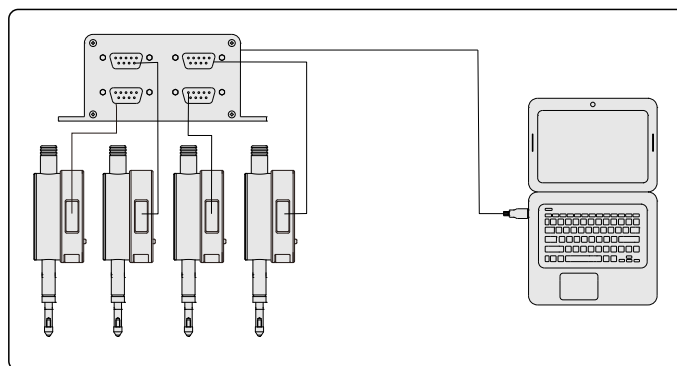


206-010-01



200-92

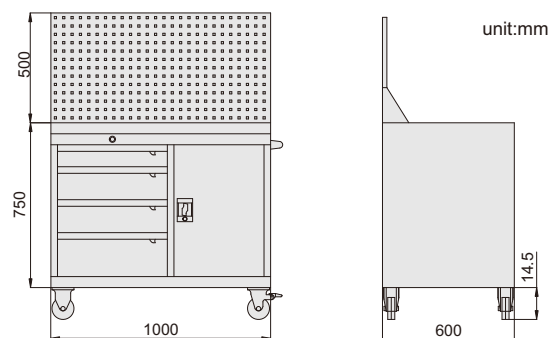
Work with series 208 (counter for linear gauge)



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

### 809

### MOVABLE WORKBENCH



unit:mm

#### Application



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

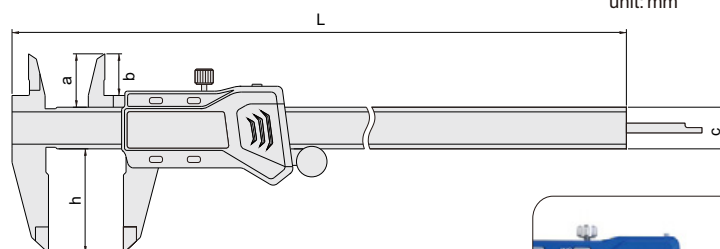
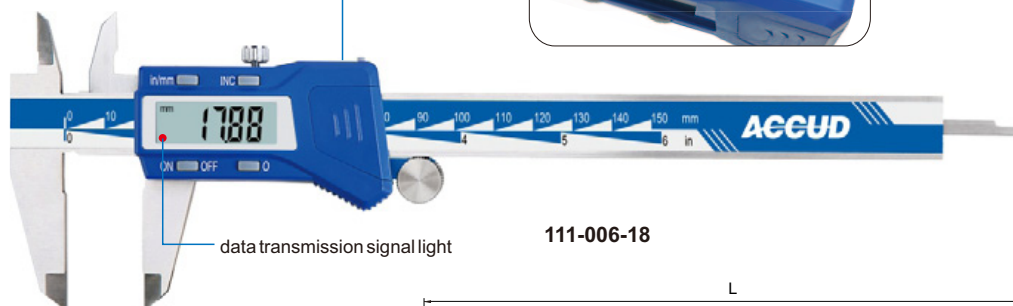
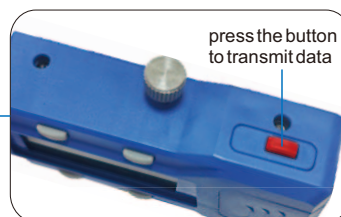


## SERIES 111

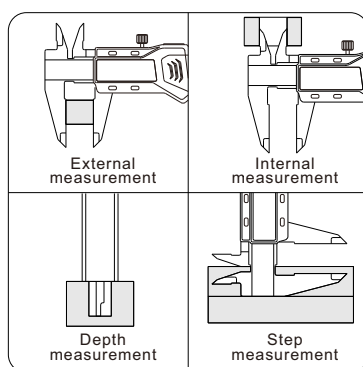
## WIRELESS DIGITAL CALIPER



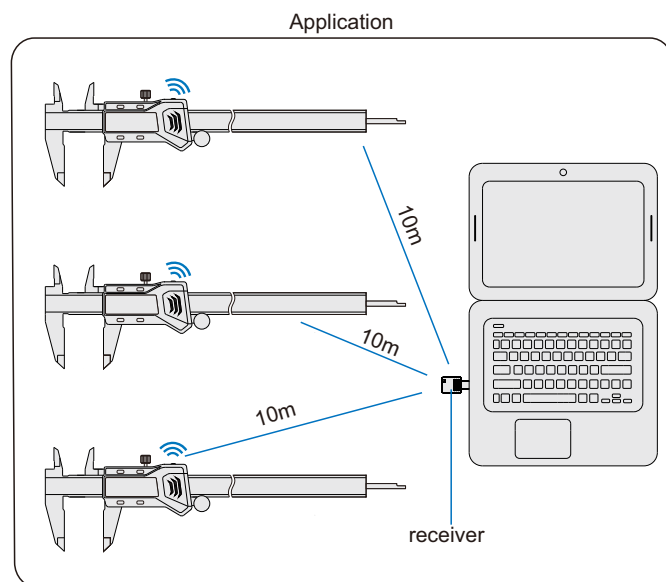
**ATTENTION:**  
THE WORKING LIFE OF ONE  
BATTERY IS ABOUT 3-5 MONTHS



- ◆ 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)



Receiver (optional)

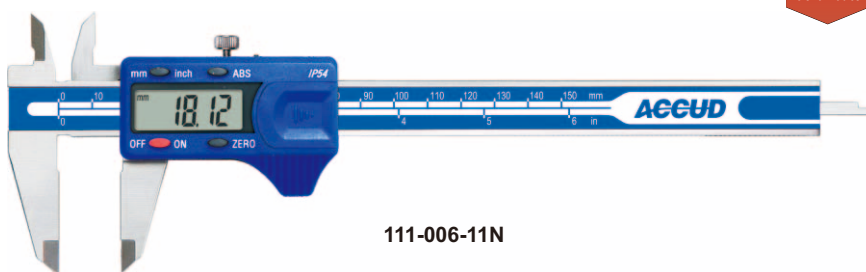


Code	Range	Accuracy	a	b	c	h	L
111-006-18	0-150mm/0-6"	±0.03mm	21	16	16	40	236
111-008-18	0-200mm/0-8"	±0.03mm	24	19	16	50	286
111-012-18	0-300mm/0-12"	±0.03mm	25	20.5	16	60	400
111-006-18W	0-150mm/0-6"	±0.03mm	21	16	16	40	236
111-008-18W	0-200mm/0-8"	±0.03mm	24	19	16	50	286
111-012-18W	0-300mm/0-12"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

With manufacturer inspection certificate

## SERIES 111

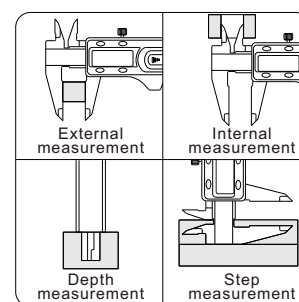
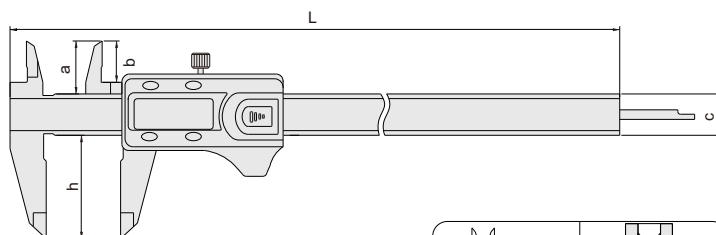
## DIGITAL CALIPER



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

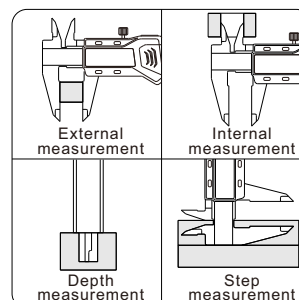
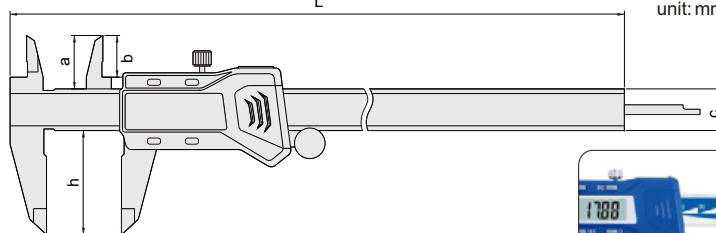
## DIGITAL CALIPER



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

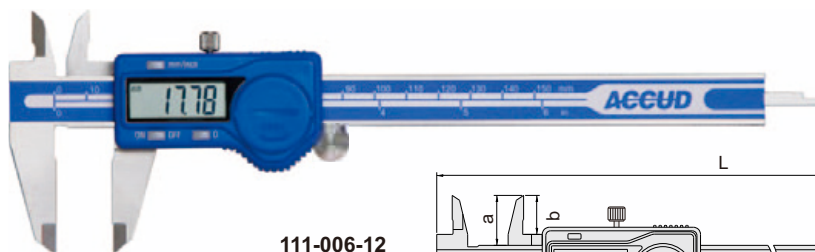


Code	Range	Accuracy	a	b	c	h	L
111-006-10	0-150mm/0-6"	±0.03mm	21	16	16	40	236
111-008-10	0-200mm/0-8"	±0.03mm	24	19	16	50	286
111-012-10	0-300mm/0-12"	±0.03mm	25	20.5	16	60	400
111-006-10W	0-150mm/0-6"	±0.03mm	21	16	16	40	236
111-008-10W	0-200mm/0-8"	±0.03mm	24	19	16	50	286
111-012-10W	0-300mm/0-12"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

With manufacturer inspection certificate

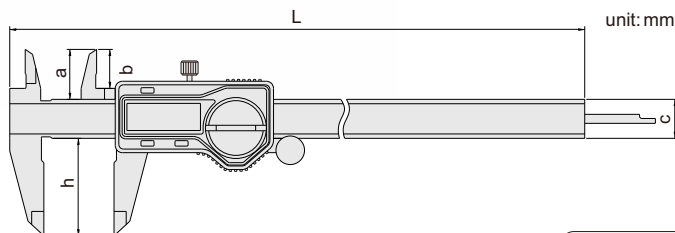
## SERIES 111

## DIGITAL CALIPER



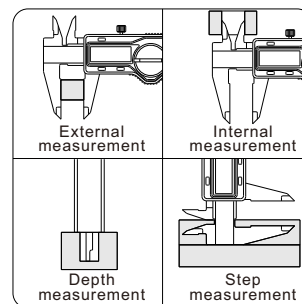
111-006-12

- ◆ 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



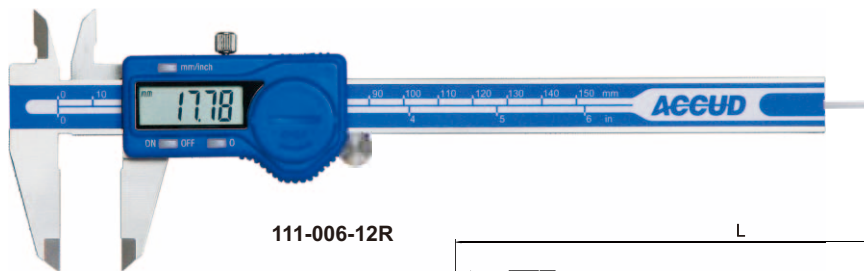
Code	Range	Accuracy	a	b	c	h	L
111-006-12	0-150mm/0-6"	±0.03mm	21	16	16	40	236
111-008-12	0-200mm/0-8"	±0.03mm	24	19	16	50	286
111-012-12	0-300mm/0-12"	±0.03mm	25	20.5	16	60	400
111-006-12W	0-150mm/0-6"	±0.03mm	21	16	16	40	236
111-008-12W	0-200mm/0-8"	±0.03mm	24	19	16	50	286
111-012-12W	0-300mm/0-12"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

With manufacturer inspection certificate



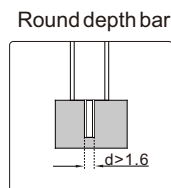
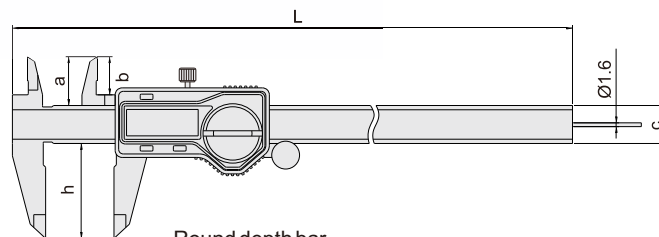
## SERIES 111

## DIGITAL CALIPER WITH ROUND DEPTH BAR



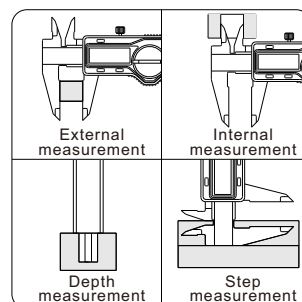
111-006-12R

- ◆ 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





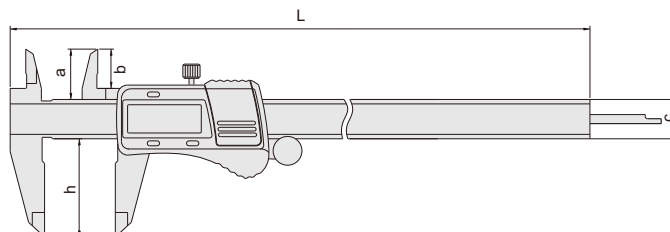
## SERIES 111

## DIGITAL CALIPER WITH METAL COVER



111-006-16

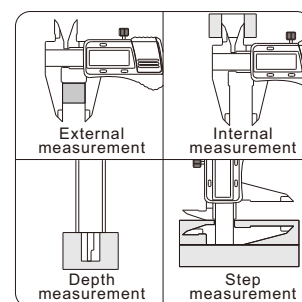
unit: mm



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

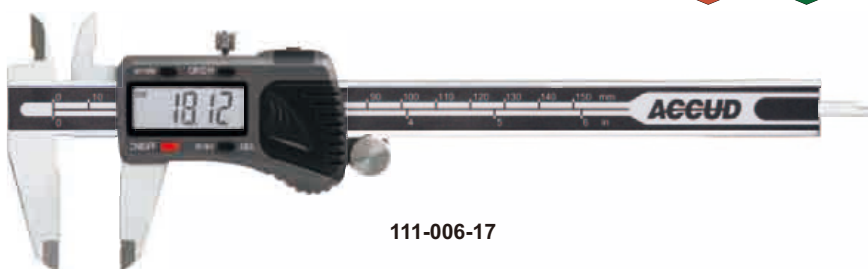
Code	Range	Accuracy	a	b	c	h	L
111-006-16	0-150mm/0-6"	±0.03mm	21	16	16	40	236
111-008-16	0-200mm/0-8"	±0.03mm	24	19	16	50	286
111-012-16	0-300mm/0-12"	±0.03mm	25	20.5	16	60	400

With manufacturer inspection certificate



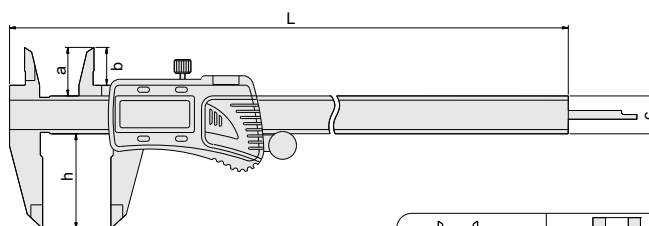
## SERIES 111

## DIGITAL CALIPER



111-006-17

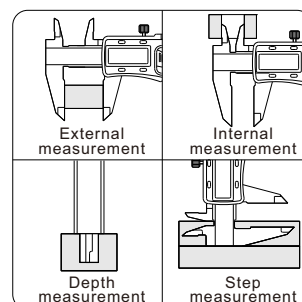
unit: mm



- ◆ 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



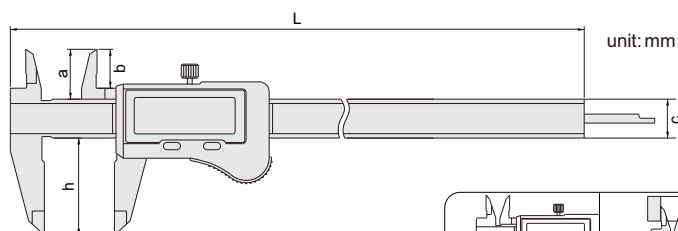
## SERIES 112

## IP67 WATERPROOF DIGITAL CALIPER



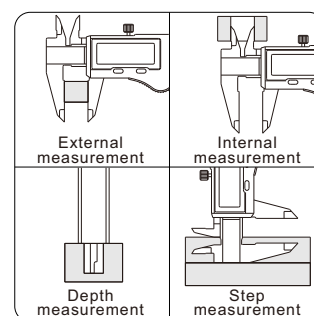
112-006-11H

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



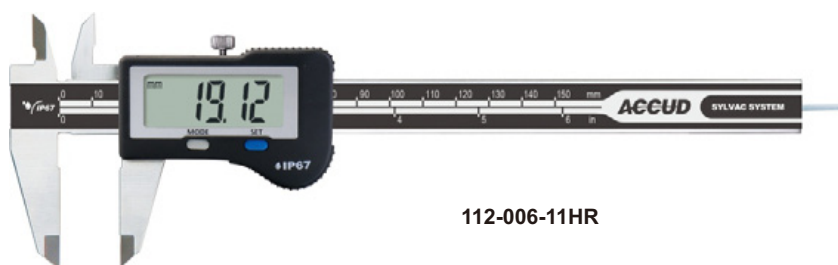
Code	Range	Accuracy	a	b	c	h	L
112-006-11H	0-150mm/0-6"	±0.02mm	21	16.5	16	40	236
112-008-11H	0-200mm/0-8"	±0.02mm	24	19	16	50	286
112-012-11H	0-300mm/0-12"	±0.03mm	25	20.5	16	60	400

With manufacturer inspection certificate



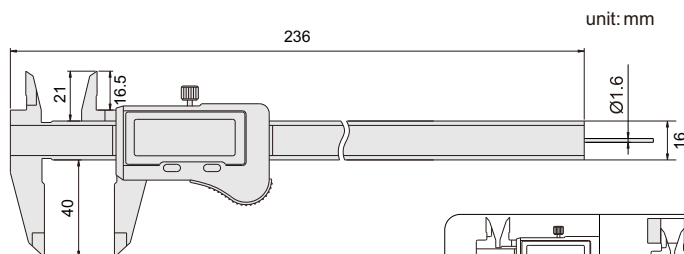
## SERIES 112

## IP67 WATERPROOF DIGITAL CALIPER WITH ROUND DEPTH BAR



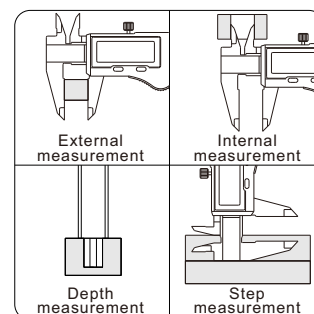
112-006-11HR

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



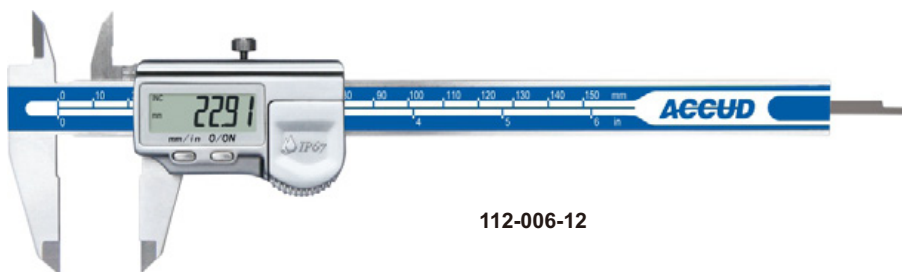
Code	Range	Accuracy
112-006-11HR	0-150mm/0-6"	±0.02mm

With manufacturer inspection certificate



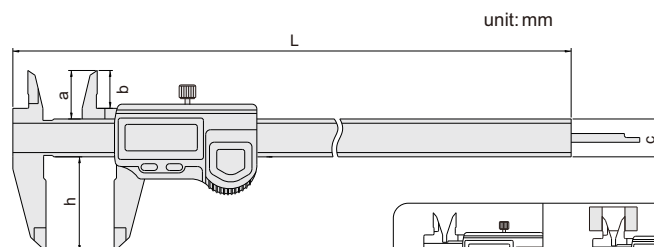
## SERIES 112

## IP67 WATERPROOF DIGITAL CALIPER



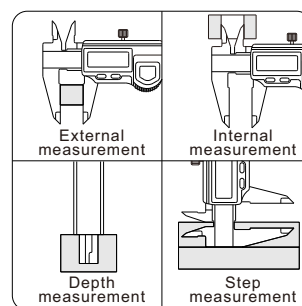
112-006-12

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



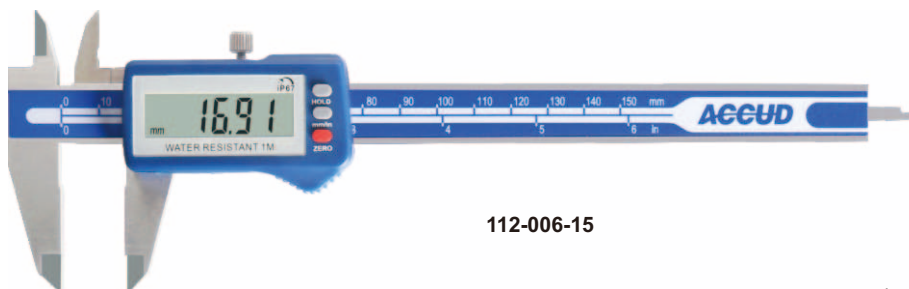
Code	Range	Accuracy	a	b	c	h	L
112-006-12	0-150mm/0-6"	±0.03mm	21	16.5	16	40	236
112-008-12	0-200mm/0-8"	±0.03mm	24	20	16	50	286
112-012-12	0-300mm/0-12"	±0.03mm	25	20.5	16	60	400

With manufacturer inspection certificate



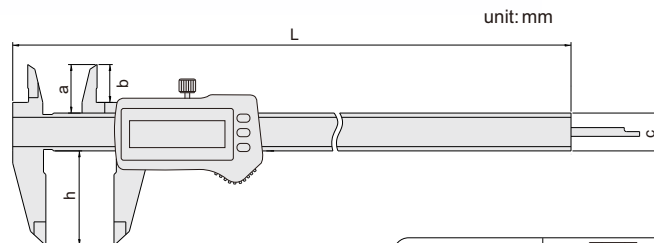
## SERIES 112

## IP67 WATERPROOF DIGITAL CALIPER



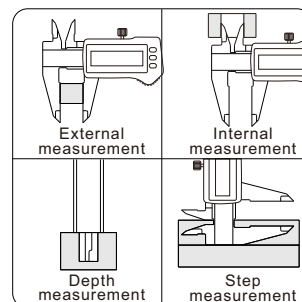
112-006-15

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



Code	Range	Accuracy	a	b	c	h	L
112-006-15	0-150mm/0-6"	±0.03mm	21	16.5	16	40	236
112-008-15	0-200mm/0-8"	±0.03mm	24	20	16	50	286
112-012-15	0-300mm/0-12"	±0.03mm	25	20.5	16	60	400

With manufacturer inspection certificate





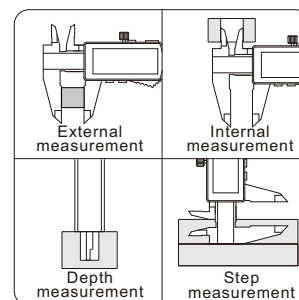
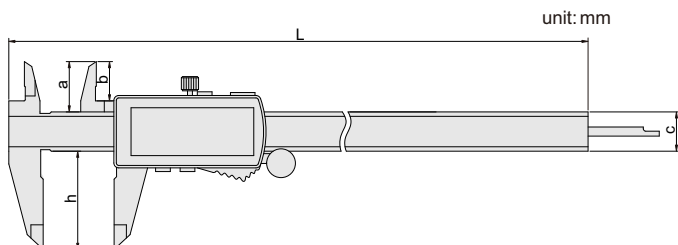
## SERIES 106

## 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)

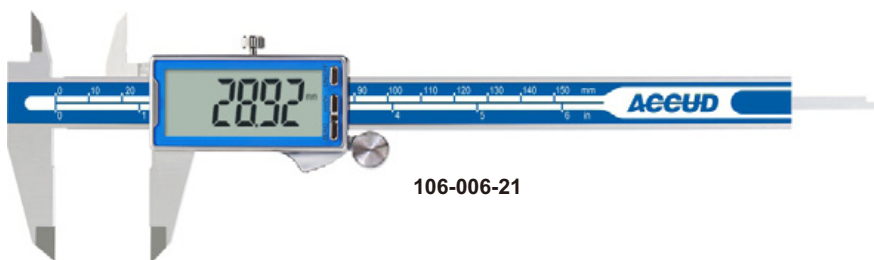


Code	Range	Accuracy	a	b	c	h	L
106-006-11	0-150mm/0-6"	±0.03mm	21	16	16	40	236
106-008-11	0-200mm/0-8"	±0.03mm	24	19	16	50	286
106-012-11	0-300mm/0-12"	±0.03mm	25	20.5	16	60	400

With manufacturer inspection certificate

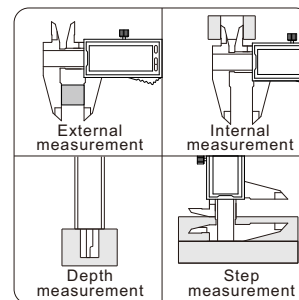
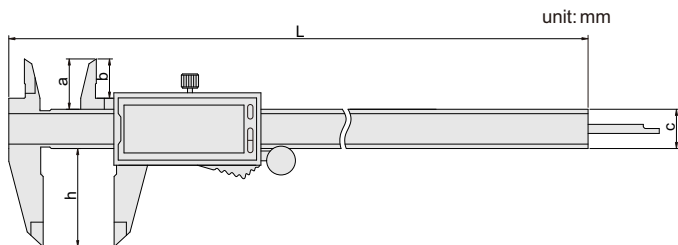
## SERIES 106

## 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

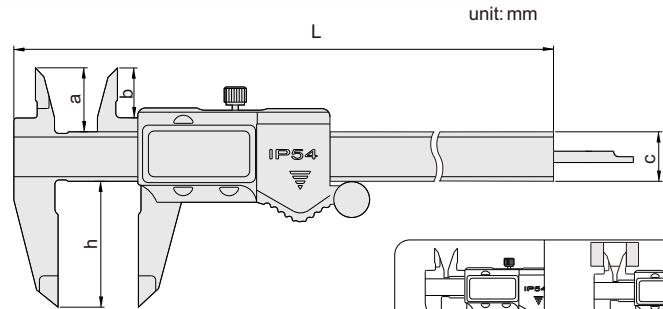
## SERIES 113

## FRACTIONAL DIGITAL CALIPER



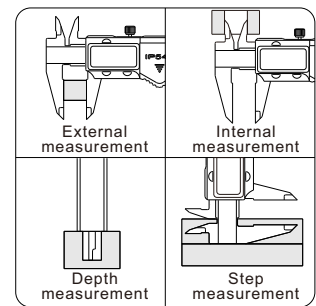
113-006-11

- ◆ 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



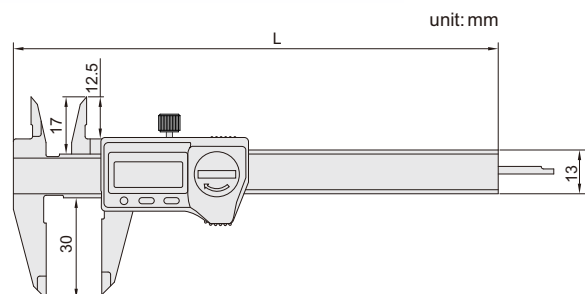
## SERIES 114

## MINI DIGITAL CALIPER



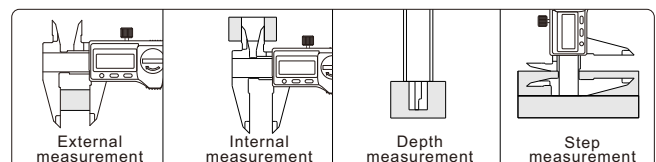
114-004-11

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



Code	Range	Accuracy	L
114-003-11	0-75mm/0-3"	±0.02mm	144
114-004-11	0-100mm/0-4"	±0.02mm	170

With manufacturer inspection certificate



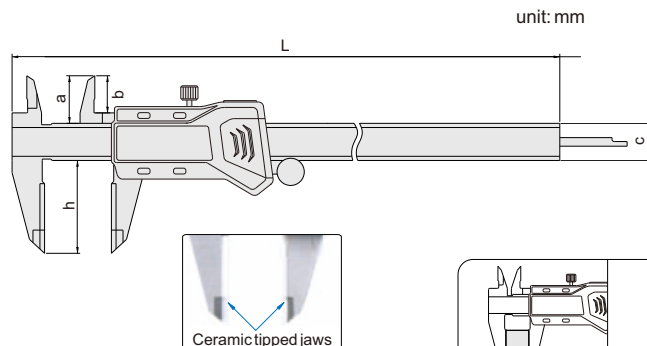
## SERIES 115

## DIGITAL CALIPER



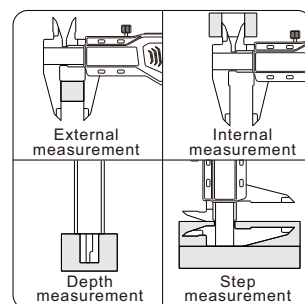
115-006-11

- ◆ 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



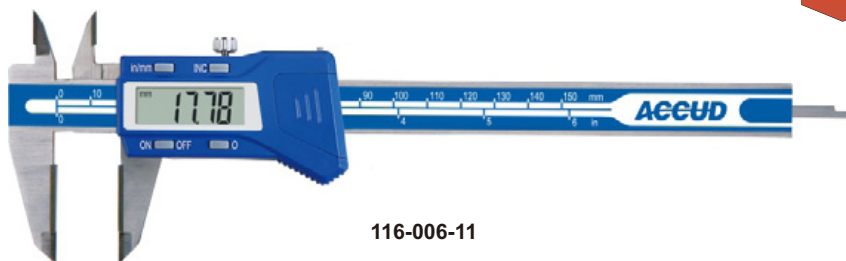
Code	Range	Accuracy	a	b	c	h	L
115-006-11	0-150mm/0-6"	±0.03mm	21	16.5	16	40	236
115-008-11	0-200mm/0-8"	±0.03mm	24	19	16	50	286
115-012-11	0-300mm/0-12"	±0.03mm	26	20.5	16	60	400

With manufacturer inspection certificate



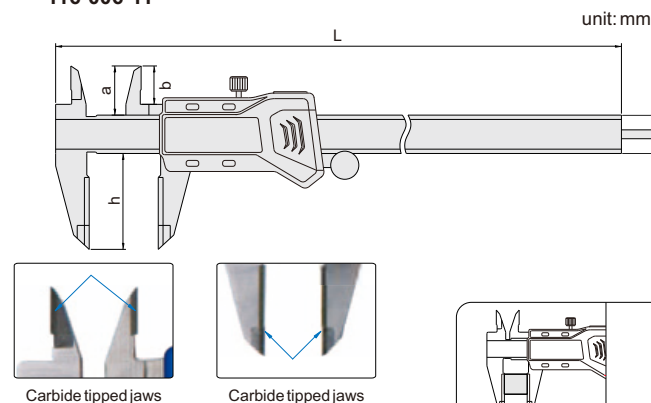
## SERIES 116

## DIGITAL CALIPER WITH CARBIDE TIPPED JAWS



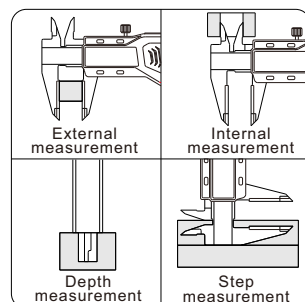
116-006-11

- ◆ 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



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



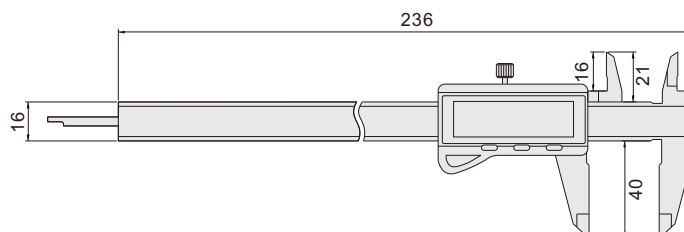
110

## LEFT HAND DIGITAL CALIPER



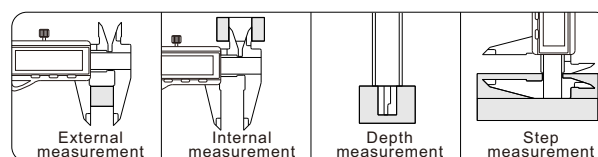
- ◆ Non waterproof
- ◆ Designed for left handed users
- ◆ Resolution: 0.01mm/0.0005
- ◆ Buttons: on/off, zero, mm/inch
- ◆ Automatic power on/off
- ◆ Data output
- ◆ Meet DIN862
- ◆ Made of stainless steel

unit: mm



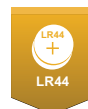
Code	Range	Accuracy
110-006-11	0-150mm/0-6"	±0.03mm

With manufacturer inspection certificate



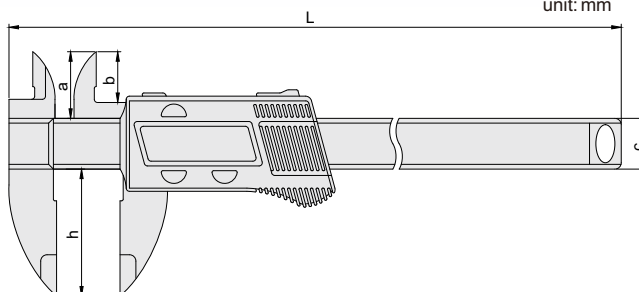
117

## PLASTIC DIGITAL CALIPER

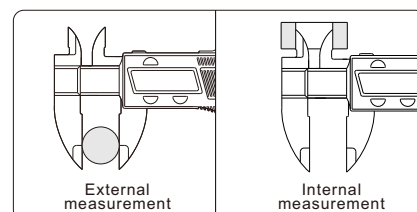


- ◆ Made of hard plastic
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/inch

unit: mm



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

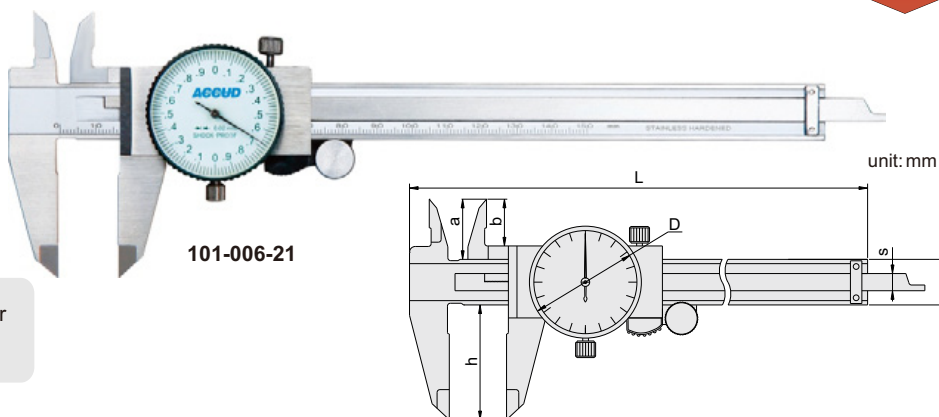


CALIPER



## SERIES 101

## DIAL CALIPER



101-006-21

- ◆ Shockproof dial indicator
- ◆ Made of stainless steel

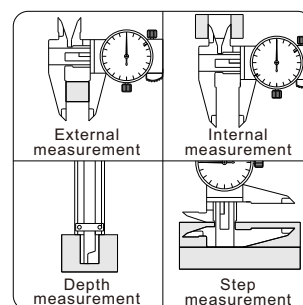
### Graduation 0.01mm

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

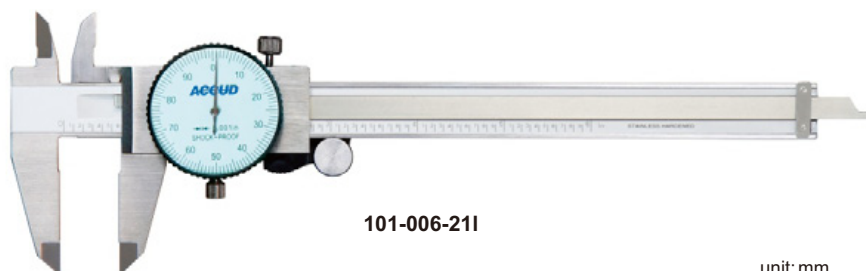
Code	Range	Accuracy	a	b	c	h	s	D	L
101-006-21	0-150mm	±0.03mm	21	16.5	16	40	6.5	Ø39	235
101-008-21	0-200mm	±0.03mm	24	19	16	48	6.5	Ø39	288
101-012-21	0-300mm	±0.03mm	28	22	20	62	7.5	Ø44.5	410

With manufacturer inspection certificate



## SERIES 101

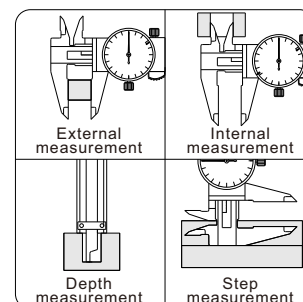
## INCH DIAL CALIPER



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

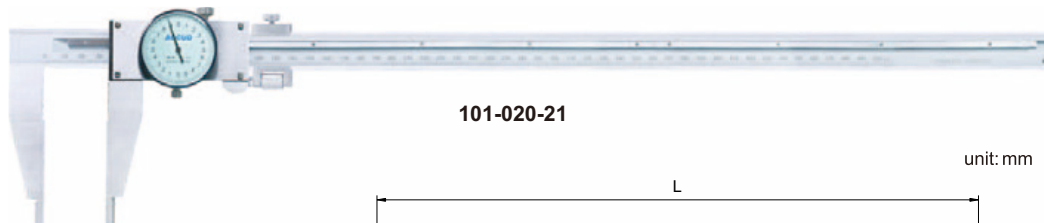


## SERIES 101

## DIAL CALIPER



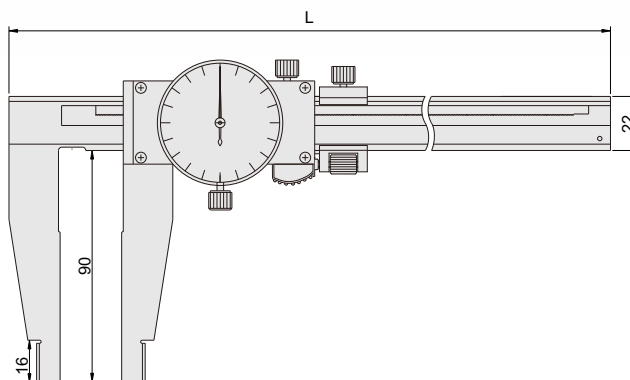
ACCUD



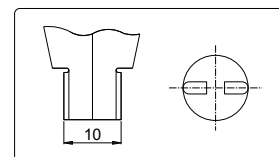
101-020-21

unit: mm

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



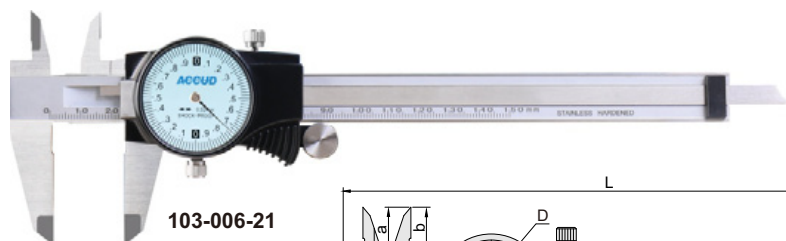
Code	Range	Accuracy	L
101-020-21	0-500mm	±0.05mm	640
101-024-21	0-600mm	±0.05mm	740



CALIPER

## SERIES 103

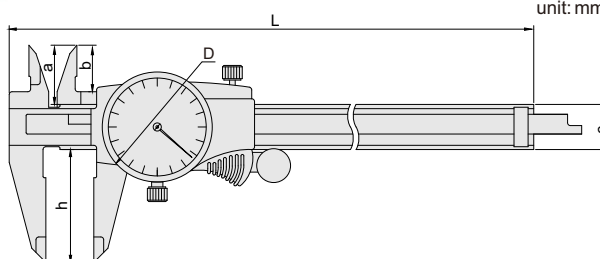
## DIAL CALIPER



103-006-21

unit: mm

- ◆ Shockproof dial indicator
- ◆ Made of stainless steel



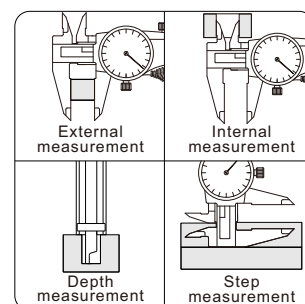
Graduation 0.01mm

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

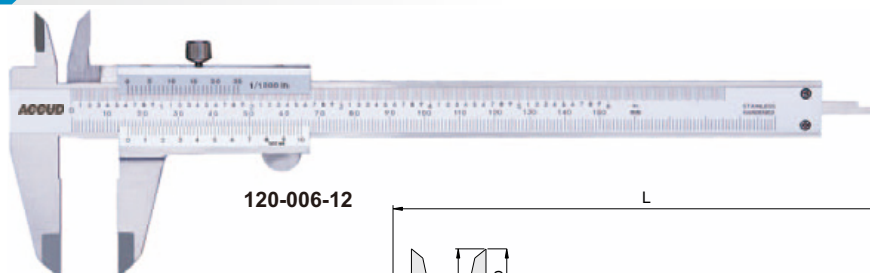
Code	Range	Accuracy	a	b	c	h	D	L
103-006-21	0-150mm	±0.03mm	21	16.5	16	40	Ø39	233
103-008-21	0-200mm	±0.03mm	24	19	16	50	Ø39	288
103-012-21	0-300mm	±0.03mm	30	25	20	64	Ø44	390

With manufacturer inspection certificate



**SERIES 120**

**VERNIER CALIPER**



120-006-12

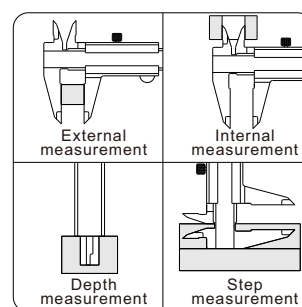
- ◆ Meet DIN862
- ◆ Satin chrome plated reading surface
- ◆ Made of stainless steel

**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

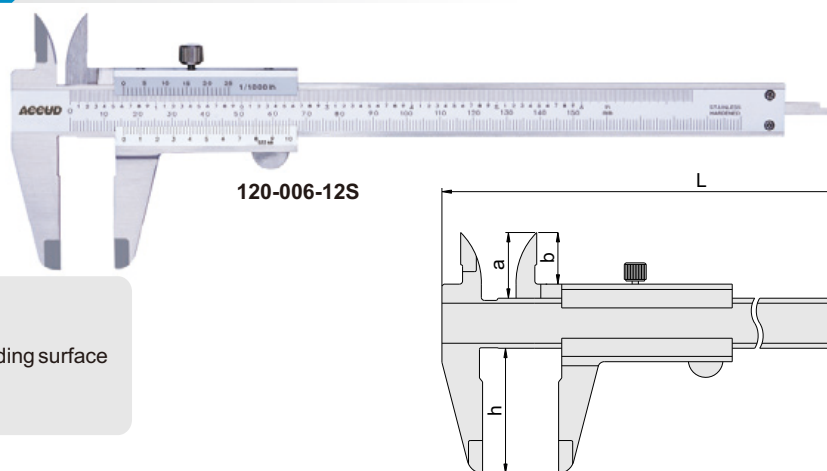
**Graduation 0.05mm/1/128"**

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

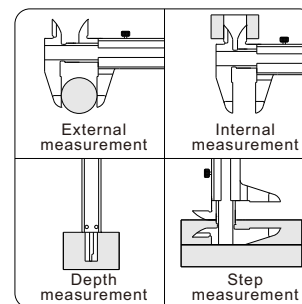
- ◆ Meet DIN862
- ◆ Satin chrome plated reading surface
- ◆ Made of stainless steel

**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

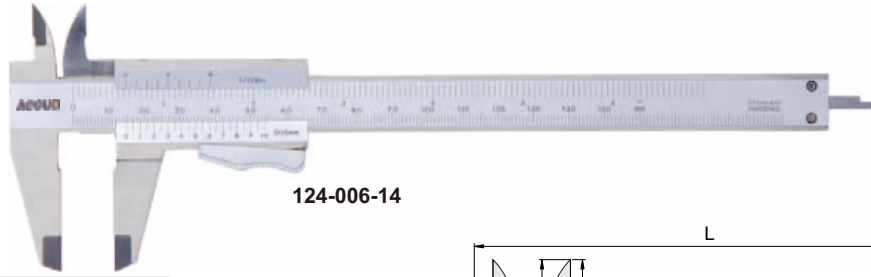
**Graduation 0.05mm/1/128"**

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

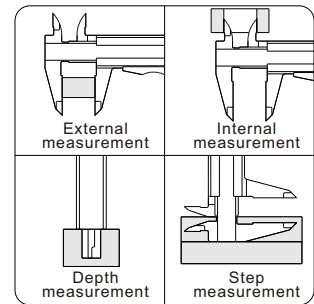
- ◆ With auto thumb clamp
- ◆ Meet DIN862
- ◆ Satin chrome plated reading surface
- ◆ Made of stainless steel

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"

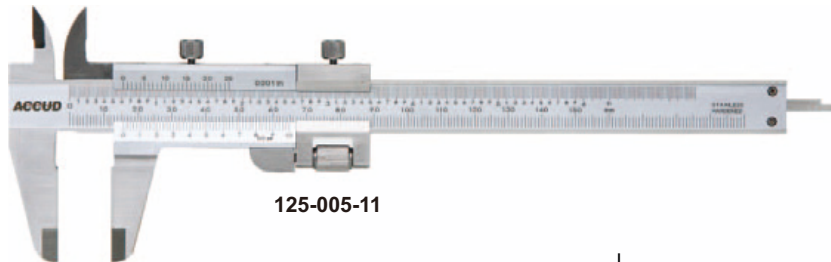
Code	Range	Accuracy	a	b	c	h	L
124-006-14	0-150mm/0-6"	±0.05mm	20.5	15.5	16	40	235
124-008-14	0-200mm/0-8"	±0.05mm	23.5	19	16	50	290



CALIPER

**SERIES 125**

**VERNIER CALIPER**

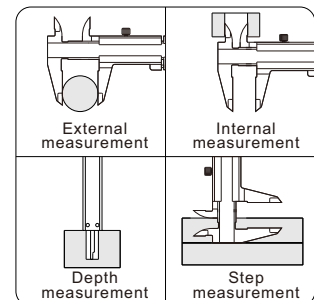


125-005-11

unit: mm

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

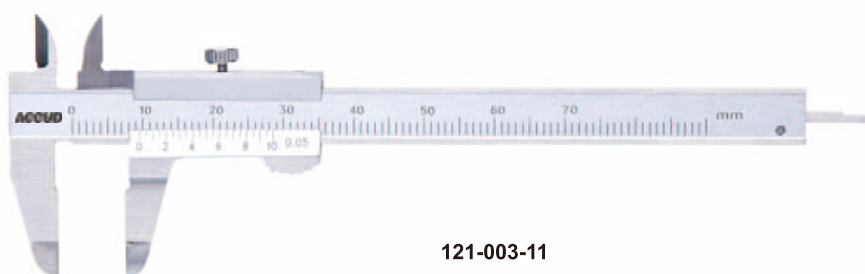
Code	Range	Accuracy	a	b	c	h	L
125-005-11	0-130mm/0-5"	±0.03mm	20.5	16.5	16	40	230
125-007-11	0-180mm/0-7"	±0.03mm	23.5	19	16	50	295
125-011-11	0-280mm/0-11"	±0.03mm	27.5	22	20	60	410



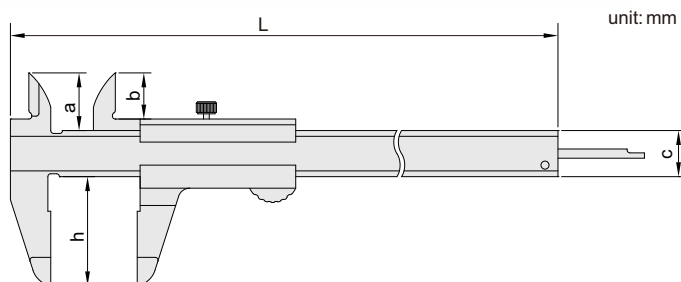


## SERIES 121

## MINI VERNIER CALIPER

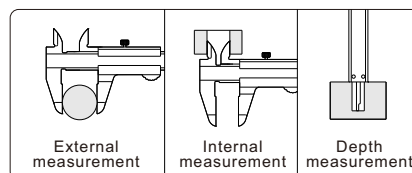


121-003-11



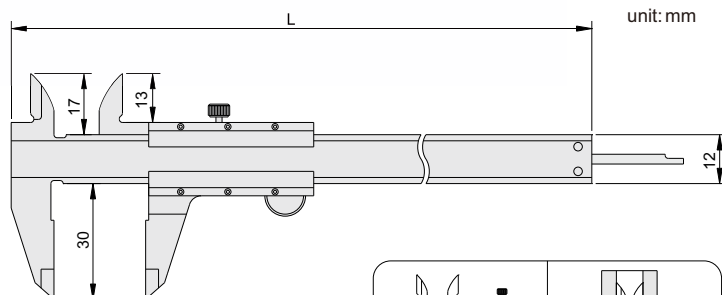
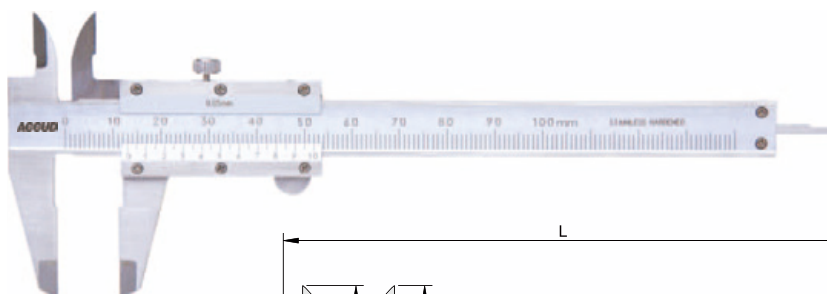
- ◆ Meet DIN862
- ◆ Satin chrome plated reading surface
- ◆ Made of stainless steel

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



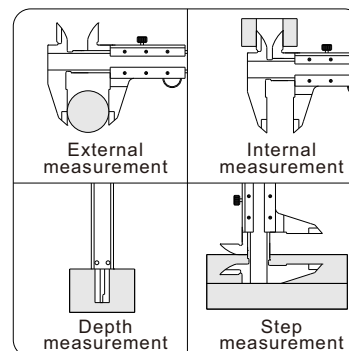
## 121

## MINI VERNIER CALIPER



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

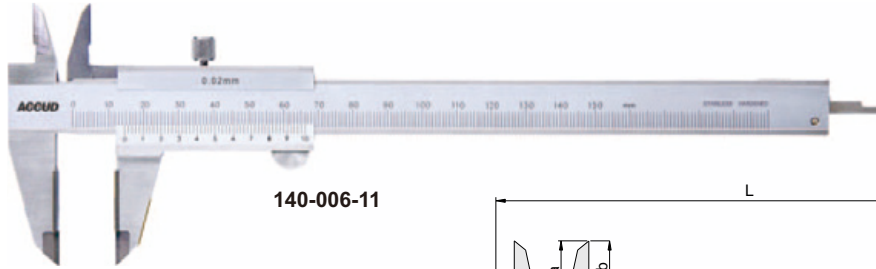
Code	Range	Graduation	Accuracy	L
121-004-11B	0-100mm	0.05mm	±0.05mm	160





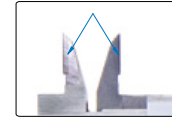
## SERIES 140

## VERNIER CALIPER WITH CARBIDE TIPPED JAWS

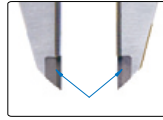


140-006-11

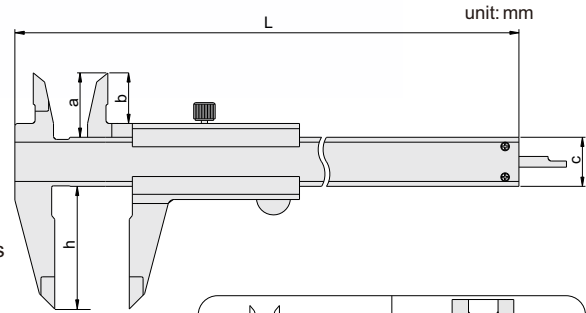
- ◆ Carbide tipped jaws
- ◆ Meet DIN862
- ◆ Satin chrome reading surface
- ◆ Made of stainless steel



Carbide tipped jaws



Carbide tipped jaws

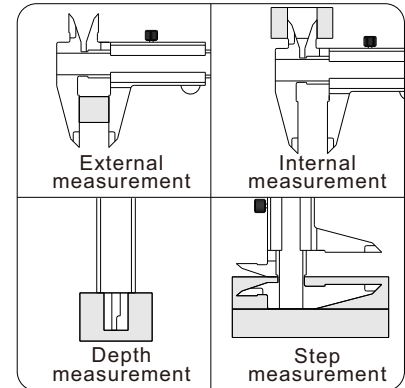


### Graduation 0.02mm

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

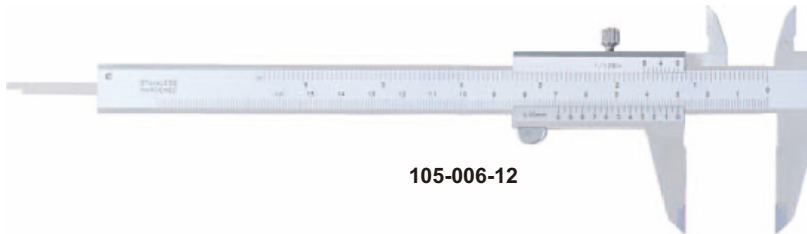
### Graduation 0.05mm

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



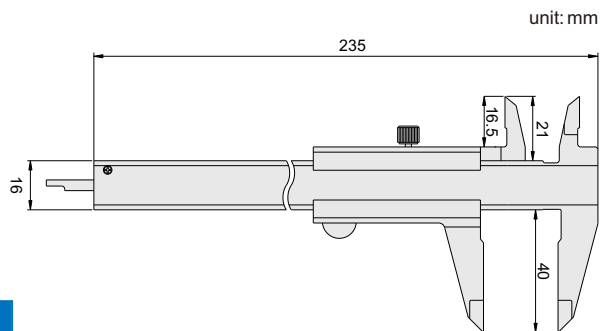
## SERIES 105

## LEFT HAND VERNIER CALIPER



105-006-12

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

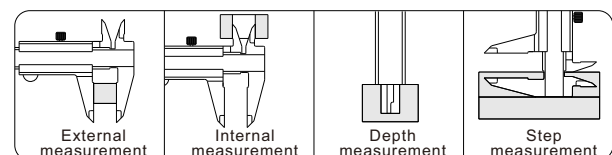


### Graduation 0.02mm/0.001"

Code	Range	Accuracy
105-006-12	0-150mm/0-6"	±0.03mm

### Graduation 0.05mm/1/128"

Code	Range	Accuracy
105-006-14	0-150mm/0-6"	±0.03mm



**SERIES 123**

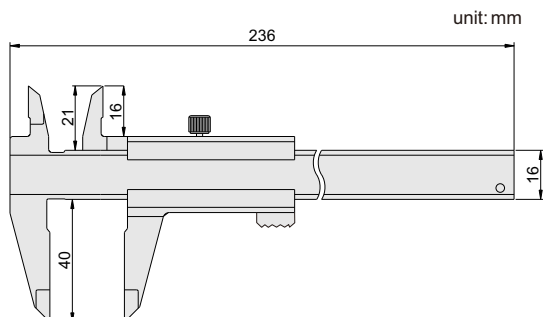
**VERNIER CALIPER (ANTI MAGNETIC)**

**ATTENTION:**  
Not hardened



123-006-11

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

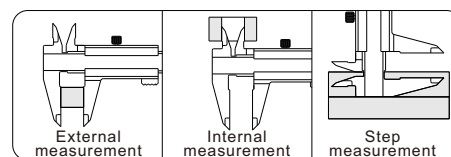


**Graduation 0.02mm**

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

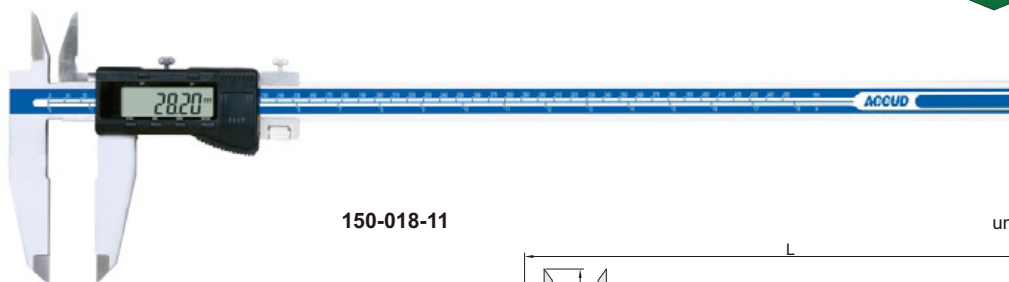
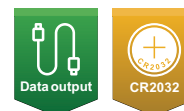
**Graduation 0.05mm**

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



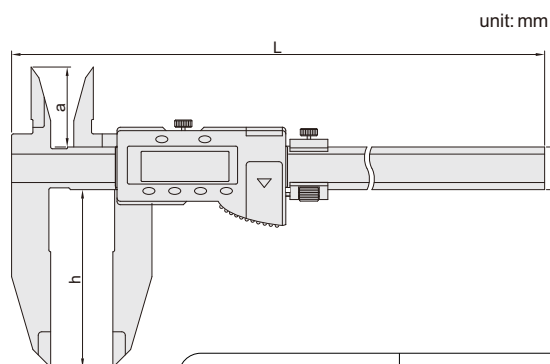
**SERIES 150**

**DIGITAL CALIPER**

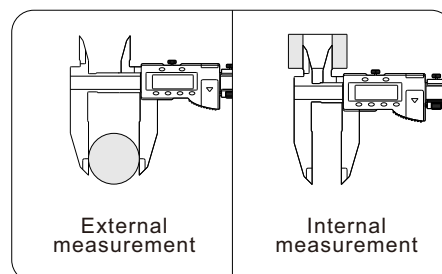


150-018-11

- ◆ 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

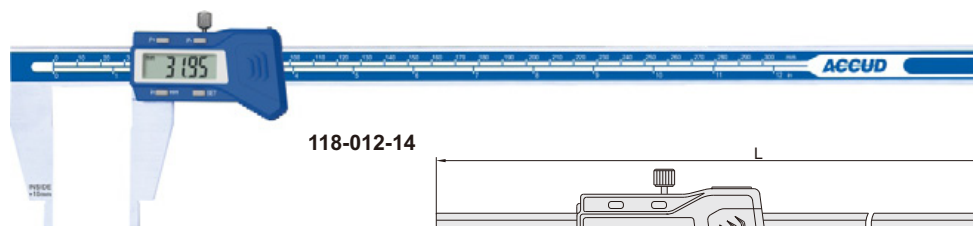


Code	Range	Accuracy	a	c	h	L
150-018-11	0-450mm/0-18"	±0.05mm	45	24	100	610
150-024-11	0-600mm/0-24"	±0.05mm	45	24	100	770
150-040-11	0-1000mm/0-40"	±0.08mm	60	31	150	1220



## SERIES 118

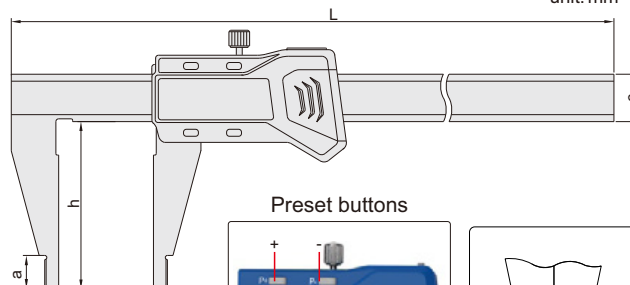
## DIGITAL CALIPER



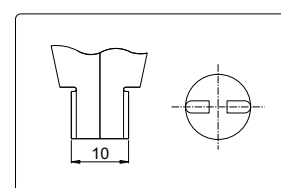
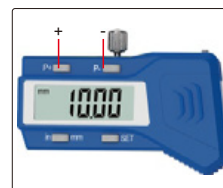
118-012-14

unit: mm

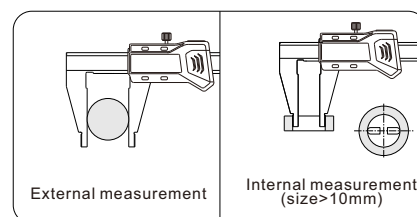
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: mm/in, SET, preset(P+,P-)
- ◆ Preset: 10mm, don't need to add the width of the jaws on the reading
- ◆ Automatic power on/off
- ◆ Data output(cable code: 100-03 or 100-04)
- ◆ Made of stainless steel



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



## SERIES 118

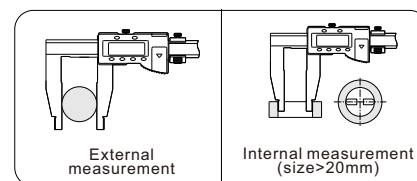
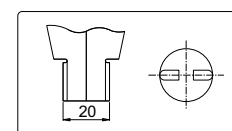
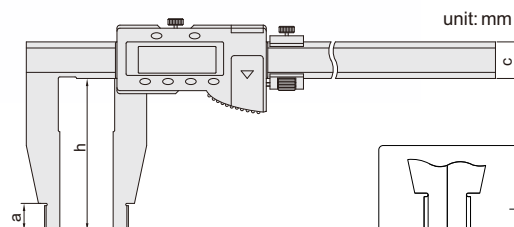
## DIGITAL CALIPER



118-020-11

unit: mm

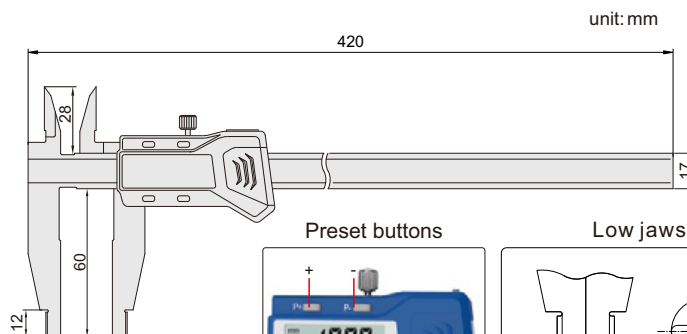
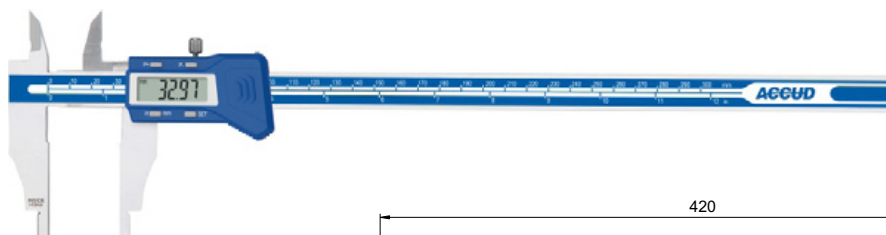
Code	Range	Accuracy	a	c	h
118-012-11	0-300mm/0-12"	±0.04mm	18	24	100
118-012-12	0-300mm/0-12"	±0.05mm	18	24	150
118-012-13	0-300mm/0-12"	±0.05mm	18	24	200
118-018-11	0-450mm/0-18"	±0.05mm	18	24	100
118-020-11	0-500mm/0-20"	±0.05mm	18	24	100
118-020-12	0-500mm/0-20"	±0.06mm	18	24	150
118-020-13	0-500mm/0-20"	±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
118-048-11	0-1200mm/0-48"	±0.11mm	24	42	150
118-060-11	0-1500mm/0-60"	±0.11mm	24	42	150
118-080-11	0-2000mm/0-80"	±0.14mm	24	42	150
118-080-12	0-2000mm/0-80"	±0.14mm	24	42	200



- ◆ 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

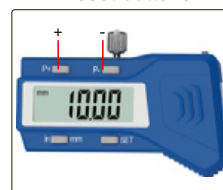
119

## DIGITAL CALIPER

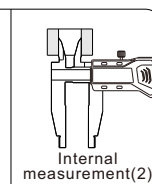
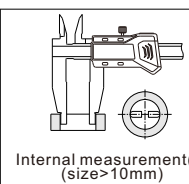
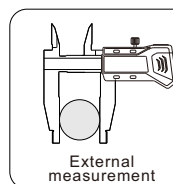
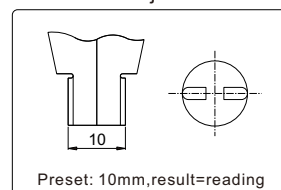


- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: mm/in, SET, preset(P+,P-)
- ◆ Automatic power on/off
- ◆ Data output(cable code:100-03 or 100-04)
- ◆ Made of stainless steel

Preset buttons



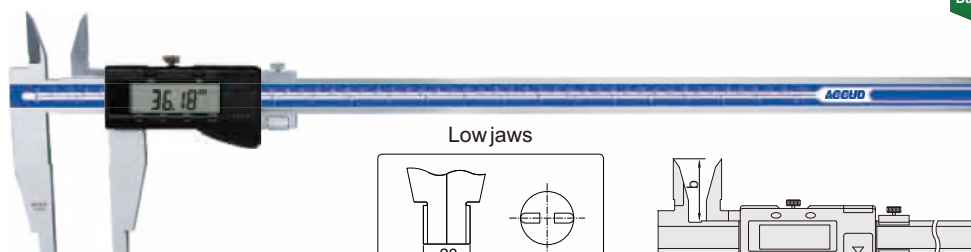
Low jaws



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

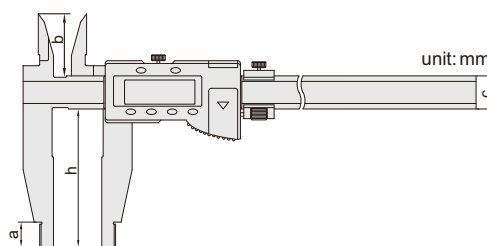
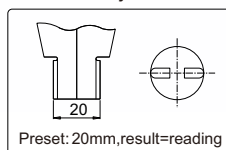
## SERIES 119

## DIGITAL CALIPER

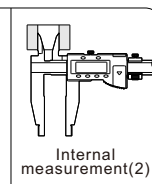
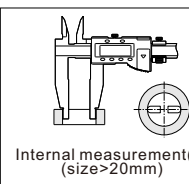
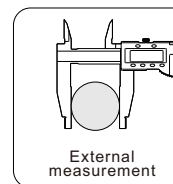


119-020-11

Low jaws



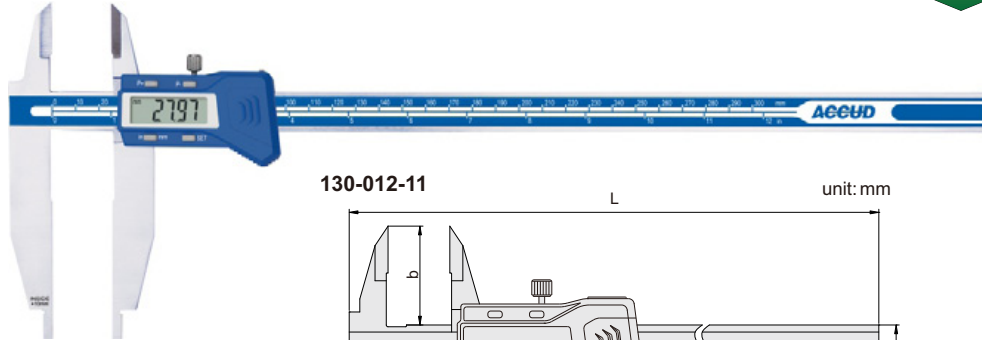
Code	Range	Accuracy	a	b	c	h
119-012-12	0-300mm/0-12"	±0.05mm	18	45	24	100
119-018-11	0-450mm/0-18"	±0.05mm	18	45	24	100
119-020-11	0-500mm/0-20"	±0.05mm	18	45	24	100
119-020-12	0-500mm/0-20"	±0.06mm	18	45	24	150
119-020-13	0-500mm/0-20"	±0.06mm	24	60	32	200
119-024-11	0-600mm/0-24"	±0.05mm	18	45	24	100
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
119-080-11	0-2000mm/0-80"	±0.14mm	24	60	42	150



- ◆ 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

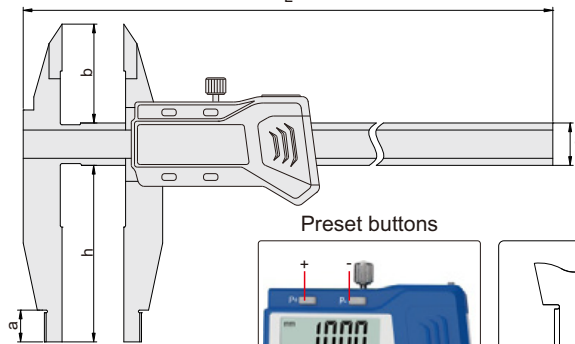
## DIGITAL CALIPER



130-012-11

L

unit: mm

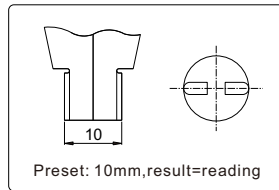


- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: mm/in, SET, preset(P+,P-)
- ◆ Automatic power on/off
- ◆ Data output(cable code: 100-03 or 100-04)
- ◆ Made of stainless steel

Preset buttons

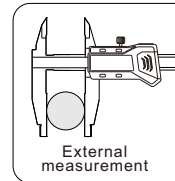


Low jaws

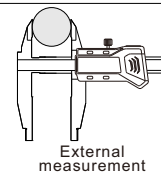


Preset: 10mm,result=reading

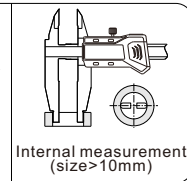
Code	Range	Accuracy	a	b	c	h	L
130-008-11	0-200mm/0-8"	±0.03mm	12	38	17	60	320
130-012-11	0-300mm/0-12"	±0.04mm	12	38	17	60	420
130-012-12	0-300mm/0-12"	±0.04mm	12	38	17	90	420



External measurement



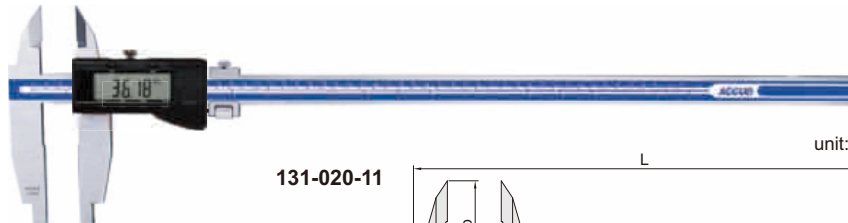
External measurement



Internal measurement (size>10mm)

## SERIES 131

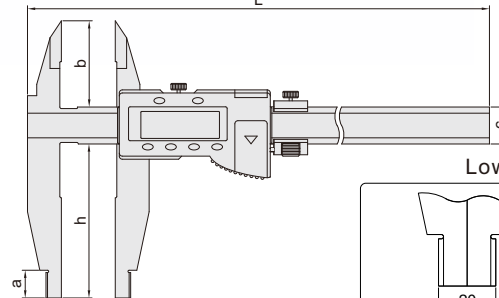
## DIGITAL CALIPER



131-020-11

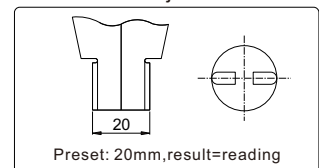
L

unit: mm



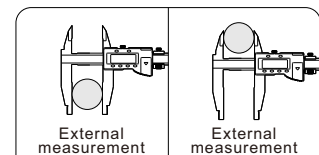
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/inch, ABS, data preset
- ◆ Data output(cable code: 100-15)
- ◆ Made of stainless steel

Low jaws



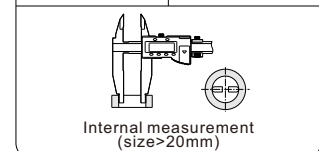
Preset: 20mm,result=reading

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



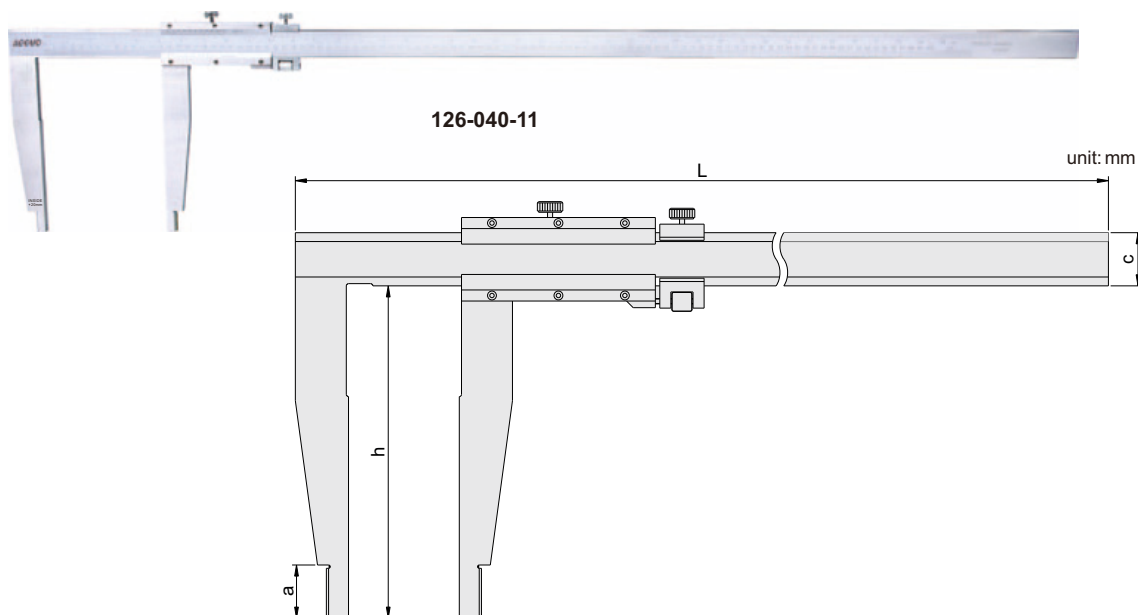
External measurement

External measurement

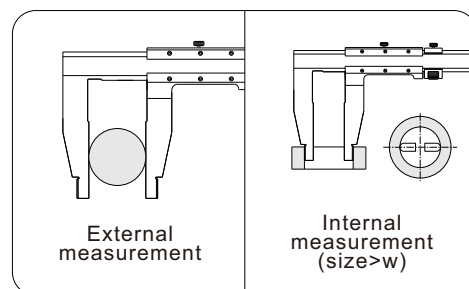
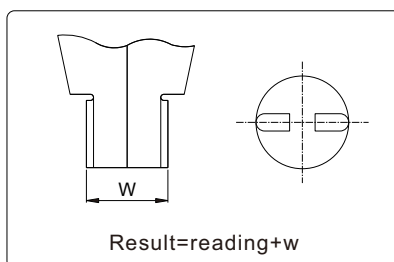


Internal measurement (size>20mm)





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

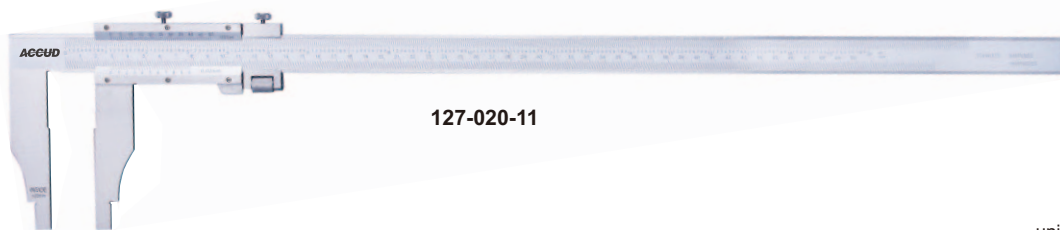


### Graduation 0.02mm/0.001"

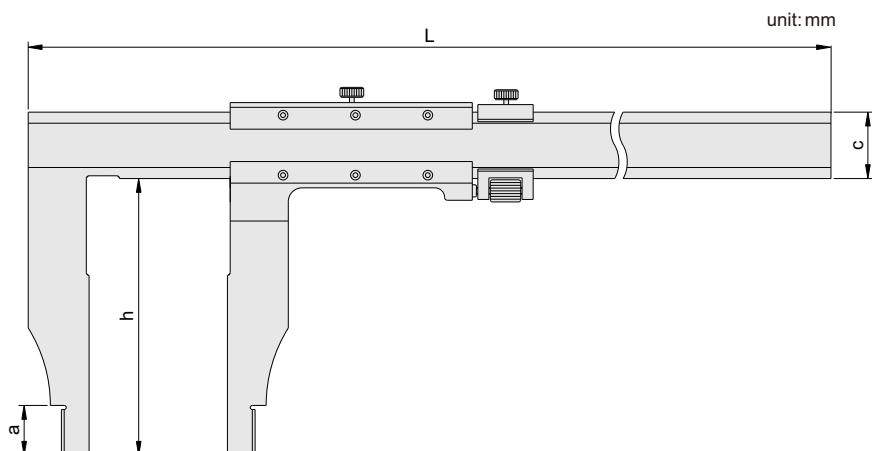
Code	Range	Accuracy	a	c	h	w	L
126-012-11	0-300mm/0-12"	±0.05mm	12	17	90	10	410
126-012-12	0-300mm/0-12"	±0.05mm	18	24	150	20	470
126-020-11	0-500mm/0-20"	±0.06mm	18	24	150	20	670
126-020-12	0-500mm/0-20"	±0.06mm	18	24	200	20	670
126-024-11	0-600mm/0-24"	±0.06mm	18	24	150	20	770
126-024-12	0-600mm/0-24"	±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"

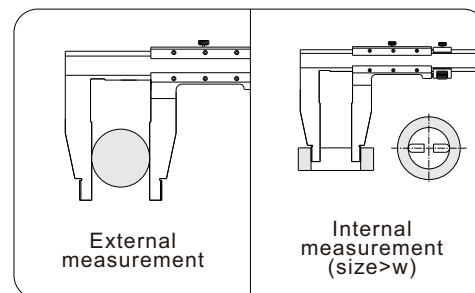
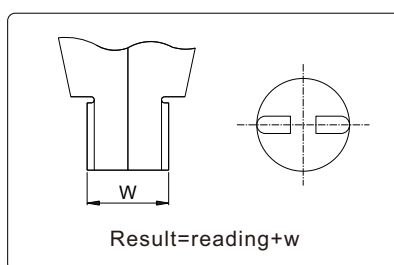
Code	Range	Accuracy	a	c	h	w	L
126-012-51	0-300mm/0-12"	±0.07mm	12	17	90	10	410
126-012-52	0-300mm/0-12"	±0.07mm	18	24	150	20	470
126-020-51	0-500mm/0-20"	±0.08mm	18	24	150	20	670
126-020-52	0-500mm/0-20"	±0.08mm	18	24	200	20	670
126-024-51	0-600mm/0-24"	±0.08mm	18	24	150	20	770
126-024-52	0-600mm/0-24"	±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**



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

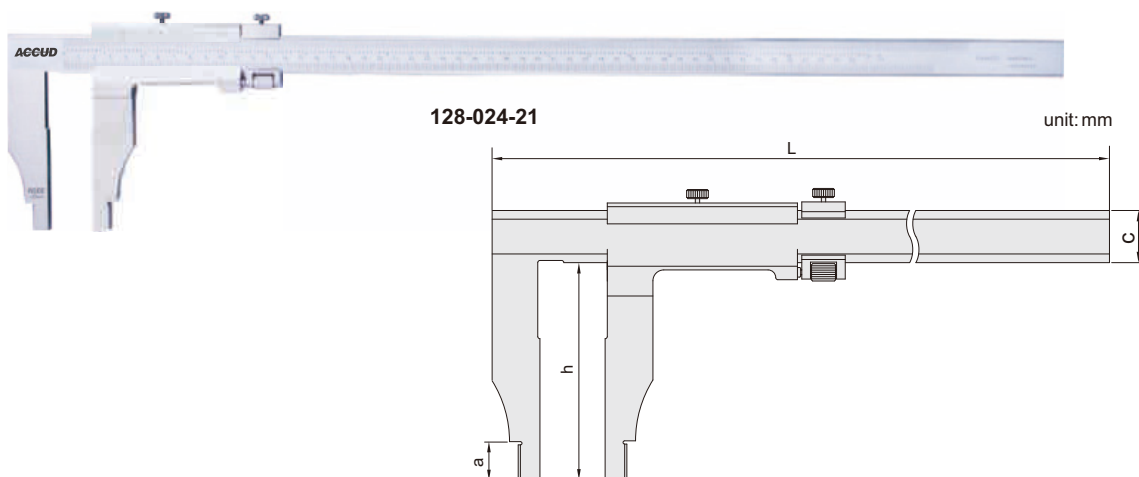


**Graduation 0.02mm/0.001"**

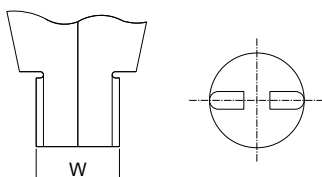
Code	Range	Accuracy	a	c	h	w	L
127-012-11	0-300mm/0-12"	±0.05mm	10	20	75	10	410
127-020-11	0-500mm/0-20"	±0.05mm	18	24	100	20	670
127-024-11	0-600mm/0-24"	±0.05mm	18	24	100	20	770
127-032-11	0-800mm/0-32"	±0.08mm	24	32	150	20	1020
127-040-11	0-1000mm/0-40"	±0.08mm	24	32	140	20	1216
127-060-11	0-1500mm/0-60"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

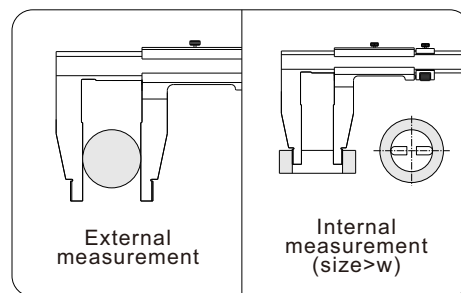
Code	Range	Accuracy	a	c	h	w	L
127-012-51	0-300mm/0-12"	±0.05mm	10	20	75	10	410
127-020-51	0-500mm/0-20"	±0.08mm	18	24	100	20	670
127-024-51	0-600mm/0-24"	±0.08mm	18	24	100	20	770
127-040-51	0-1000mm/0-40"	±0.10mm	24	32	140	20	1216
127-060-51	0-1500mm/0-60"	±0.15mm	24	42	180	20	1830
127-080-51	0-2000mm/0-80"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



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



Result=reading+w



### 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

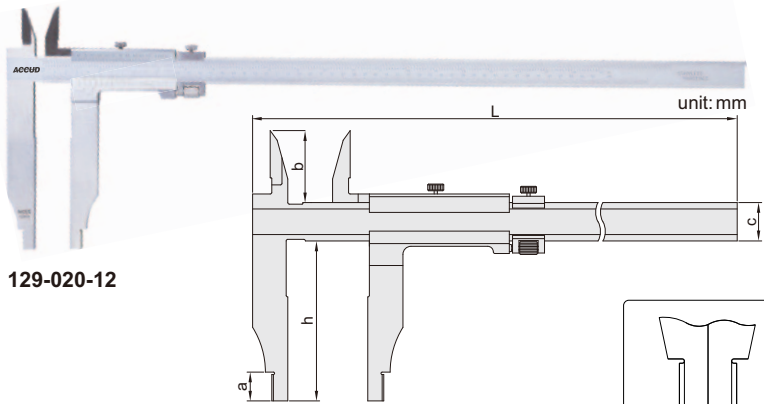
### Graduation 0.05mm/1/128"

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

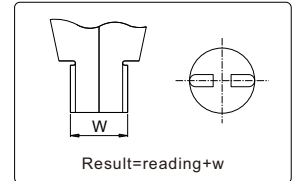
- ◆ Made of stainless steel
- ◆ With fine adjustment
- ◆ Satin chrome plated reading surface



129-020-12

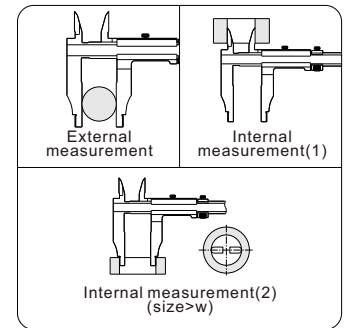
Graduation 0.02mm/0.001"

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



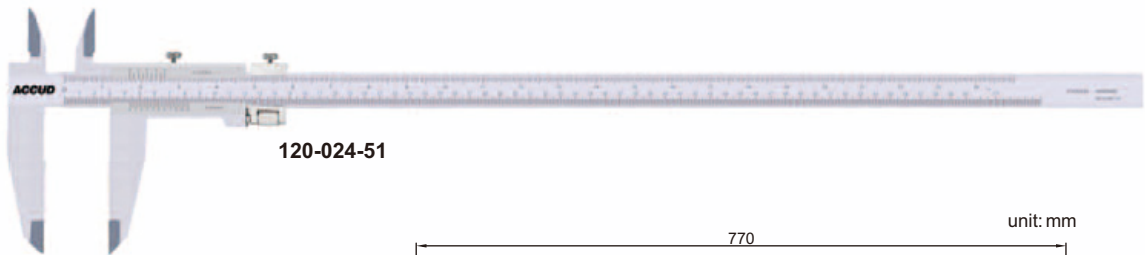
Graduation 0.05mm/1/128"

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

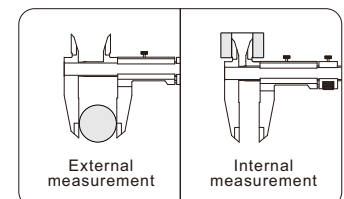
- ◆ Made of stainless steel
- ◆ Satin chrome plated reading surface

Graduation 0.02mm/0.001"

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

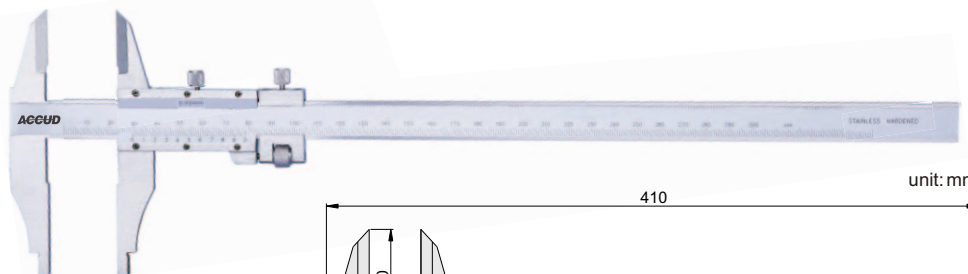
Graduation 0.05mm/1/128"

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

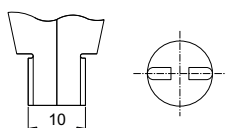


122

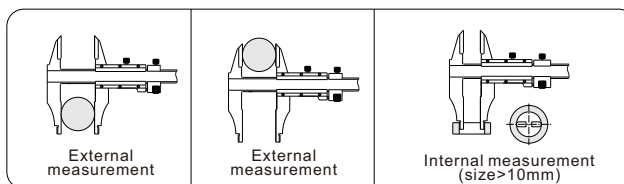
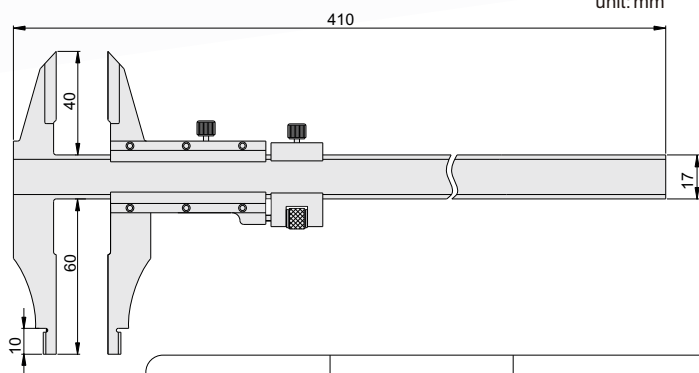
# VERNIER CALIPER



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



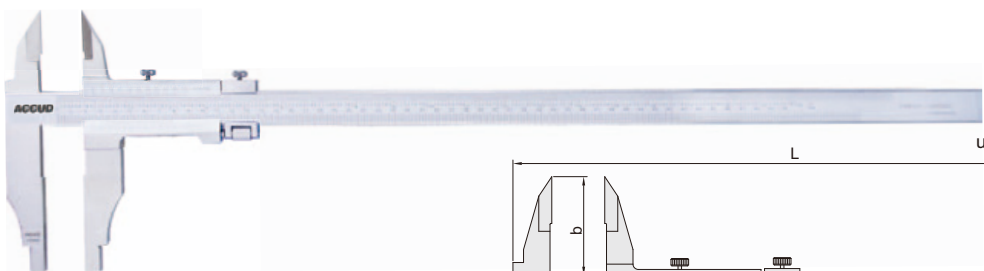
Result=reading+10mm



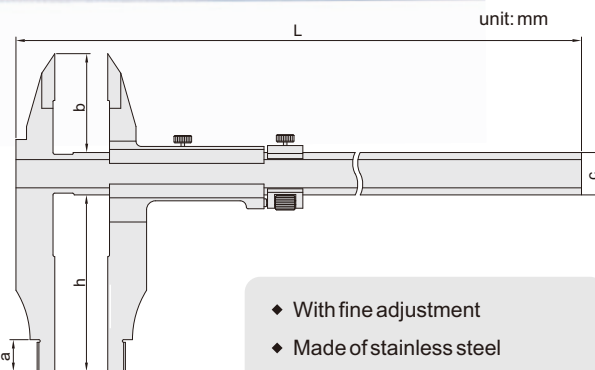
Code	Range	Graduation	Accuracy
122-012-11	0-300mm	0.02mm	±0.03mm

SERIES 122

# VERNIER CALIPER



122-020-21



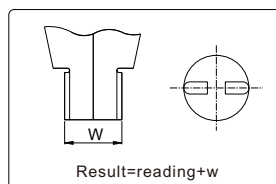
- ◆ With fine adjustment
- ◆ Made of stainless steel
- ◆ Satin chrome reading surface

Graduation: 0.02mm/0.001"

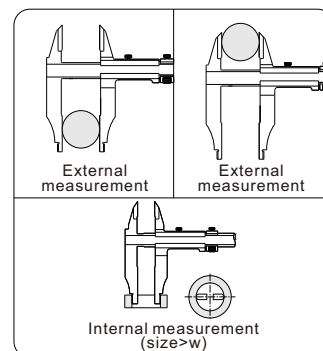
Code	Range	Accuracy	h	a	b	c	w	L
122-012-21	0-300mm/0-12"	±0.05mm	90	12	40	20	10	410
122-020-21	0-500mm/0-20"	±0.05mm	100	18	56	24	20	670
122-020-22	0-500mm/0-20"	±0.06mm	150	18	56	24	20	670
122-032-21	0-800mm/0-32"	±0.07mm	150	24	67	31	20	1020
122-040-21	0-1000mm/0-40"	±0.08mm	150	24	67	31	20	1220

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



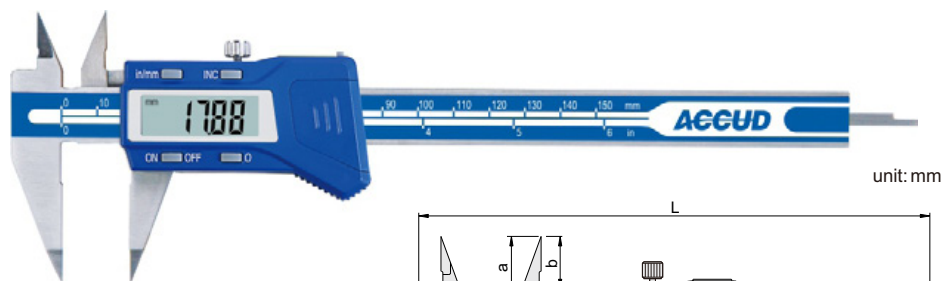
Result=reading+W





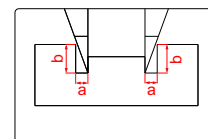
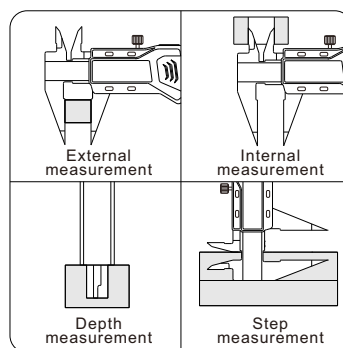
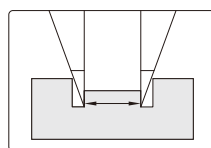
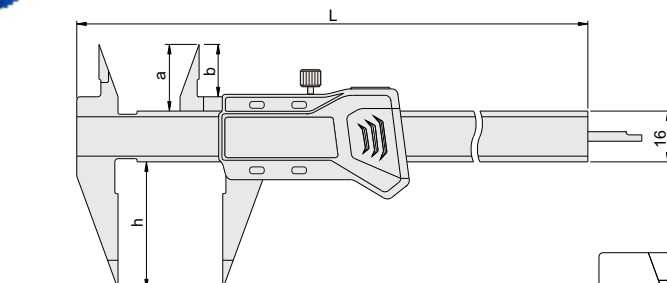
## SERIES 138

## 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



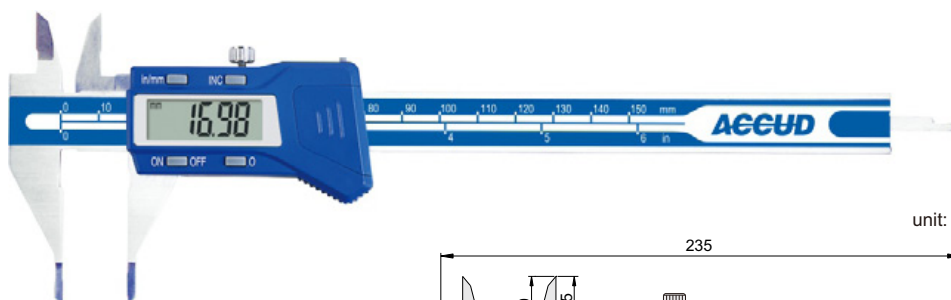
(mm)

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

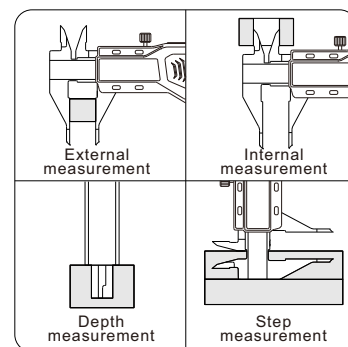
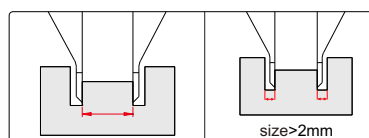
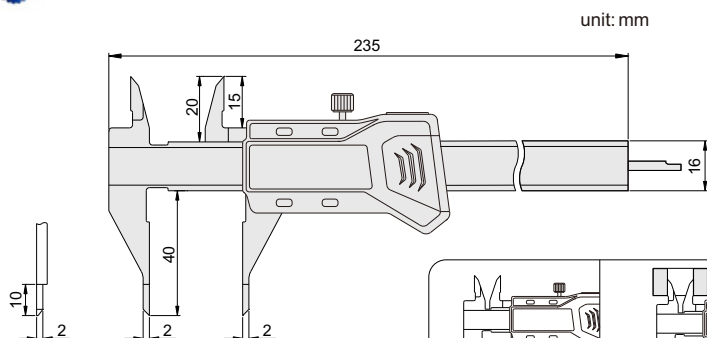
Code	Range	Accuracy	a	b	h	L
138-006-11	0-150mm/0-6"	±0.03mm	21	16	40	236
138-008-11	0-200mm/0-8"	±0.03mm	24	19	50	286
138-012-11	0-300mm/0-12"	±0.03mm	25	21	60	400

## 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



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

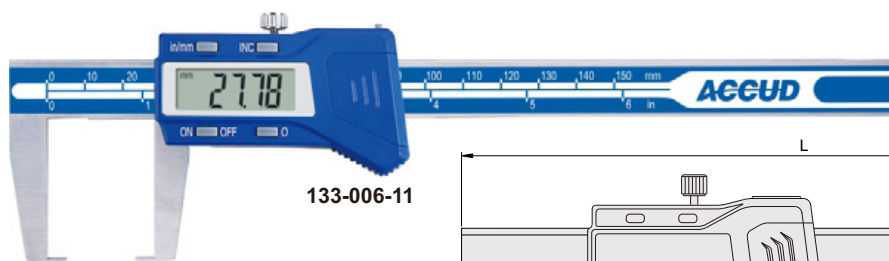
CALIPER

## SERIES 133

## DIGITAL OUTSIDE NECK CALIPER

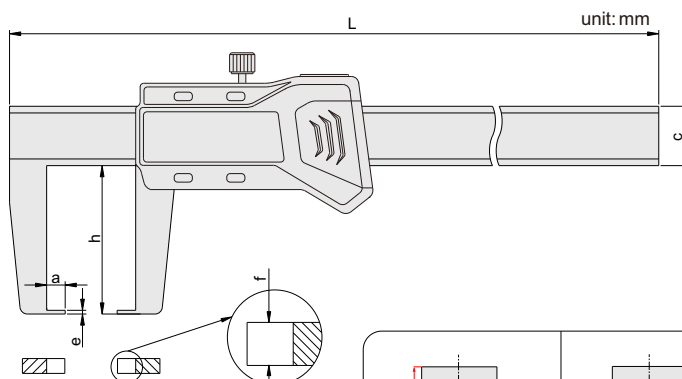


VIDEO

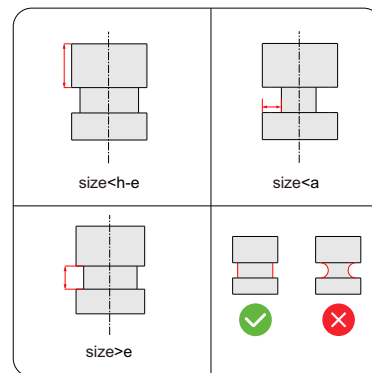
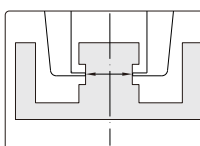


133-006-11

- ◆ 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



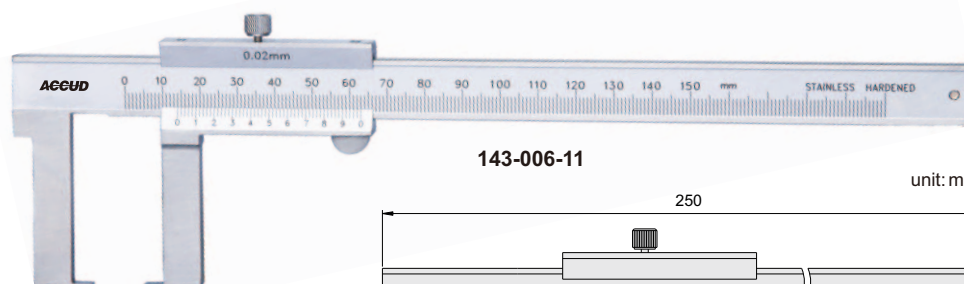
133-012-12



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	17	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

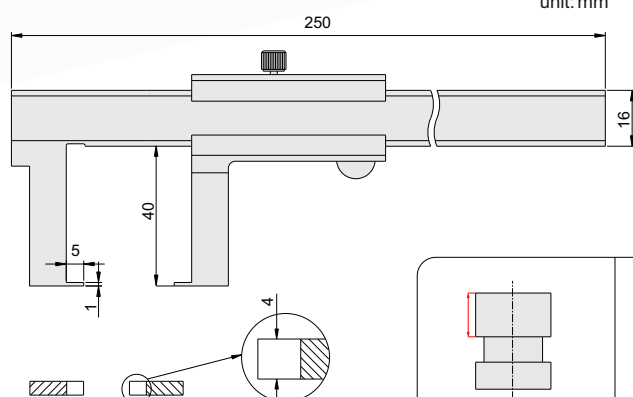
## SERIES 143

## OUTSIDE NECK VERNIER CALIPER



143-006-11

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

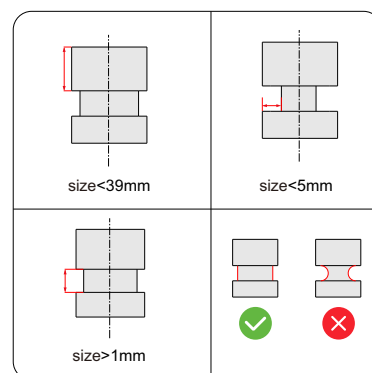
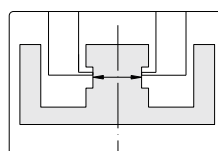


Graduation 0.02mm

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

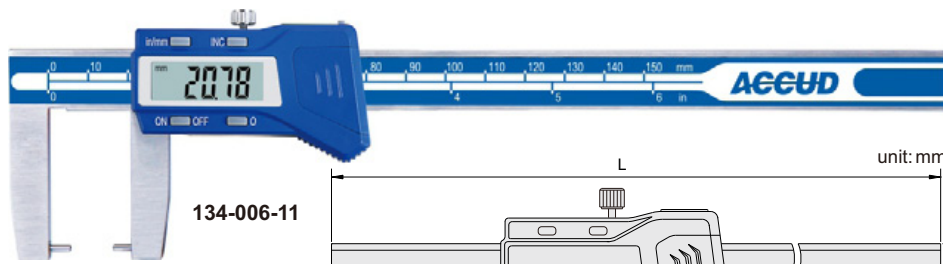
## DIGITAL OUTSIDE POINT CALIPER



ACCUD

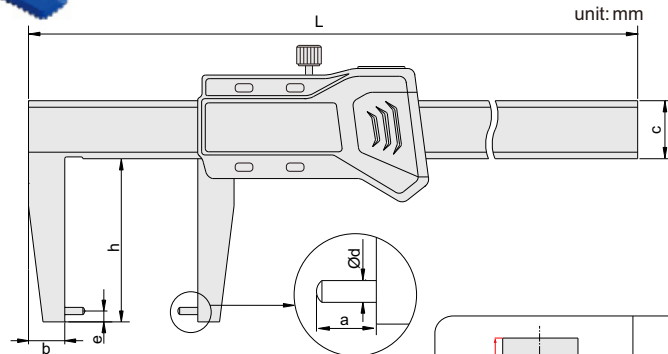


VIDEO

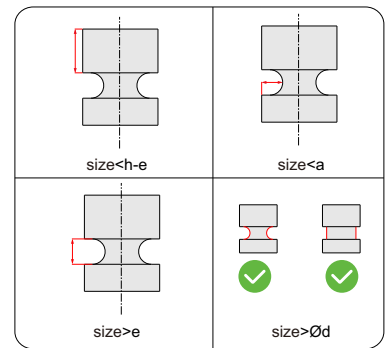
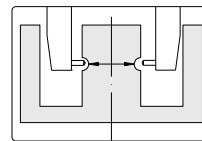


134-006-11

- ◆ 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

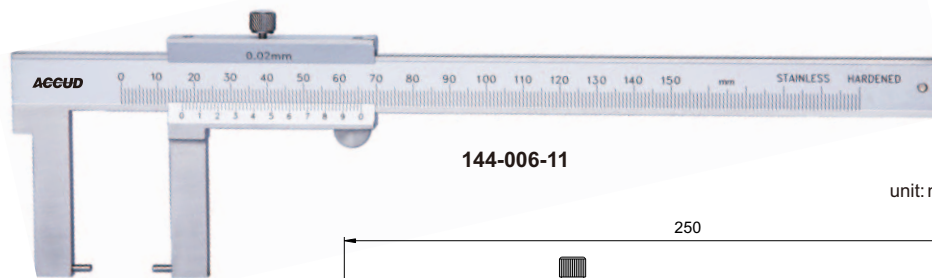


CALIPER

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

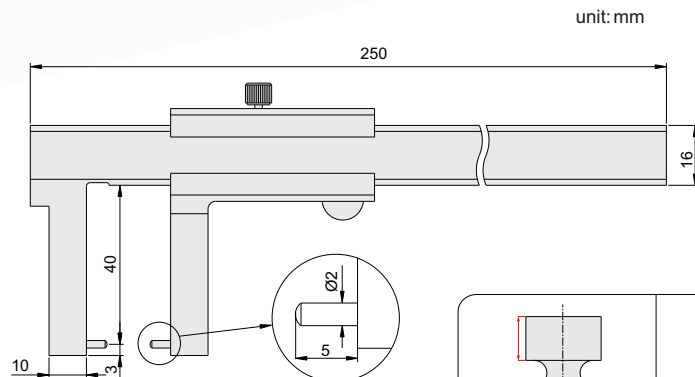
## SERIES 144

## OUTSIDE POINT VERNIER CALIPER



144-006-11

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

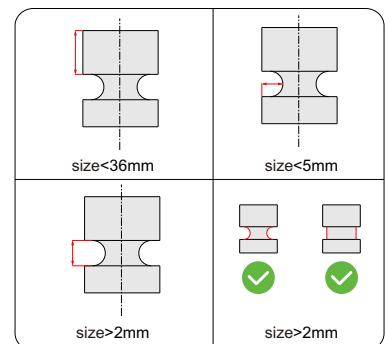
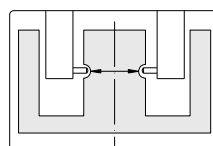


Graduation 0.02mm

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

Graduation 0.05mm

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

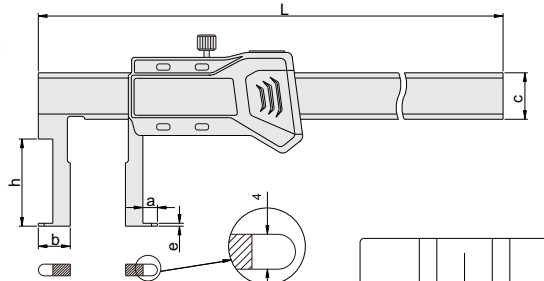
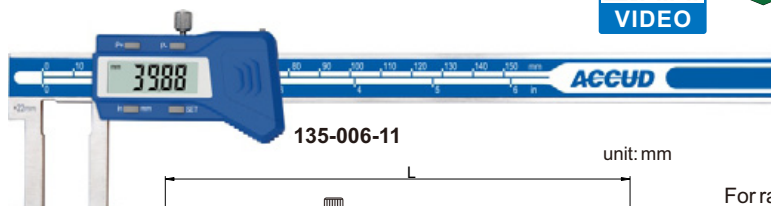


## SERIES 135

## 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



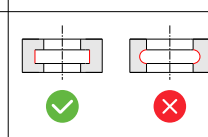
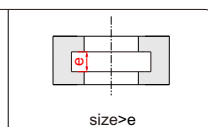
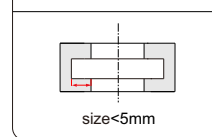
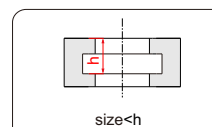
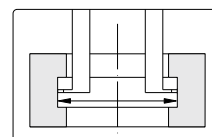
For range 500mm



Preset buttons

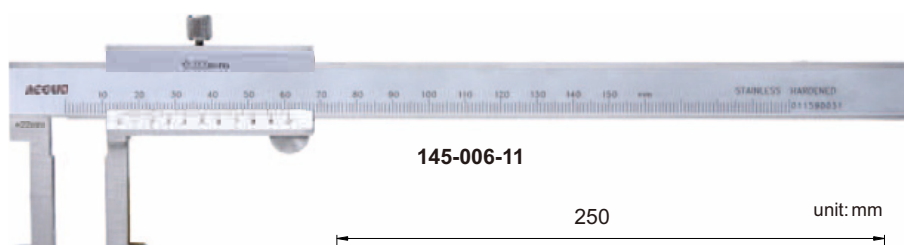


Code	Range	Accuracy	a	b	c	e	h	L
135-006-11	22-150mm	±0.04mm	5	11	16	1	30	250
135-008-11	25-200mm	±0.04mm	5	12.5	16	1	40	310
135-012-11	30-300mm	±0.05mm	5	15	17	1.5	50	410
135-020-11	80-500mm	±0.07mm	16	40	24	4	90	680
135-006-12	35-150mm	±0.06mm	6	17.5	16	1.5	60	250
135-008-12	40-200mm	±0.06mm	7	20	16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

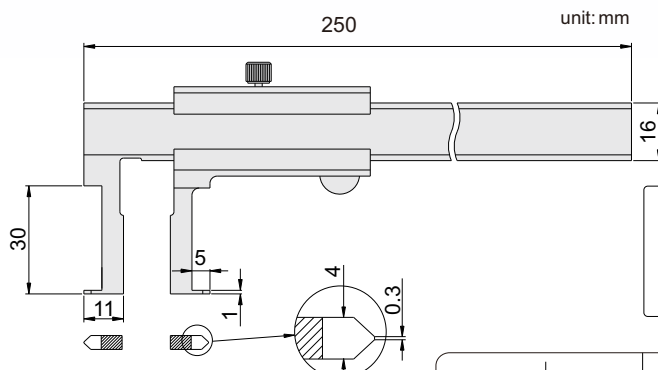


## SERIES 145

## INSIDE NECK VERNIER CALIPER



145-006-11



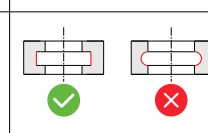
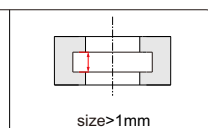
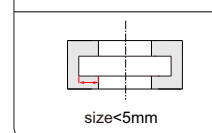
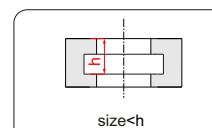
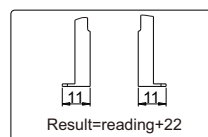
- ◆ Measure the grooves
- ◆ Made of stainless steel
- ◆ Satin chrome plated reading surface

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

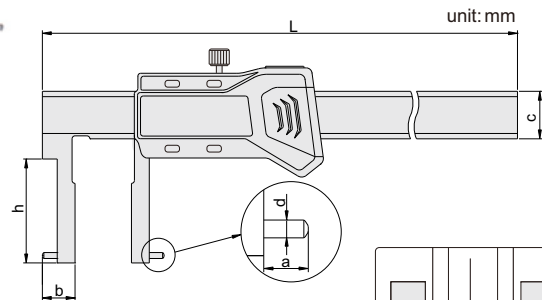
## DIGITAL INSIDE POINT CALIPER



- ◆ 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



136-006-11



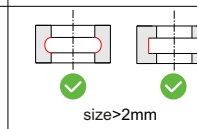
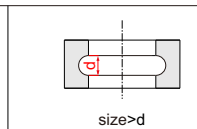
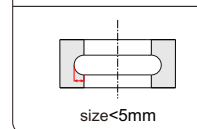
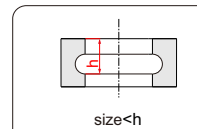
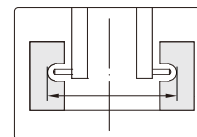
For range 500mm



Preset buttons

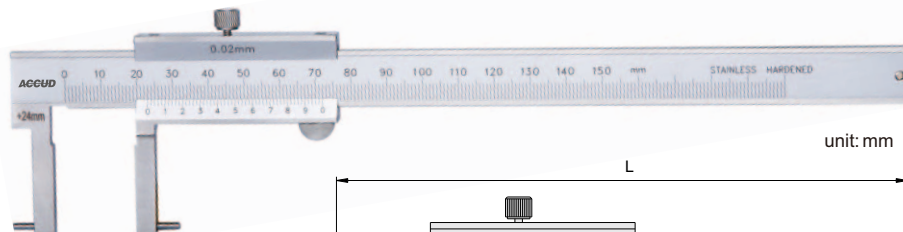


Code	Range	Accuracy	a	b	c	d	h	L
136-006-11	24-150mm	±0.04mm	5	12	16	Ø2	30	250
136-008-11	25-200mm	±0.04mm	5	12.5	16	Ø2	40	310
136-012-11	50-300mm	±0.07mm	8	25	17	Ø3	80	410
136-020-11	80-500mm	±0.07mm	16	40	24	Ø3	90	680
136-006-12	35-150mm	±0.05mm	6	17.5	16	Ø2	60	250
136-008-12	40-200mm	±0.05mm	7	20	16	Ø2	70	310
136-012-12	30-300mm	±0.05mm	5	15	16	Ø3	50	410
136-020-12	80-500mm	±0.08mm	16	40	24	Ø3	150	680

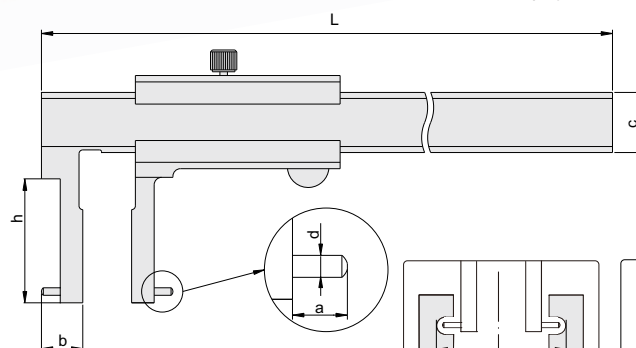


## SERIES 146

## INSIDE POINT VERNIER CALIPER



146-006-11



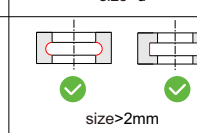
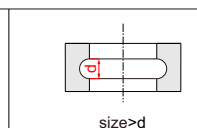
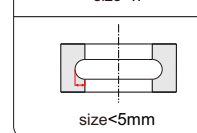
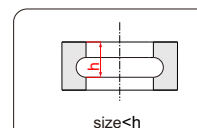
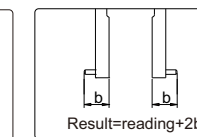
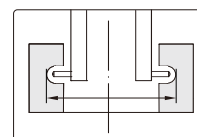
- ◆ Measure the grooves
- ◆ Made of stainless steel
- ◆ Satin chrome plated reading surface

Graduation 0.02mm

Code	Range	Accuracy	a	b	c	d	h	L
146-006-11	24-150mm	±0.04mm	5	12	16	Ø2	30	250
146-012-11	50-300mm	±0.06mm	8	25	17	Ø3	80	410

Graduation 0.05mm

Code	Range	Accuracy	a	b	c	d	h	L
146-006-13	24-150mm	±0.05mm	5	12	16	Ø2	30	250
146-012-13	50-300mm	±0.08mm	8	25	17	Ø3	80	410

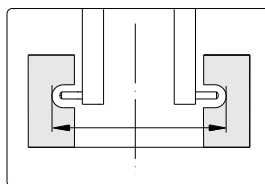
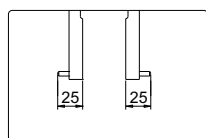
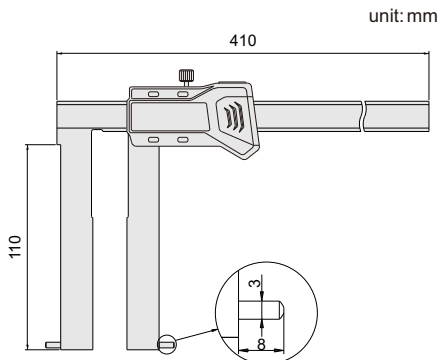
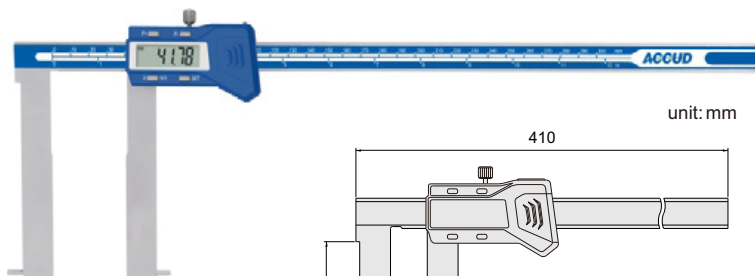


CALIPER

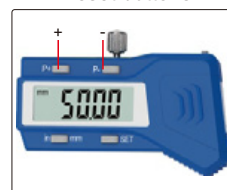


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## DIGITAL INSIDE POINT CALIPER

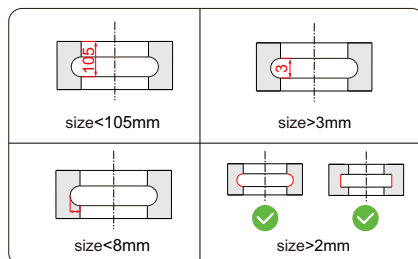


Preset buttons



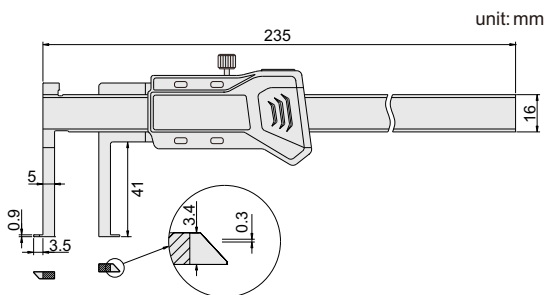
- ◆ Measure the grooves
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Automatic power on/off
- ◆ Buttons: mm/in, SET, preset(P+,P-)
- ◆ Preset: 50mm, don't need to add the width of the jaws on the reading
- ◆ Data output (cable code: 100-03 or 100-04)
- ◆ Made of stainless steel

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



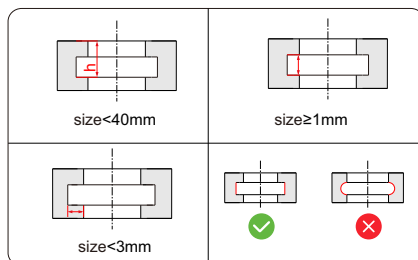
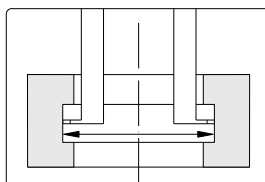
132

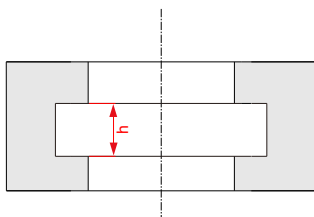
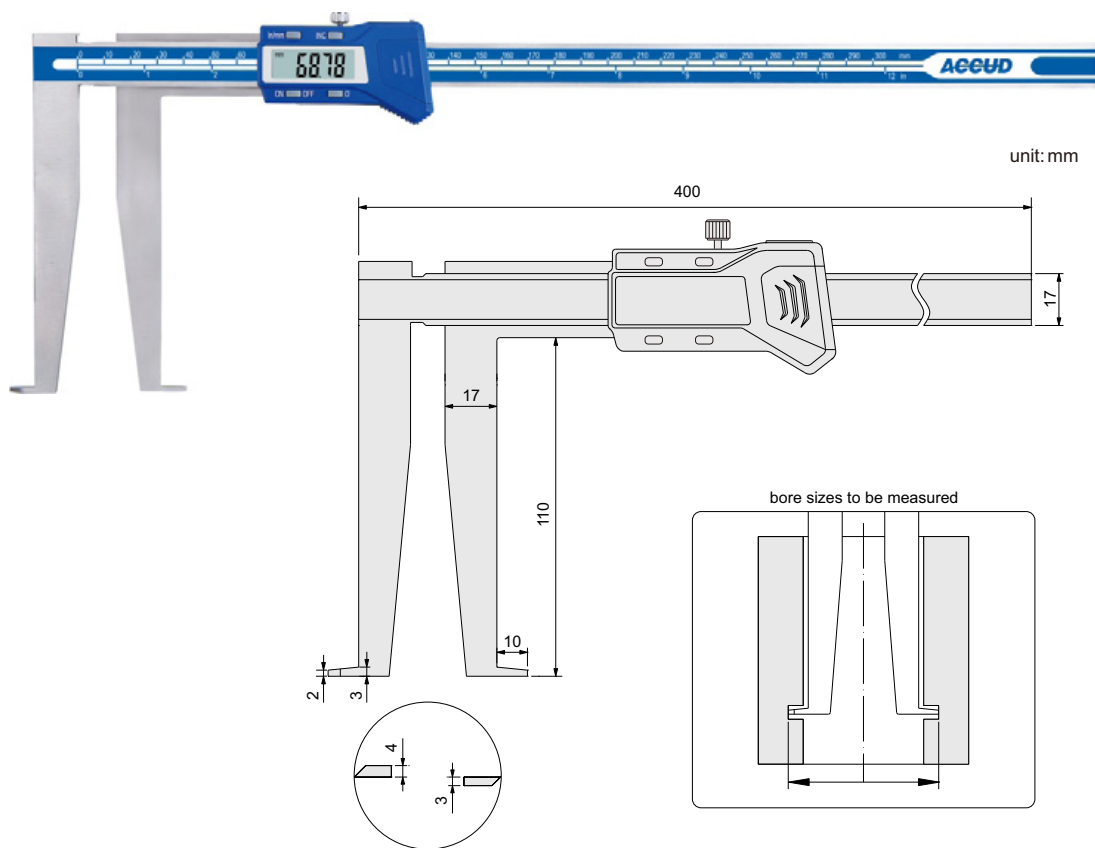
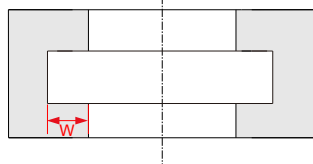
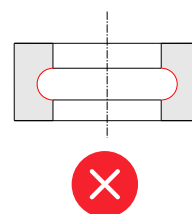
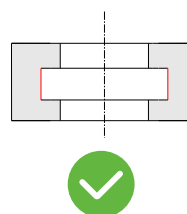
## DIGITAL INSIDE GROOVE CALIPER



- ◆ 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

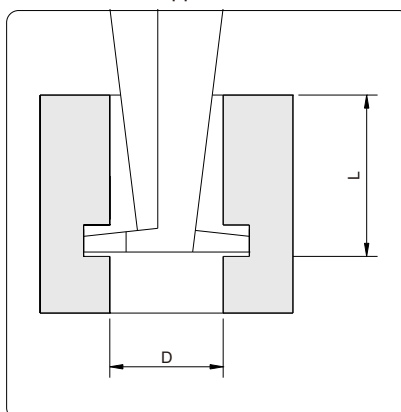
Code	Range	Accuracy
132-006-21	10-150mm/0.39-6"	±0.04mm




 $h > 2\text{mm}$ 

 $w < 10\text{mm}$ 


- ◆ 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

Application

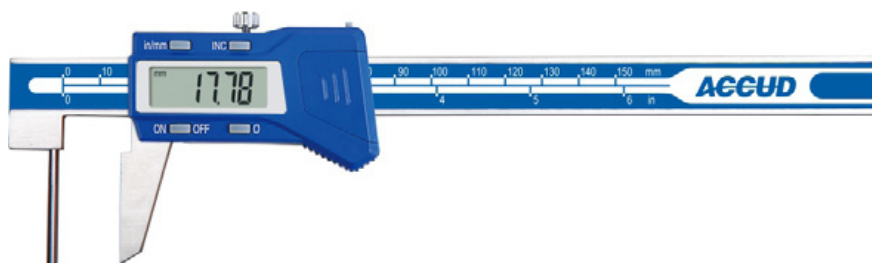


D	L
Ø25	<50mm
Ø26	<60mm
Ø27~300	<110mm

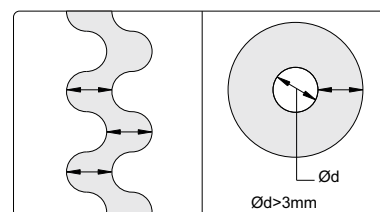
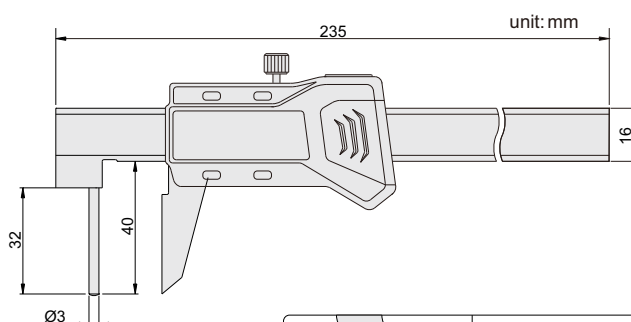
Code	Range	Accuracy
132-012-11	25-300mm	±0.05mm

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## 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

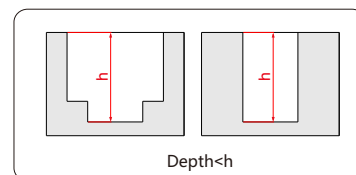
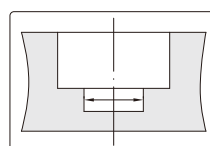
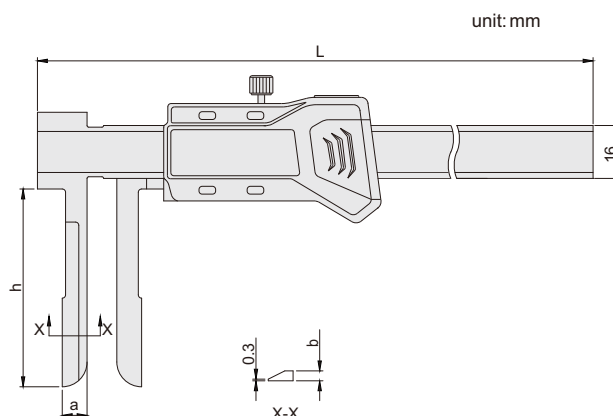
## SERIES 139

## 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

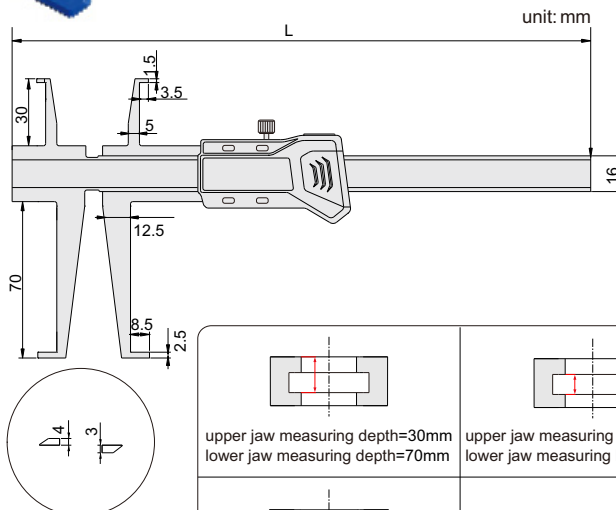
## DIGITAL INSIDE GROOVE CALIPER



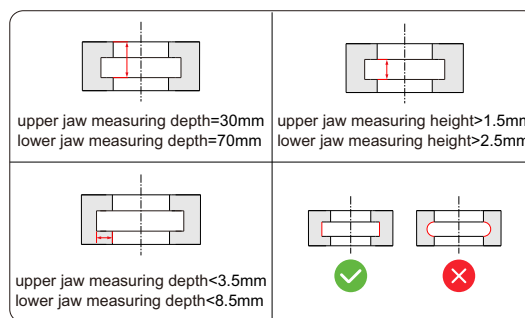
ACCUD



- ◆ 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

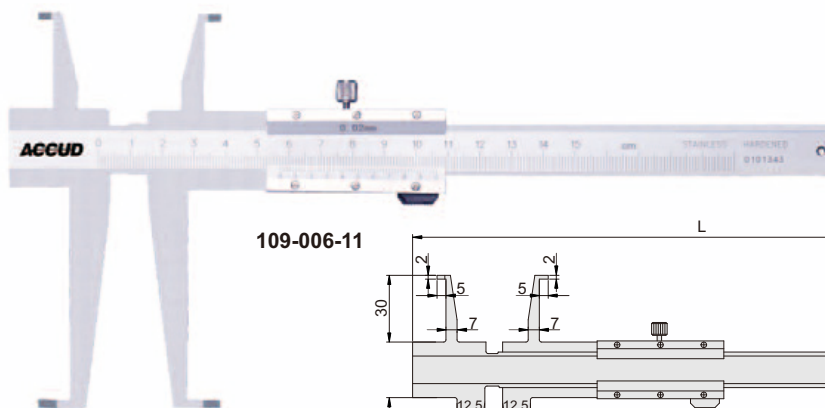


Code	Range of upper jaw	Range of lower jaw	Accuracy	L
159-006-11	9-150mm	15-150mm	±0.04mm	260
159-008-11	9-200mm	15-200mm	±0.06mm	310



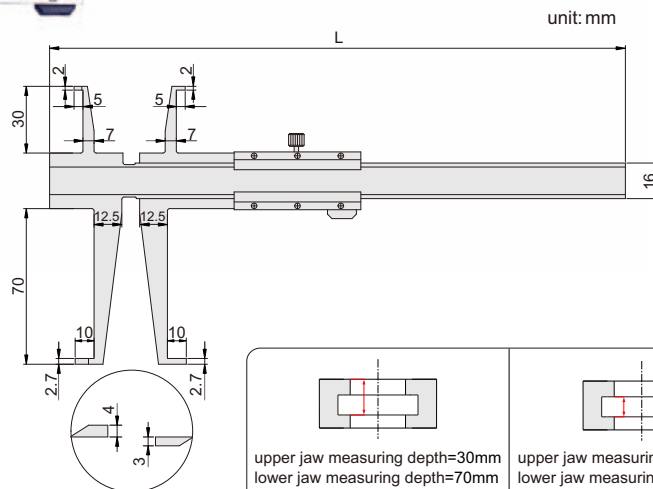
## SERIES 109

## INSIDE GROOVE CALIPER

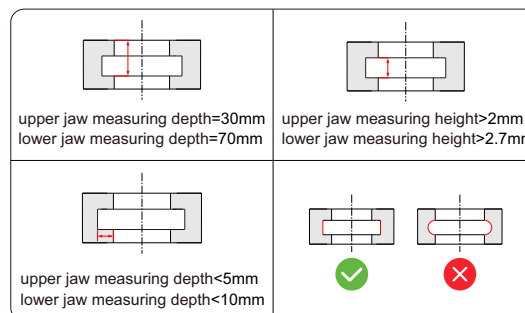


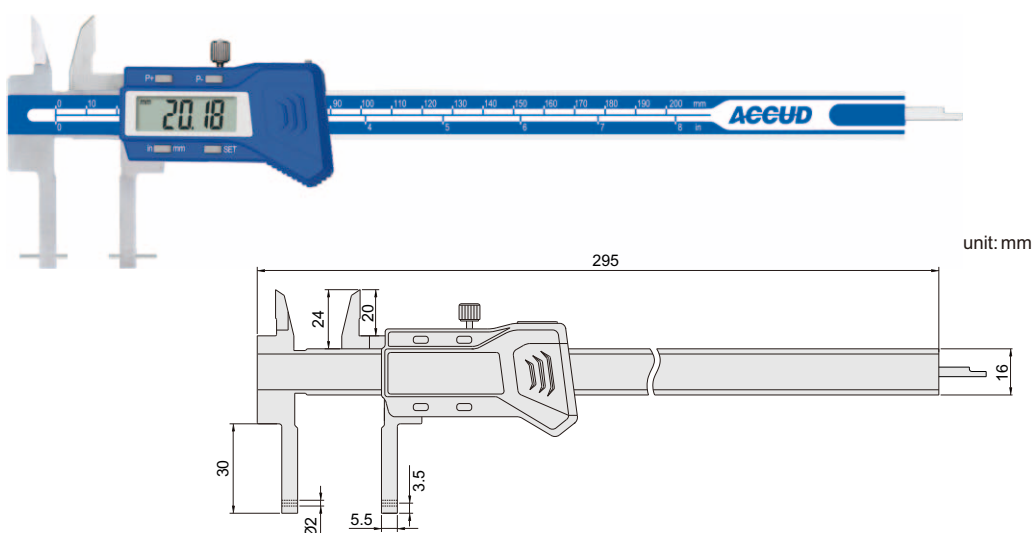
- ◆ Measure diameter of grooves inside bores
- ◆ Graduation: 0.02mm
- ◆ Made of stainless steel
- ◆ Satin chrome plated reading surface

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



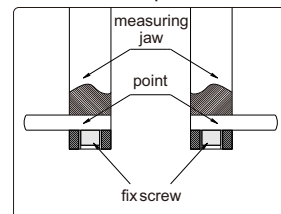


- ◆ Supplied with 3 pairs of points and one zero setting block for external measurement
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: mm/in, SET, preset(P+, P-)
- ◆ Automatic power on/off
- ◆ Data output (cable code: 100-03 or 100-04)
- ◆ Made of stainless steel

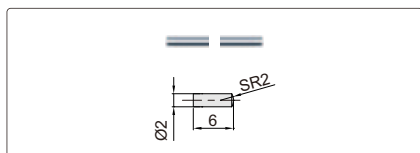
Preset buttons



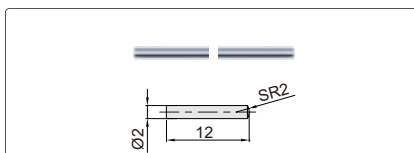
Install points



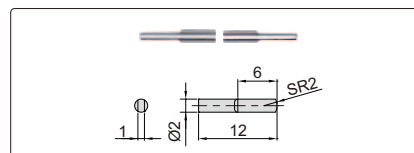
Short spherical points (included)



Long spherical/flat points (included)



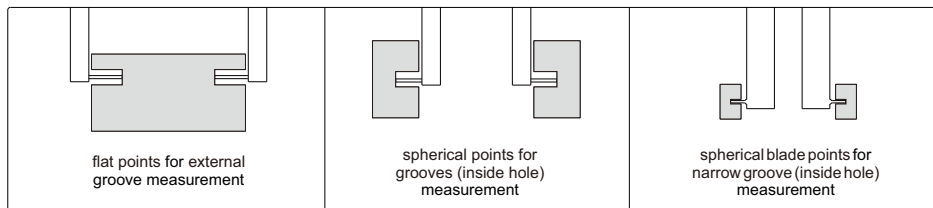
Short spherical blade points (included)



Zero setting block for external measurement (included)

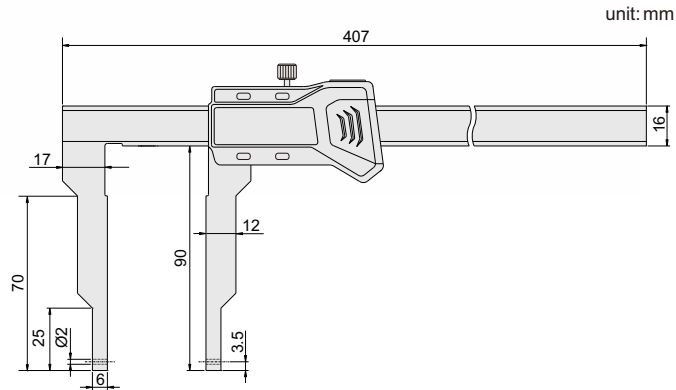
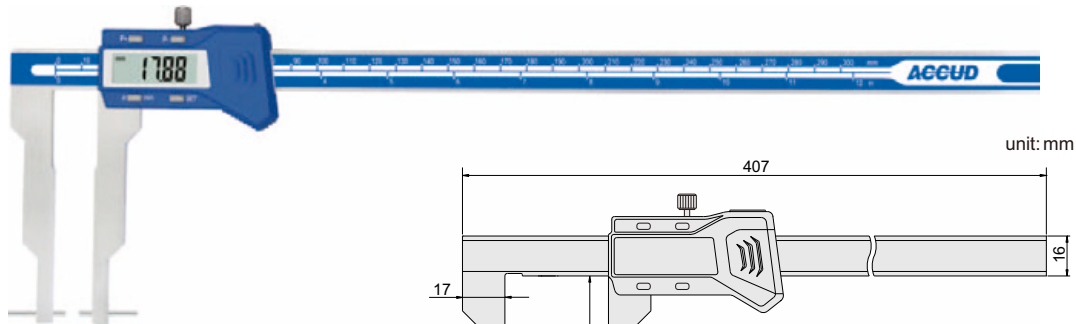


Measure internal and external grooves



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



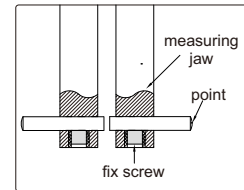


- ◆ Supplied with 4 pairs of points and one zero setting block for external measurement
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: mm/in, SET, preset(P+, P-)
- ◆ Automatic power on/off
- ◆ Data output(cable code: 100-03 or 100-04)
- ◆ Made of stainless steel

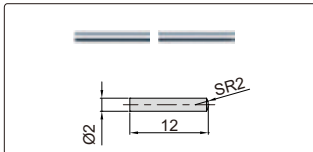
Preset buttons



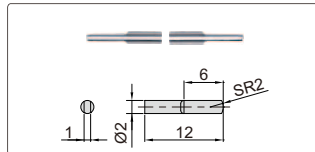
Install points



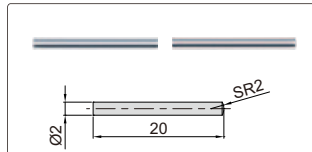
Short spherical/flat points



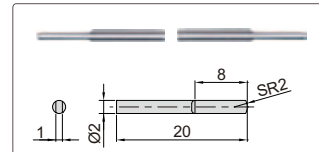
Short spherical blade points



Long spherical/flat points



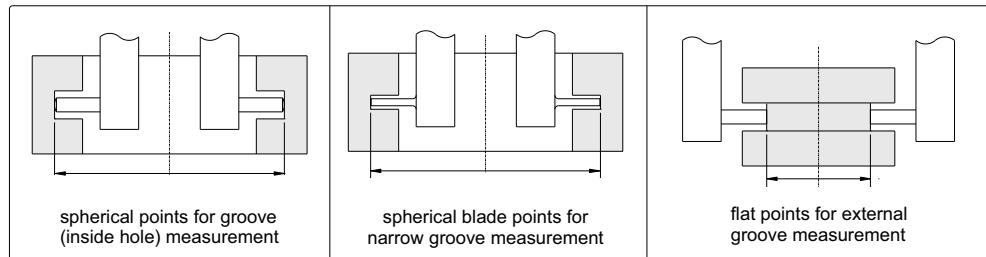
Long spherical blade points



Zero setting block for external measurement (included)



Measure internal and external grooves

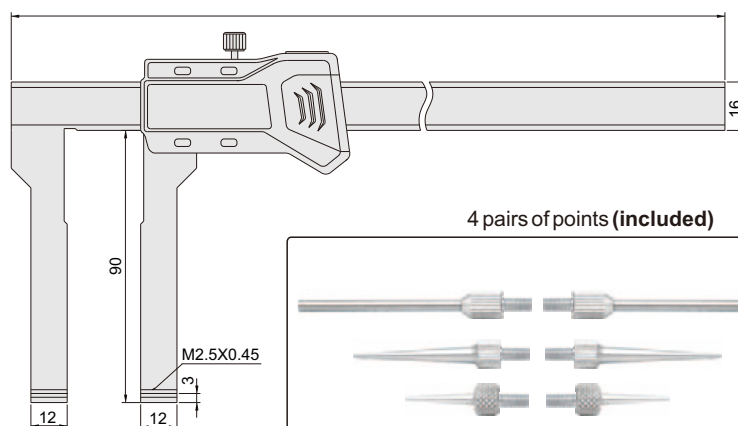


Code	Point	Range	Accuracy	Application
149-012-11	short spherical/flat points	24-324mm/1-12.7"(internal) 0-288mm/0-11.3"(external)	±0.04mm	spherical points for grooves/inside hole, (small hole) flat points for external grooves
	long spherical/flat points	40-340mm/1.5-13.3"(internal) 0-272mm/0-10.7"(external)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

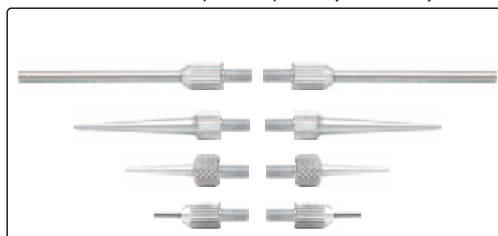


unit: mm

- ◆ 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



4 pairs of points (included)



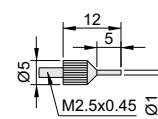
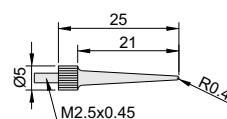
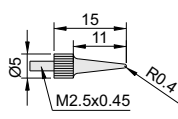
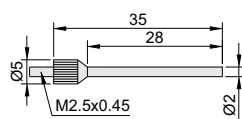
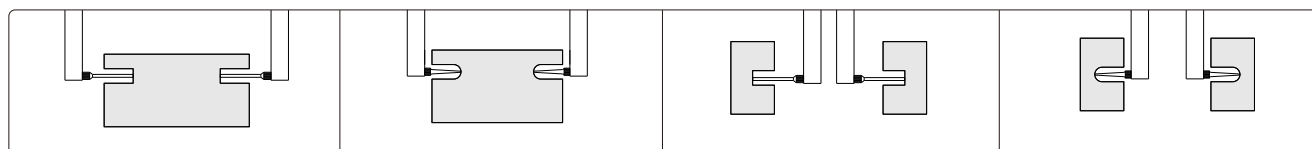
Preset buttons



Points (optional)

Zero setting block for external  
measurement (included)

Measure internal and external grooves



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

## SERIES 151

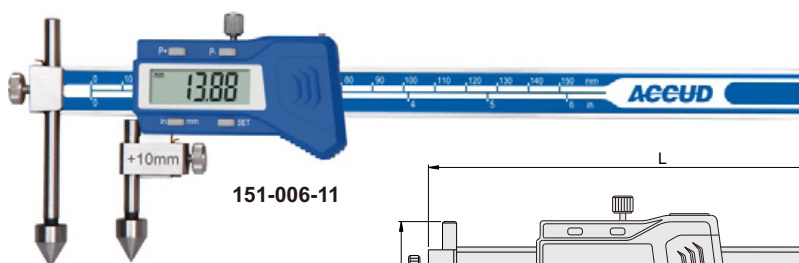
## DIGITAL OFFSET CENTERLINE CALIPER



ACCUD

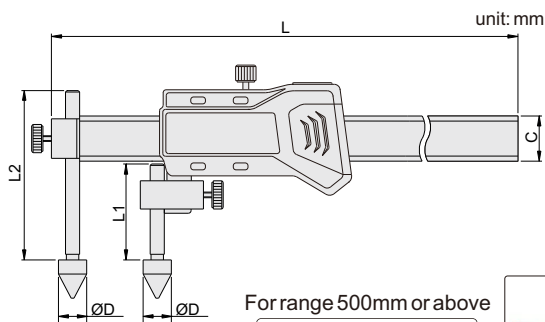


VIDEO



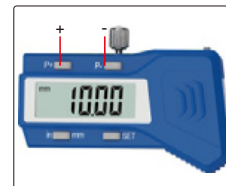
151-006-11

- ◆ 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

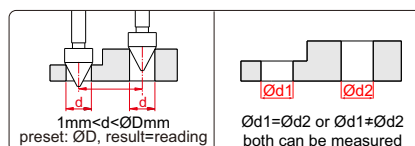


Preset buttons

For range 500mm or above

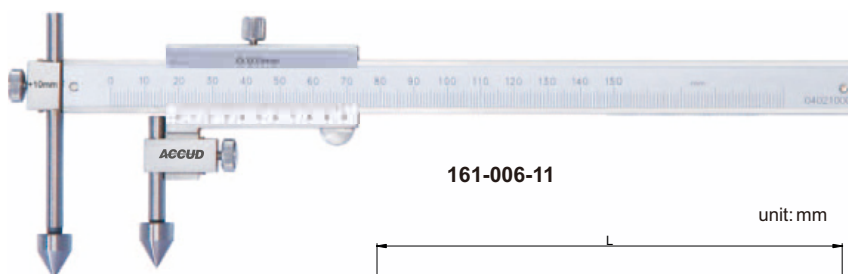


Code	Range	Accuracy	c	ØD	L1	L2	L
151-006-11	10-150mm/0.4-6"	±0.05mm	16	10	32	65	236
151-008-11	10-200mm/0.4-8"	±0.07mm	16	10	32	65	306
151-012-11	10-300mm/0.4-12"	±0.09mm	16	10	32	65	396
151-020-11	20-500mm/0.8-20"	±0.09mm	24	20	48	88	686
151-040-11	30-1000mm/1.2-40"	±0.12mm	31	30	42	88	1242



## SERIES 161

## OFFSET CENTERLINE VERNIER CALIPER



161-006-11

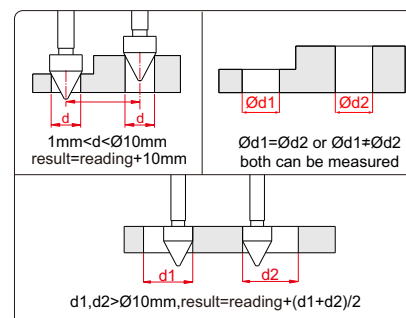
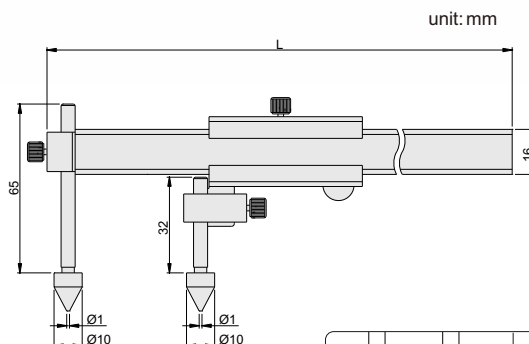
Graduation 0.02mm

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

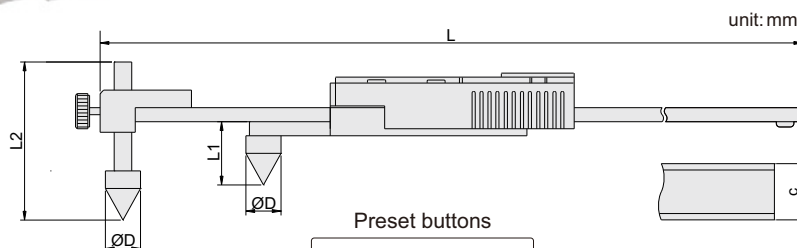


VIDEO



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



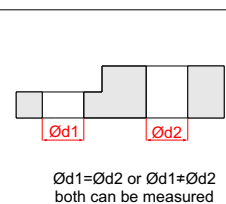
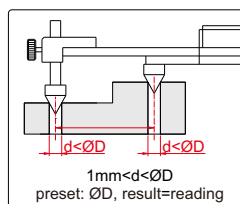
Preset buttons



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

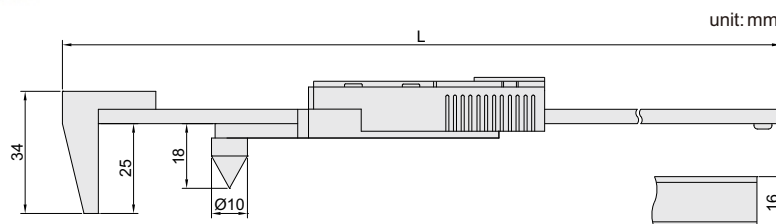


VIDEO



147-008-11

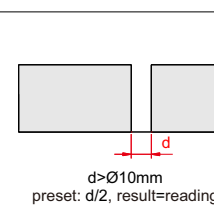
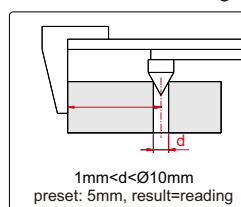
- ◆ Measure edge to hole center distance
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: mm/in, SET, preset(P+,P-)
- ◆ Data output(cable code: 100-03 or 100-04)
- ◆ Automatic power on/off
- ◆ Made of stainless steel



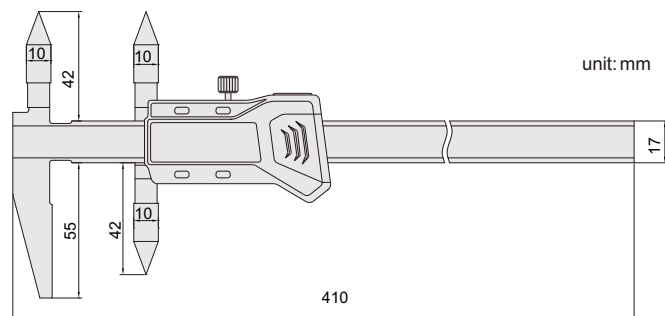
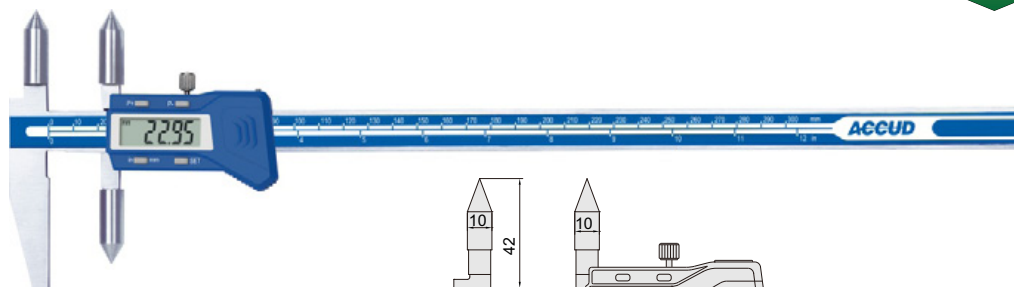
Preset buttons



Measure edge to hole center distance

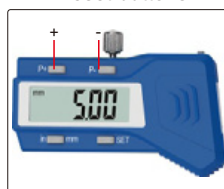


Code	Range	Accuracy	L
147-008-11	5-200mm/0.2-8"	±0.1mm	310
147-012-11	5-300mm/0.2-12"	±0.1mm	410

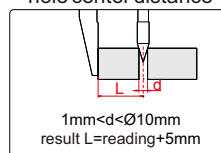


- ◆ Measure hole center distance or edge to hole center distance
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: mm/in, SET, preset(P+,P-)
- ◆ Data output(cable code: 100-03 or 100-04)
- ◆ Automatic power on/off
- ◆ Made of stainless steel

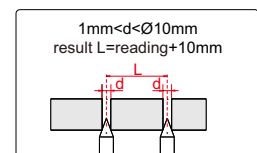
Preset buttons



Measure edge to hole center distance



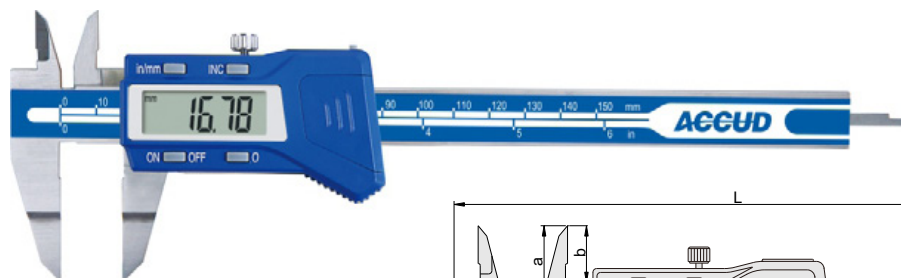
Measure hole center distance



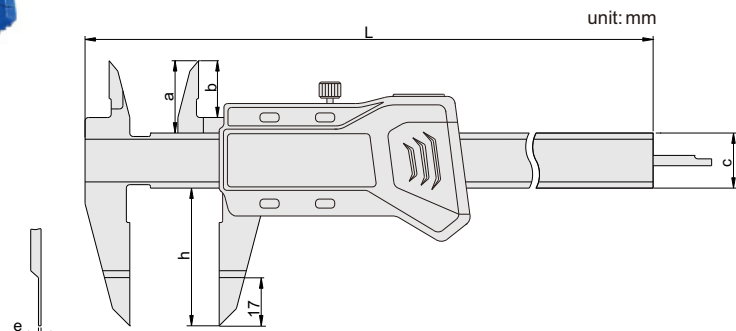
Code	Range of upper jaw (center to center)	Range of lower jaw (edge to center)	Accuracy
148-012-11	10-300mm/0.4-12"	5-300mm/0.2-12"	±0.08mm

## SERIES 153

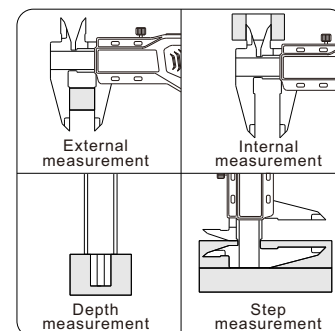
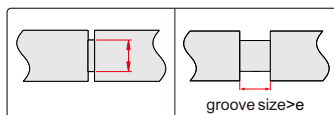
## DIGITAL BLADE CALIPER



153-006-11



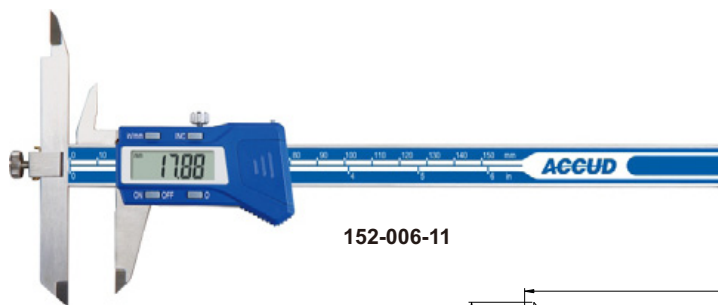
- ◆ Measure small grooves
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Automatic power on/off
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Data output(cable code: 100-03 or 100-04)
- ◆ Made of stainless steel



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

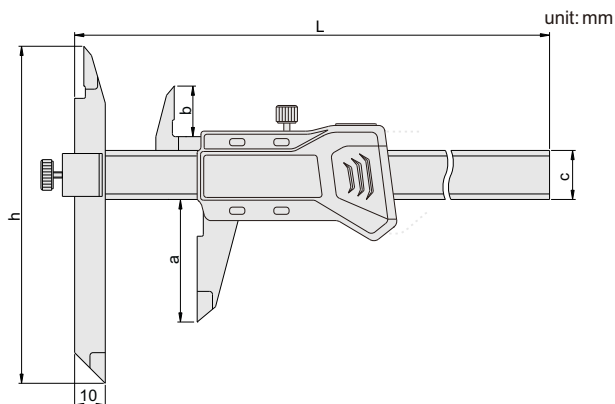
## SERIES 152

## DIGITAL OFFSET CALIPER

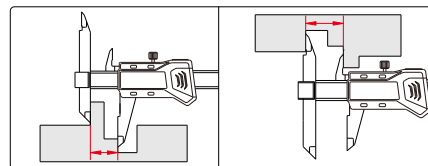


152-006-11

- ◆ 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



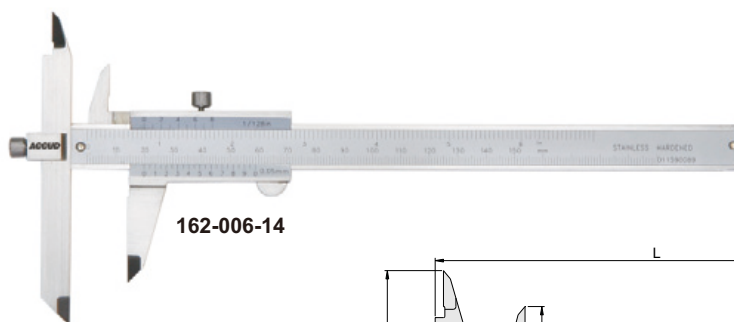
Code	Range	Accuracy	a	b	c	h	L
152-006-11	0-150mm/0-6"	±0.04mm	40	16.5	16	110	239
152-008-11	0-200mm/0-8"	±0.04mm	50	19.5	16	120	289
152-012-11	0-300mm/0-12"	±0.05mm	60	20.5	17	130	389



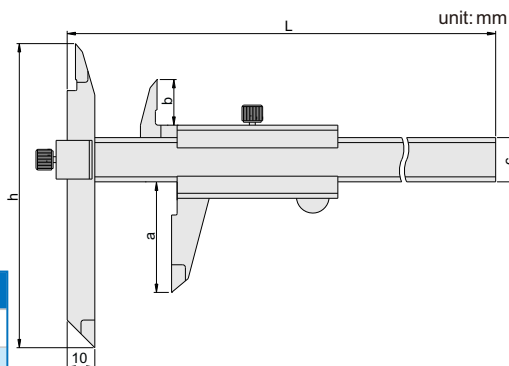
## SERIES 162

## 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

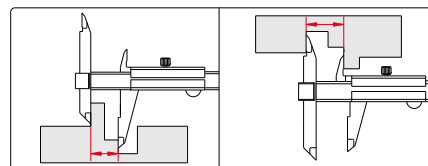


Graduation 0.02mm/0.001"

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"

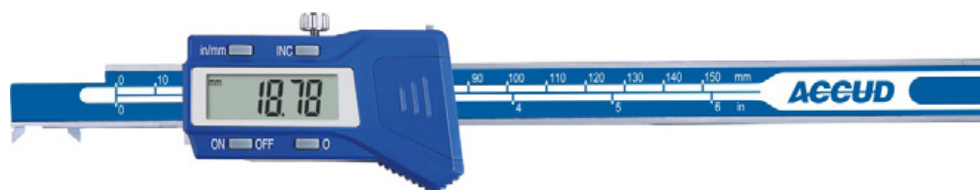
Code	Range	Accuracy	a	b	c	h	L
162-006-14	0-150mm/0-6"	±0.05mm	40	16.5	16	110	239
162-008-14	0-200mm/0-8"	±0.05mm	50	19.5	16	120	289
162-012-14	0-300mm/0-12"	±0.08mm	60	20.5	17	130	389





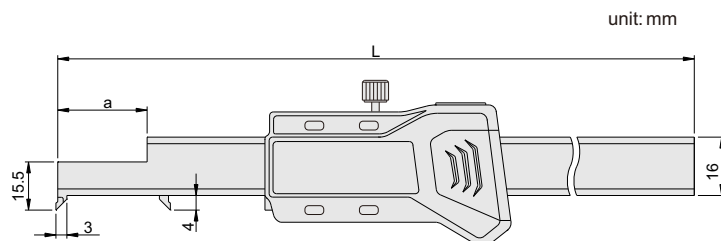
## SERIES 154

## DIGITAL HOOK CALIPER

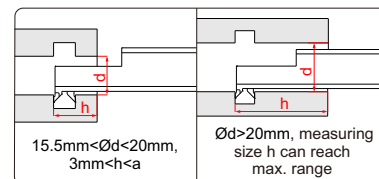
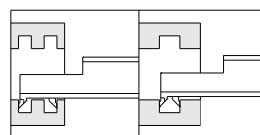


154-005-11

- ◆ 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

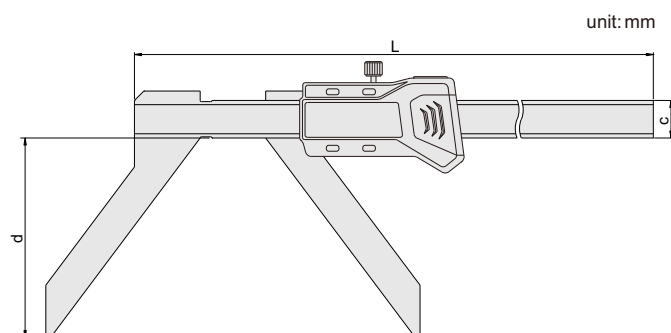


## SERIES 169

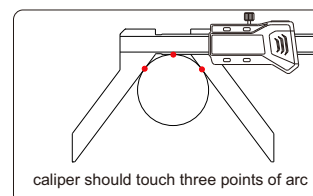
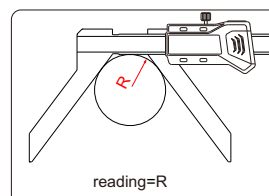
## DIGITAL ARC RADIUS CALIPER



- ◆ 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

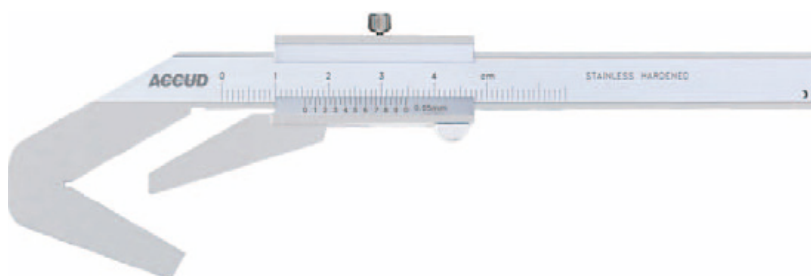


Code	Range(R)	Accuracy	c	d	L
169-006-11	5-150mm/0.2-6"	±0.05mm	16	65	263
169-008-11	5-200mm/0.2-8"	±0.07mm	16	85	313

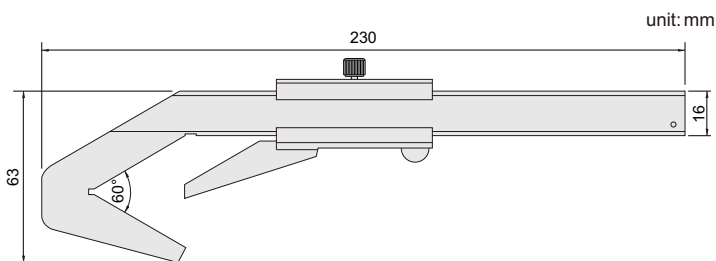


891

## V SHAPE VERNIER CALIPER



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



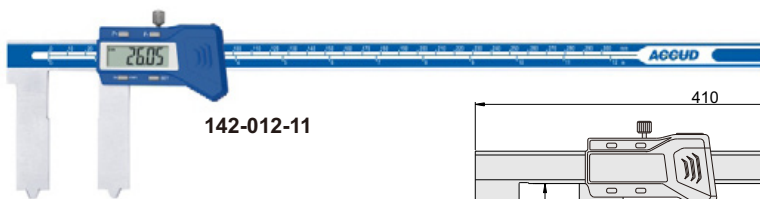
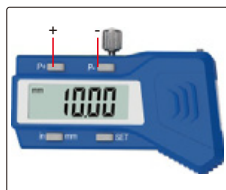
Code	Range	Graduation	Accuracy
891-340-13	Ø4-40mm	0.05mm	±0.05mm

## SERIES 142

## DIGITAL RTJ RING GROOVE CALIPER

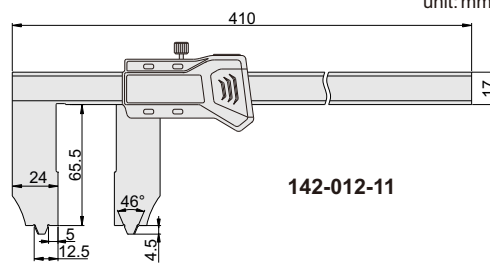


Preset buttons



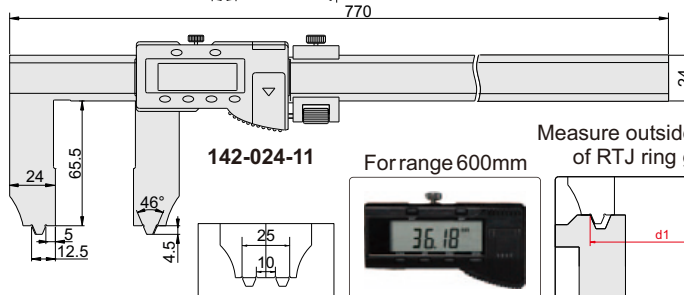
142-012-11

unit: mm



142-012-11

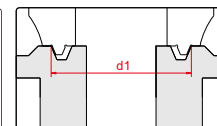
- ◆ Measure ring grooves of flange
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Automatic power on/off
- ◆ Buttons: mm/in, SET, preset(P+,P-)
- ◆ Preset: 25mm, don't need to add the width of the jaws on the reading
- ◆ Data output
- ◆ Made of stainless steel



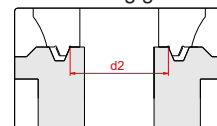
142-024-11

For range 600mm

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

## SERIES 167

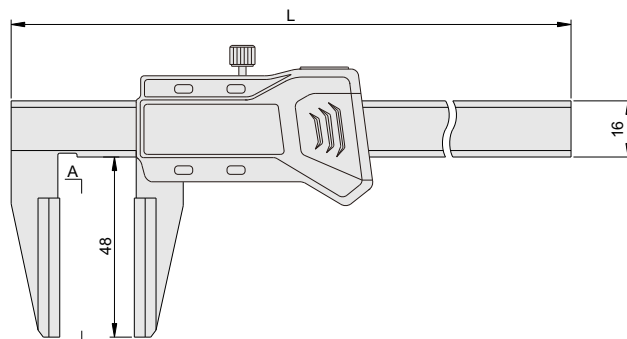
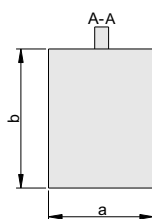
## DIGITAL CALIPER WITH LARGE MEASURING FACES



167-008-11

unit: mm

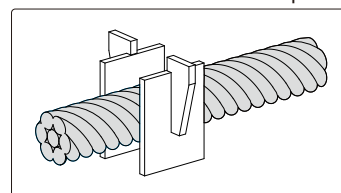
- ◆ Measure diameter of wire ropes, and thickness of soft materials like rubber, etc.
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Automatic power on/off
- ◆ Data output(cable code: 100-03 or 100-04)
- ◆ Made of stainless steel



Measure thickness of rubber



Measure diameter of wire ropes



Code	Range	Accuracy	a	b	L
167-006-11	0-150mm/0-6"	±0.07mm	20	30	250
167-008-11	0-200mm/0-8"	±0.07mm	30	40	300
167-012-11	0-300mm/0-12"	±0.07mm	40	50	400

## SERIES 107

## DIGITAL CALIPER WITH LONG UPPER JAWS

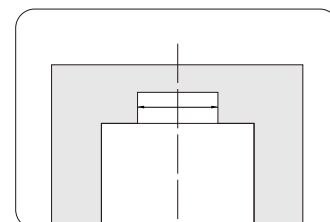
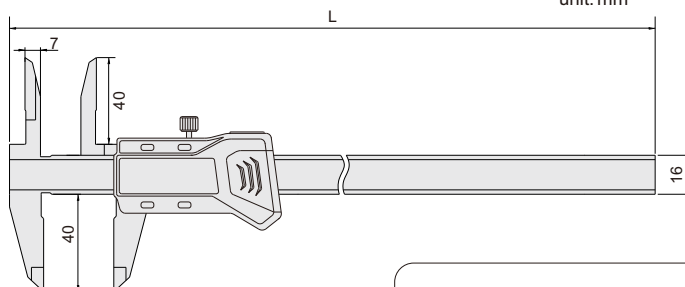


- ◆ Non waterproof
- ◆ Long upper jaws for measuring diameter of deep holes
- ◆ Resolution: 0.01 mm/0.0005"
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Automatic power off, move the digital unit to turn on power
- ◆ Data output(cable code: 100-03 or 100-04)
- ◆ Made of stainless steel

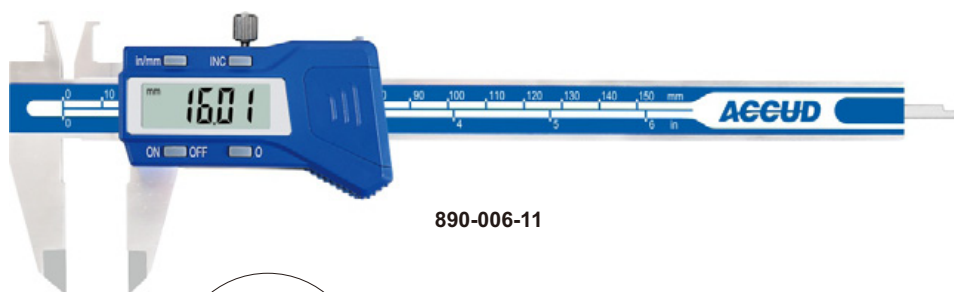


107-008-11

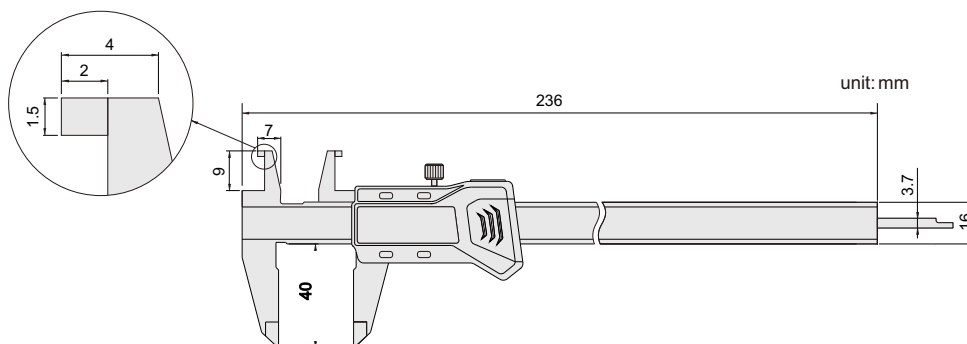
unit: mm



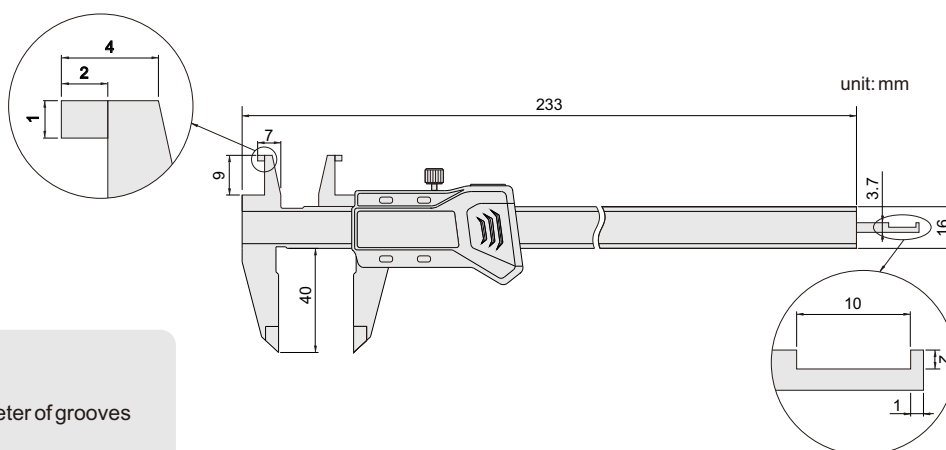
Code	Range	Accuracy	L
107-006-11	0-150mm/0-6"	±0.04mm	236
107-008-11	0-200mm/0-8"	±0.04mm	286



890-006-11



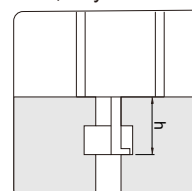
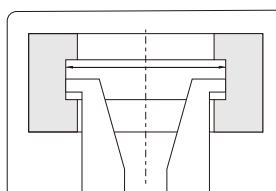
890-006-21



- ◆ Non waterproof
- ◆ Upper jaws for measuring diameter of grooves
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons type A: on/off, zero, mm/in, INC  
type B: on/off, set, mm/inch, preset (+, -)
- ◆ Automatic power on/off
- ◆ Data output (cable code: 100-03 or 100-04)
- ◆ Made of stainless steel

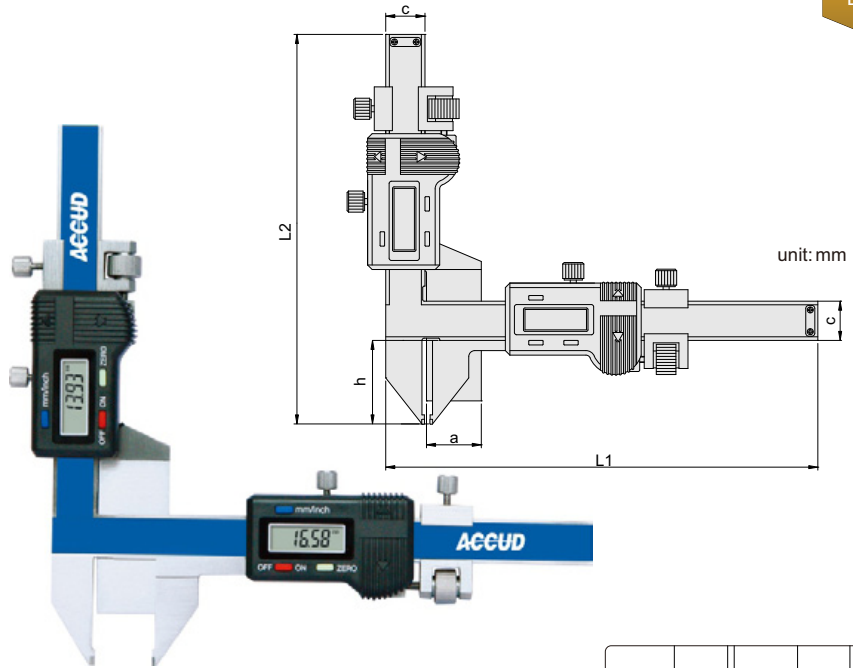
measure diameter of grooves  
8-150mm

measure depth of grooves  
(h<10mm, only for 890-006-21)



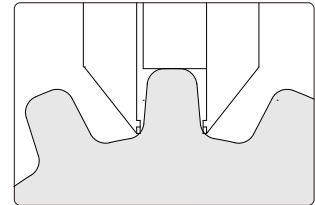
Code	Range of upper jaw	Range of lower jaw	Accuracy
890-006-11	8-150mm/0.3-6"	0-150mm/0-6"	±0.03mm
890-006-21	8-150mm/0.3-6"	0-150mm/0-6"	±0.03mm

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

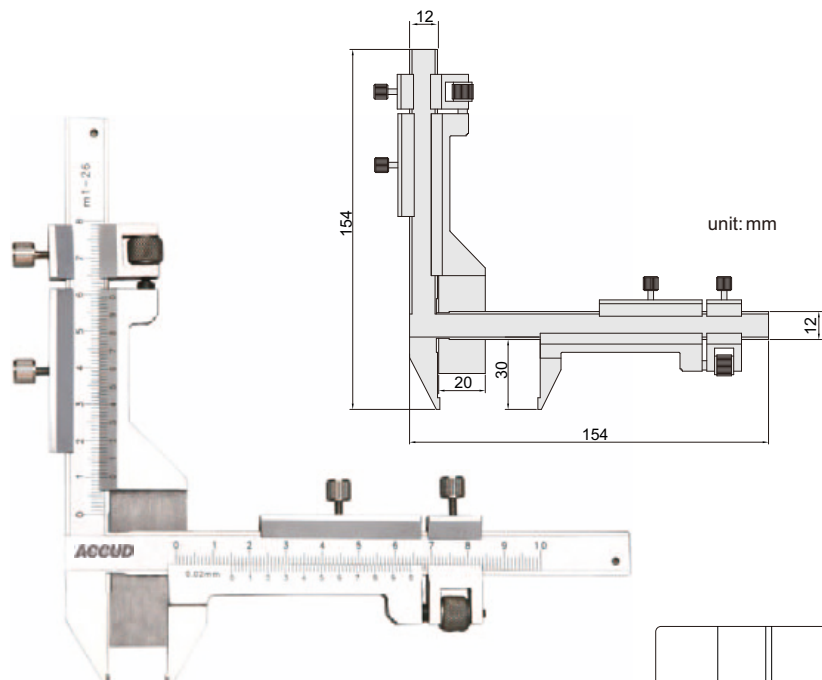


156-001-11

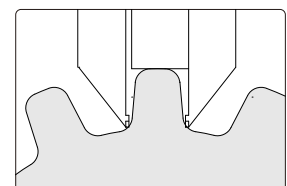
Code	Range	Accuracy	L1	L2	a	c	h
156-001-11	M1-25mm	±0.04mm	170	165.5	21	16	30.5
156-002-11	M5-50mm	±0.04mm	215	215	50.5	16	55



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



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





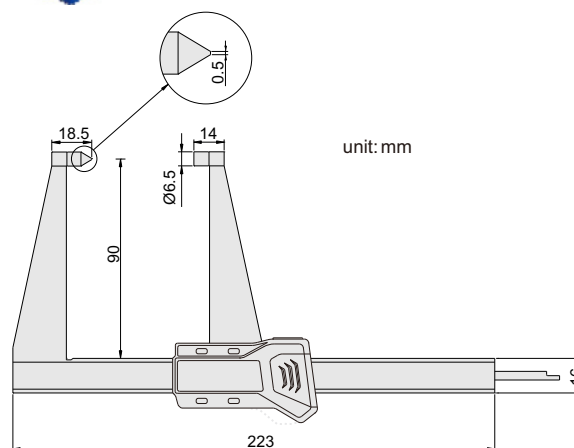
157

## DIGITAL DISK BRAKE CALIPER



- ◆ 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



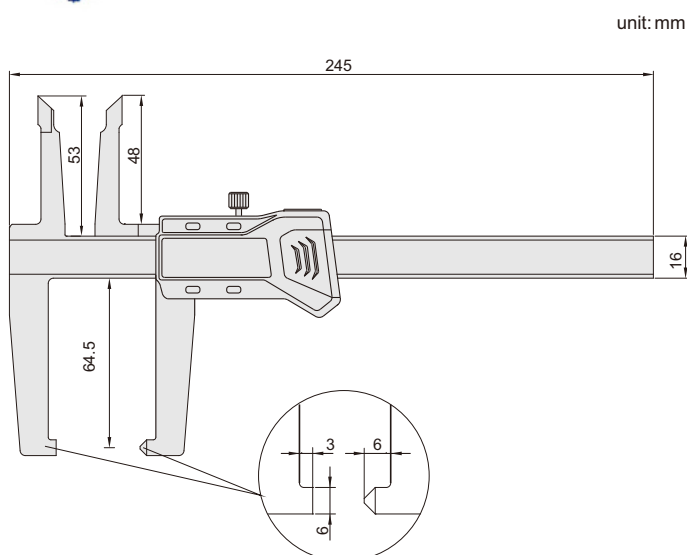
165

## DIGITAL DISK BRAKE AND PAD CALIPER



- ◆ 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

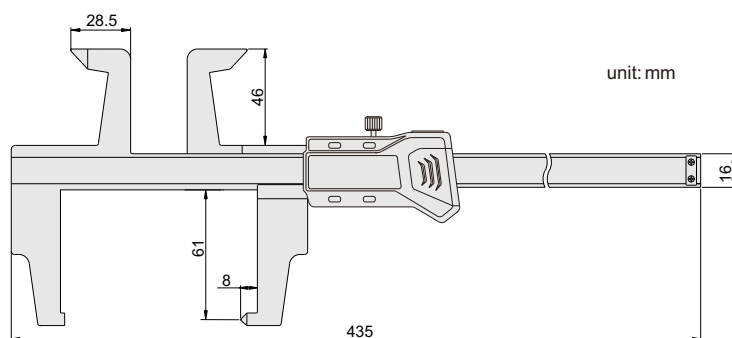
Code	Range	Accuracy
165-006-11	0-150mm/0-6"	±0.07mm





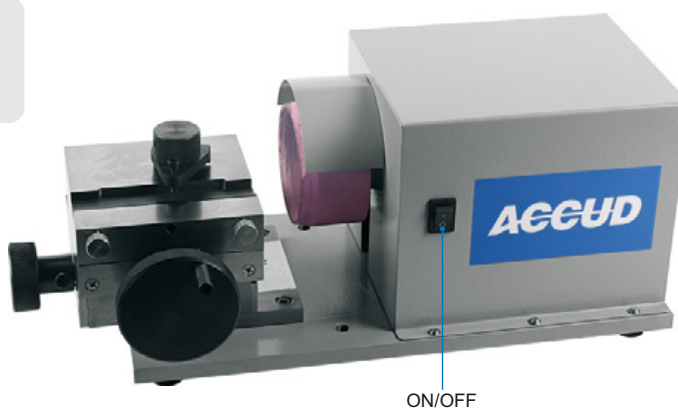


- ◆ Measure internal and external diameter of drum brakes
- ◆ Resolution 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Automatic power on/off
- ◆ Data output(cable code: 100-03 or 100-04)
- ◆ Made of stainless steel

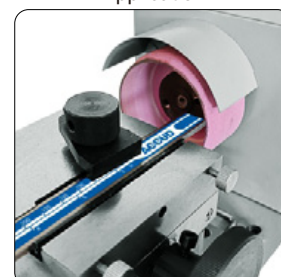


Code	Range	Accuracy
158-012-11	0-300mm/0-12"	±0.07mm

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



Application



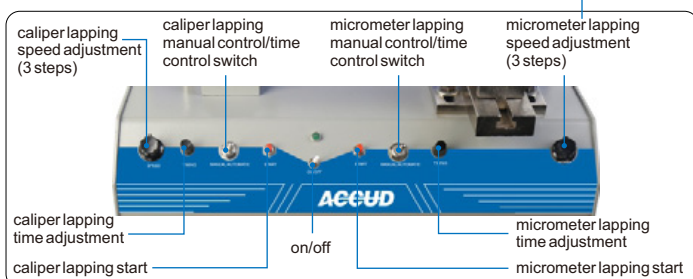
Code	Power supply	Dimension (LxWxH)	Weight
880-000-11	220V, 50/60Hz	370x200x160mm	15kg



881

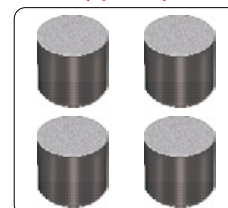
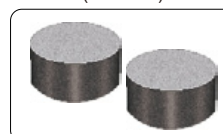
## CALIPER/MICROMETER LAPPING MACHINE

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

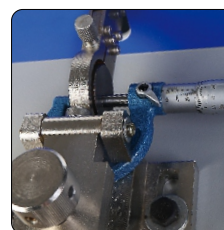


Micrometer lapping block (optional)

Caliper lapping block (included)



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

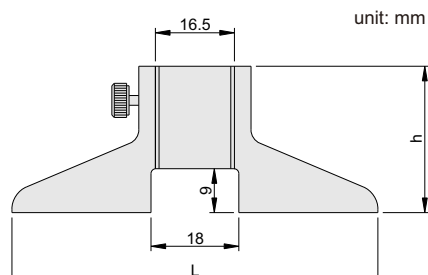


179-000-00



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



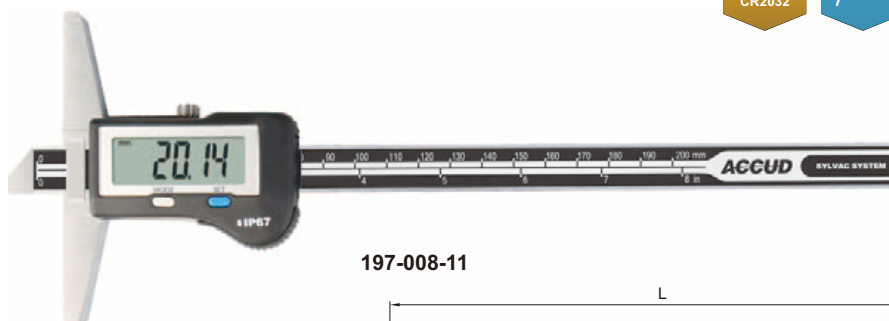
Application



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

## SERIES 197

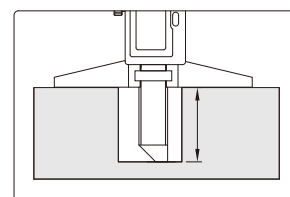
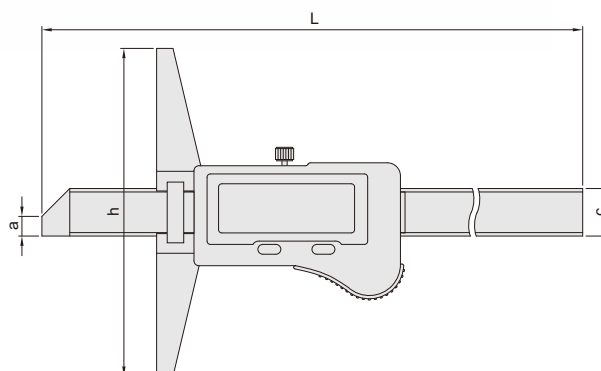
## IP67 WATERPROOF DIGITAL DEPTH CALIPER



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

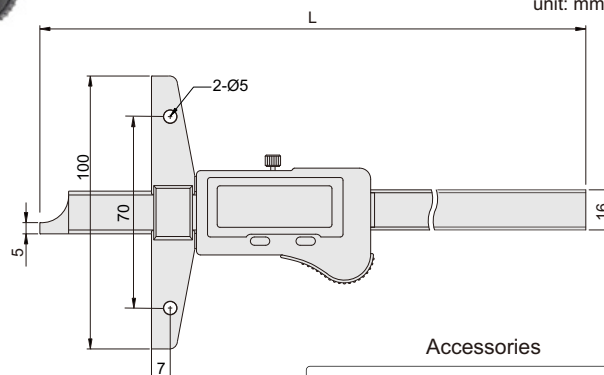
## IP67 WATERPROOF DIGITAL DEPTH CALIPER WITH HOLES



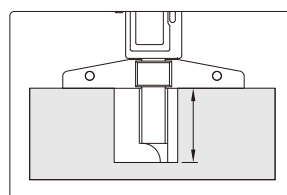
197-006-21

unit: mm

- ◆ 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



Accessories



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

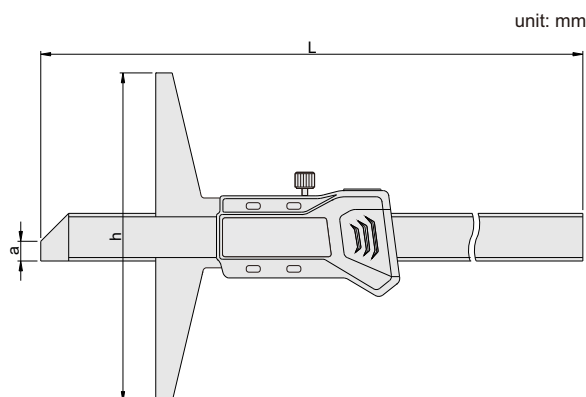


SERIES 171

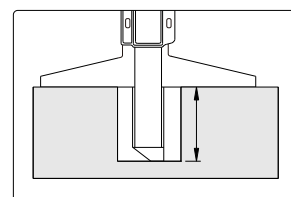
DIGITAL DEPTH CALIPER



- ◆ 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

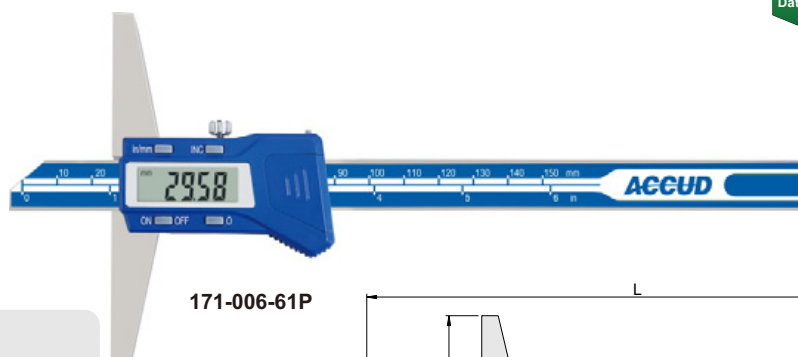


Code	Range	Accuracy	a	c	h	L
171-006-11	0-150mm/0-6"	±0.03mm	6	14.5	100	230
171-008-11	0-200mm/0-8"	±0.03mm	6	14.5	100	280
171-012-11	0-300mm/0-12"	±0.04mm	6	14.5	150	380
171-020-11	0-500mm/0-20"	±0.05mm	7	15	150	585



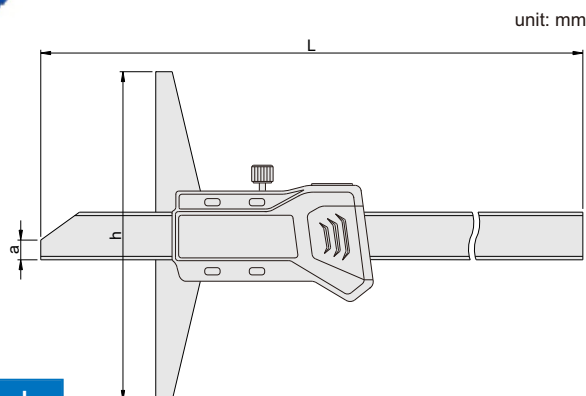
SERIES 171

DIGITAL DEPTH CALIPER

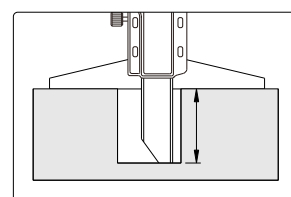


171-006-61P

- ◆ 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
171-006-61P	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



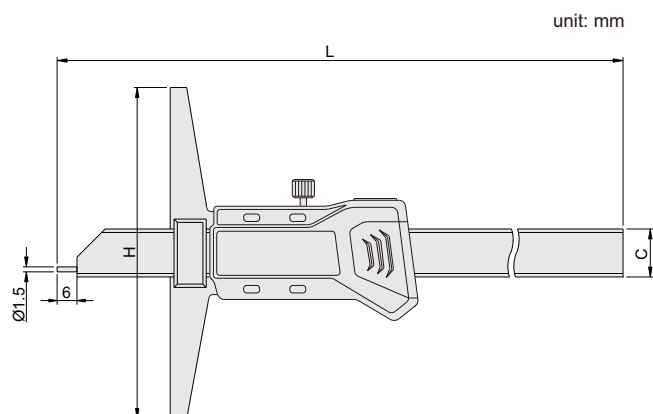
## SERIES 172

## DIGITAL PIN DEPTH CALIPER

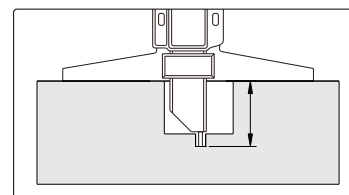


172-008-11

- ◆ 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



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



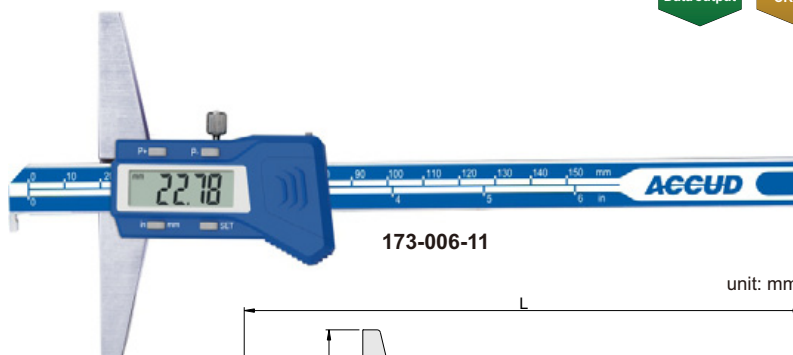
## SERIES 173

## DIGITAL HOOK DEPTH CALIPER

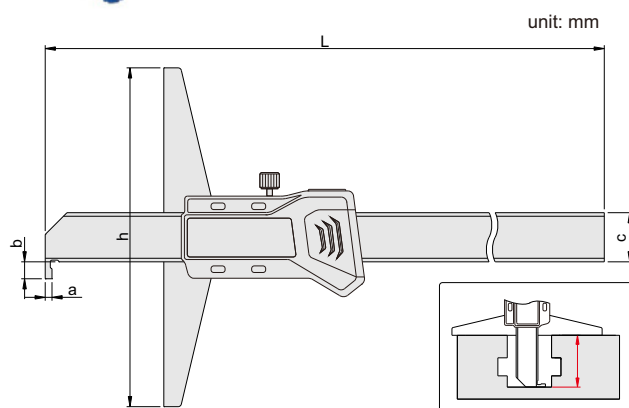


VIDEO

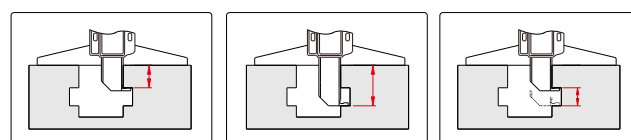
- ◆ Measure the depth of grooves
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Automatic power on/off
- ◆ Buttons: mm/in, SET, preset(P+,P-)
- ◆ Data output(cable code: 100-03 or 100-04)
- ◆ Made of stainless steel



173-006-11



Code	Range	Accuracy	a	b	c	h	L
173-006-11	0-150mm/0-6"	±0.04mm	2	5	14.5	100	235
173-008-11	0-200mm/0-8"	±0.04mm	2	5	14.5	100	285
173-012-11	0-300mm/0-12"	±0.05mm	2	5	14.5	150	390
173-020-11	0-500mm/0-20"	±0.05mm	3	8	16	150	623
173-006-21	0-150mm/0-6"	±0.04mm	1	4	14.5	100	235
173-008-21	0-200mm/0-8"	±0.04mm	1	4	14.5	100	285
173-012-21	0-300mm/0-12"	±0.05mm	1	4	14.5	150	390
173-020-21	0-500mm/0-20"	±0.05mm	3	8	16	200	623



## SERIES 174

## DIGITAL DOUBLE HOOK DEPTH CALIPER

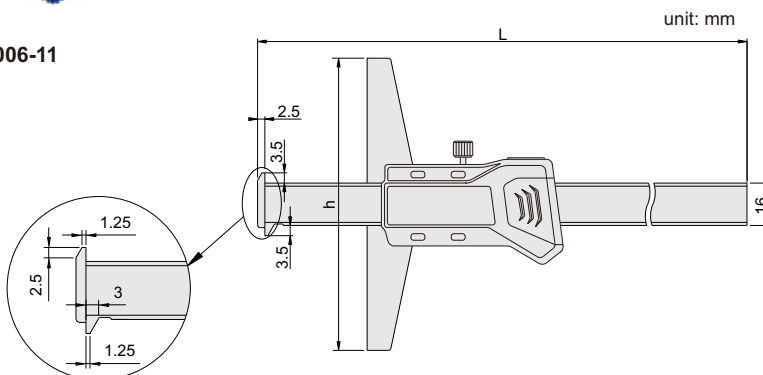


VIDEO

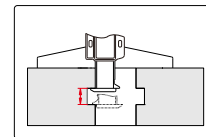
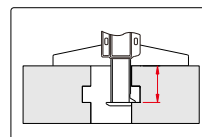
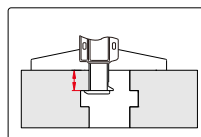


174-006-11

- ◆ 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



DEPTH

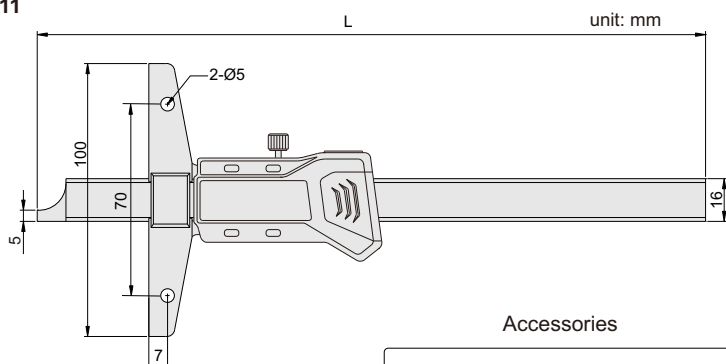
## SERIES 191

## DIGITAL DEPTH CALIPER WITH HOLES

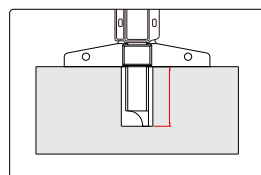


191-006-11

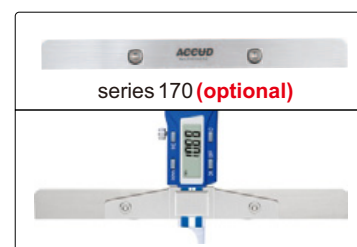
- ◆ With hole, for mounting the extension base
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Automatic power on/off
- ◆ Data output(cable code:100-03 or 100-04)
- ◆ Made of stainless steel
- ◆ Optional accessory: series 170 extension base



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



### Accessories

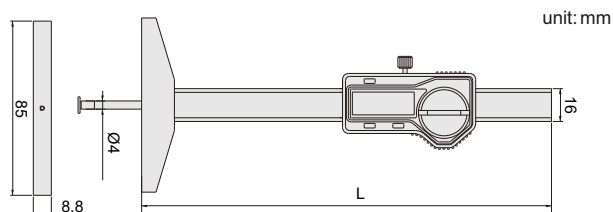




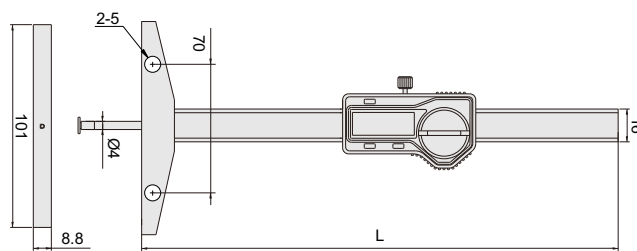

**193-004-11**

- ◆ 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

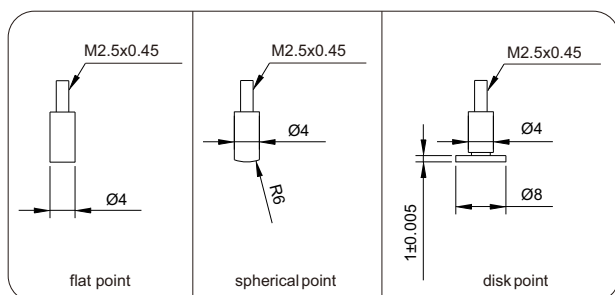
#### Accessory application


**170 series (optional)**


unit: mm


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

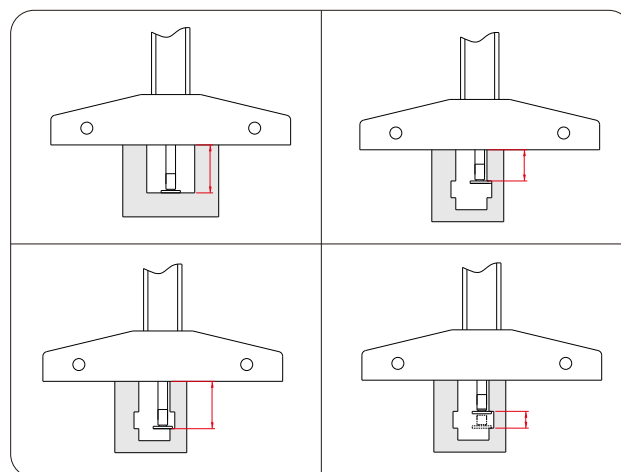
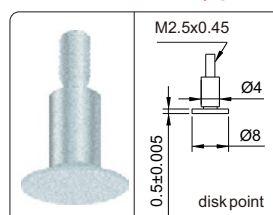
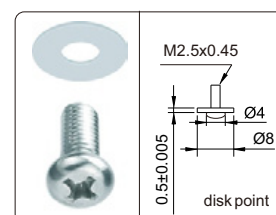
#### points (include)



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

#### OPTIONAL ACCESSORIES

Code	Description	Remark
<b>193-T03</b>	1mm disk point	for grooves inside blind hole
<b>193-T04</b>	0.5mm disk point	for grooves inside blind hole
<b>193-T05</b>	0.5mm disk point	for narrow grooves

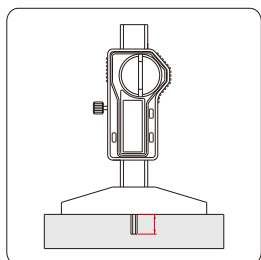

**193-T03 and 193-T04 (optional)**

**193-T05 (optional)**


## SERIES 194

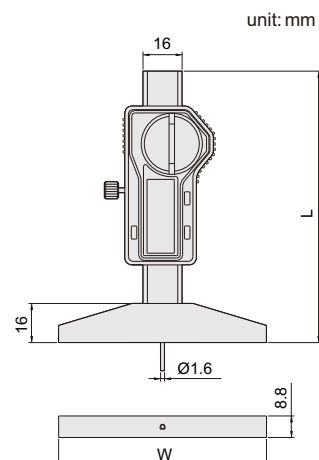
## DIGITAL DEPTH CALIPER WITH ROUND DEPTH BAR



- ◆ 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



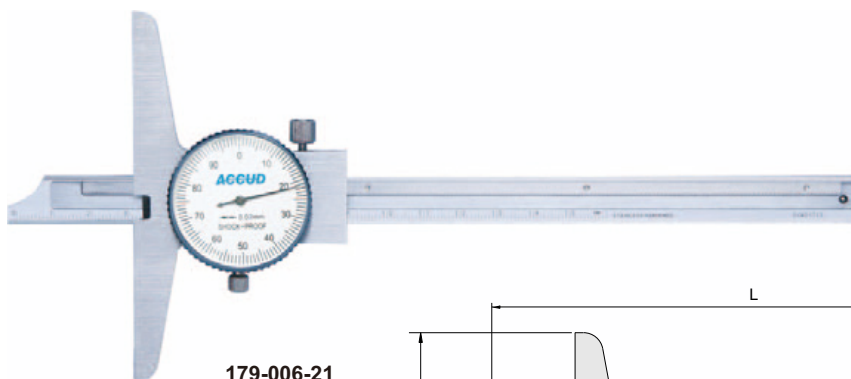
194-002-11



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

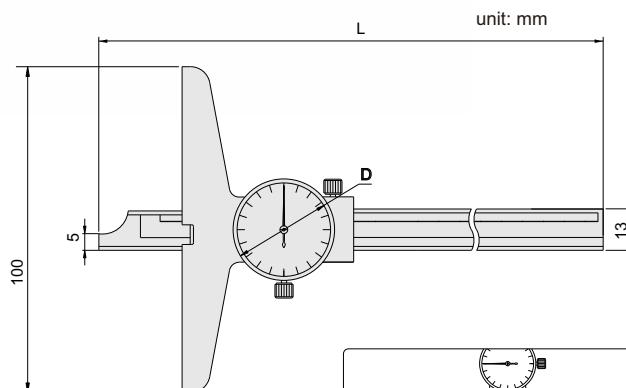
## SERIES 179

## DIAL DEPTH CALIPER

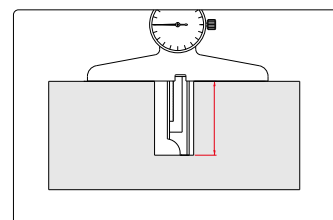


179-006-21

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

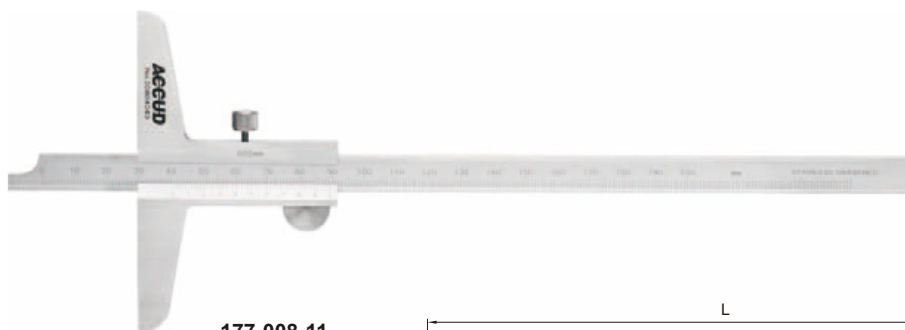


Code	Range	Accuracy	D	L
179-006-21	0-150mm	±0.03mm	Ø39	235
179-008-21	0-200mm	±0.03mm	Ø39	285
179-012-21	0-300mm	±0.04mm	Ø39	308



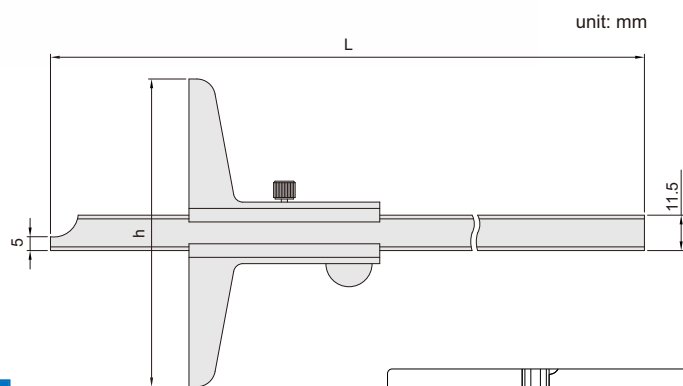
## SERIES 177

## VERNIER DEPTH CALIPER

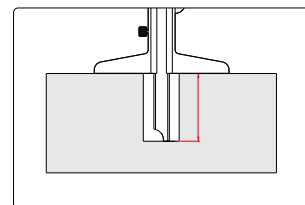


177-008-11

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

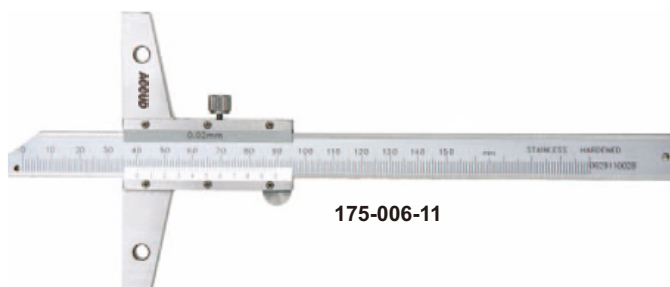


Code	Range	Accuracy	h	L
177-006-11	0-150mm	±0.03mm	100	245
177-008-11	0-200mm	±0.03mm	100	282
177-012-11	0-300mm	±0.04mm	100	382
177-020-11	0-500mm	±0.05mm	150	585



## SERIES 175

## VERNIER DEPTH CALIPER



175-006-11

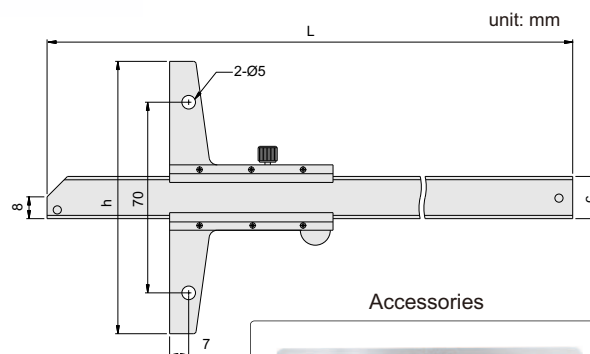
- ◆ Made of stainless steel
- ◆ Satin chrome plating finish on reading surface
- ◆ Optional accessory: series 170 extension base

Graduation 0.02mm

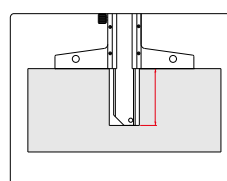
Code	Range	Accuracy	c	h	L
175-006-11	0-150mm	±0.03mm	16	100	240
175-008-11	0-200mm	±0.03mm	16	100	290
175-012-11	0-300mm	±0.04mm	16	100	390
175-024-11	0-600mm	±0.05mm	16	150	704
175-040-11	0-1000mm	±0.07mm	18	200	1124

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

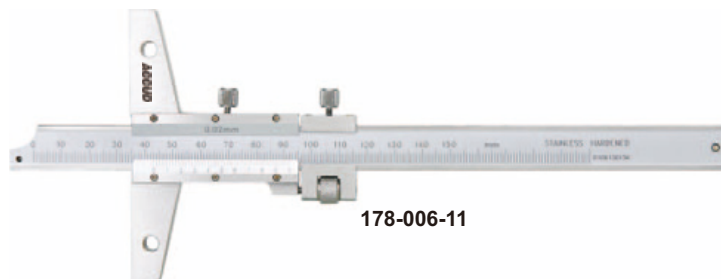


Accessories



## SERIES 178

## VERNIER DEPTH CALIPER



178-006-11

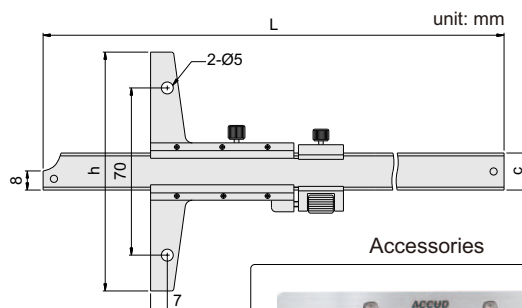
- ◆ With fine adjustment
- ◆ Made of stainless steel
- ◆ Satin chrome plating finish on reading surface
- ◆ Optional accessory: series 170 extension base

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

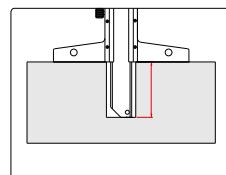
Graduation 0.05mm

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



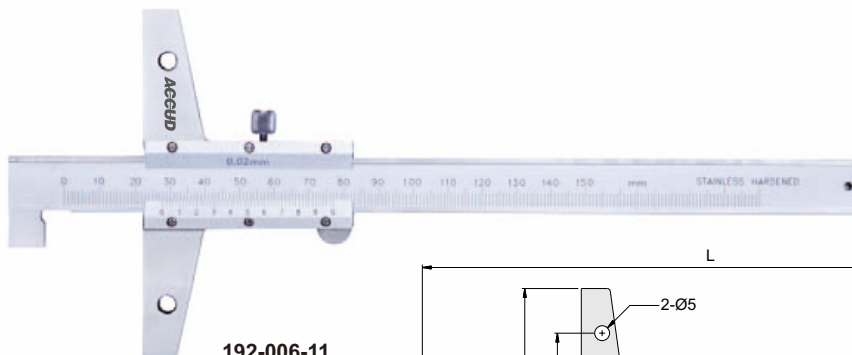
Accessories

series 170 (optional)



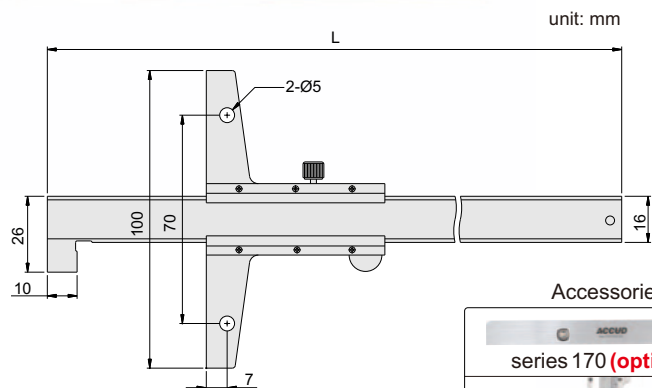
## SERIES 192

## 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

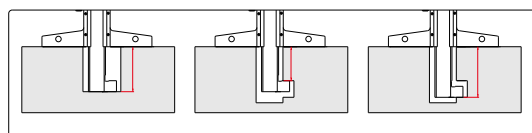


Accessories

series 170 (optional)



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

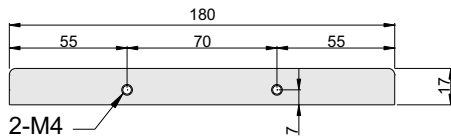


VIDEO

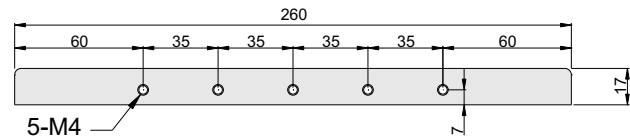


170-260-01

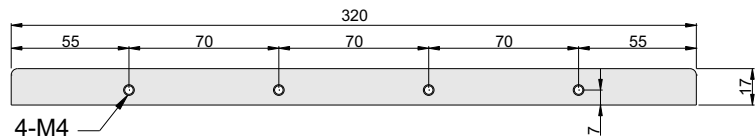
unit: mm



170-180-01



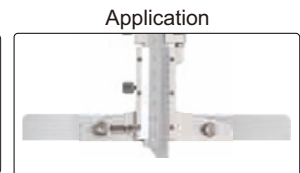
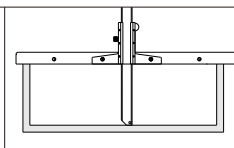
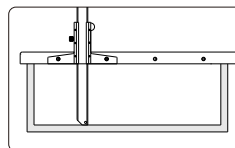
170-260-01



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

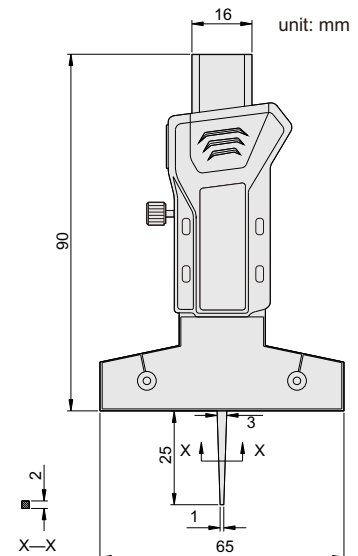
Set zero



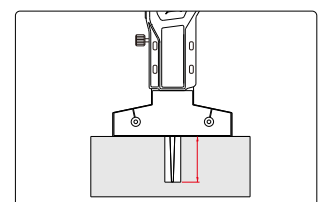
Measure tire thread



Zero setting block (included)



unit: mm



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



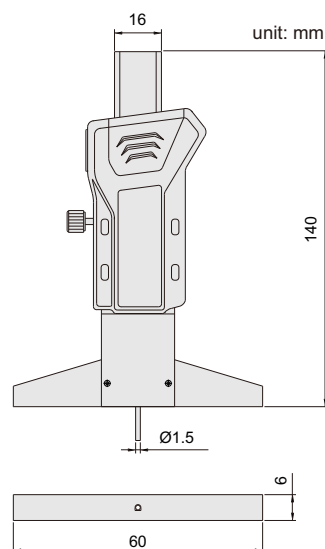
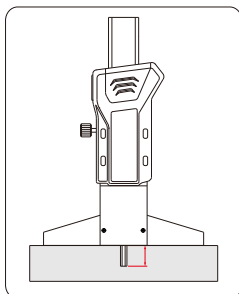
176

## DIGITAL DEPTH CALIPER



- ◆ 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)



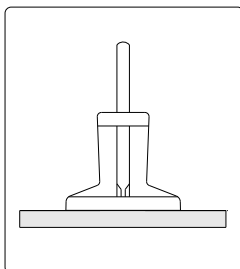
Code	Range	Accuracy
176-001-21	0-30mm/0-1.2"	±0.03mm

176

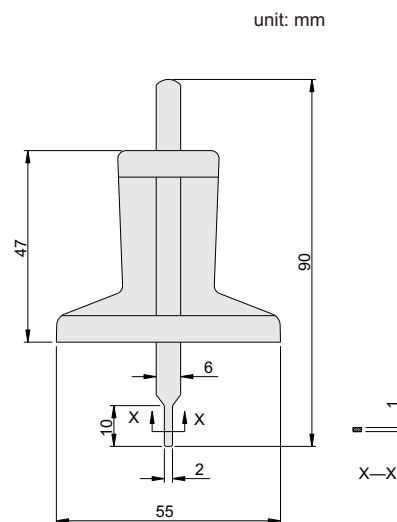
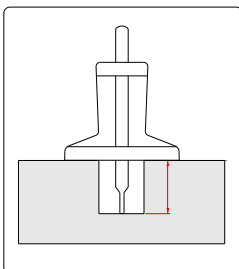
## VERNIER DEPTH CALIPER

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

Set zero



Measure



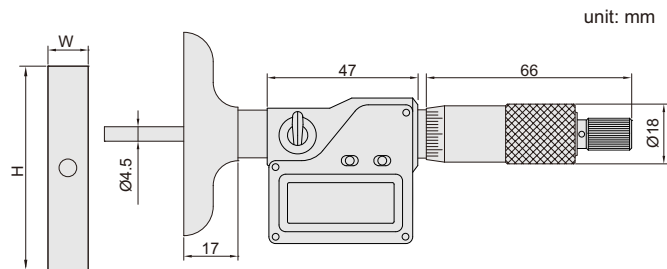
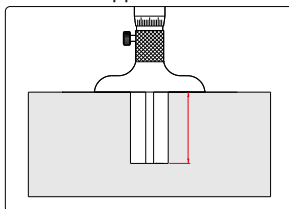
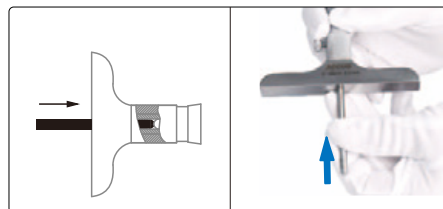
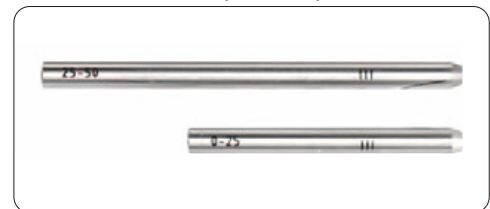
Code	Range	Accuracy
176-030-12	0-30mm	±0.10mm




**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


**DEPTH**
**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

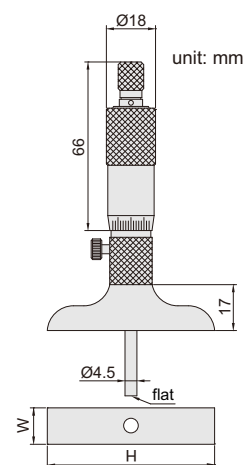
## DEPTH MICROMETER

- ◆ 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

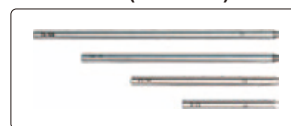
Code	Range	Base (HxW)	Rod
391-001-01	0-25mm	101.5x17mm	1pc
391-002-01	0-50mm	101.5x17mm	2pcs
391-003-01	0-75mm	101.5x17mm	3pcs
391-004-01	0-100mm	101.5x17mm	4pcs
391-006-01	0-150mm	101.5x17mm	6pcs
391-008-01	0-200mm	101.5x17mm	8pcs
391-012-01	0-300mm	101.5x17mm	12pcs
391-001-02	0-25mm	63x17mm	1pc
391-002-02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



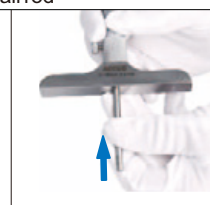
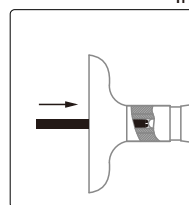
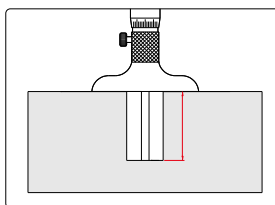
391-001-01



Rod (included)



Install rod



## SERIES 392

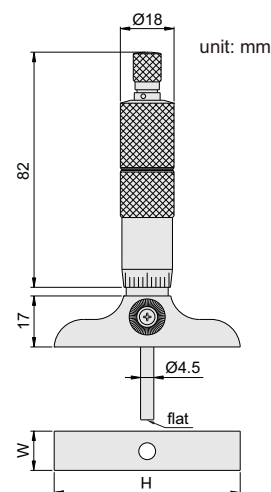
## DEPTH MICROMETER

- ◆ 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

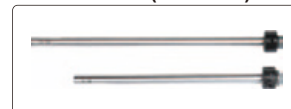
Code	Range	Base (HxW)	Rod
392-001-01	0-25mm	101.5x17mm	1pc
392-002-01	0-50mm	101.5x17mm	2pcs
392-003-01	0-75mm	101.5x17mm	3pcs
392-004-01	0-100mm	101.5x17mm	4pcs
392-006-01	0-150mm	101.5x17mm	6pcs
392-008-01	0-200mm	101.5x17mm	8pcs
392-012-01	0-300mm	101.5x17mm	12pcs
392-001-02	0-25mm	63x17mm	1pc
392-002-02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



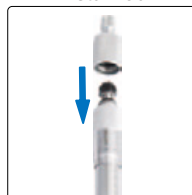
392-001-01



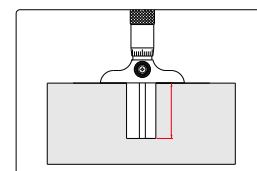
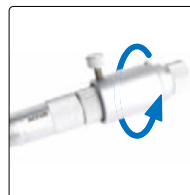
Rod (included)



Install rod

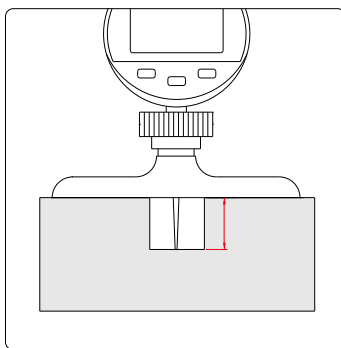
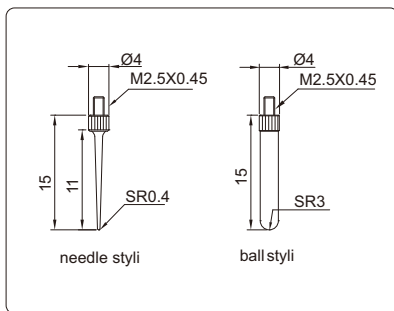


Use

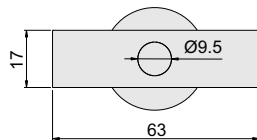
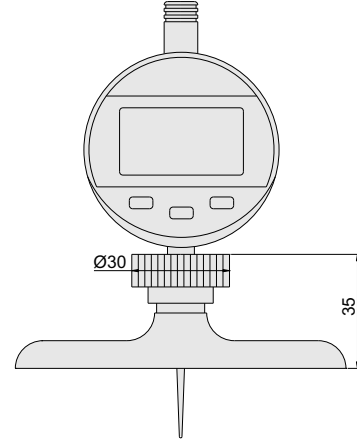
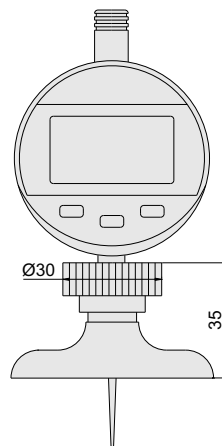
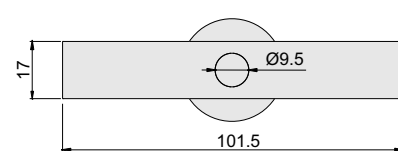



**VIDEO**

- ◆ 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


**Styli (included)**

**293-010-12**

unit: mm


**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



VIDEO

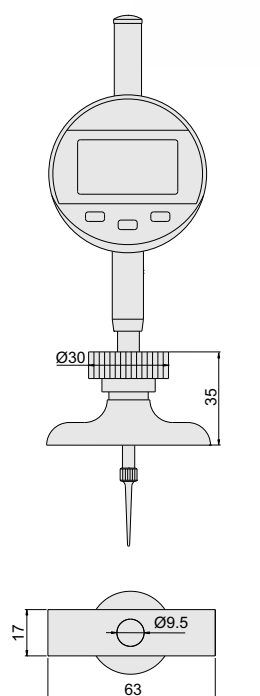
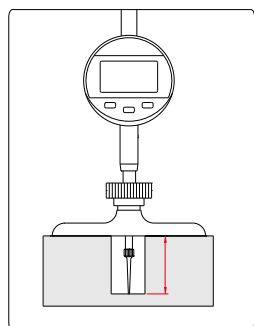
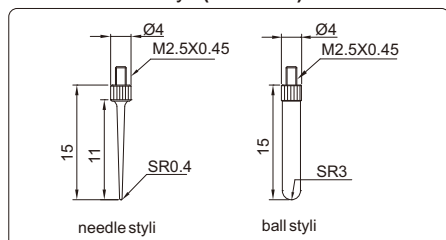
- ◆ Button: tolerance set, data preset, inch/mm conversion, measuring direction set, max./min./range measurement, absolute/incremental measurement
- ◆ Data output(cable code:200-03 or 200-04)
- ◆ Automatic power off
- ◆ Stainless steel base
- ◆ Supplied with pointed tip and ball tip



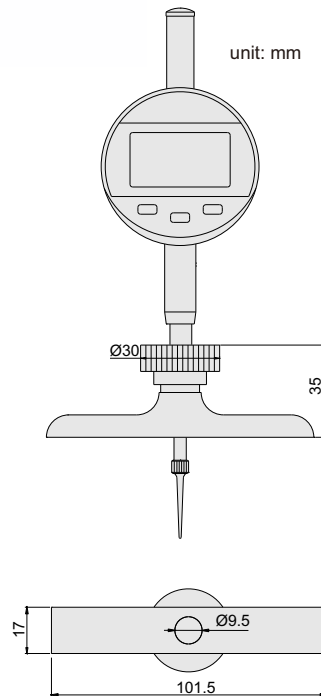
293-025-12

unit: mm

### Styli (included)



293-025-01 and 293-025-11



293-025-02 and 293-025-12

Resolution 0.001mm/0.00005"

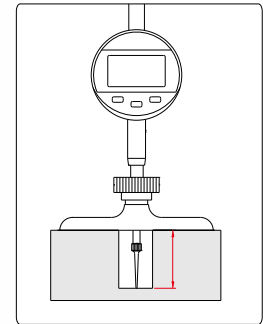
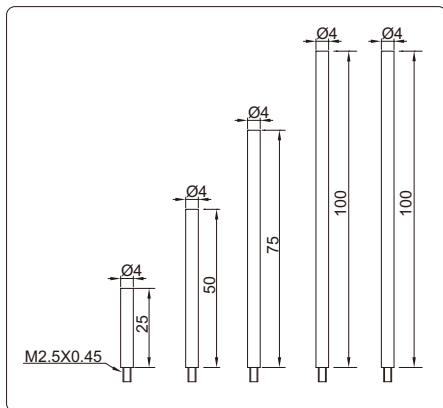
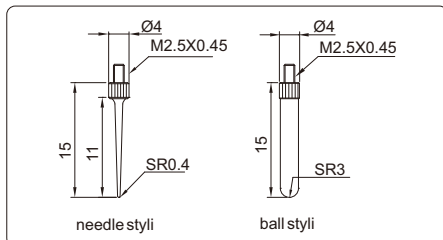
Code	Range	Accuracy	Digital indicator stroke	Base
293-025-01	0-25mm/0-1"	±5µm	25.4mm/1"	63x17mm
293-025-02	0-25mm/0-1"	±5µm	25.4mm/1"	101.5x17mm

Resolution 0.01mm/0.0005"

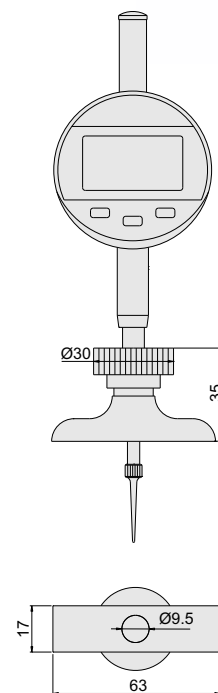
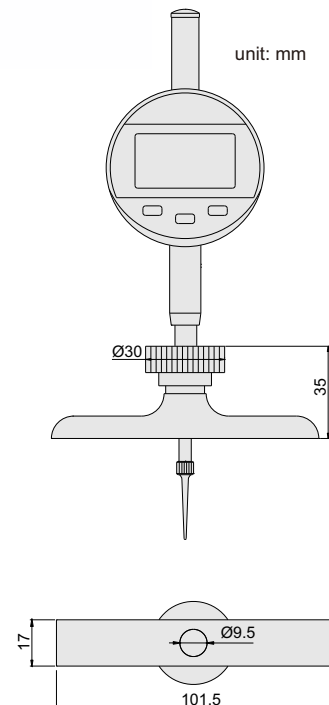
Code	Range	Accuracy	Digital indicator stroke	Base
293-025-11	0-25mm/0-1"	±0.03mm	25.4mm/1"	63x17mm
293-025-12	0-25mm/0-1"	±0.03mm	25.4mm/1"	101.5x17mm


**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)**

**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

## SERIES 291

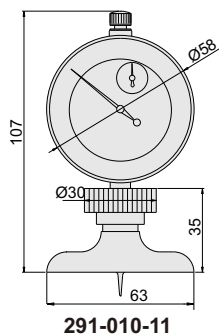
## DIAL DEPTH INDICATOR

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

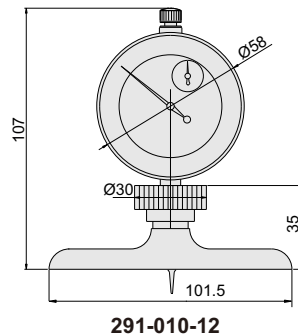


291-010-12

unit: mm

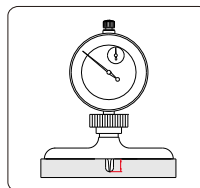


291-010-11

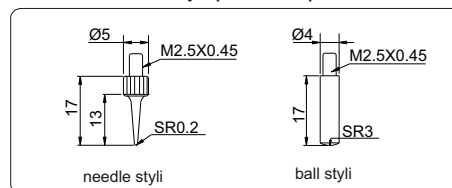


291-010-12

## Styli (included)



needle styli



ball styli

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

## SERIES 292

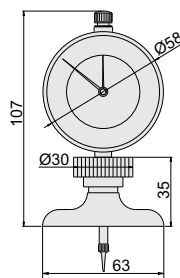
## DIAL DEPTH INDICATOR

- ◆ 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)

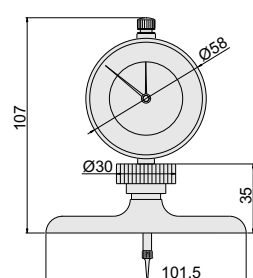


292-300-12

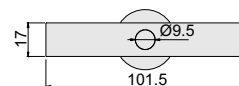
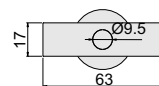
unit: mm



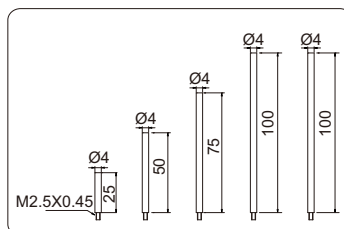
292-300-11



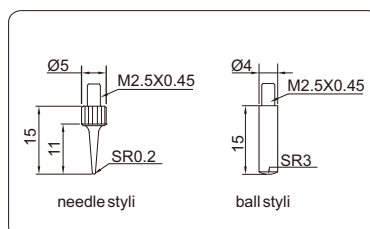
292-300-12



## Extension rods



## Styli (included)



needle styli

ball styli

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



## SERIES 295

## DIAL DEPTH INDICATOR

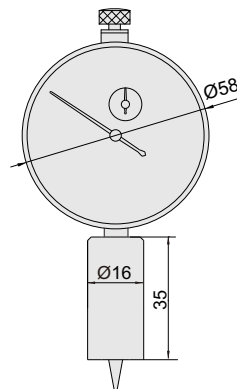
- ◆ Stainless steel base
- ◆ Pointed tip



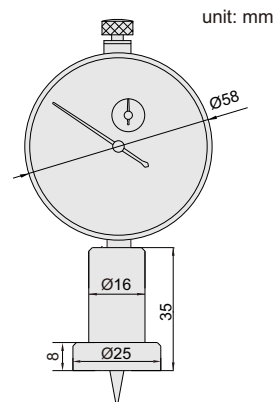
295-010-12



295-010-11

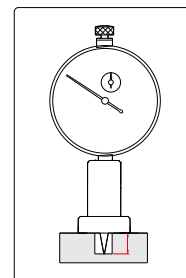


295-010-11



295-010-12

Code	Range	Accuracy	Dial indicator stroke	Dial indicator graduation	Base
295-010-11	0-10mm	±20μm	10mm	0.01mm	Ø16mm
295-010-12	0-10mm	±20μm	10mm	0.01mm	Ø25mm

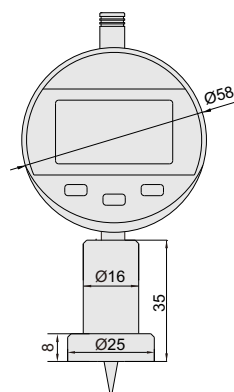


## SERIES 299

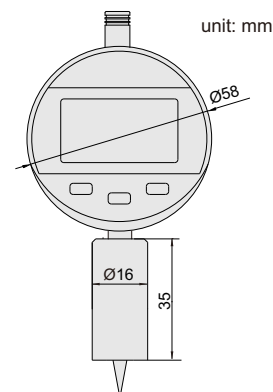
## DIGITAL DEPTH INDICATOR

- ◆ 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



Type B



Type A



DEPTH

Resolution 0.01mm/0.0005"

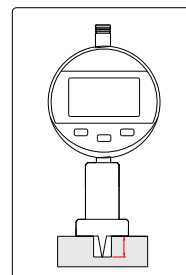
Code	Range	Accuracy	Digital indicator stroke	Base	Type
299-010-11	0-12.7mm/0-0.5"	±20μm	12.7mm/0.5"	Ø16mm	A
299-010-12	0-12.7mm/0-0.5"	±20μm	12.7mm/0.5"	Ø25mm	B

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



299-010-11

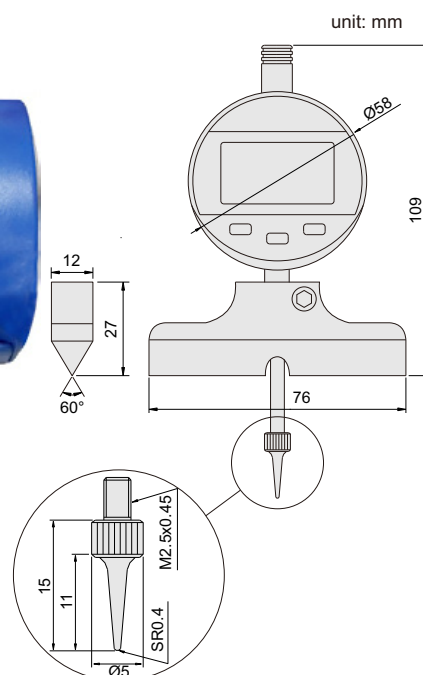


480

## DIGITAL DEPTH GAUGE (60° KNIFE EDGE BASE)



- ◆ Button: on/off, zero, inch/mm conversion, measuring direction set, data preset absolute/incremental measurement
- ◆ Automatic power off (time is adjustable)
- ◆ Data output (cable code: 200-03 or 200-04)
- ◆ Stainless steel base with 60° knife edge



Code	Range	Digital indicator stroke	Digital indicator accuracy	Digital indicator resolution
480-010-11	0-12.7mm/0-0.5"	12.7mm/0.5"	20μm	0.01mm/0.0005"

DEPTH

## SERIES 399

## DEPTH MICROMETER CHECKERS



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

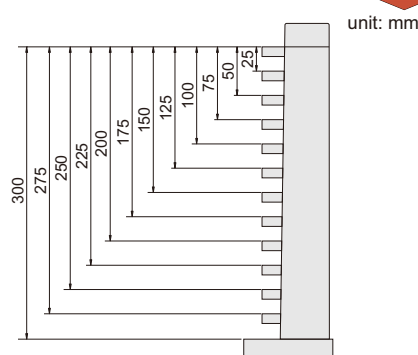
Application



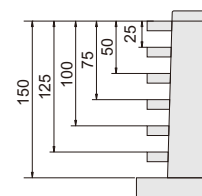
anvil block  
(included)



399-012-01



399-012-01



399-006-01

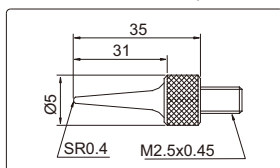
Code	Size	Range	Accuracy
399-006-01	0-150mm	25, 50, 75, 100, 125, 150mm	±2μm
399-012-01	0-300mm	25, 50, 75, 100, 125, 150, 175, 200, 225, 250, 275, 300mm	±3μm

With manufacturer inspection certificate

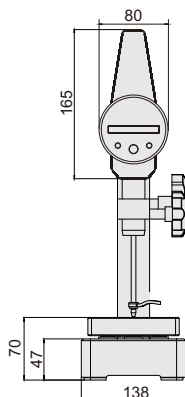
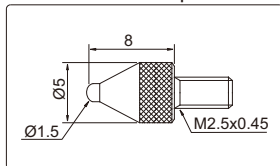


- ◆ Working table is made of ceramic
- ◆ Response speed: max.5000mm/sec
- ◆ Easy convert between metric and inch 8 bits
- ◆ Highlight green LED
- ◆ Power off automatically
- ◆ Data output (USB port)
- ◆ Optional accessories series 270

Needle contact point

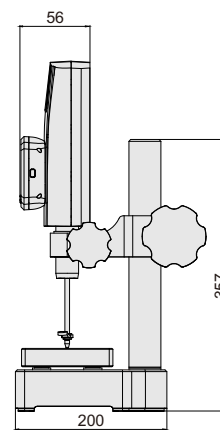


Ball contact point



HG100E

unit:mm


**SPECIFICATION**

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

 \*Working temperature is 20 $\pm$ 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

- ◆ 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

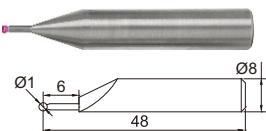


VIDEO

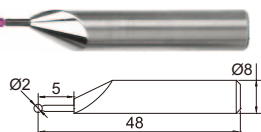
### Optional Accessories

unit: mm

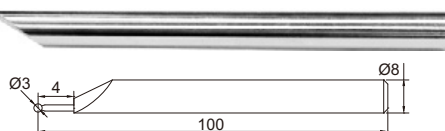
Ø1mm concentric ruby ball probe(code:R1HC)



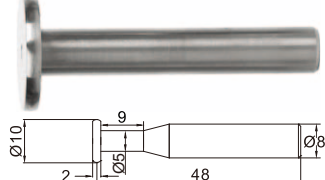
Ø2mm eccentric ruby ball probe(code:R2H)



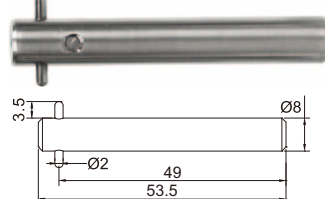
Ø3mm eccentric ruby ball probe(code:R3H100)



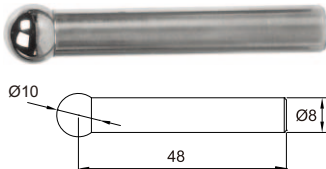
Ø10mm disc probe (code:DS10H)



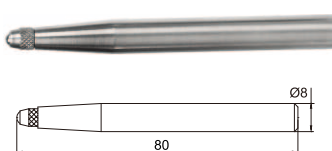
Ø2mm depth probe(code:DP2H)



Ø10 carbide ball probe(code:SR10H)



Depth hole probe(code:DP80H)















AccuGage700

Ø4mm carbide ball probe

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 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


## 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



## 2D Measurement

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

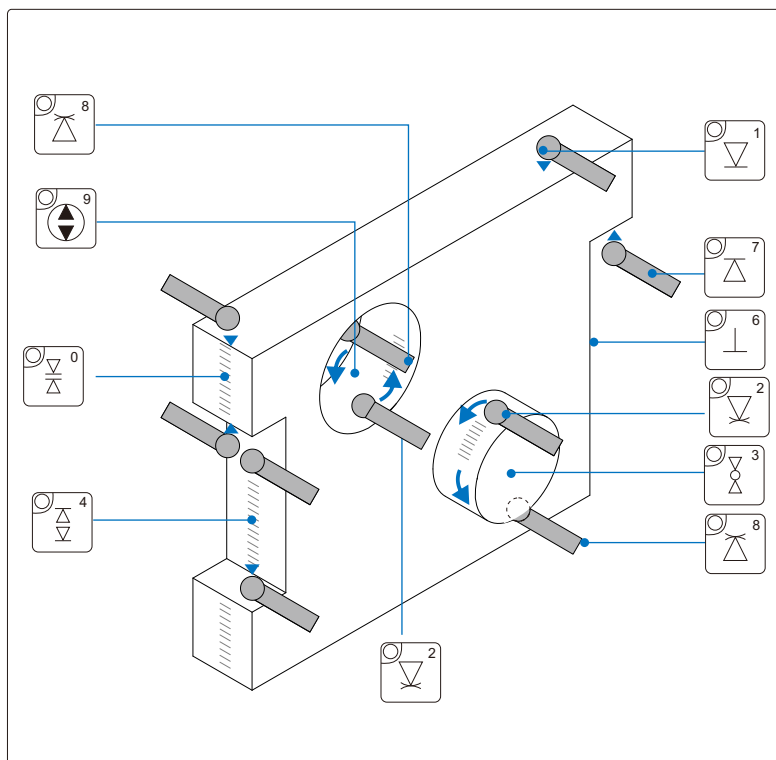
Programming and replay, for batch quantities measurements



## Calculation

-  Calculate height difference
-  Calculate height center

## 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

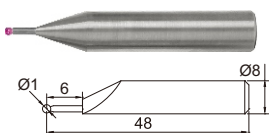


VIDEO

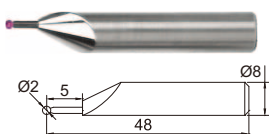
### Optional Accessories

unit: mm

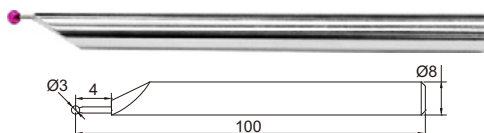
Ø1mm concentric ruby ball probe(code:R1HC)



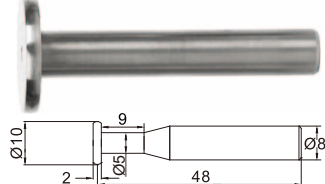
Ø2mm eccentric ruby ball probe(code:R2H)



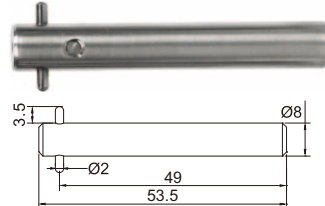
Ø3mm eccentric ruby ball probe(code:R3H100)



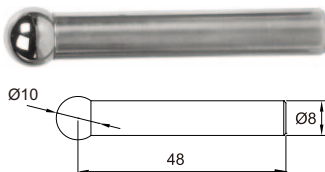
Ø10mm disc probe (code:DS10H)



Ø2mm depth probe(code:DP2H)

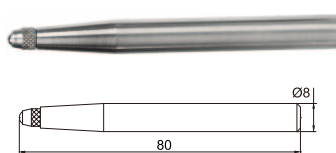


Ø10 carbide ball probe(code:SR10H)



Ø4mm carbide ball probe

Depth hole probe(code:DP80H)















Squareness probe  
(Optional, Code:SQ10)



AccuHite700



## 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
-  + Measuring job squareness
-  +/- Set references

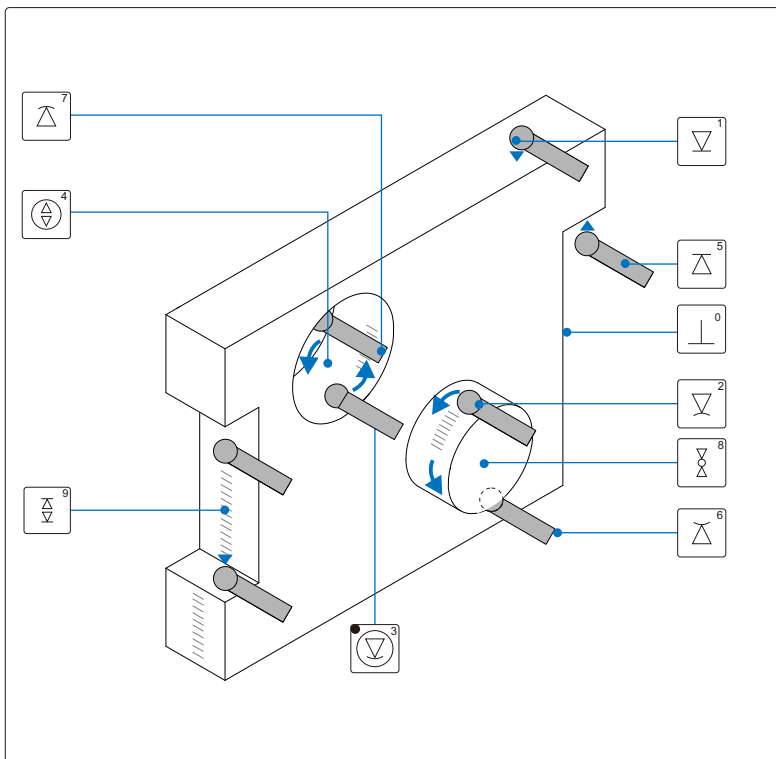
## SPECIFICATION

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



## 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)

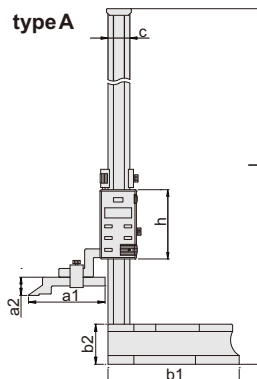
Clamp (included)

Carbide tipped jaws

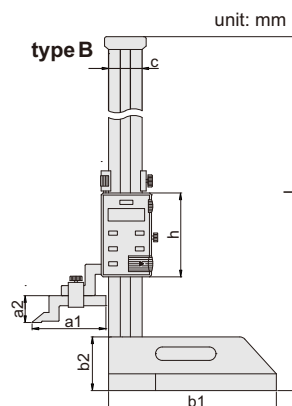


181-024-11

type A



type B



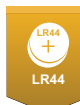
Code	Range	Type	Accuracy	a1	a2	b1	b2	c	h	L
181-012-11	0-300mm/0-12"	A	±0.04mm	76	25	135	45	23	80	470
181-020-11	0-500mm/0-20"	A	±0.05mm	103	25	180	55	30	95	720
181-024-11	0-600mm/0-24"	A	±0.05mm	103	25	180	55	30	95	820
181-040-11	0-1000mm/0-40"	B	±0.07mm	110	39	250	80	50	125	1275
181-060-11	0-1500mm/0-60"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

Application with clamps (optional)



## SERIES 182

## DIGITAL HEIGHT GAGE

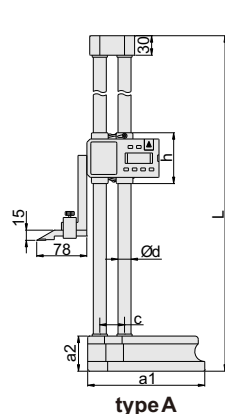


- ◆ Resolution: 0.01mm/0.001"
- ◆ Buttons: on/off, inch/mm, ABS/INC, data preset, set data
- ◆ Carbide tipped scriber
- ◆ Made of stainless steel beam
- ◆ With driving wheel
- ◆ Optional accessory: 267 series clamps

Application with clamps (optional)

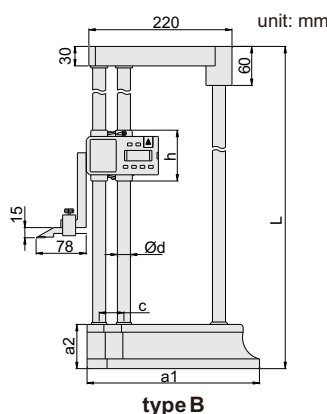
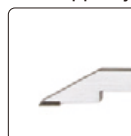


182-012-11



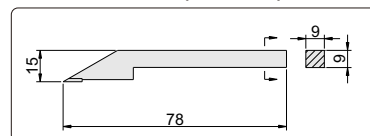
type A

Carbide tipped jaws



type B

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



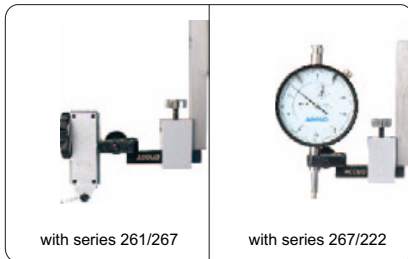
## SERIES 184

## DIGITAL HEIGHT GAGE WITH DRIVING WHEEL

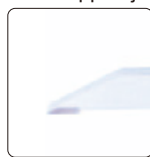


- Buttons: on/off, zero, mm/inch, ABS/INC, hold
- Automatic power off, move the digital unit to turn on power
- Carbide tipped scriber
- Made of stainless steel
- Data output (cable code: 100-15)
- Optional accessories: dial test indicator holder (267-050-01)

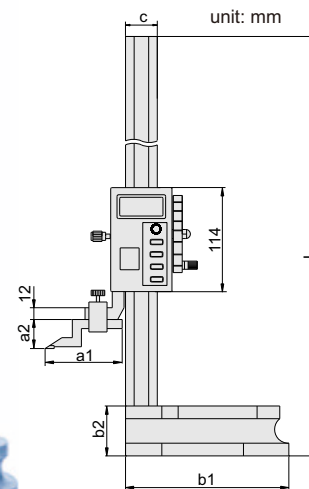
Application with clamps (optional)



Carbide tipped jaws

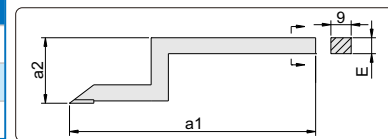


184-012-11



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

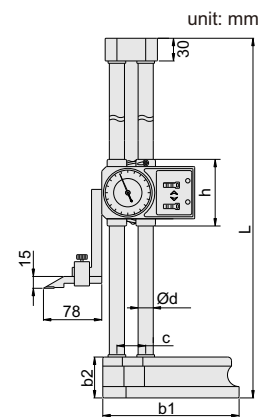
## DIAL HEIGHT GAGE

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

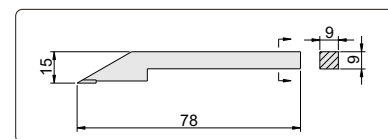
Application with clamps (optional)



185-012-11

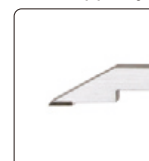


Scriber (included)



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

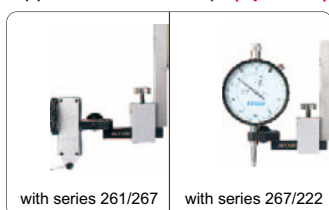
HEIGHT

## SERIES 186

## VERNIER HEIGHT GAGE

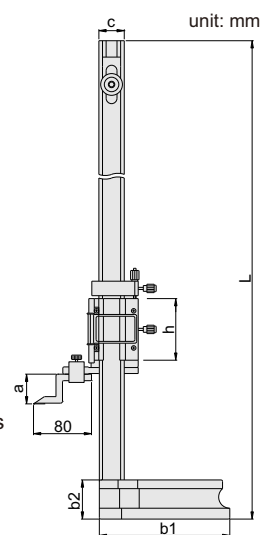
- ◆ Graduation: 0.02mm/0.001"
- ◆ Move main scale to set zero
- ◆ Carbide tipped scriber
- ◆ Made of stainless steel (except the base)
- ◆ Satin chrome plated scale
- ◆ With magnifier
- ◆ Optional accessory: 267 series clamps

Application with clamps (optional)



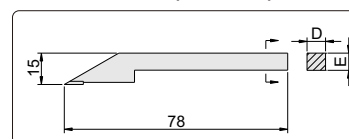
186-012-11

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)



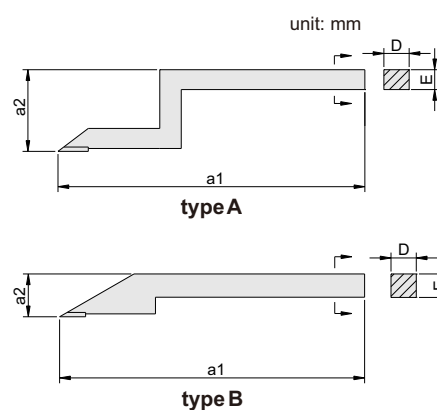
## SERIES 180

## SCRIBER FOR HEIGHT GAGE



180-000-SC1

- ◆ Carbide tipped



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

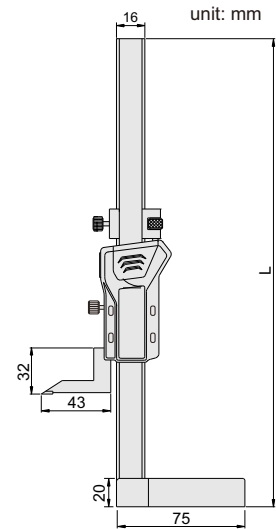
## MINI DIGITAL HEIGHT GAGE



- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Carbide tipped scribe
- ◆ 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	L
183-006-11	0-150mm/0-6"	±0.03mm	265
183-008-11	0-200mm/0-8"	±0.03mm	325
183-010-11	0-250mm/0-10"	±0.03mm	380

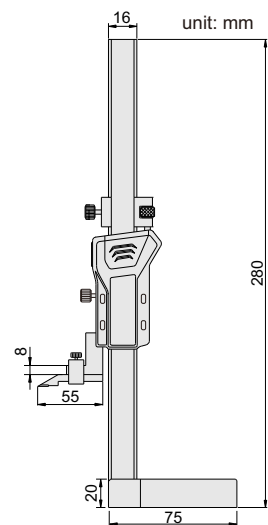
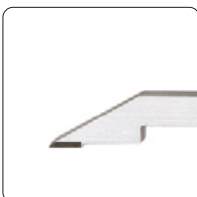
## 183

## MINI DIGITAL HEIGHT GAGE

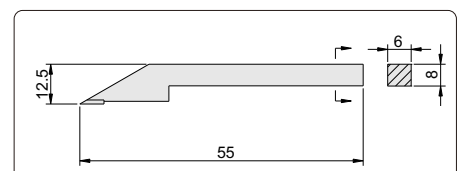


- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Carbide tipped scribe
- ◆ With fine adjustment
- ◆ Made of stainless steel (except the base)
- ◆ Data output(cable code:100-03 or 100-04)
- ◆ Automatic power off

Carbide tipped jaws



Scriber (included)



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

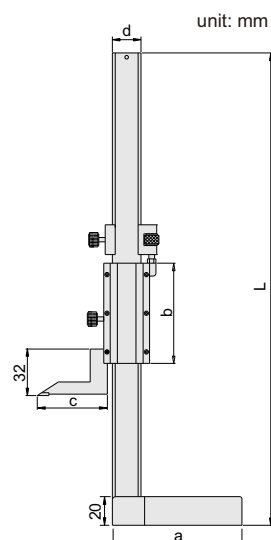
## SERIES 187

## MINI VERNIER HEIGHT GAGE

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

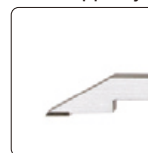


187-008-11



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

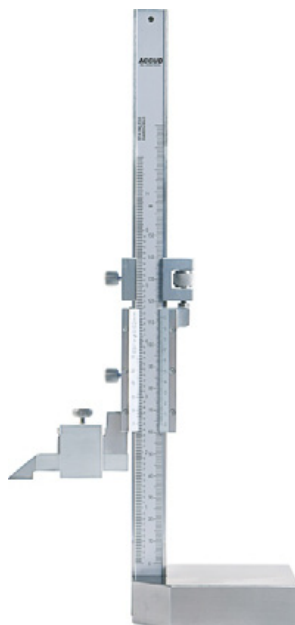
Carbide tipped jaws



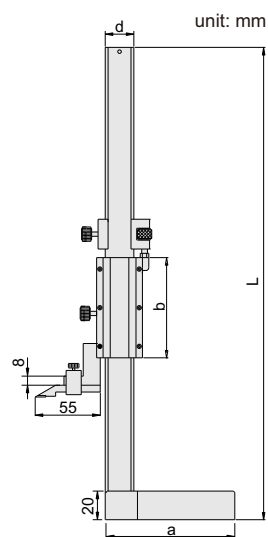
## SERIES 187

## MINI VERNIER HEIGHT GAGE

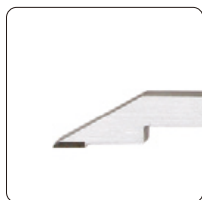
- ◆ Graduation: 0.02mm/0.001"
- ◆ Carbide tipped scribe
- ◆ Made of stainless steel (except the base)
- ◆ Satin chrome plated scale



187-006-12

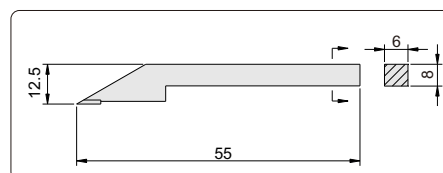


Carbide tipped jaws



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

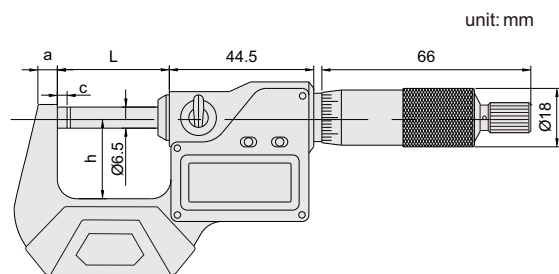
Scriber (included)






**313-001-01S**

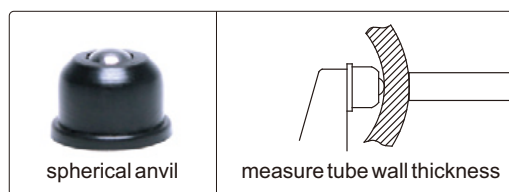
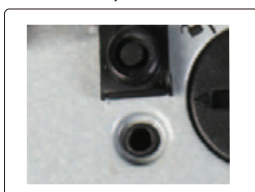
- ◆ Resolution: 0.001mm/0.00005"
- ◆ IP65 protection level
- ◆ Button: on/off, mm/inch, set, zero
- ◆ Automatic power off
- ◆ Data output
- ◆ Carbide measuring faces, ratchet stop
- ◆ Setting standards are included(except 313-001-01S)



Setting standards (included)



Data output interface



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

Set

Code	Range	Total QTY.	Included micrometers	Package
<b>313-003-03S*</b>	0-75mm/0-3"	3pcs	0-25mm/0-1", 25-50mm/1-2", 50-75mm/2-3"	blow mould case
<b>313-004-04S*</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>313-006-06S</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



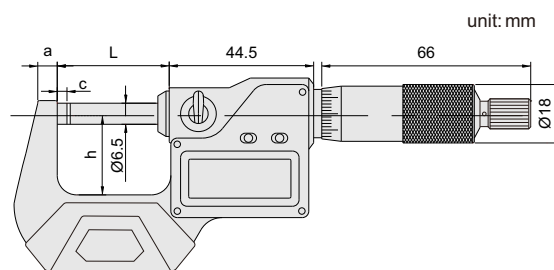
## SERIES 313

## DIGITAL OUTSIDE MICROMETER

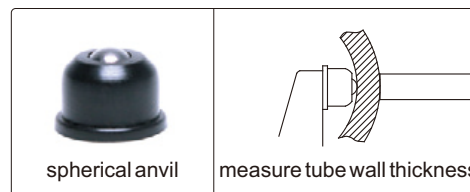


313-001-01

- ◆ 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)
313-001-01*	0-25mm/0-1"	±2µm	6	3	25	34.5	-
313-002-01*	25-50mm/1-2"	±2µm	8	3	32	59.5	25mm
313-003-01*	50-75mm/2-3"	±3µm	8	3	44.5	84.5	50mm
313-004-01*	75-100mm/3-4"	±3µm	8	3	57	109.5	75mm
313-005-01	100-125mm/4-5"	±3µm	10	3	70	135	100mm
313-006-01	125-150mm/5-6"	±3µm	10	3	82	160.5	125mm
313-007-01	150-175mm/6-7"	±4µm	12	5.5	94.5	186	150mm
313-008-01	175-200mm/7-8"	±4µm	12	5.5	107	211.5	175mm

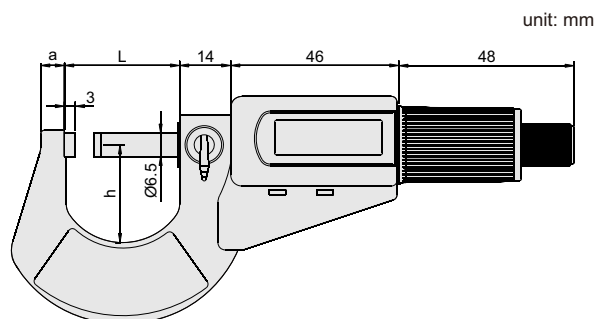
### Set

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

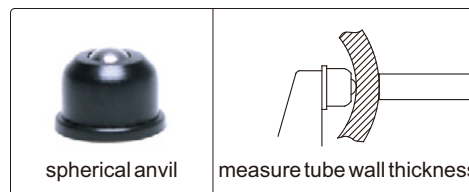
\* With manufacturer inspection certificate


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

**Set**

Code	Range	Total QTY.	Included micrometers	Package
<b>312-003-33*</b>	0-75mm/0-3"	3pcs	0-25mm/0-1", 25-50mm/1-2", 50-75mm/2-3"	blow mould case
<b>312-004-44*</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>312-006-66</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

## SERIES 314

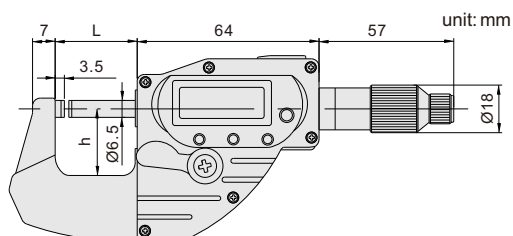
## DIGITAL SNAP MICROMETER



- ◆ 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

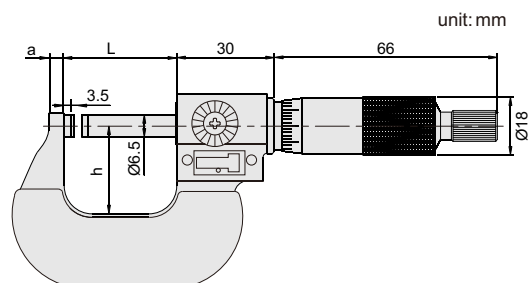


- ◆ Counter resolution: 0.01mm
- ◆ Thimble graduation: 0.01mm
- ◆ Carbide measuring faces
- ◆ Meet DIN863-1
- ◆ Ratchet stop
- ◆ Setting standards are included (except 0-25mm)



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

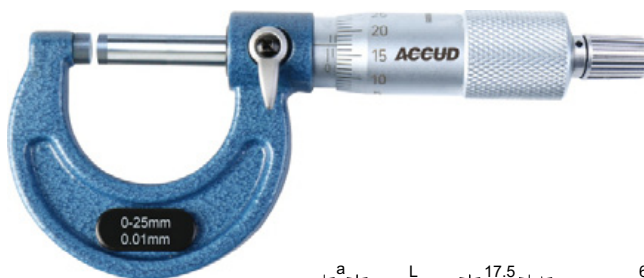
## OUTSIDE MICROMETER



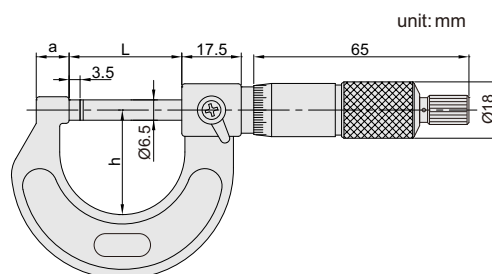
ACCUD

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

Setting standards(included)



321-001-01



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

MICROMETER

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

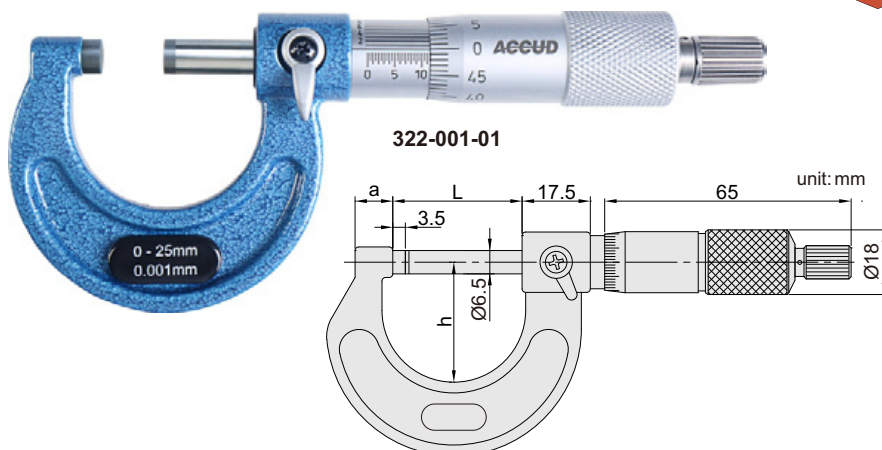


## SERIES 322

## 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)

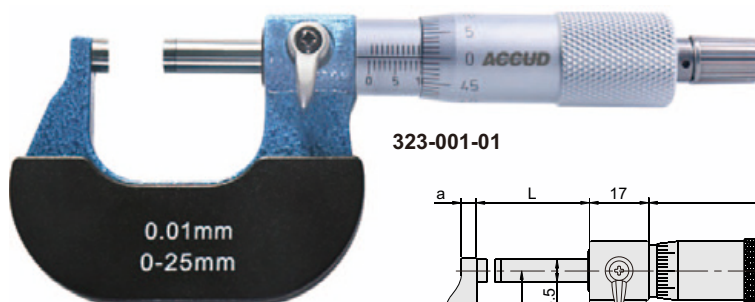


## SERIES 323

## 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

Setting standards (included)





## SERIES 324

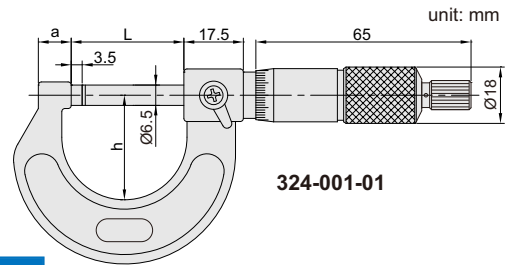
## OUTSIDE MICROMETER



- ◆ 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

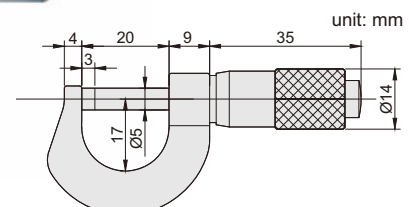
Code	Range	Total quantity	Included micrometers	Setting standards(included)	Package
324-003-03 *	0-3"	3pcs	0-1", 1-2", 2-3"	1", 2"	blow mould case
324-004-04 *	0-4"	4pcs	0-1", 1-2", 2-3", 3-4"	1", 2", 3"	blow mould case
324-006-06 *	0-6"	6pcs	0-1", 1-2", 2-3", 3-4", 4-5", 5-6"	1", 2", 3", 4", 5"	blow 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

\* With manufacturer inspection certificate

## 320

## MINI OUTSIDE MICROMETER

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



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

MICROMETER



### SERIES 315

### DIGITAL MICROMETER WITH INTERCHANGEABLE ANVILS



- ◆ 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

#### Setting standards (included)

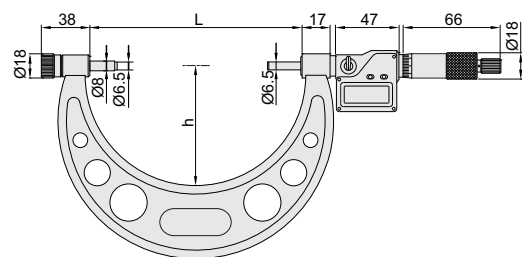


315-004-01

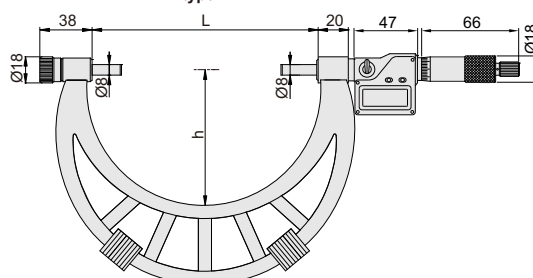


315-020-01

unit: mm



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

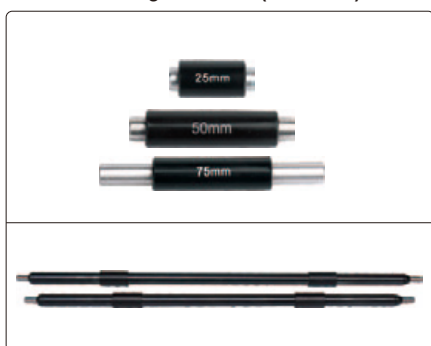
- ◆ Graduation: 0.01mm
- ◆ Ratchet stop
- ◆ Carbide measuring faces
- ◆ Supplied with setting standards



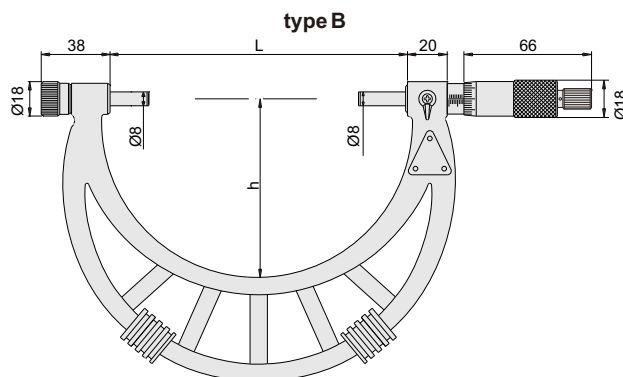
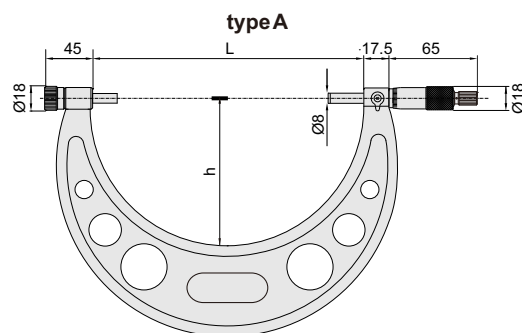
325-006-01

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

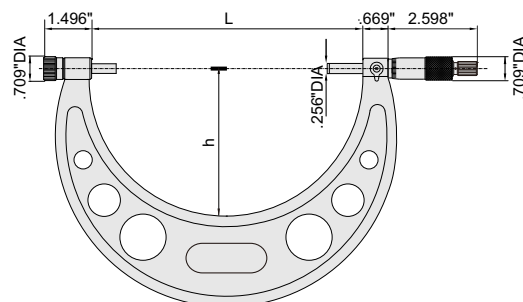
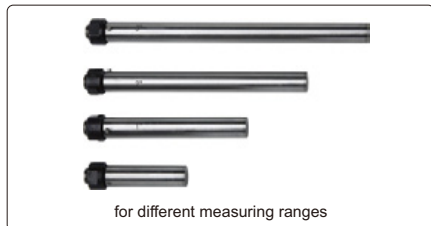


325-006-E01

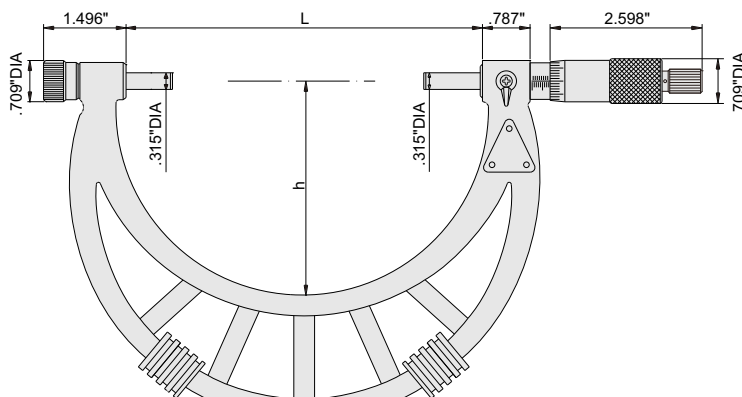
Setting standards (included)



Interchangeable anvils (included)



type A

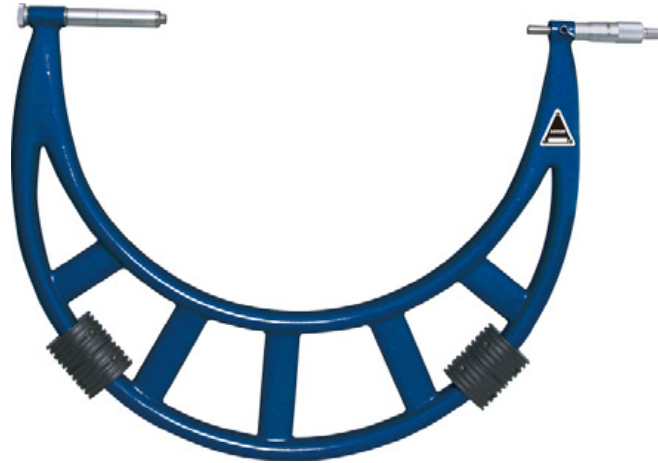


type B

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"

## OUTSIDE MICROMETER WITH EXTENSION ANVIL

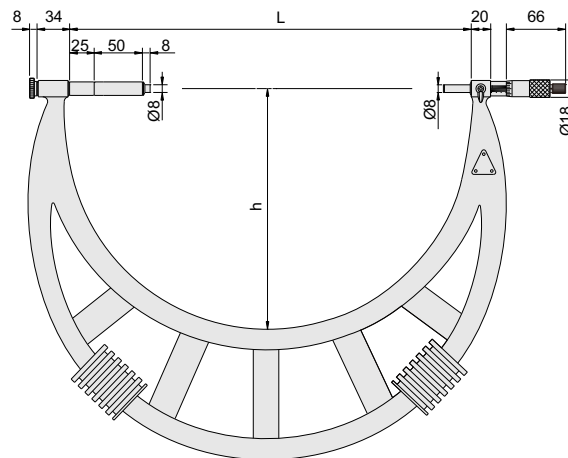
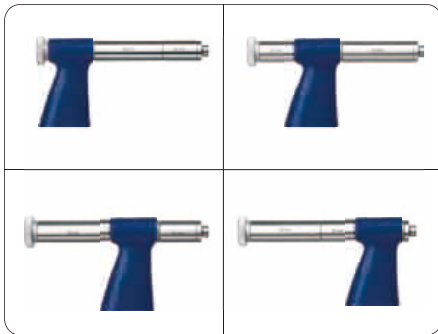
- ◆ Adjust collars for different measuring ranges
- ◆ Graduation 0.01mm
- ◆ Ratchet stop
- ◆ Carbide measuring faces
- ◆ Supplied with setting standards



**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



## SERIES 430

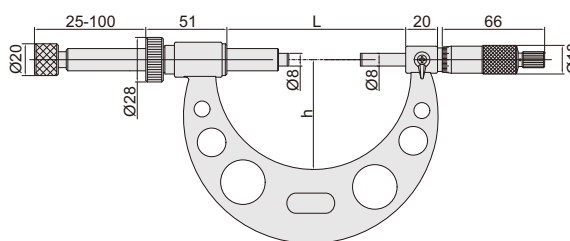
## MICROMETER WITH DIAL INDICATOR



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



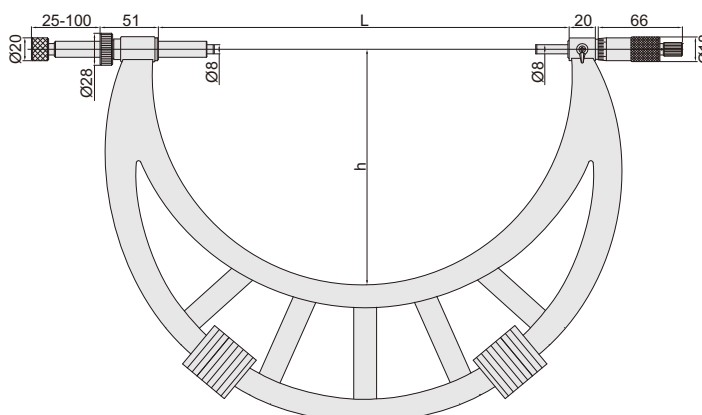
Type A

### Optional indicators(optional)



211-010-13

222-010-11



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

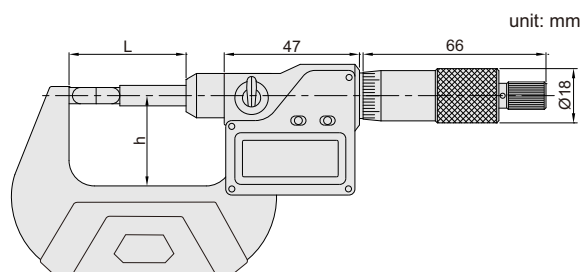
### Setting standards(included)



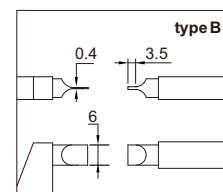
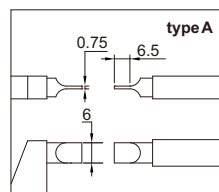
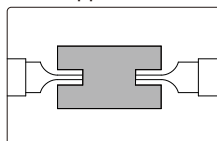



**316-001-01**

- ◆ 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")


 Setting standards  
(included)


Application



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



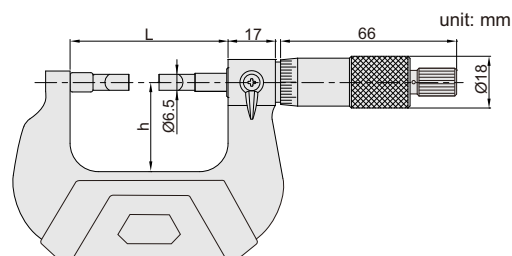
## SERIES 326

## BLADE MICROMETER

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



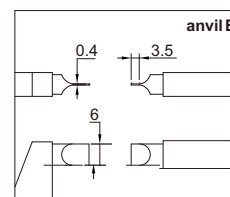
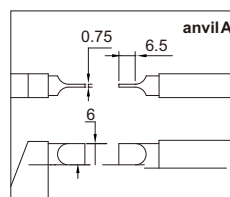
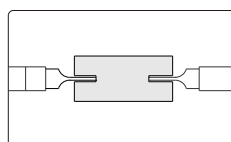
326-001-03



Setting standards (included)



Application



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
326-008-03	175-200mm	A	7μm	130	234	175mm
326-009-03	200-225mm	A	8μm	142	260	200mm
326-010-03	225-250mm	A	8μm	155	285	225mm
326-011-03	250-275mm	A	9μm	168	310	250mm
326-012-03	275-300mm	A	9μm	178	337	275mm
326-001-04	0-25mm	B	4μm	35	57	-
326-002-04	25-50mm	B	4μm	46	82	25mm
326-003-04	50-75mm	B	5μm	58	107	50mm
326-004-04	75-100mm	B	5μm	70	133	75mm
326-005-04	100-125mm	B	6μm	83	158	100mm
326-006-04	125-150mm	B	6μm	96	183	125mm
326-007-04	150-175mm	B	7μm	109	209	150mm
326-008-04	175-200mm	B	7μm	130	234	175mm
326-009-04	200-225mm	B	8μm	142	260	200mm
326-010-04	225-250mm	B	8μm	155	285	225mm
326-011-04	250-275mm	B	9μm	168	310	250mm
326-012-04	275-300mm	B	9μm	178	337	275mm

## SERIES 317

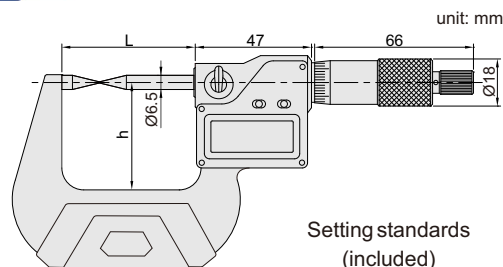
## DIGITAL POINT MICROMETER



- ◆ 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")

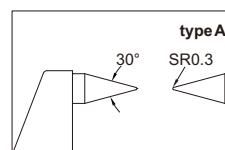


317-002-02

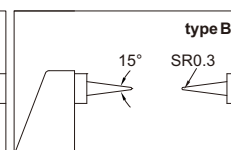


Setting standards (included)

25mm



type A



type B

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

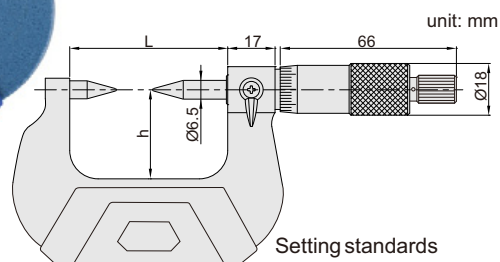
## SERIES 327

## 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)

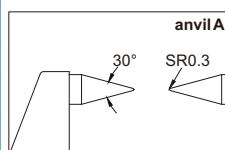


327-002-03

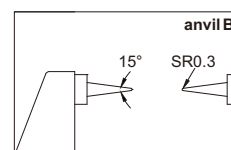


Setting standards (included)

25mm



anvil A



anvil B

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

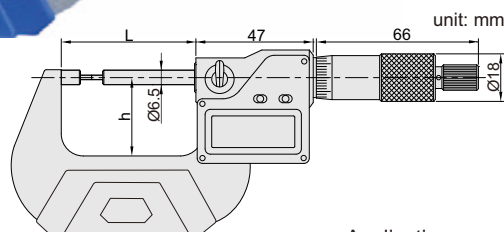
## DIGITAL SPLINE MICROMETER



- ◆ 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")

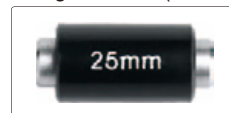


318-001-02

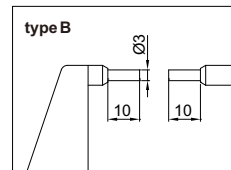
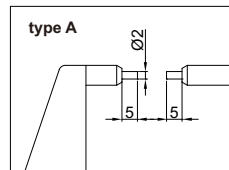
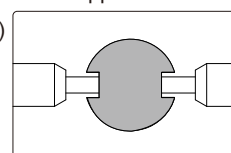


Code	Range	Accuracy	Type	h	L	Setting standards (included)
318-001-01	0-25mm/0-1"	±4μm	A	32	57	-
318-002-01	25-50mm/1-2"	±4μm	A	44.5	82	25mm
318-003-01	50-75mm/2-3"	±5μm	A	57	107	50mm
318-004-01	75-100mm/3-4"	±5μm	A	70	133	75mm
318-001-02	0-25mm/0-1"	±4μm	B	32	57	-
318-002-02	25-50mm/1-2"	±4μm	B	44.5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

Setting standards(included)



Application



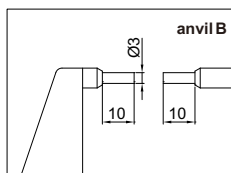
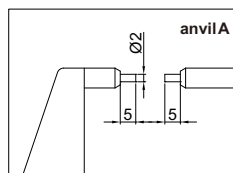
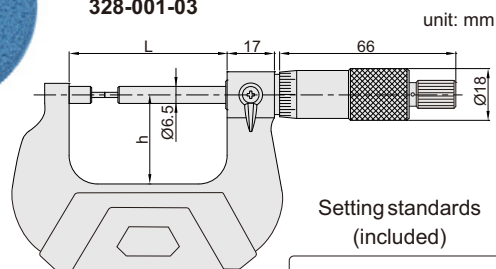
## SERIES 328

## 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

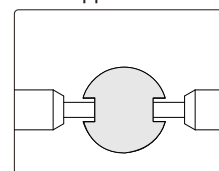


Code	Range	Anvil	Accuracy	h	L	Setting standards(included)
328-001-03	0-25mm	B	4μm	39	58	-
328-002-03	25-50mm	B	4μm	53	83	25mm
328-003-03	50-75mm	B	5μm	65	109	50mm
328-004-03	75-100mm	B	5μm	76	133	75mm
328-005-03	100-125mm	B	6μm	82	158	100mm
328-006-03	125-150mm	B	6μm	94.5	183.4	125mm
328-007-03	150-175mm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

Setting standards (included)

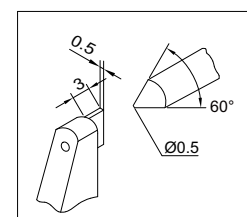
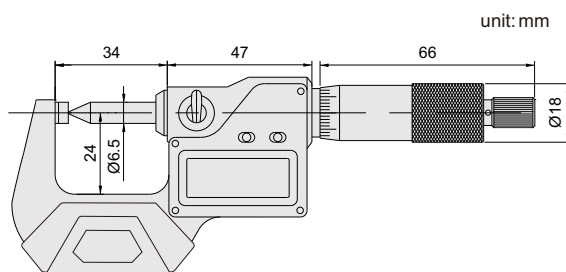


Application





- ◆ 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

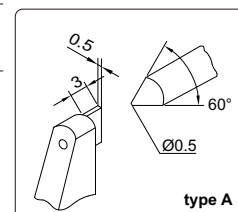
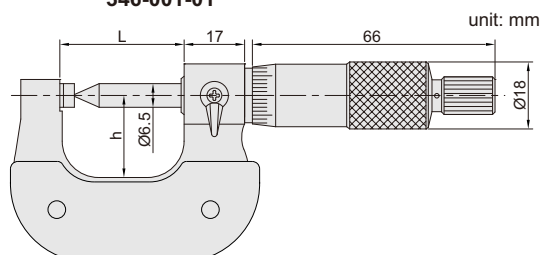
## CRIMP HEIGHT MICROMETER

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

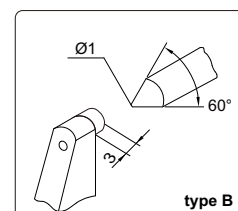


346-001-01

Setting standards(included)



type A



type B

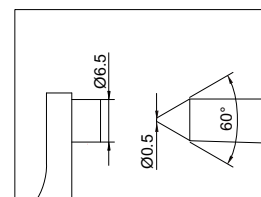
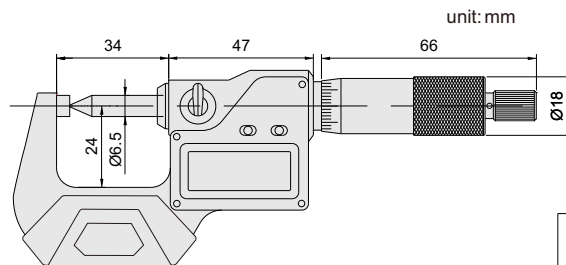
Code	Range	Accuracy	Type	L	h	Setting standards (included)
346-001-01	0-25mm	4μm	A	34	24	-
346-001-02	0-25mm	4μm	B	34	24	-
346-002-02	25-50mm	4μm	B	59	32	25
346-003-02	50-75mm	5μm	B	85	45	50
346-004-02	75-100mm	5μm	B	110	57	75

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

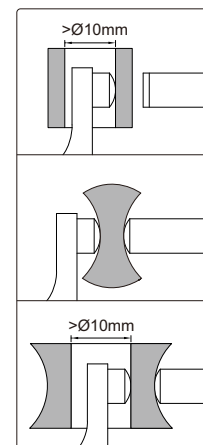
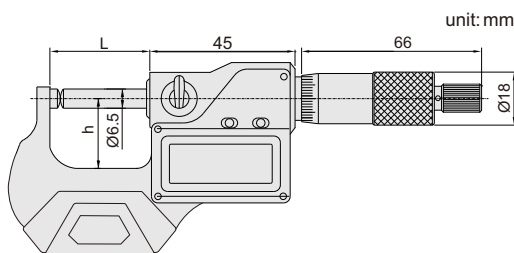
## DIGITAL SPHERICAL ANVIL TUBE MICROMETER



- ◆ 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")

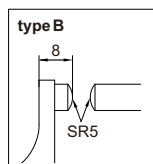
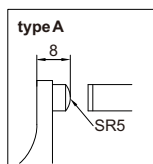


331-001-02



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	-
331-002-02	25-50mm/1-2"	4μm	B	57	32	25mm
331-003-02	50-75mm/2-3"	5μm	B	82	44.5	50mm
331-004-02	75-100mm/3-4"	5μm	B	107	57	75mm

Setting standards (included)

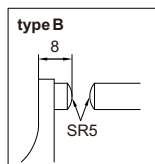
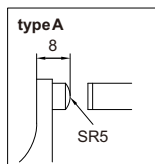




## SERIES 340

## SPHERICAL ANVIL TUBE MICROMETER

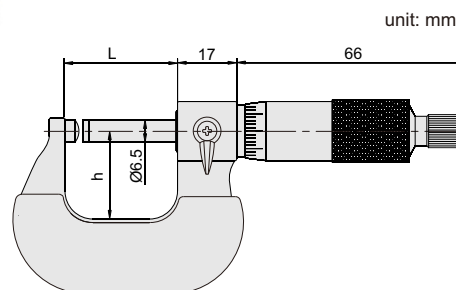
- ◆ Measure wall thickness of tubes
- ◆ Graduation: 0.01mm
- ◆ Carbide measuring faces
- ◆ Ratchet stop
- ◆ Setting standards are included (except 0-25mm)



Setting standards  
(included)

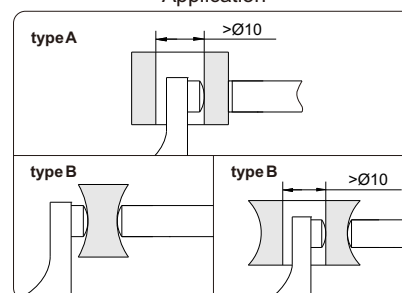


340-001-01



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

### Application



## SERIES 380

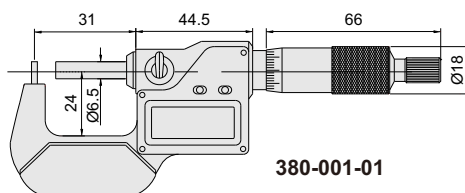
## DIGITAL CYLINDRICAL ANVIL TUBE MICROMETER

- ◆ 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



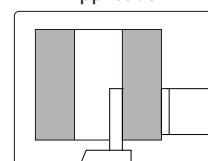
380-001-04

unit: mm

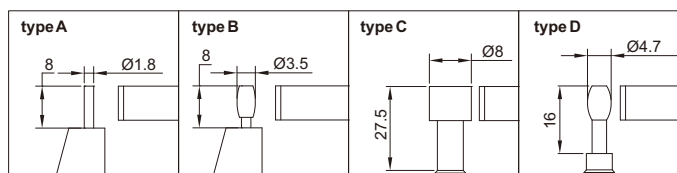


380-001-01

### Application



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



MICROMETER

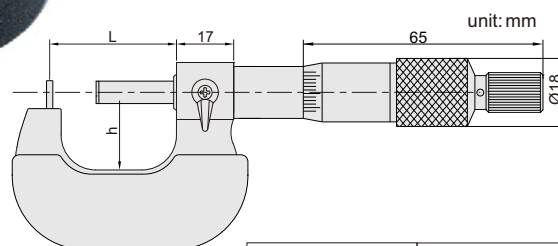
## SERIES 341

## 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)



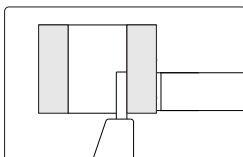
341-001-01



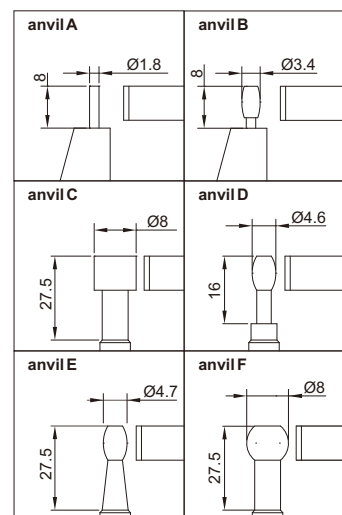
Setting standards(included)



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

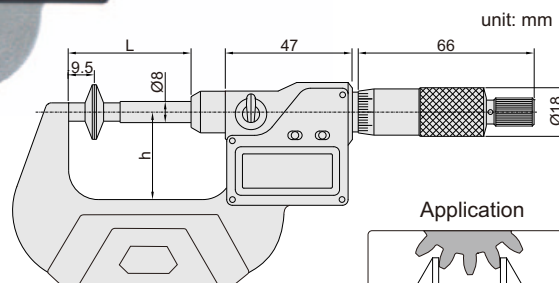


- ◆ Measure root tangent length of gear
- ◆ Resolution 0.001mm/0.00005"
- ◆ Non-rotating spindle
- ◆ Button: on/off, set, mm/inch, ABS/INC, data output
- ◆ Automatic power off
- ◆ Data output
- ◆ Ratchet stop
- ◆ Supplied with setting standards (except 332-001-01)

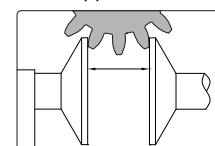


332-001-01

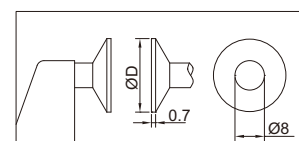
Setting standards(included)



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**

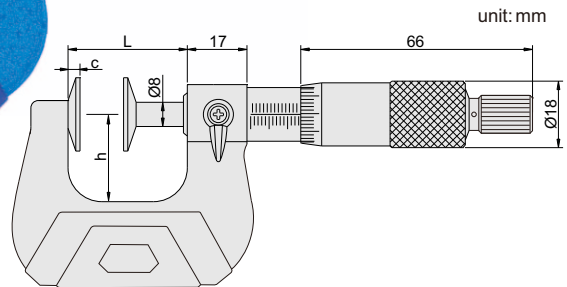
**DISK MICROMETER**

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

Setting standards(included)



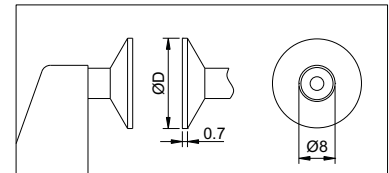
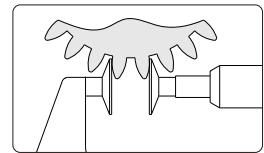
342-002-02



unit: mm

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**

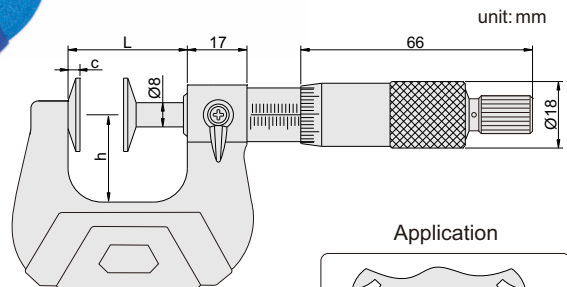
**NON-ROTATING SPINDLE DISK MICROMETER(ECONOMIC TYPE)**

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

Setting standards(included)



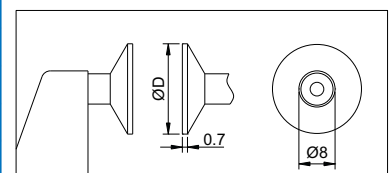
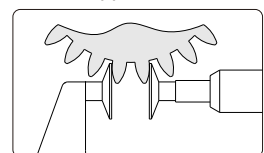
342-002-01



unit: mm

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

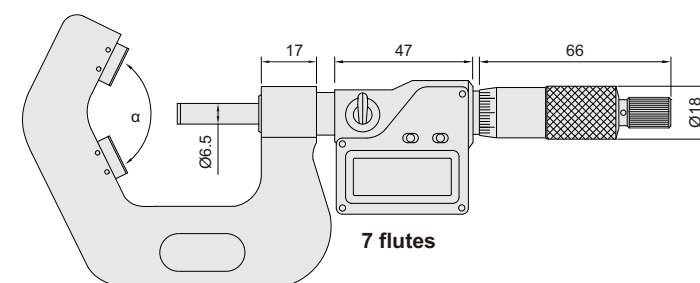
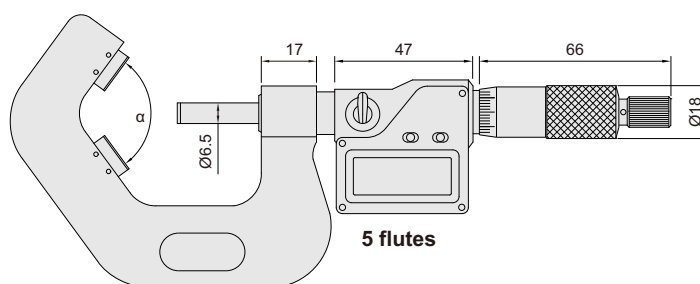
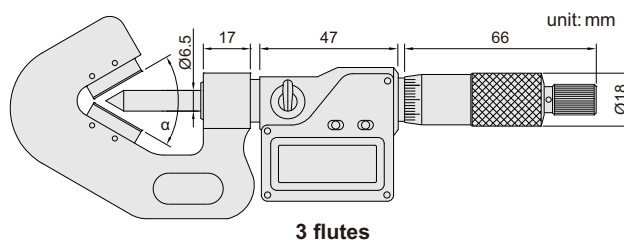
Application



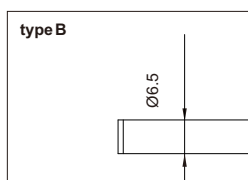
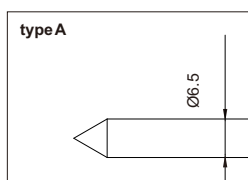


334-020-01

- ◆ 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)



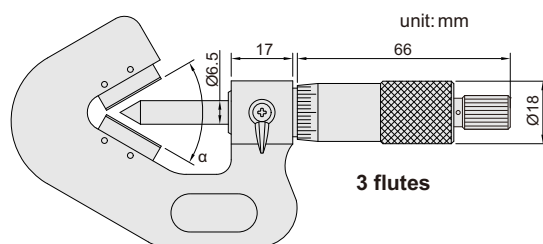
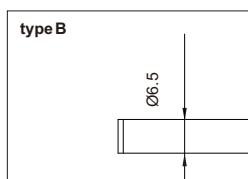
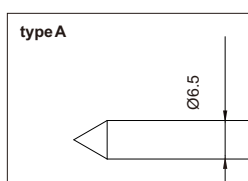
Code	Range	Accuracy	Flutes	$\alpha$	Type	Setting standards (included)
334-015-01	1-15mm/0.04-0.6"	$\pm 4\mu\text{m}$	3	$60^\circ$	A	5mm
334-020-01	5-20mm/0.2-0.8"	$\pm 4\mu\text{m}$	3	$60^\circ$	B	5mm
334-035-01	20-35mm/0.8-1.4"	$\pm 5\mu\text{m}$	3	$60^\circ$	B	20mm
334-050-01	35-50mm/1.4-2.0"	$\pm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



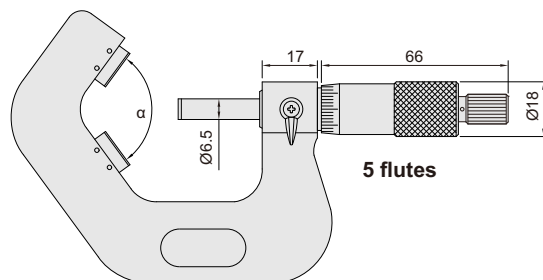
**334-006-01**

- ◆ 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

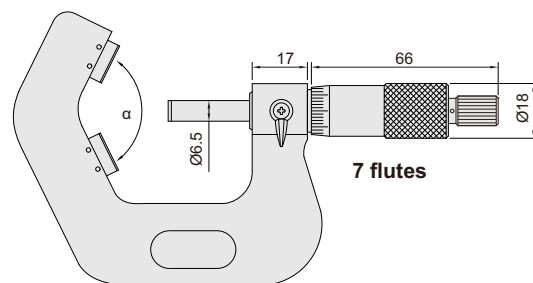
Setting standards  
(included)



**3 flutes**



**5 flutes**



**7 flutes**

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



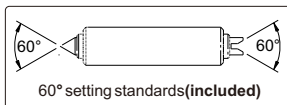
## SERIES 343

## SCREW THREAD MICROMETER

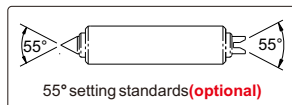
- ◆ Measure pitch diameter of screw threads
- ◆ Graduation 0.01mm
- ◆ Non-rotating spindle
- ◆ Ratchet stop
- ◆ Supplied with 60° setting standards (except 0-25mm)
- ◆ Optional accessory: 55° setting standards, measuring tips



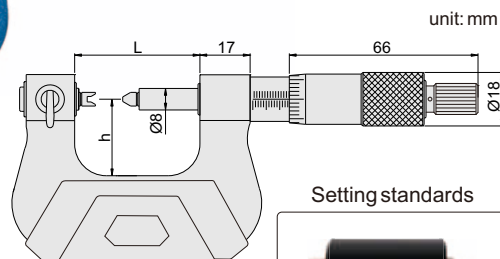
343-001-02



60° setting standards (included)

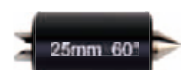


55° setting standards (optional)

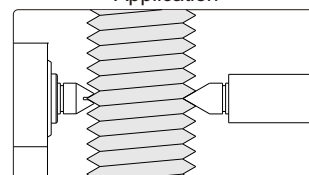


unit: mm

Setting standards



Application



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

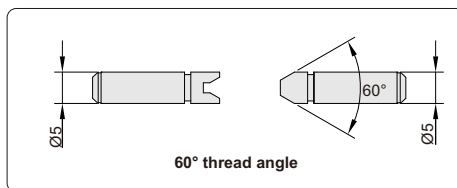
- ◆ For series 343 screw thread micrometer



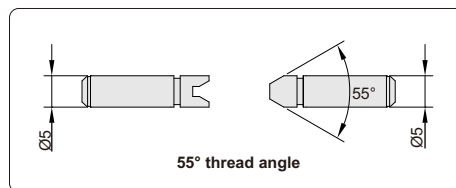
343-000-01

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

unit: mm

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

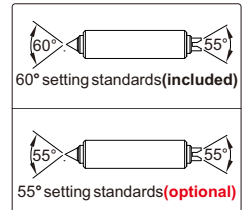
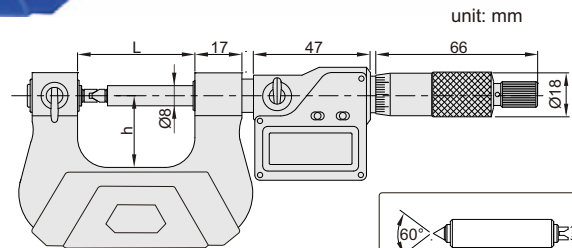


ACCUD

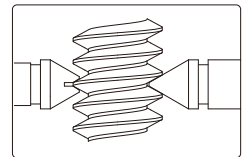
- ◆ Measure pitch diameter of screw threads
- ◆ Resolution 0.001mm/0.00005"
- ◆ Button: on/off, set, mm/inch, ABS/INC, data output
- ◆ Automatic power off
- ◆ Data output
- ◆ Non-rotating spindle
- ◆ Ratchet stop
- ◆ Supplied with 60° setting standards (except 333-001-01)
- ◆ Optional accessory: 55°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



333-001-01



Setting standards



Accuracy of micrometers with tips

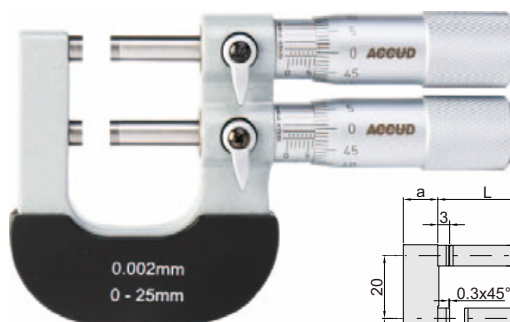
Pitch	Range (mm)							
	0-25	25-50	50-75	75-100	100-125	125-200	200-225	225-300
0.4-0.5	±0.01	-	-	-	-	-	-	-
0.6-0.8	±0.01	±0.013	-	-	-	-	-	-
1-1.25	±0.012	±0.015	±0.017	±0.017	-	-	-	-
1.5-2.0	±0.014	±0.017	±0.019	±0.019	±0.020	±0.023	±0.025	±0.028
2.5-3.5	±0.016	±0.019	±0.021	±0.021	±0.023	±0.025	±0.028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

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

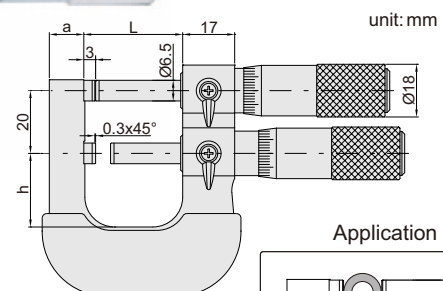
## SERIES 335

## LIMIT MICROMETER

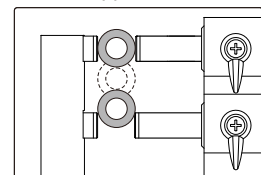
- ◆ Used as Go/No-Go gauge by setting upper and lower limits
- ◆ Graduation 0.002mm
- ◆ Carbide measuring faces
- ◆ Supplied with setting standard (except 335-001-01)



335-001-01



Application



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

MICROMETER



## SERIES 350

## DIGITAL SHEET METAL MICROMETER



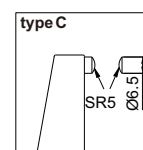
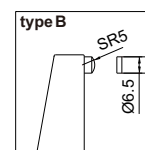
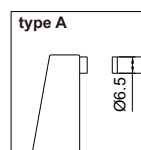
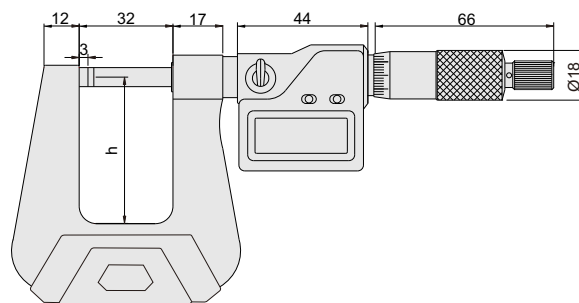
- ◆ Deep frame suitable for sheet metal, paper and plastic
- ◆ Resolution: 0.001mm/0.00005"
- ◆ IP65 protection level
- ◆ Button: on/off, mm/inch, set, zero, ABS/INC, date output
- ◆ Automatic power off
- ◆ Data output
- ◆ Carbide measuring faces, ratchet stop



350-001-11

unit: mm

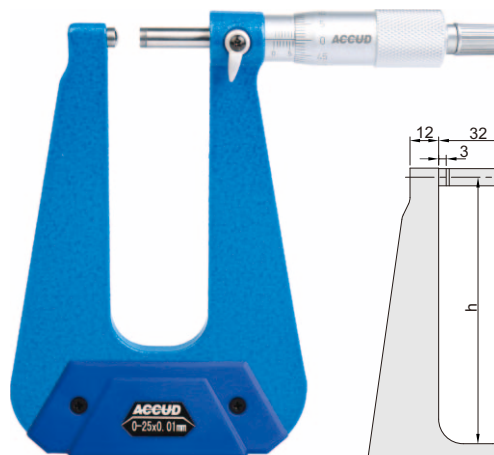
Code	Range	Accuracy	Type	h
350-001-11	0-25mm/0-1"	±3μm	A	50
350-001-12	0-25mm/0-1"	±5μm	A	100
350-001-13	0-25mm/0-1"	±7μm	A	150
350-001-21	0-25mm/0-1"	±3μm	B	50
350-001-22	0-25mm/0-1"	±5μm	B	100
350-001-23	0-25mm/0-1"	±7μm	B	150
350-001-24	0-25mm/0-1"	±10μm	B	310
350-001-31	0-25mm/0-1"	±3μm	C	50
350-001-32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



## SERIES 336

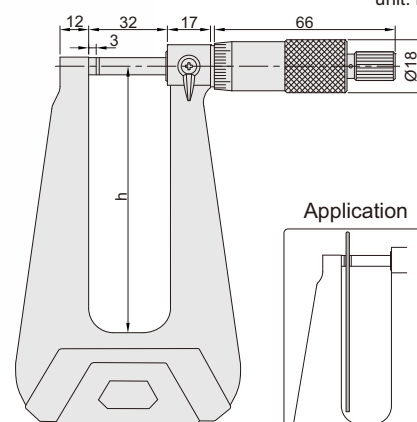
## SHEET METAL MICROMETER

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

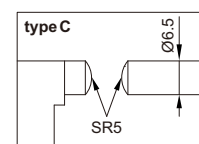
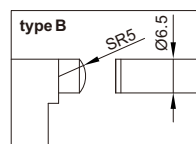
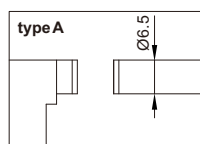


336-001-01

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

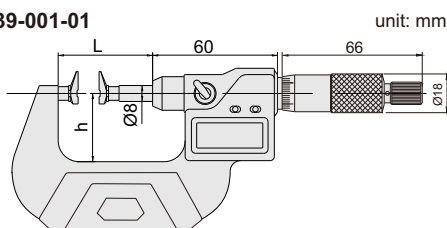
## DIGITAL JAW TYPE MICROMETER



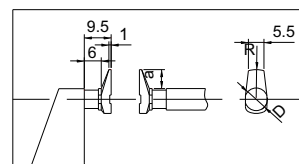
- ◆ Resolution: 0.001mm/0.00005"
- ◆ Buttons: on/off, set, mm/inch, ABS/INC data output
- ◆ Automatic power off
- ◆ Data output
- ◆ Non-rotating spindle
- ◆ Supplied with setting standards (except 339-001-01)



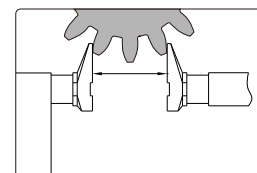
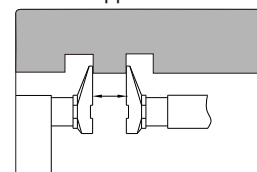
339-001-01



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

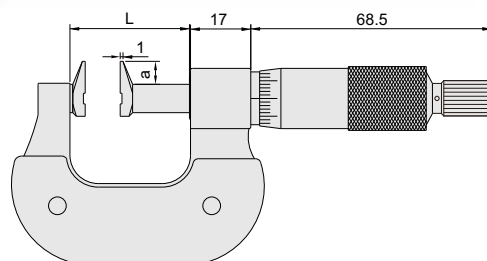
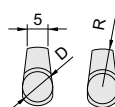
## JAW TYPE MICROMETER

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

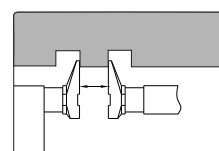
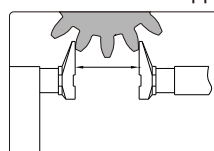
Setting standards(included)



330-001-01



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

MICROMETER

**SERIES 338**

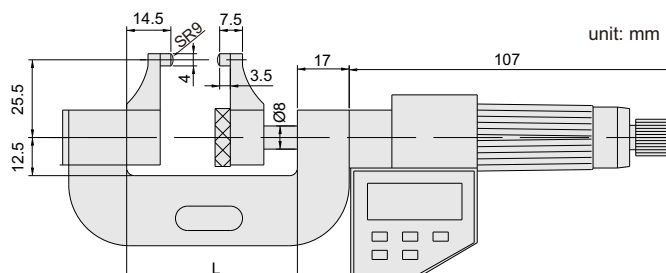
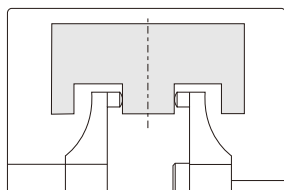
## DIGITAL CALIPER TYPE MICROMETER



- ◆ Resolution: 0.001mm/0.0005"
- ◆ 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)

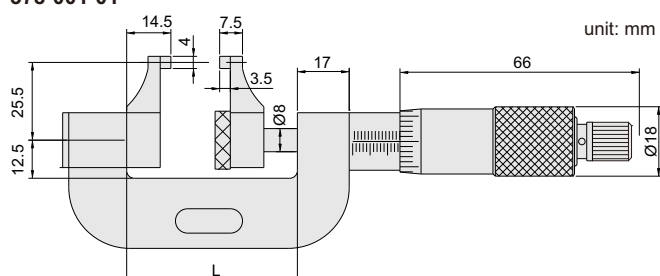
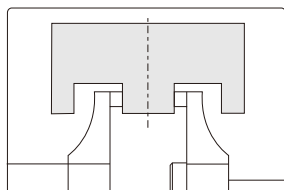
**SERIES 378**

## CALIPER TYPE MICROMETER

- ◆ Graduation 0.01 mm
- ◆ 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

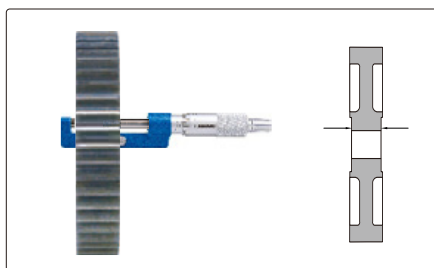
Setting standards(included)



## SERIES 337

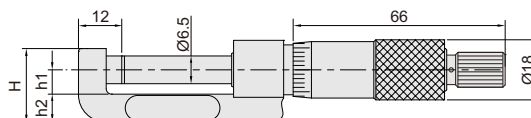
## HUB MICROMETER

- ◆ 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)



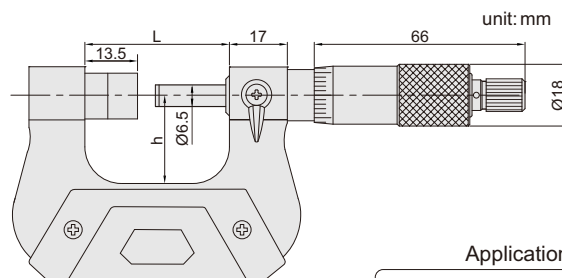
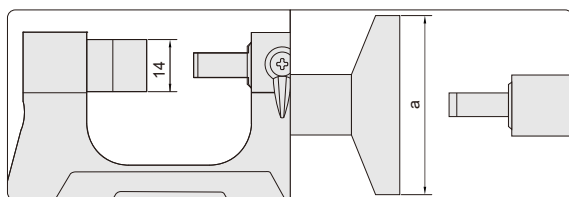
## SERIES 308

## LARGE ANVIL MICROMETER

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

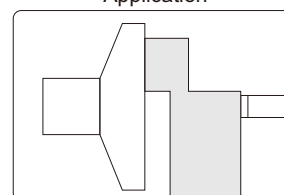


308-001-01



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



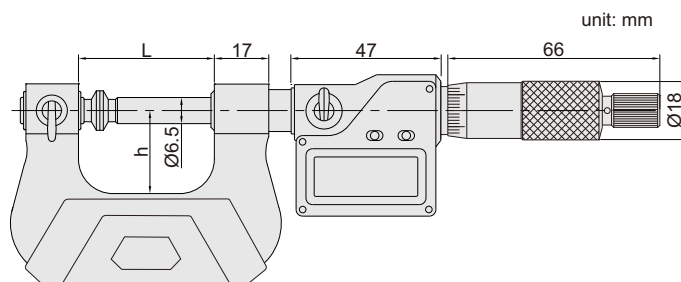
- ◆ Resolution 0.001mm/0.00005"
- ◆ Button: on/off, set, mm/inch, ABS/INC, data output
- ◆ Automatic power off
- ◆ Data output
- ◆ Ratchet stop
- ◆ Supplied with 7 pairs of anvil/spindle tips
- ◆ Setting standards are included (except 0-25mm/0-1")
- ◆ Optional accessory: 55° anvil/spindle tip



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)





# SERIES 301

# NON ROTATING SPINDLE UNIVERSAL MICROMETER

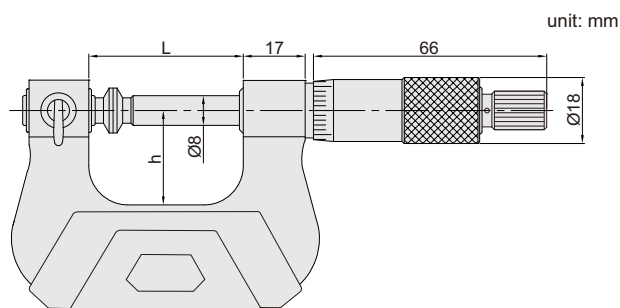
- ◆ Graduation 0.01mm
- ◆ Non-rotating spindle
- ◆ Ratchet stop
- ◆ Supplied with 7 pairs of anvil/spindle tips
- ◆ Setting standards are included (except 0-25mm)
- ◆ Optional accessory: 55° anvil/spindle tip



301-001-01

## Standard anvil/spindle tip

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)
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)



Accud



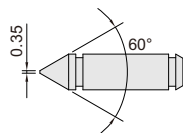
MICROMETER

## SERIES 301

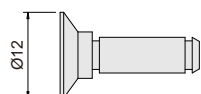
## UNIVERSAL MICROMETER TIPS



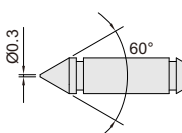
301-000-11



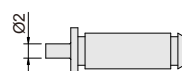
301-000-14



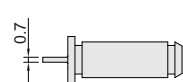
301-000-12



301-000-15



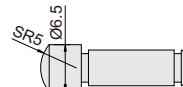
301-000-13



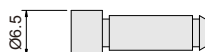
unit: mm



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)

Setting standards (included)



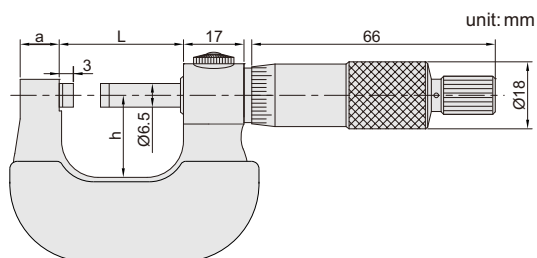
front side

310-001-01



reverse side

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

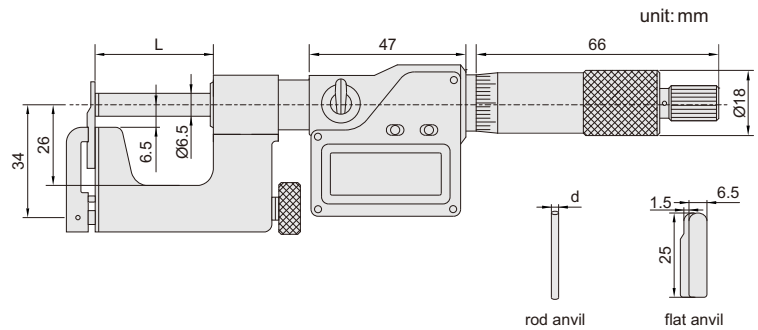


ACCUD

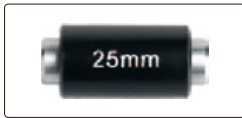
- ◆ Measure tube thickness, shoulder edge distance, rivet head height, etc.
- ◆ Supplied with flat anvil and rod anvil
- ◆ Resolution 0.001mm/0.00005"
- ◆ IP65 dust/waterproof
- ◆ Button function: on/off, set, mm/inch, data transmit
- ◆ Automatic power off
- ◆ Data output
- ◆ Ratchet stop
- ◆ Carbide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



397-001-01

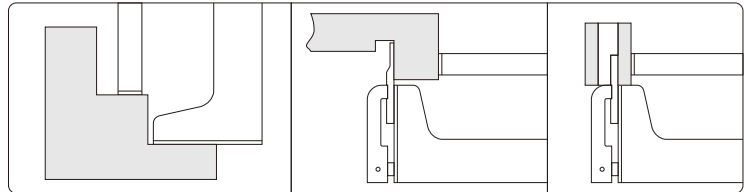


Setting standards (included)



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



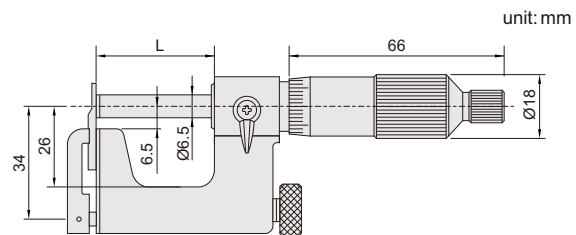
## SERIES 377

## INTERCHANGEABLE ANVIL MICROMETER

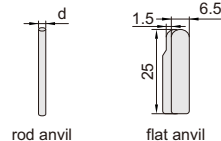
- ◆ Measure tube thickness, shoulder edge distance, rivet head height, etc.
- ◆ Supplied with flat anvil and rod anvil
- ◆ Graduation 0.01mm
- ◆ Ratchet stop
- ◆ Carbide spindle tip
- ◆ Setting standards are included (except 0-25mm)



377-001-01

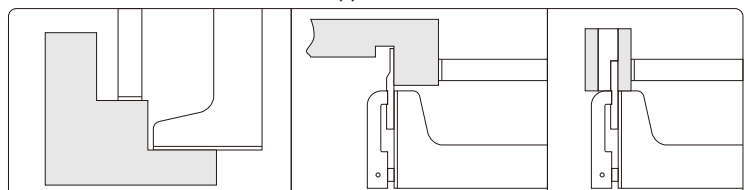


Setting standards (included)



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

Application



MICROMETER

## SERIES 304

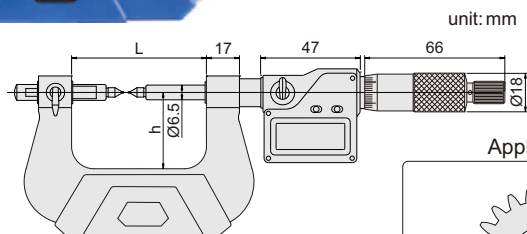
## DIGITAL GEAR TOOTH MICROMETER



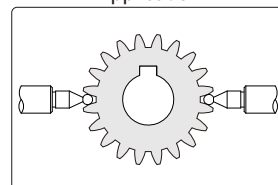
- ◆ Measure over-pin diameter of gears
- ◆ Resolution 0.001mm/0.00005"
- ◆ IP65 dust/waterproof
- ◆ Button function: on/off, set, mm/inch, ABS/INC
- ◆ Data output (cable code: 300-03 or 300-04)
- ◆ Automatic power off
- ◆ Ratchet stop
- ◆ Supplied with setting standards (except **304-001-01**)
- ◆ Optional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



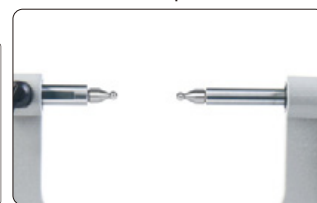
304-002-01



Application



Install points



Setting standards (included)

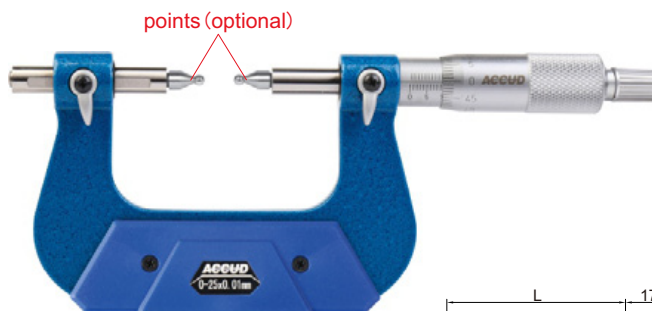


Code	Range	Accuracy	L	h	Setting standards (included)
<b>304-001-01</b>	0-25mm/0-1"	4μm	67	38	-
<b>304-002-01</b>	25-50mm/1-2"	4μm	92.4	50	25mm
<b>304-003-01</b>	50-75mm/2-3"	5μm	117.6	62	50mm
<b>304-004-01</b>	75-100mm/3-4"	5μm	143	70	75mm
<b>304-005-01</b>	100-125mm/4-5"	6μm	168.2	82	100mm
<b>304-006-01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

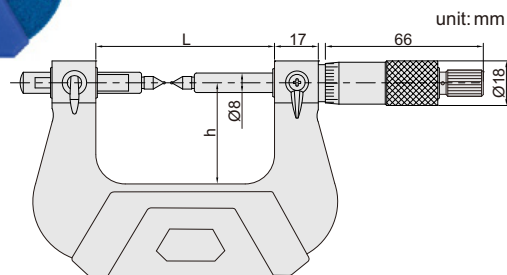
## SERIES 345

## 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

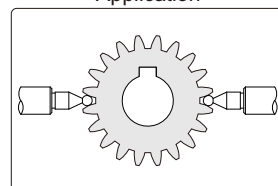


Setting standards (included)



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

unit: mm

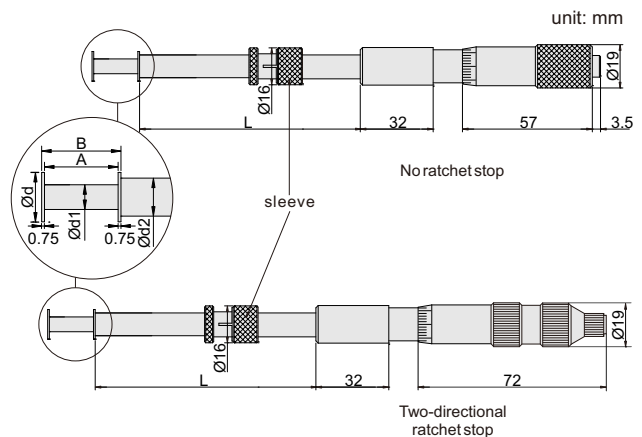
### Two-directional ratchet stop

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	102
344-002-11	25-50mm	26.5-51.5mm	10µm	13	6.5	10	102
344-003-11	50-75mm	51.5-76.5mm	10µm	13	6.5	10	102
344-004-11	75-100mm	76.5-101.5mm	10µm	13	6.5	10	102
344-001-12	0-25mm	1.6-26.5mm	10µm	6.5	3	5	90

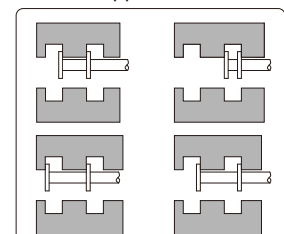
### No ratchet stop

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	102
344-002-01	25-50mm	26.5-51.5mm	10µm	13	6.5	10	102
344-003-01	50-75mm	51.5-76.5mm	10µm	13	6.5	10	102
344-004-01	75-100mm	76.5-101.5mm	10µm	13	6.5	10	102
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



MICROMETER

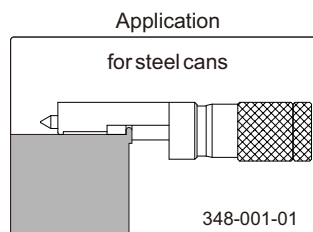
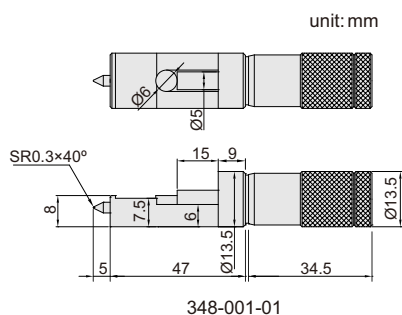
## SERIES 348

## CAN SEAM MICROMETER

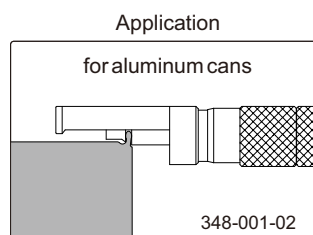
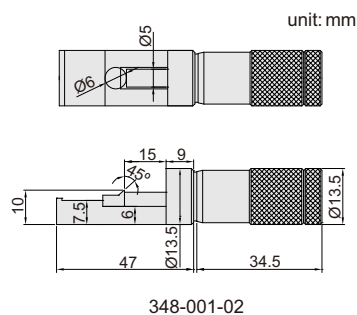
- ◆ Measure the width, height and depth of can seams
- ◆ Graduation 0.01mm



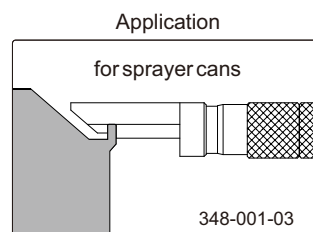
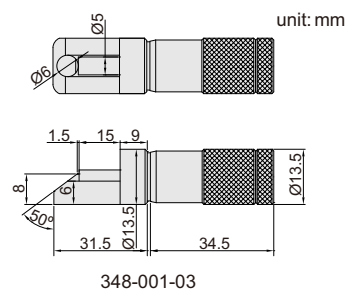
348-001-01



348-001-02



348-001-03

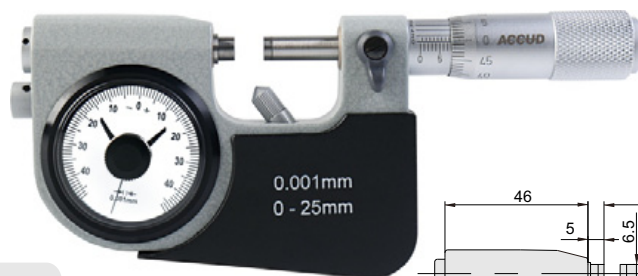


Code	Range	Accuracy
348-001-01	0-13mm	4μm
348-001-02	0-13mm	4μm
348-001-03	0-13mm	4μm



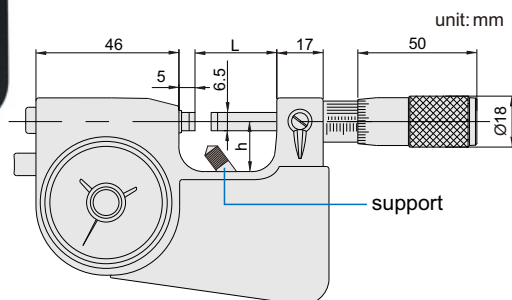
**SERIES 349**

**INDICATING MICROMETER**



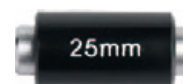
**349-001-01**

- ◆ 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
<b>349-001-01</b>	0-25mm	0.002mm	3μm	28.5	19	-	with
<b>349-002-01</b>	25-50mm	0.002mm	3μm	53.5	30	25mm	with
<b>349-003-01</b>	50-75mm	0.002mm	5μm	78.5	45	50mm	without
<b>349-004-01</b>	75-100mm	0.002mm	5μm	103.5	57	75mm	without
<b>349-005-01</b>	100-125mm	0.002mm	5μm	128.5	69	100mm	without
<b>349-006-01</b>	125-150mm	0.002mm	5μm	153.5	82	125mm	without
<b>349-007-01</b>	150-175mm	0.002mm	5μm	178.5	94	150mm	without

Setting standards(included)



**SERIES 349**

**DIAL SNAP GAUGE**



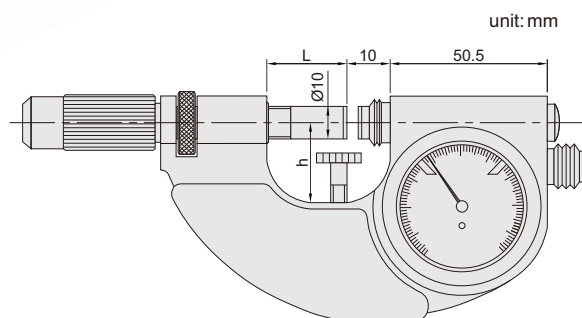
- ◆ Quick measurement for mass production
- ◆ Dial indicator: range ±0.04mm, graduation 0.001mm, accuracy 0.001mm
- ◆ IP54 dust/waterproof
- ◆ Measuring force: 5-10N
- ◆ Carbide measuring faces



**349-001-21**

MICROMETER

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



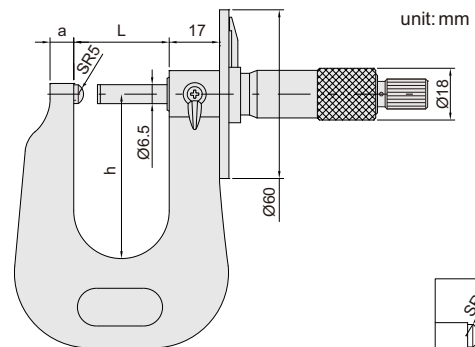
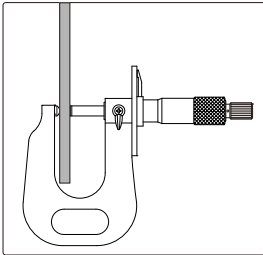


347

## SHEET METAL MICROMETER

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

Application



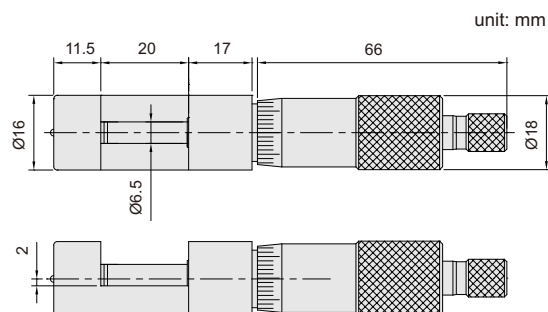
unit: mm

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

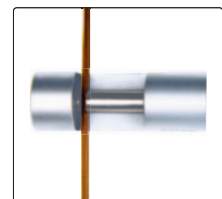
## WIRE MICROMETER

- ◆ 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

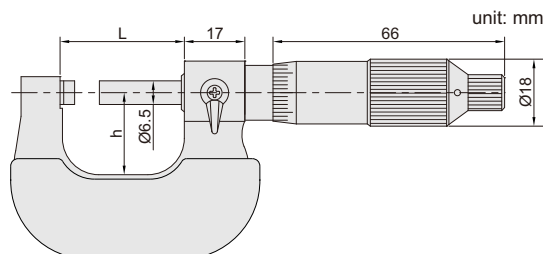


- ◆ Suitable for magnetic materials
- ◆ Graduation: 0.01 mm
- ◆ Non magnetic carbide measuring faces
- ◆ Ratchet stop
- ◆ Supplied with setting standards (except 0-25mm)



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

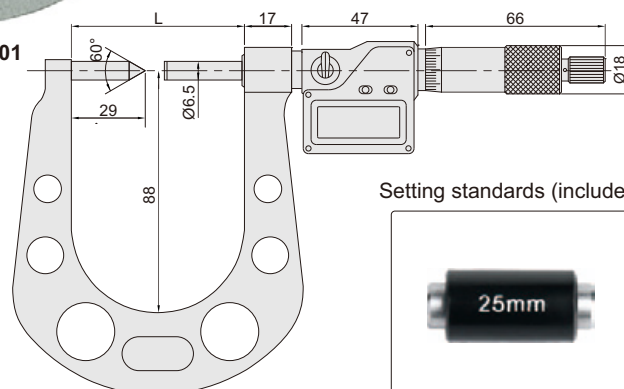
## DIGITAL DISK BRAKE MICROMETER



- ◆ 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

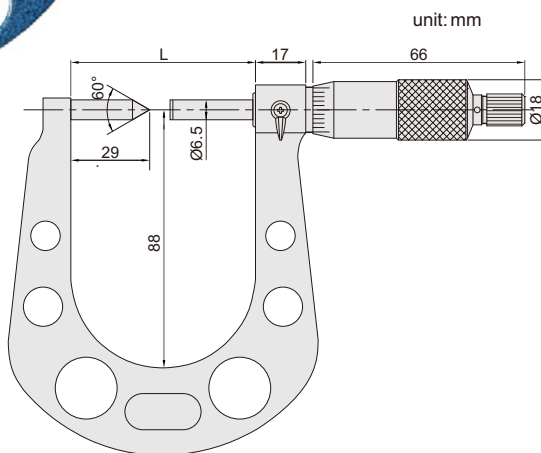
## DISK BRAKE MICROMETER

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



306-001-01

Setting standards (included)

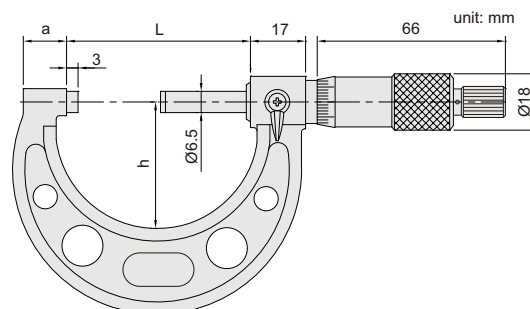


Code	Range	Accuracy	L	Setting standards (included)
306-001-01	7.6-33mm	5μm	64.5	25mm
306-002-01	25-50mm	5μm	82	25mm

## 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

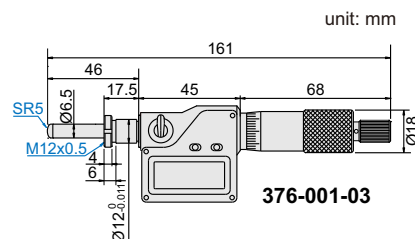
## DIGITAL MICROMETER HEAD



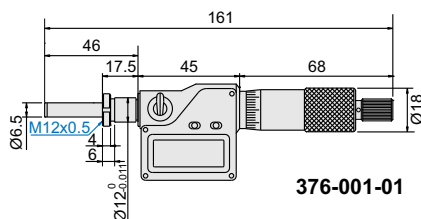
- ◆ Resolution 0.001mm/0.00005"
- ◆ IP65 protection level
- ◆ Button: on/off, set, mm/inch, ABS/INC, data output
- ◆ Automatic power off
- ◆ Data output
- ◆ Ratchet stop



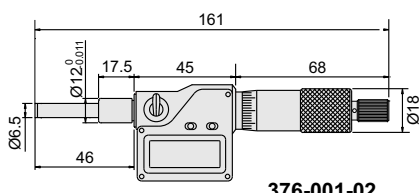
376-001-04



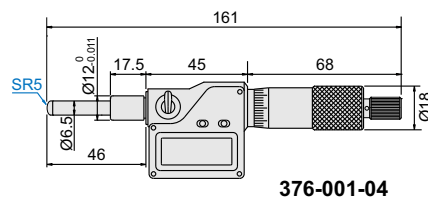
376-001-03



376-001-01



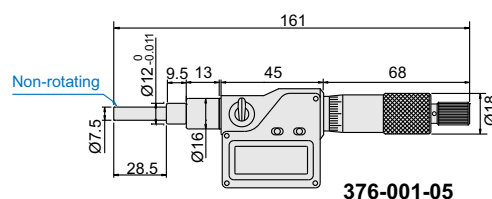
376-001-02



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

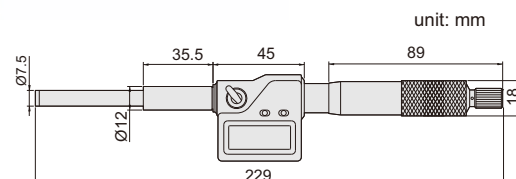
## DIGITAL MICROMETER HEAD



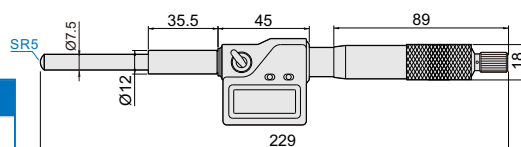
- ◆ Resolution 0.001mm/0.00005"
- ◆ IP65 protection level
- ◆ Button: on/off, set, mm/inch, ABS/INC, data output
- ◆ Automatic power off
- ◆ Data output
- ◆ Ratchet stop



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)



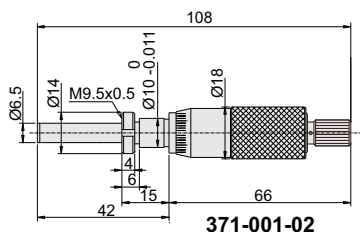
## SERIES 371

## MICROMETER HEAD

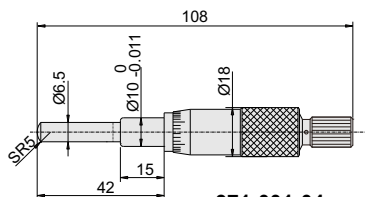
- ◆ Graduation: 0.01mm
- ◆ Carbide measuring faces
- ◆ Ratchet stop



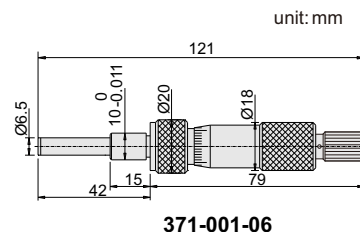
371-001-02



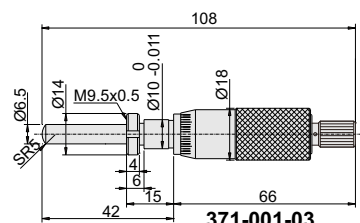
371-001-02



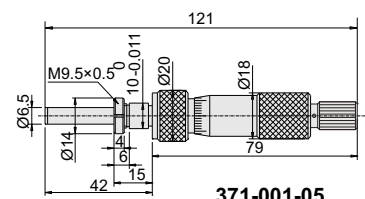
371-001-04



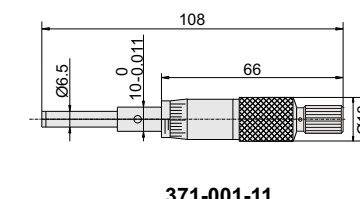
371-001-06



371-001-03



371-001-05

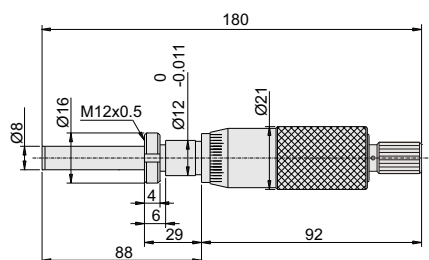


371-001-11

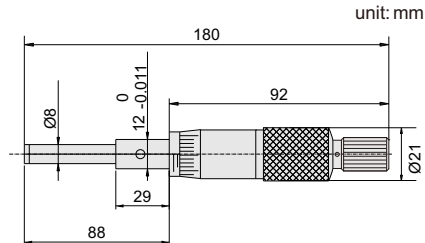
Code	Range	Accuracy	Stem	Spindle tip	Remark
371-001-02	0-25mm	3μm	with clamp nut	flat (carbide)	
371-001-03	0-25mm	3μm	with clamp nut	spherical (SR5)	
371-001-04	0-25mm	3μm	plain	spherical (SR5)	
371-001-05	0-25mm	3μm	with clamp nut	flat (carbide)	with spindle lock
371-001-06	0-25mm	3μm	plain	flat (carbide)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

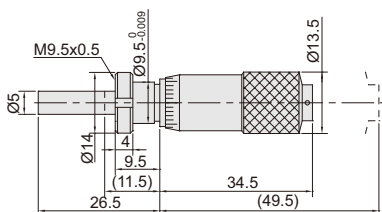
## MICROMETER HEAD

◆ Graduation 0.01mm

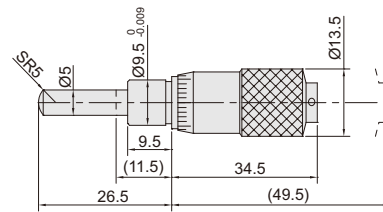


373-001-01

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

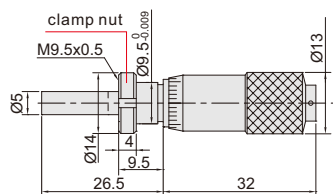


373-013-02

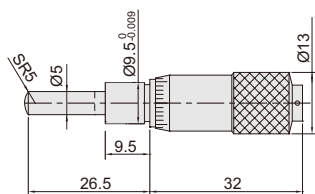


373-013-05

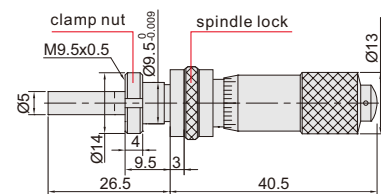
unit: mm



373-013-01

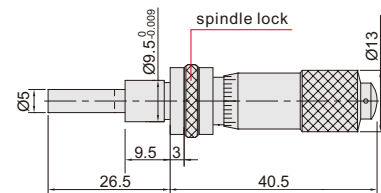


373-013-04



373-013-05

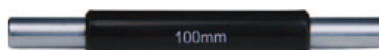
Code	Range	Accuracy	Stem	Spindle tip	Remark
373-013-01	0-13mm	3μm	with clamp nut	flat (carbide)	
373-013-02	0-13mm	3μm	plain	flat (carbide)	
373-013-03	0-13mm	3μm	with clamp nut	spherical (SR5)	
373-013-04	0-13mm	3μm	plain	spherical (SR5)	
373-013-05	0-13mm	3μm	with clamp nut	flat (carbide)	with spindle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



373-013-06

◆ Meet DIN863-2  
◆ Graduation 0.01mm

◆ For standard value setting



321-004-ST

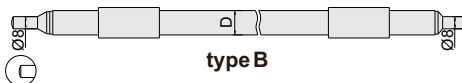
unit: mm



type A



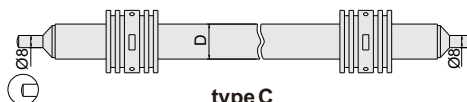
321-015-ST



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

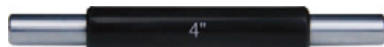
Code	Length	Accuracy	D	Type
321-028-ST	700mm	±15μm	Ø16mm	B
321-029-ST	725mm	±15.5μm	Ø16mm	B
321-030-ST	750mm	±16μm	Ø16mm	B
321-031-ST	775mm	±16.5μm	Ø16mm	B
321-032-ST	800mm	±17μm	Ø16mm	B
321-033-ST	825mm	±17.5μm	Ø16mm	B
321-034-ST	850mm	±18μm	Ø16mm	B
321-035-ST	875mm	±18.5μm	Ø16mm	B
321-036-ST	900mm	±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



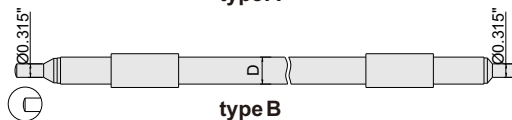
324-004-ST



324-012-ST



type A



type B

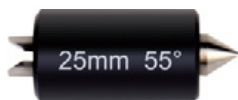
Code	Length	Accuracy	D	Type
324-001-ST	1"	±0.00006"	Ø0.276"	A
324-002-ST	2"	±0.00008"	Ø0.276"	A
324-003-ST	3"	±0.00010"	Ø0.276"	A
324-004-ST	4"	±0.00012"	Ø0.315"	A
324-005-ST	5"	±0.00014"	Ø0.315"	A
324-006-ST	6"	±0.00016"	Ø0.315"	A
324-007-ST	7"	±0.00018"	Ø0.315"	A
324-008-ST	8"	±0.00020"	Ø0.315"	A
324-009-ST	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

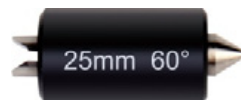
## SERIES 343

## SCREW THREAD MICROMETER SETTING STANDARD

◆ For screw thread micrometer (series 333 or 343)



343-001-ST



343-001-ST1

unit: mm



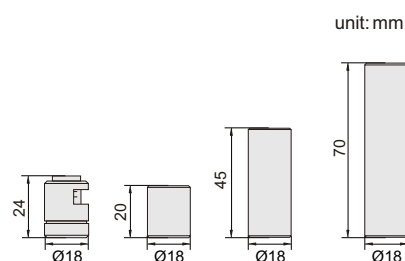
55° thread angle

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
343-009-ST	225mm	±6.5μm
343-010-ST	250mm	±7μm
343-011-ST	275mm	±7μm
343-012-ST	300mm	±7.5μm

60° thread angle

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
343-009-ST1	225mm	±6.5μm
343-010-ST1	250mm	±7μm
343-011-ST1	275mm	±7μm
343-012-ST1	300mm	±7.5μm

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



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

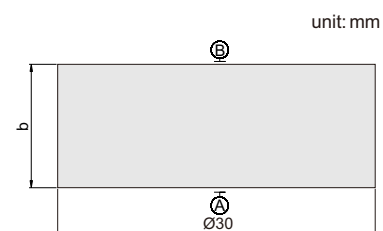
## SERIES 551

## 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



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

## Application





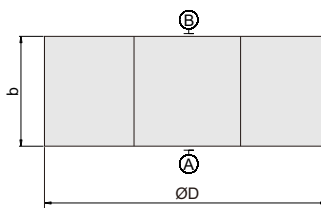
## SERIES 551

## OPTICAL PARALLELS



551-001-01

unit: mm



- ◆ Check the flatness and parallelism of measuring faces of micrometer
- ◆ Flatness of A and B:  $0.03\mu\text{m}$
- ◆ Parallelism between A and B:  $0.6\mu\text{m}$

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	$0.1\mu\text{m}$	15mm	45
553-060-01	$0.1\mu\text{m}$	20mm	60





381

## MICROMETER STAND

- ◆ For micrometers which measuring range is less than 100mm

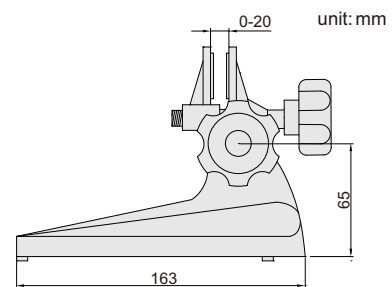
Application



micrometer is optional

Code

381-000-00



383

## MICROMETER STAND

- ◆ For micrometers which measuring range is less than 100mm

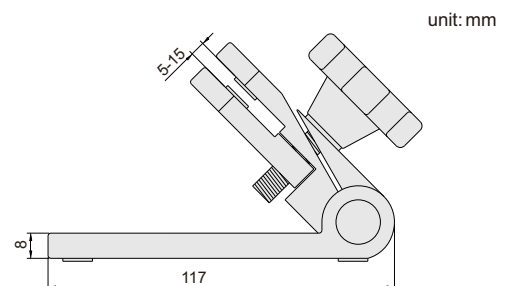
Application



micrometer is optional

Code

383-000-00



## SERIES 361

## DIGITAL THREE POINTS INSIDE MICROMETER



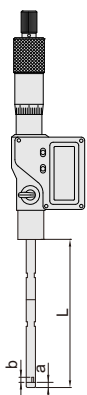
- ◆ Resolution: 0.001mm/0.00005"
- ◆ IP65 protection level
- ◆ Button: on/off, set, mm/inch, ABS/INC, data output
- ◆ Automatic power off
- ◆ Data output
- ◆ Ratchet stop
- ◆ Carbide measuring faces (over 12mm series)
- ◆ Extension rod are included
- ◆ Setting rings are included (Range<100mm)



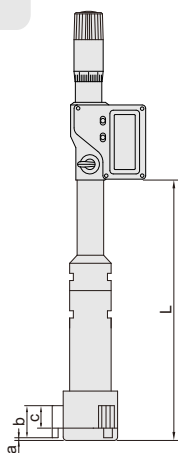
361-002-01



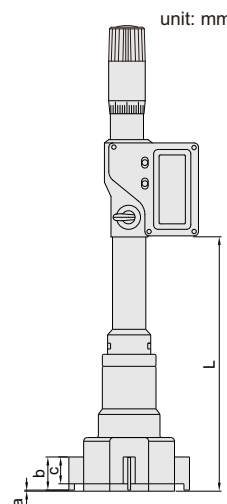
361-007-01



Range 6-20mm



Range 20-50mm



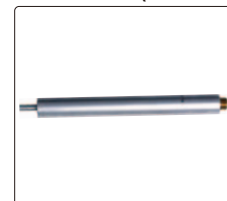
Range 50-300mm

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

Setting ring



Extension rod(included)



\* With manufacturer inspection certificate

## SERIES 361

## DIGITAL TWO POINTS INSIDE MICROMETER

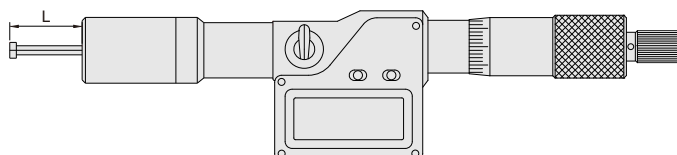


- ◆ Resolution: 0.001mm/0.00005"
- ◆ IP65 protection level
- ◆ Button: on/off, set, mm/inch, ABS/INC, data output
- ◆ Automatic power off
- ◆ Data output
- ◆ Ratchet stop
- ◆ Carbide measuring faces
- ◆ Setting rings are included



361-000-50

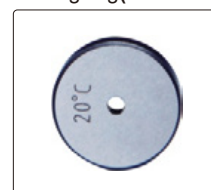
unit: mm



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

With manufacturer inspection certificate

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

With manufacturer inspection certificate



361-103-03

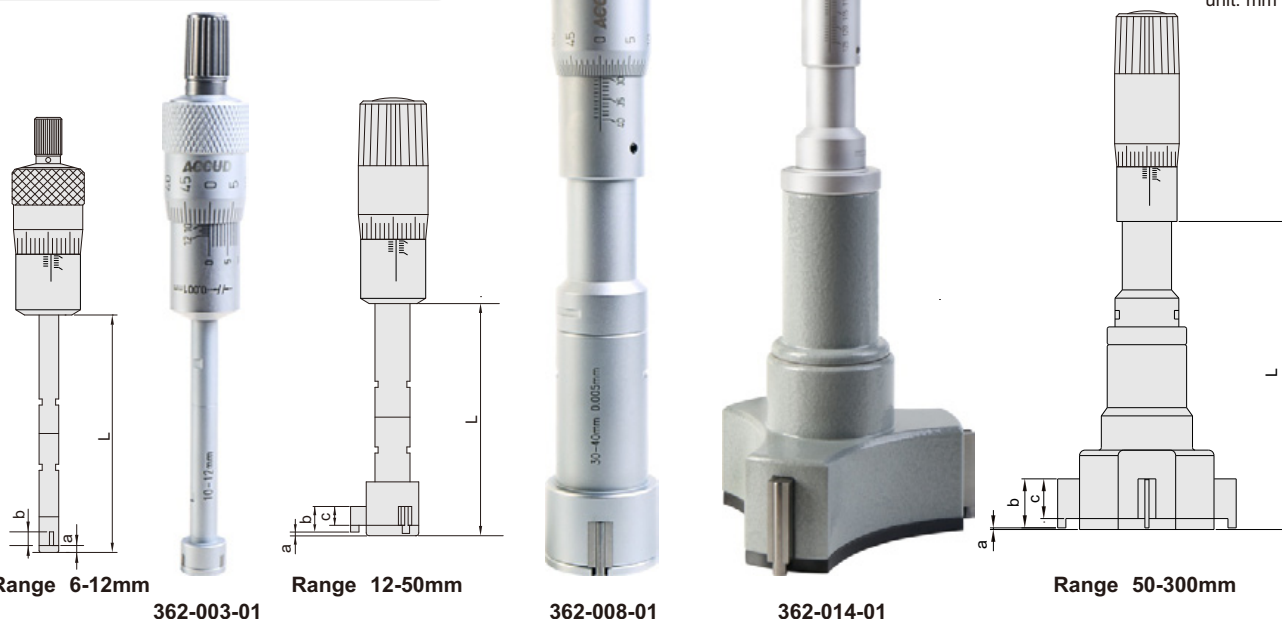
INSIDE/OUTSIDE  
MEASUREMENT

## SERIES 362

## THREE POINTS INSIDE MICROMETER

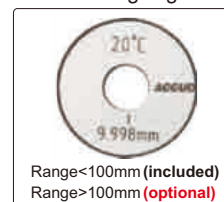


- ◆ 6-12mm graduation: 0.001mm  
Steel measuring faces
- ◆ 12-300mm graduation: 0.005mm  
Carbide measuring faces
- ◆ Ratchet stop
- ◆ Extension rod are included
- ◆ Setting rings are included (Range<100mm)

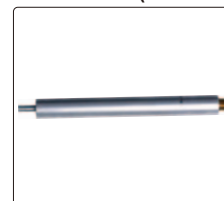


Code	Range	Accuracy	Setting ring	Extension rod	a	b	c	L
362-001-01 *	6-8mm	4μm	Ø6mm(included)	100mm	1.5	2.5	/	54.5
362-002-01 *	8-10mm	4μm	Ø8mm(included)	100mm	1.5	2.5	/	54.5
362-003-01 *	10-12mm	4μm	Ø10mm(included)	100mm	1.5	2.5	/	54.5
362-004-01 *	12-16mm	4μm	Ø16mm(included)	150mm	0.5	6	4.5	80
362-005-01 *	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

Setting ring



Extension rod(included)



\* With manufacturer inspection certificate

## SERIES 362

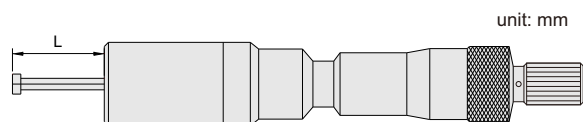
## TWO POINTS INSIDE MICROMETER



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



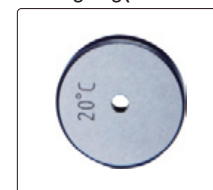
362-000-25



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

With manufacturer inspection certificate

Setting ring(included)



## SERIES 362

## TWO/THREE POINTS INSIDE MICROMETER SET



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

With manufacturer inspection certificate



362-913-05

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

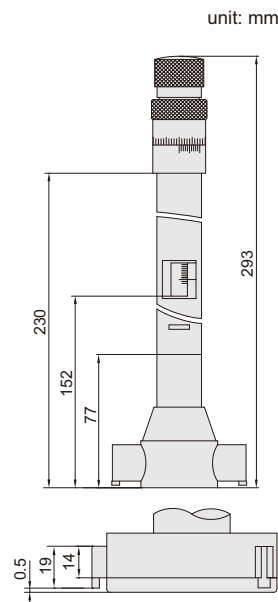


Code	Range	Accuracy	Setting ring
363-003-01 *	50-70mm	5μm	Ø50mm(included)
363-004-01 *	70-100mm	5μm	Ø70mm(included)
363-006-01	100-150mm	6μm	Ø100mm(included)
363-010-01	150-250mm	8μm	Ø150mm(included)
363-012-01	200-300mm	9μm	Ø200mm(optional)

\* With manufacturer inspection certificate



363-003-01



## SERIES 364

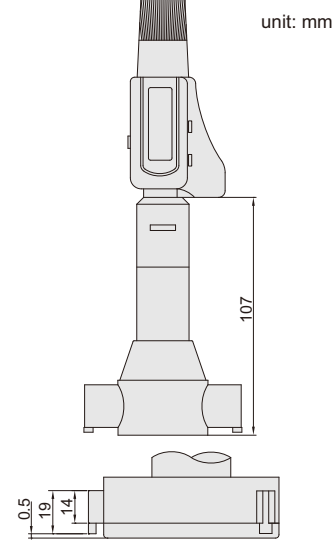
## DIGITAL WIDE RANGE THREE POINTS INTERNAL MICROMETER



- ◆ 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)



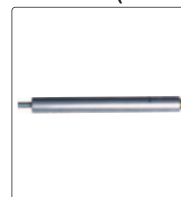
364-003-01



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

\* With manufacturer inspection certificate

Extension rod(included)



Setting ring





# SERIES 365

# PISTOL GRIP THREE POINTS BORE GAUGE



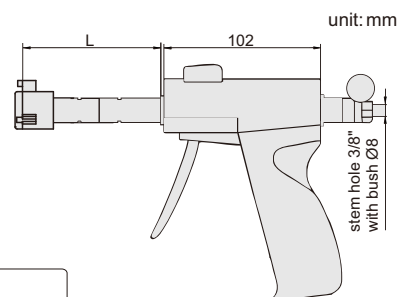
Accud

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



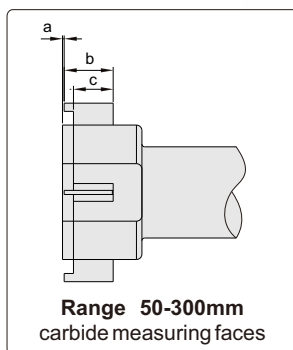
**216-010-01**  
digital indicator  
is optional

**365-007-01**

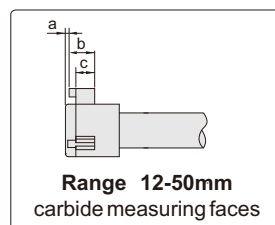


unit: mm

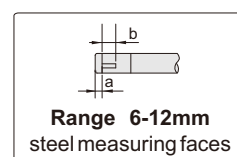
Extension rod (included)



**Range 50-300mm**  
carbide measuring faces



**Range 12-50mm**  
carbide measuring faces



**Range 6-12mm**  
steel measuring faces

## INDIVIDUAL

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

Setting ring



6-100mm (included)  
100-300mm (optional)

Indicators (optional)



Series 211



Series 216

## SET

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

INSIDE/OUTSIDE  
MEASUREMENT

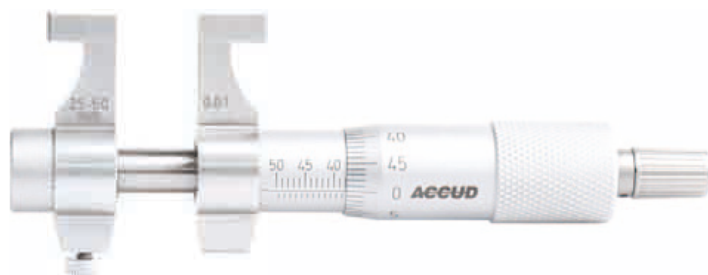
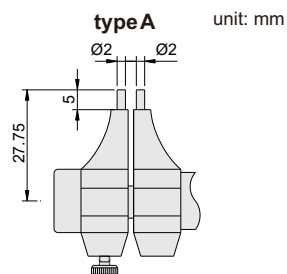
## SERIES 351

## INSIDE MICROMETER

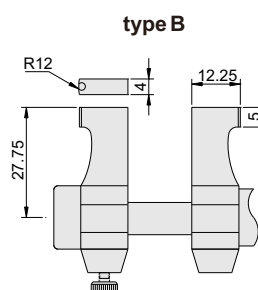
- ◆ Graduation: 0.01mm
- ◆ Carbide measuring faces
- ◆ Ratchet stop



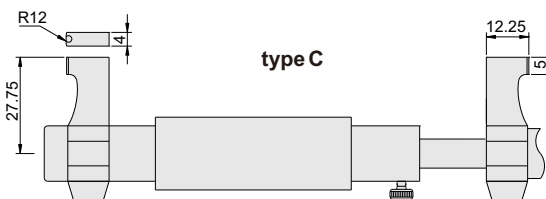
351-001-01



351-002-01

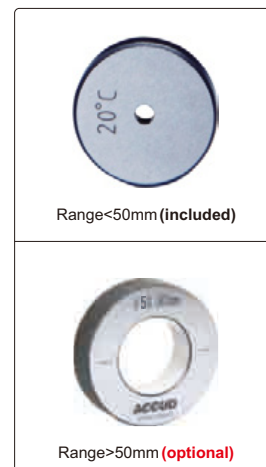


351-003-01



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

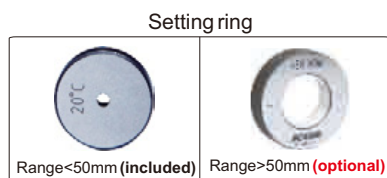
ATTENTION: LOW PARALLELISM  
OF TWO MEASURING FACES



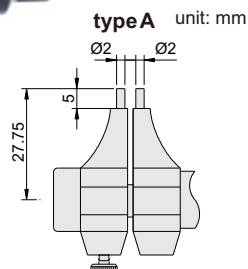
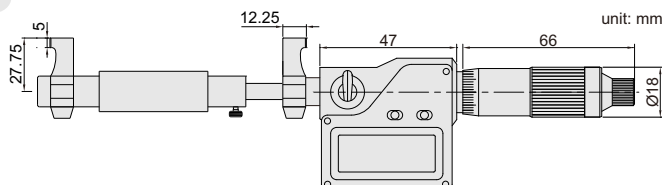
- ◆ Resolution 0.001mm/0.00005"
- ◆ Button function: on/off, set, mm/inch, ABS/INC, data output
- ◆ Data output
- ◆ Automatic power off
- ◆ Ratchet stop
- ◆ Carbide measuring faces



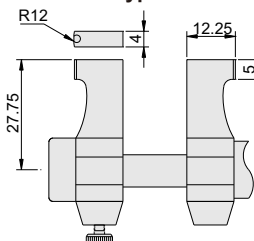
356-003-01



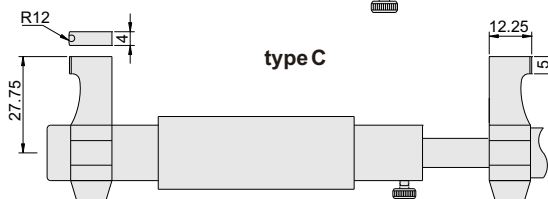
Code	Range	Accuracy	Type	Setting ring
356-001-01	5-30mm/0.2-1.2"	±5μm	A	5mm
356-002-01	25-50mm/1-2"	±6μm	B	25mm
356-003-01	50-75mm/2-3"	±7μm	C	optional
356-004-01	75-100mm/3-4"	±8μm	C	optional
356-005-01	100-125mm/4-5"	±9μm	C	optional
356-006-01	125-150mm/5-6"	±9μm	C	optional
356-007-01	150-175mm/6-7"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



type B



type C



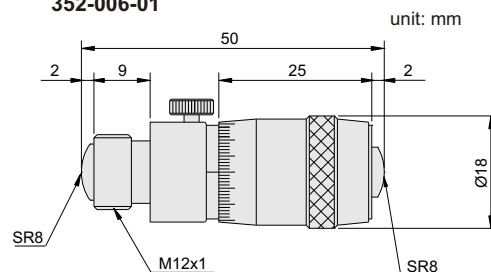
## SERIES 352

## 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



Set zero



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

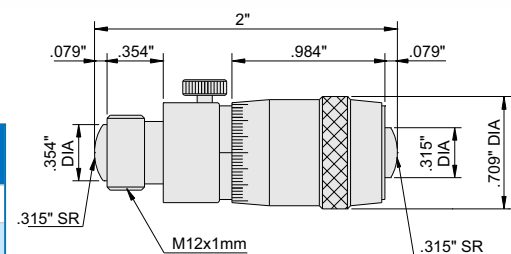
## TUBULAR INSIDE MICROMETER

- ◆ Graduation: .001"
- ◆ Accuracy:  $[\pm 0.0005(3+n+L/2)]$ ", n = number of rods, L = maximum measuring length (inch)
- ◆ Supplied with setting standards
- ◆ Carbide measuring faces

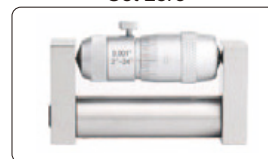


352-024-E01

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)



Set zero



## SERIES 359

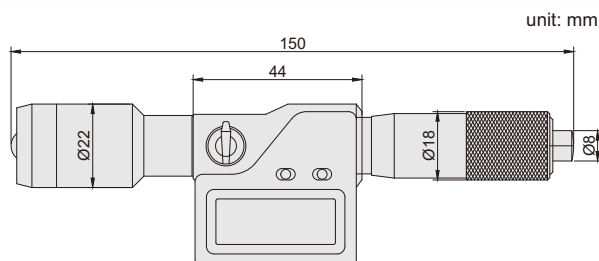
## DIGITAL TUBULAR INSIDE MICROMETER



- ◆ 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

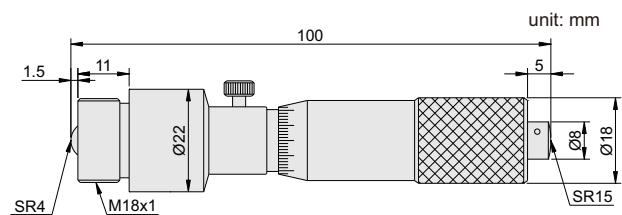
- ◆ Graduation 0.01mm
- ◆ Accuracy:  $(3+n+L/50)\mu\text{m}$   
n is number of rods, L is maximum measuring length in mm
- ◆ Travel of micrometer head: 25mm
- ◆ Supplied with setting standards
- ◆ Carbide measuring faces

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)

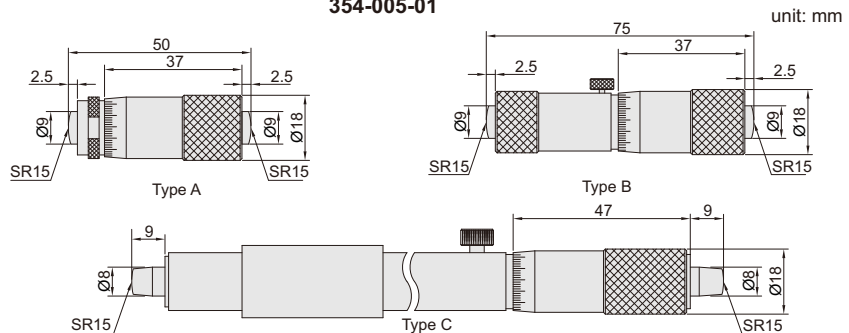


## SERIES 354

## TUBULAR INSIDE MICROMETER



354-005-01



- ◆ Graduation 0.01mm
- ◆ Carbide measuring faces

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

Code	Range	Type	Accuracy
354-012-01	275-300mm	C	9μm
354-013-01	300-325mm	C	9μm
354-014-01	325-350mm	C	9μm
354-015-01	350-375mm	C	10μm
354-016-01	375-400mm	C	10μm
354-017-01	400-425mm	C	10μm
354-018-01	425-450mm	C	10μm
354-019-01	450-475mm	C	11μm
354-020-01	475-500mm	C	11μm

INSIDE/OUTSIDE  
MEASUREMENT

## SERIES 355

## TUBULAR INSIDE MICROMETER

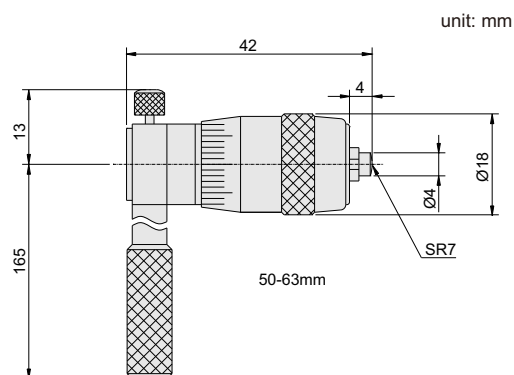
- ◆ Graduation 0.01mm
- ◆ Accuracy:  $(6+L/50)\mu\text{m}$   
L=maximum measuring length(mm)
- ◆ Optional accessory: setting ring (code 531)

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



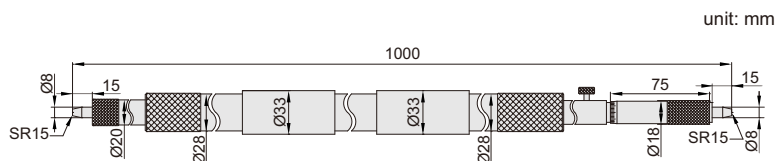
## SERIES 357

## 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 internal screw thread micrometer (optional)



measuring tips for screw thread (optional)

358-004-01

measuring tips for screw thread (optional)

Code	Range	Micrometer head accuracy	Accuracy of micrometers with tips
358-004-01	75-100mm	0.004	0.03
358-005-01	100-125mm	0.005	
358-006-01	125-150mm	0.005	
358-007-01	150-175mm	0.006	
358-008-01	175-200mm	0.006	0.04
358-009-01	200-225mm	0.007	
358-010-01	225-250mm	0.007	
358-011-01	250-275mm	0.008	
358-012-01	275-300mm	0.008	0.05

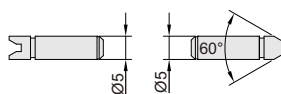
## SERIES 358

## MEASURING TIPS FOR INTERNAL SCREW THREAD MICROMETER

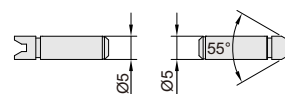
- ◆ Supplied in pair
- ◆ For 358 series micrometers



358-000-19



60° thread angle



55° thread angle

unit: mm

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)

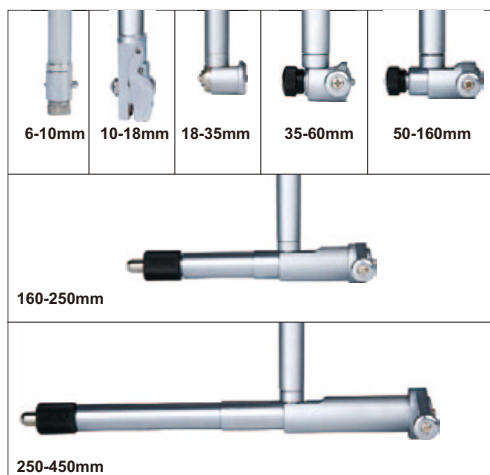
Code	Pitch
358-000-11	60-48TPI
358-000-12	48-40TPI
358-000-13	40-32TPI
358-000-14	32-24TPI
358-000-15	24-18TPI
358-000-16	18-14TPI
358-000-17	14-10TPI

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 $\pm 0.018\text{mm}$ 50-160mm $\pm 0.018\text{mm}$	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 $\pm 0.015\text{mm}$ 35-60mm $\pm 0.018\text{mm}$ 50-160mm $\pm 0.018\text{mm}$	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



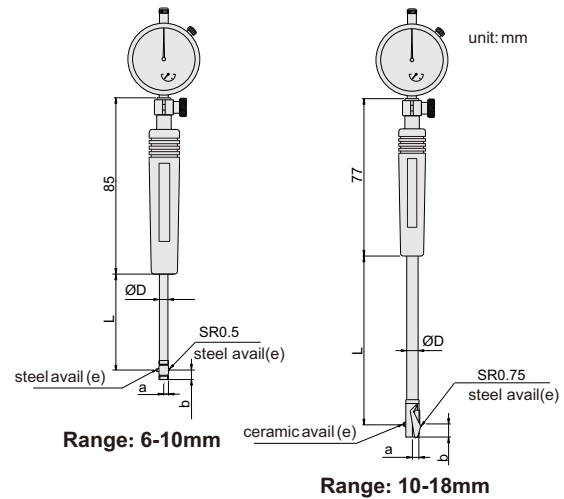
Bore gauge setter for setting zero(optional)



Setting ring(optional)

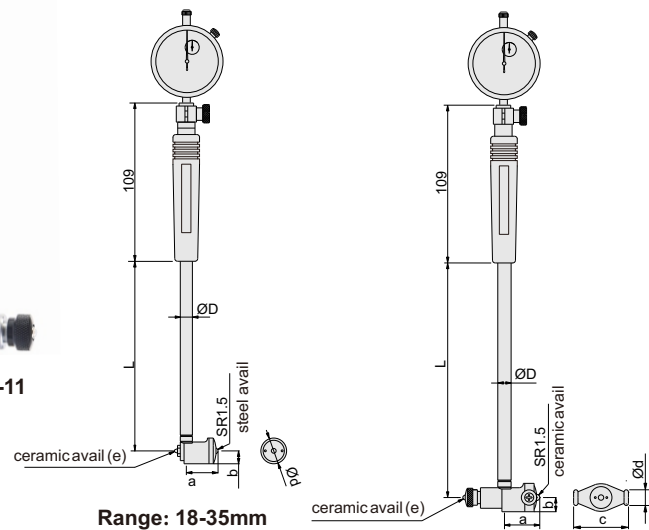


251-160-11



Range: 6-10mm

Range: 10-18mm



Range: 18-35mm

Range: 35-450mm

Measuring tips(included)



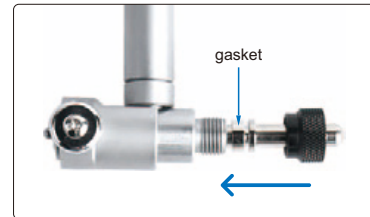
Gasket(included)



Series 215(optional)



Install tips



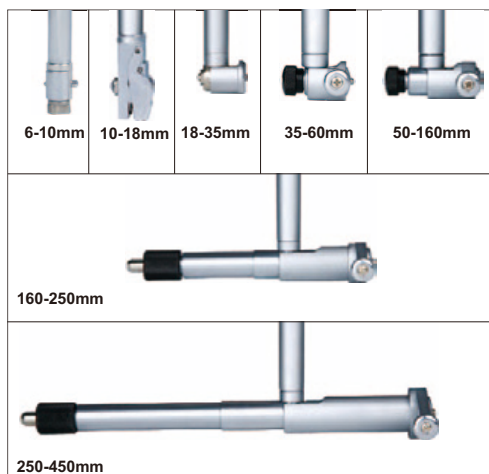
Code	Range	Dial indicator	Tips	Gasket	Accuracy	Repeatability	a	b	c	Ød	ØD	e	L
251-010-11	6-10mm	Range: 3mm graduation: 0.01mm	9pcs	2pcs	±0.012mm	3µm	3.6	5.7	/	/	4.5	SR1	48
251-018-11	10-18mm		9pcs	2pcs	±0.012mm	3µm	5.6	7.8	/	/	6	SR1	105
251-035-11	18-35mm		9pcs	2pcs	±0.015mm	3µm	12.2	6.4	/	12.7	9	SR1	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

INSIDE/OUTSIDE MEASUREMENT

## SERIES 251

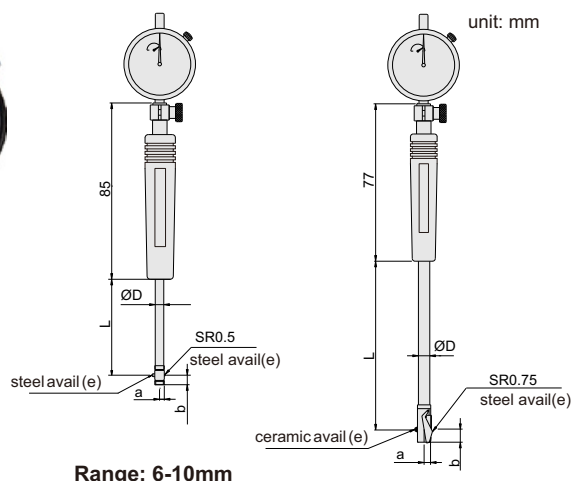
## PRECISION DIAL BORE GAUGE

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

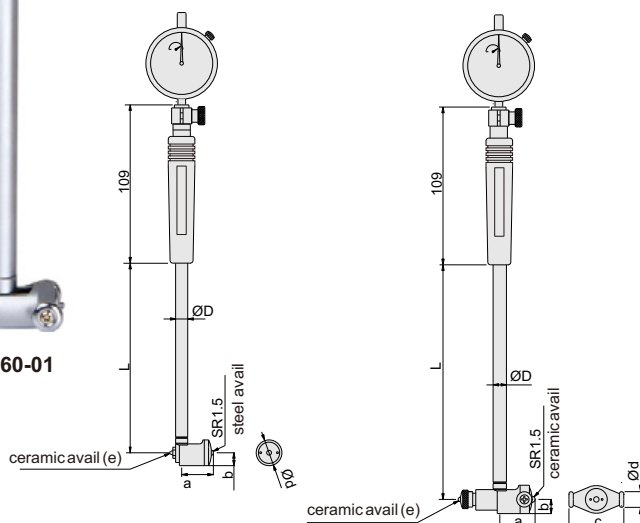


Bore gauge setter for setting zero(optional)

Setting ring(optional)



Range: 10-18mm



Range: 35-450mm

Measuring tips(included)

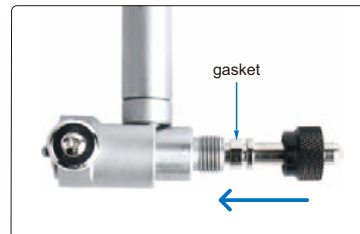
Gasket(included)



Series 215(optional)



Install tips



Code	Range	Dial indicator	Tips	Gasket	Accuracy	Repeatability	a	b	c	Ød	ØD	e	L
251-010-01	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

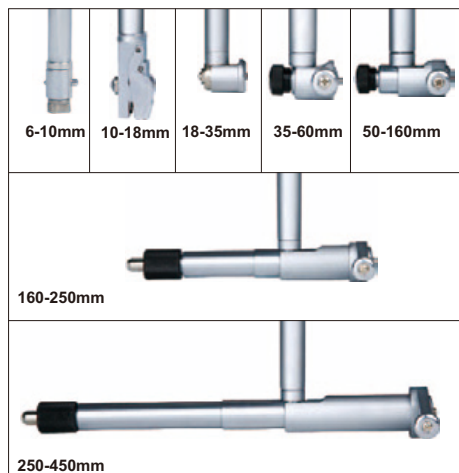
# SERIES 241

# DIGITAL PRECISION BORE GAUGE



ACCUD

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



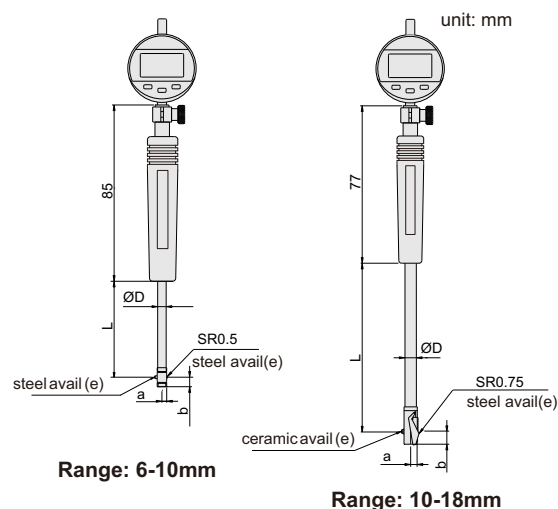
Bore gauge setter for setting zero(**optional**)

Setting ring(**optional**)

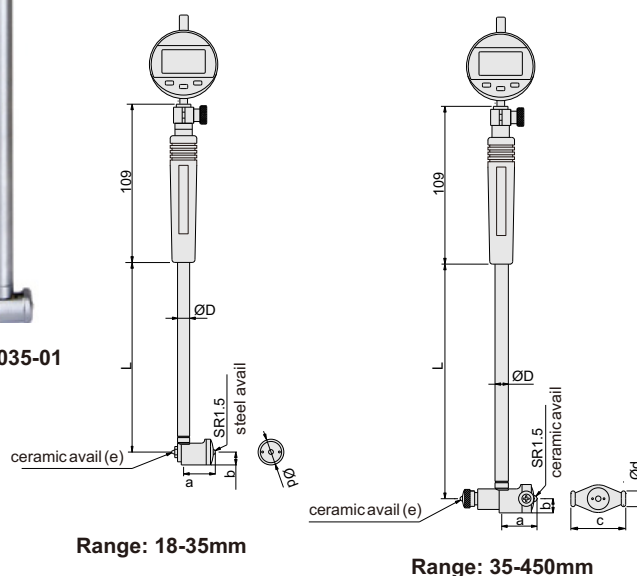


Measuring tips(**included**)

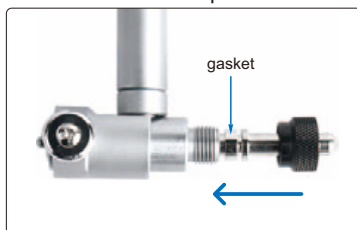
Gasket(**included**)



241-035-01



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

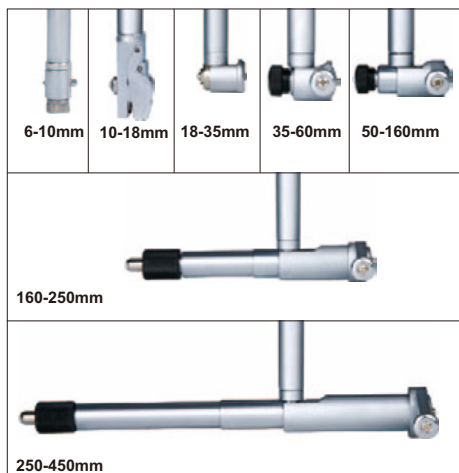
INSIDE/OUTSIDE  
MEASUREMENT

## SERIES 241

## DIGITAL BORE GAUGE



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



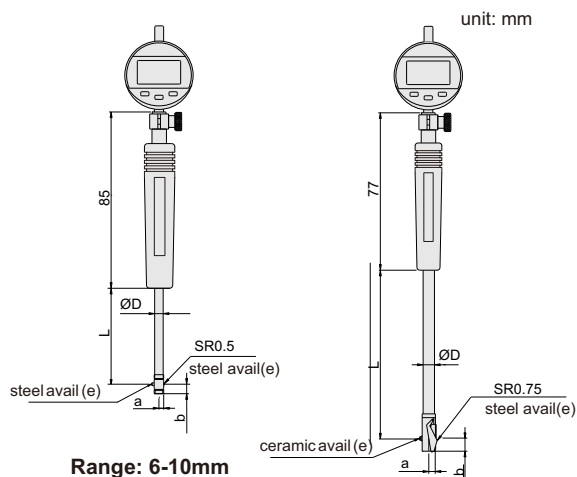
Bore gauge setter for setting zero(**optional**)



Setting ring(**optional**)

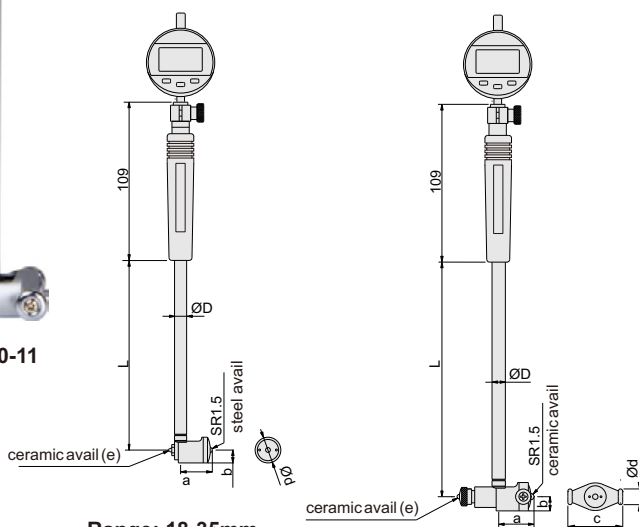


241-160-11



Range: 6-10mm

Range: 10-18mm



Range: 18-35mm

Range: 35-450mm

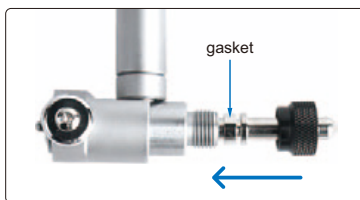
Measuring tips(**included**)



Gasket(**included**)



Install tips

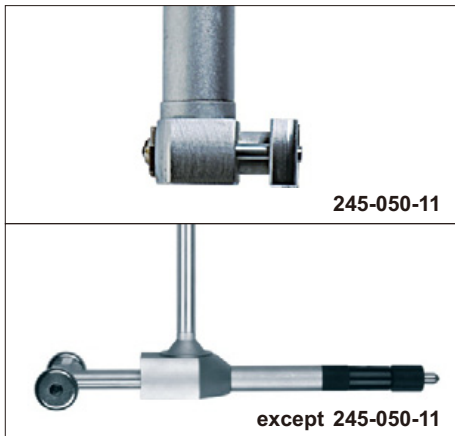


Code	Range	Digital indicator	Tips	Gasket	Accuracy	Repeatability	a	b	c	Ød	ØD	e	L
241-010-11	6-10mm	Range: 12.7mm resolution: 0.002mm	9pcs	2pcs	±0.012mm	3µm	3.6	5.7	/	/	4.5	SR1	48
241-018-11	10-18mm		9pcs	2pcs	±0.012mm	3µm	5.6	7.8	/	/	6	SR1	105
241-035-11	18-35mm		9pcs	2pcs	±0.015mm	3µm	12.2	6.4	/	12.7	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



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

**Tips style**



Bore gauge setter for setting zero **(optional)**

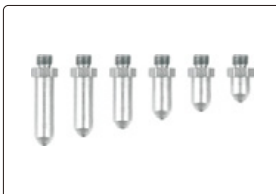


Setting ring **(optional)**



**245-050-11**

Measuring tips **(included)**



Measuring tips **(included)**

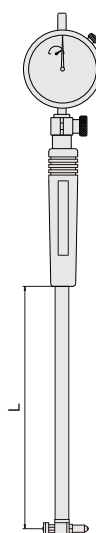


Gasket **(included)**

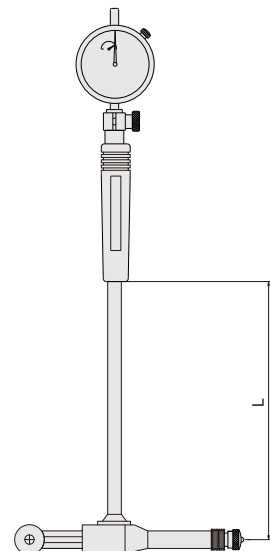


Code	Range	Dial indicator	Tips	Gasket	Probe Travel	Extension rod	L
<b>245-050-11</b>	18-50mm	Range: 10mm graduation: 0.01mm	9pcs	2pcs	1.5mm	1	150
<b>245-100-11</b>	30-100mm		5pcs	3pcs	1.8mm	2	150
<b>245-100-12</b>	50-100mm		11pcs	2pcs	4mm	-	200
<b>245-160-11</b>	100-160mm		7pcs	4pcs	4mm	-	300
<b>245-250-11</b>	160-250mm		5pcs	4pcs	4mm	2	400
<b>245-300-11</b>	100-300mm		6pcs	4pcs	3mm	2	250
<b>245-450-11</b>	250-450mm		5pcs	4pcs	6mm	2	500
<b>245-700-11</b>	450-700mm		5pcs	4pcs	8mm	4	500
<b>245-1000-11</b>	700-1000mm		5pcs	4pcs	8mm	5	500

unit: mm

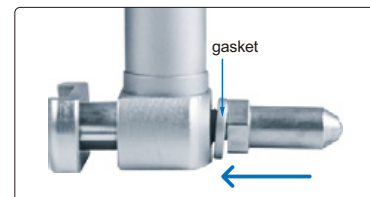


**Range: 18-50mm**

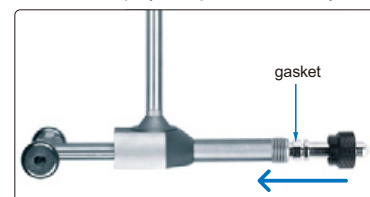


**Range: 30-1000mm**

Install tips **(245-050-11)**



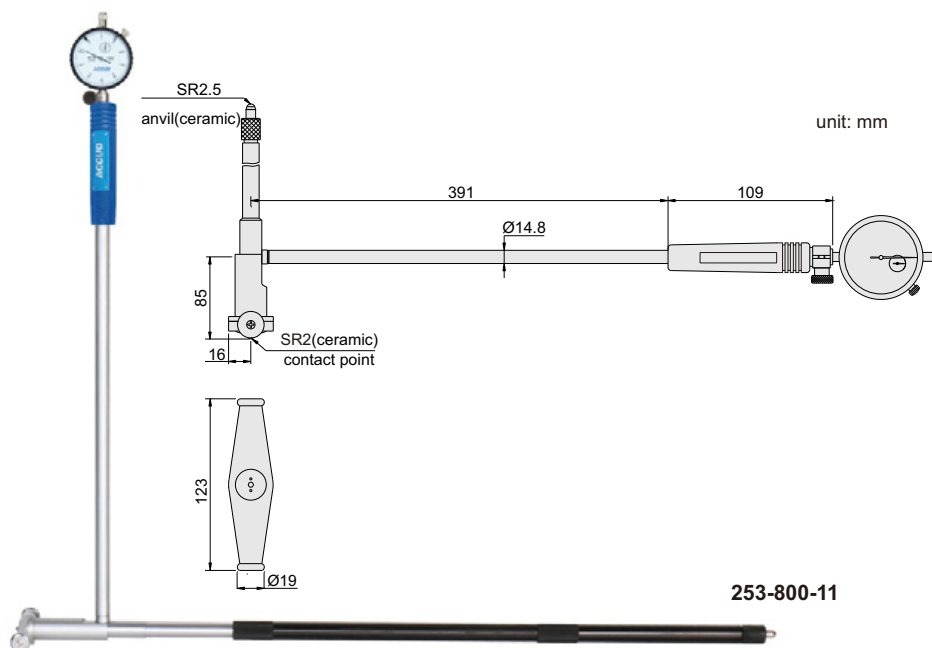
Install tips **(except 245-050-11)**



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

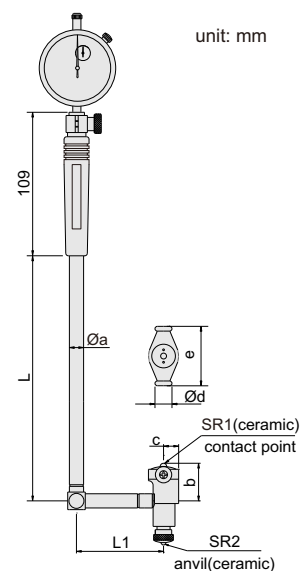
## BORE GAUGE

- ♦ Accuracy: 0.018mm
- ♦ Repeatability: 0.003mm

Digital indicator for  
series 244



254-060-11



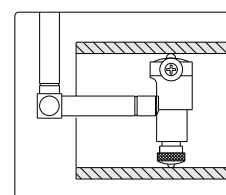
### Dial type

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



## SERIES 240

## SPLIT TYPE DIAL BORE GAUGE SET FOR BLIND HOLES

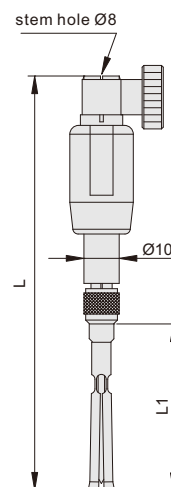
- ◆ Split type contact points
- ◆ Accuracy (without indicator): 3μm (measuring range 1.5~10mm),  
4μm (measuring range 10~20.6mm)
- ◆ Repeatability (without indicator): 1μm
- ◆ Dial indicators are optional



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

unit: mm



Setting ring (optional)



Optional indicators (optional)

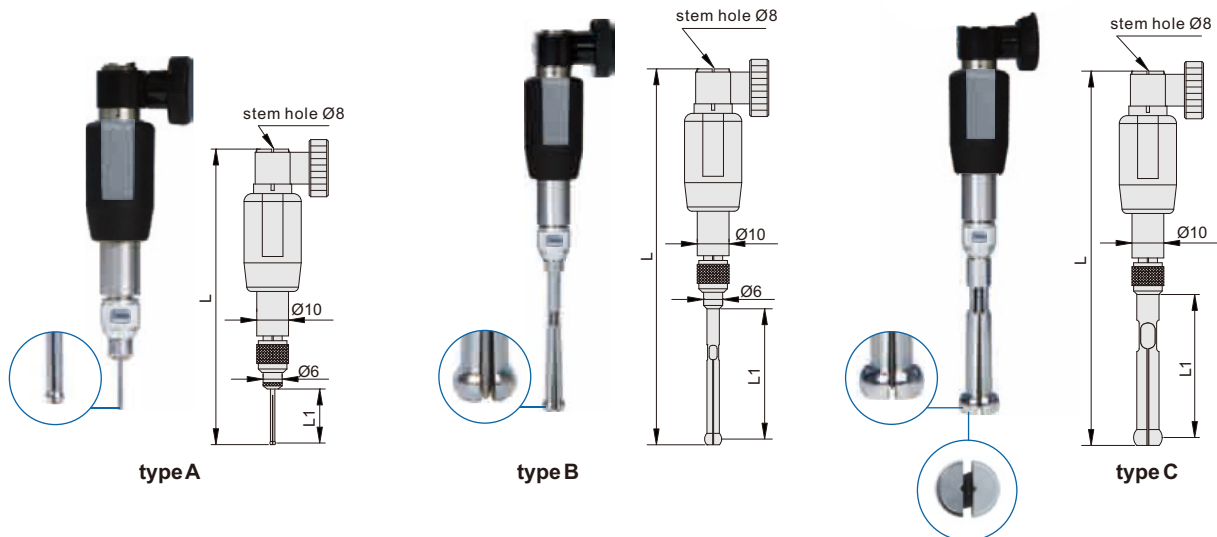


INSIDE/OUTSIDE  
MEASUREMENT

## SERIES 240

## SPLIT TYPE DIAL BORE GAUGE SET

unit: mm



- ◆ Split type contact points
- ◆ Accuracy (without indicator):  
3μm (measuring range 0.95~10mm),  
4μm (measuring range 10~20.6mm)
- ◆ Repeatability (without indicator): 1μm
- ◆ 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

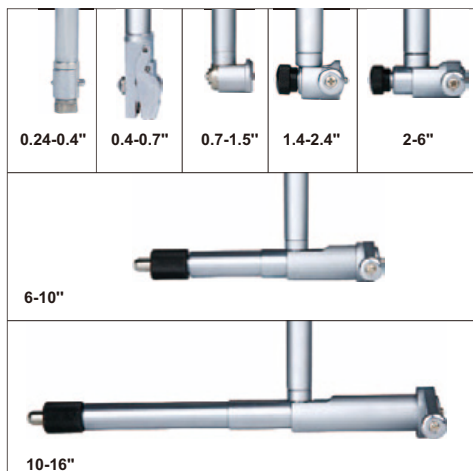


Code	Range	Quantity of points	Measuring range of point	Measuring depth (L1)	Total length (L)	Material of points	Type of point	Setting ring (optional)
<b>240-040-12</b>	0.95-4.2	15	1.27-1.45	13	89	carbide	A	Ø1.3
			1.37-1.55	13	89	carbide	A	Ø1.4
			1.5-1.9	17	93	carbide	A	Ø1.75
			1.8-2.2	17	93	carbide	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
<b>240-075-11</b>	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
<b>240-120-11</b>	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
<b>240-120-12</b>	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
<b>240-200-11</b>	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

## SERIES 252

## INCH DIAL BORE GAUGE

◆ Optional accessory: Long handle series 250



Bore gauge setter for setting zero (optional)

Setting ring (optional)



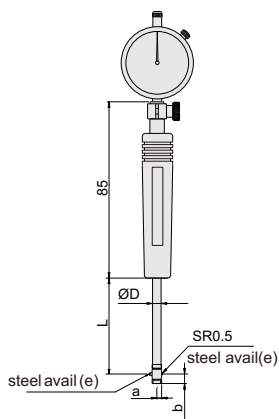
Measuring tips (included)



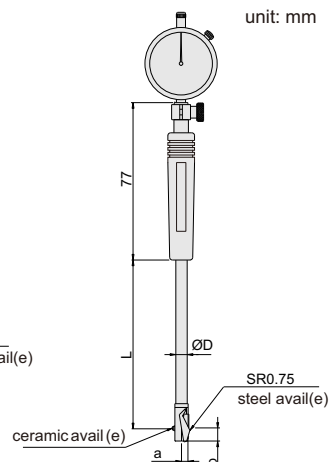
Gasket (included)



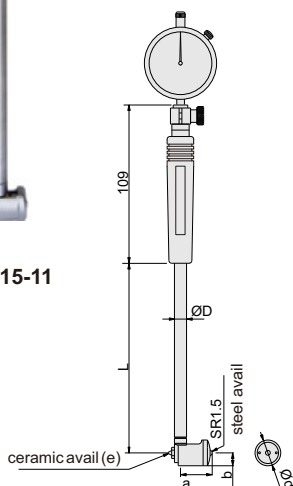
252-015-11



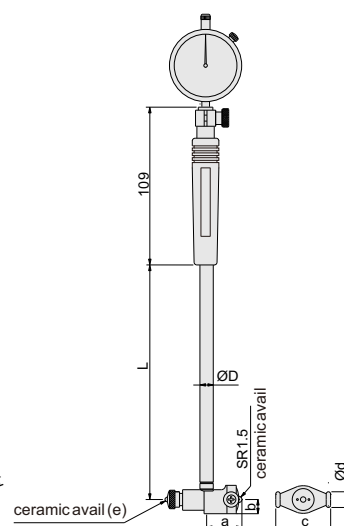
Range: 0.24-0.4"



Range: 0.4-0.7"



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

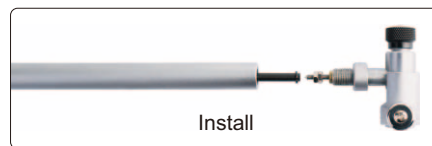


Code	For bore gauges	QTY. per set	Measuring tip material	Measuring range of anvil (mm)
250-010-11	6-10mm	9pcs	steel	6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10
250-018-11	10-18.5mm	9pcs	ceramic	10, 11, 12, 13, 14, 15, 16, 17, 18
250-035-11	18-35mm	9pcs	ceramic	18, 20, 22, 24, 26, 28, 30, 32, 34
250-060-11	35-60mm	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

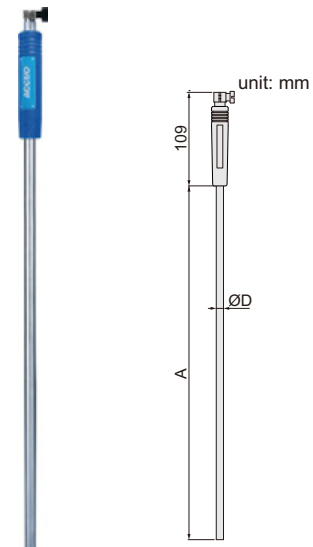
## SERIES 250

## LONG HANDLE

- ◆ To assist deep-hole measurement



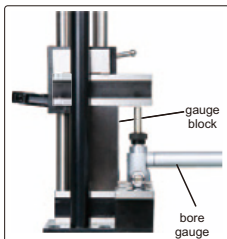
Code	For bore gauges	A	ØD
250-000-10	18-35mm	473	9
250-000-01	35-60mm, 50-100mm, 50-160mm, 100-160mm	473	13
250-000-02		980	13
250-000-03	160-250mm, 250-450mm	480	14.5
250-000-04		980	14.5



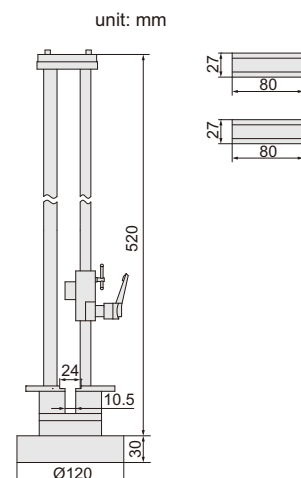
## 255

## 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



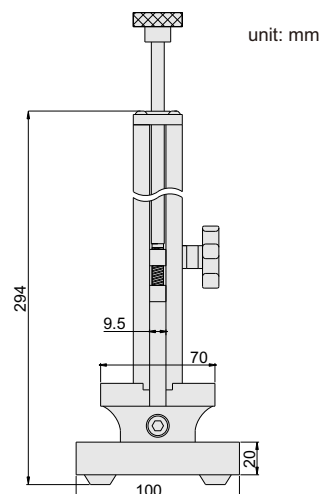
- ◆ Can be used in vertical and horizontal
- ◆ To be used with gauge blocks

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



unit: mm

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



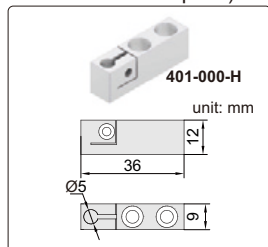
Indicator is not included  
(211-010-03)

401-012-01

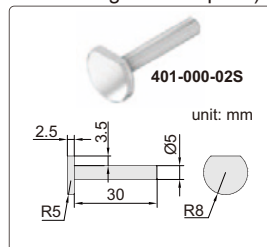
unit: mm



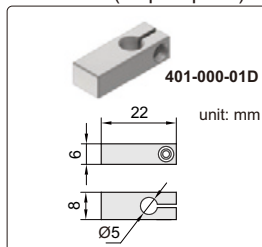
Included(mounting attachments/1 pairs)



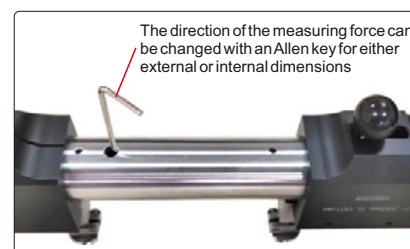
Included(disk head with round measuring blades/1 pairs)



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



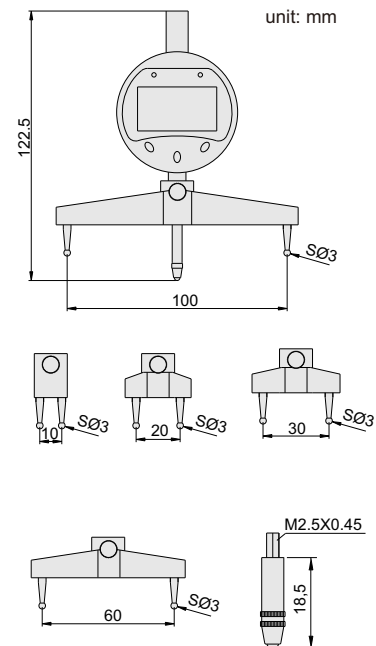


- ◆ Measure radius of internal and external arcs
- ◆ Accuracy:  $\pm 0.01R$ , R is the radius to be measured in mm
- ◆ Data output (cable code: 200-01 or 200-02), can't output radius
- ◆ Supplied with 5 jaws for different sizes of arc

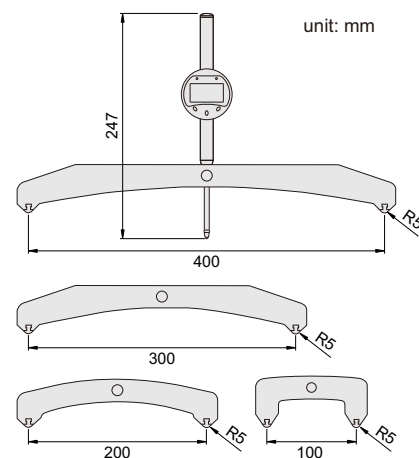
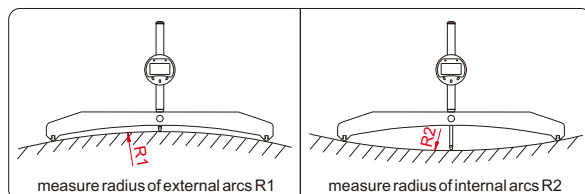
Measure shaft



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)





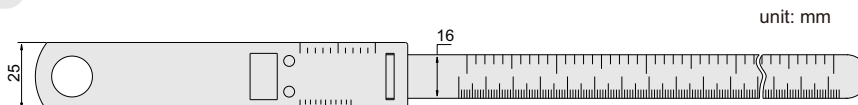
## SERIES 956

## CIRCUMFERENCE TAPE

- ◆ Measure diameter and circumference of pipes, trees, etc.
- ◆ Graduation: 0.1mm
- ◆ Accuracy:  
Circumference:  $\pm 1.5\text{mm}$   
Diameter:  $\pm 0.5\text{mm}$
- ◆ Laser engraved scale
- ◆ Made of stainless steel



956-012-11



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

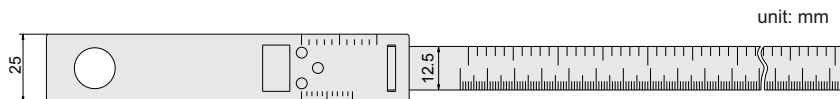
## SERIES 955

## CIRCUMFERENCE TAPE

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

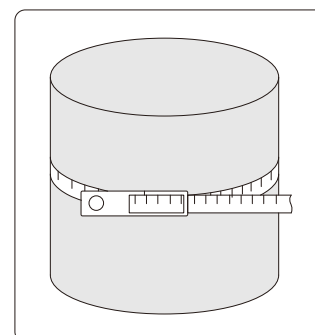


955-122-11



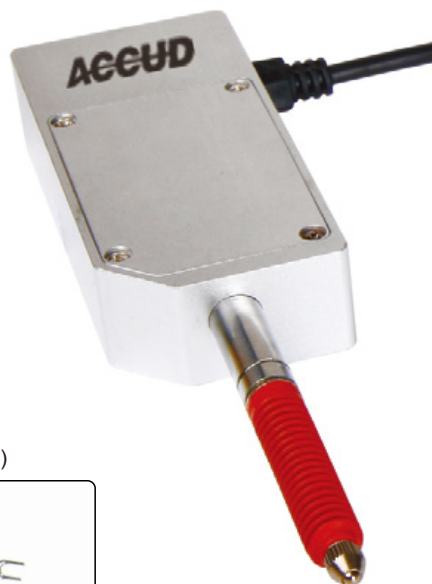
Code	Range		Graduation	Accuracy	
	Diameter	Circumference		Diameter	Circumference
955-012-11	20 - 300mm	60 - 950mm	0.1mm	$\pm 0.20\text{mm}$	$\pm 0.60\text{mm}$
955-028-11	300 - 700mm	940 - 2200mm	0.1mm	$\pm 0.20\text{mm}$	$\pm 0.60\text{mm}$
955-044-11	700 - 1100mm	2190 - 3460mm	0.1mm	$\pm 0.20\text{mm}$	$\pm 0.60\text{mm}$
955-060-11	1100 - 1500mm	3450 - 4720mm	0.1mm	$\pm 0.30\text{mm}$	$\pm 0.90\text{mm}$
955-075-11	1500 - 1900mm	4710 - 5980mm	0.1mm	$\pm 0.30\text{mm}$	$\pm 0.90\text{mm}$
955-090-11	1900 - 2300mm	5960 - 7230mm	0.1mm	$\pm 0.35\text{mm}$	$\pm 1.05\text{mm}$
955-106-11	2300 - 2700mm	7220 - 8500mm	0.1mm	$\pm 0.40\text{mm}$	$\pm 1.20\text{mm}$
955-122-11	2700 - 3100mm	8480 - 9760mm	0.1mm	$\pm 0.45\text{mm}$	$\pm 1.35\text{mm}$
955-138-11	3100 - 3500mm	9730 - 11010mm	0.1mm	$\pm 0.50\text{mm}$	$\pm 1.50\text{mm}$
955-153-11	3600 - 3900mm	11000 - 12260mm	0.1mm	$\pm 0.55\text{mm}$	$\pm 1.65\text{mm}$
955-169-11	3900 - 4300mm	12250 - 13500mm	0.1mm	$\pm 0.60\text{mm}$	$\pm 1.80\text{mm}$

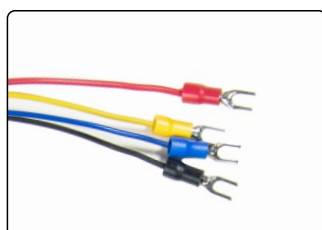
Application



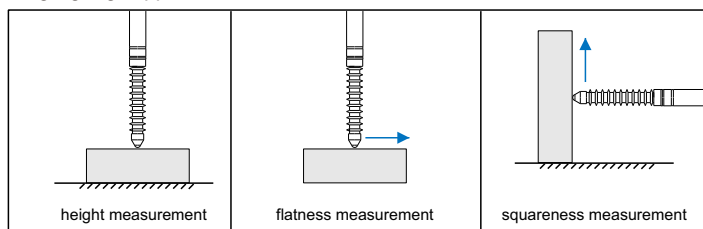
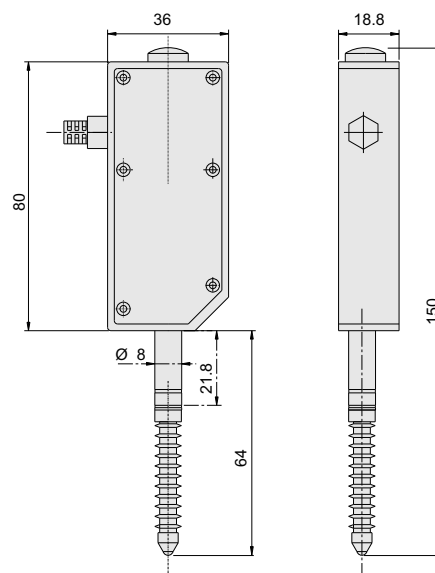
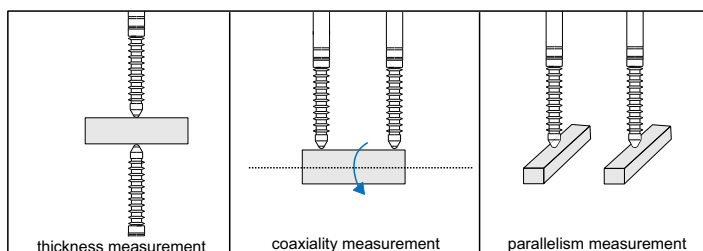


- ◆ Suitable for measuring the height, thickness, squareness, coaxiality and so on.
- ◆ IP65 protection level
- ◆ High frequency: 100 times/s, can measure high speed workpiece
- ◆ Output signal: 90° phase difference wave
- ◆ Standard cable length: 2m
- ◆ Long working life due to the special bearing


**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

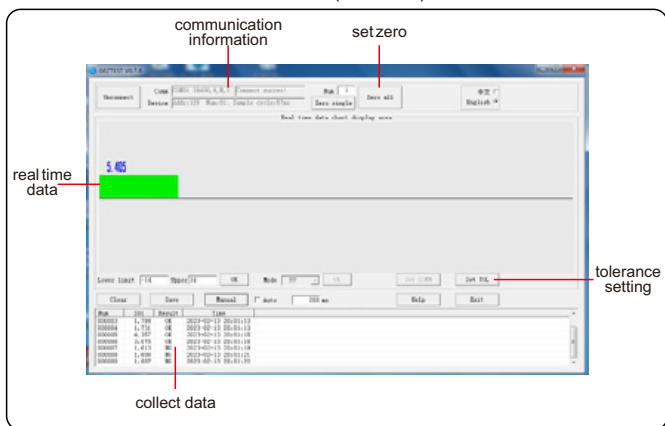
**Resolution 0.01mm**

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

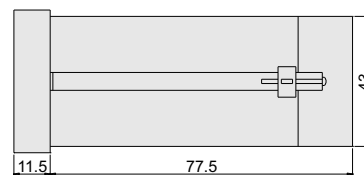
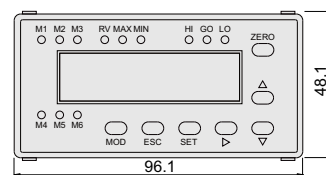
- ◆ High and low limits with judgement
- ◆ With control signal input interface
- ◆ With input/output interface
- ◆ Power: supply DC9-24V



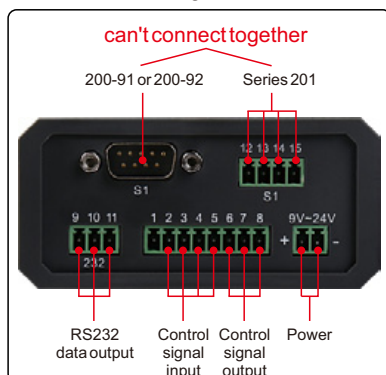
Software(included)



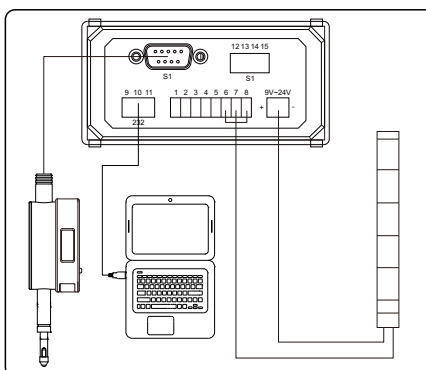
unit: mm



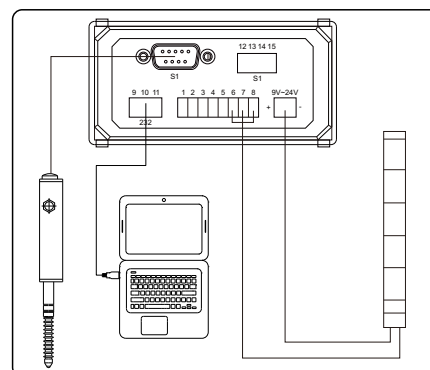
Signal



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)



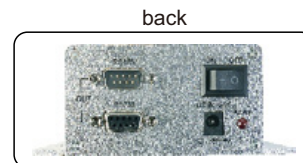
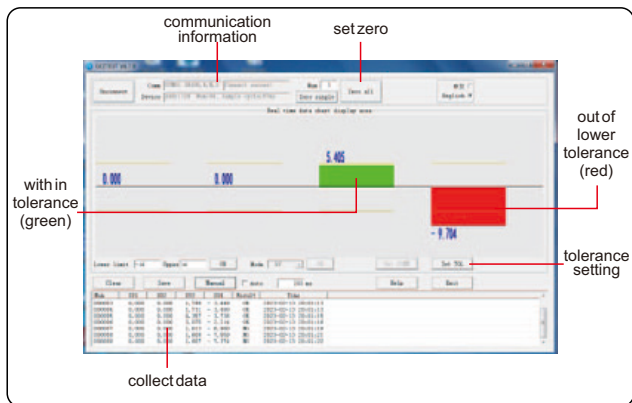
### OPTIONAL ACCESSORIES

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

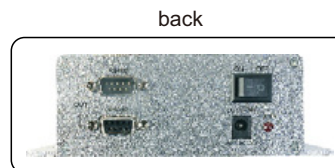
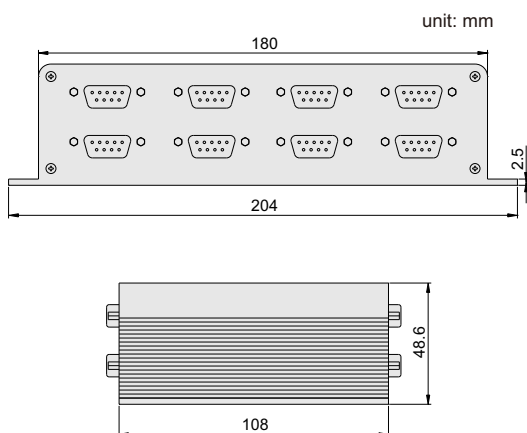
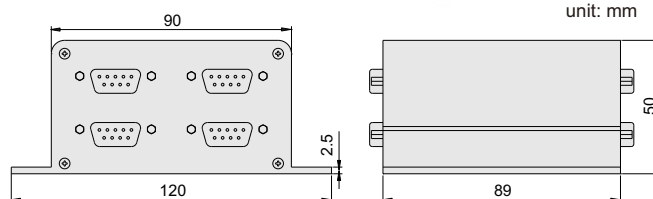


- ◆ With data recording software, can transfer the data into Excel

Software(included)

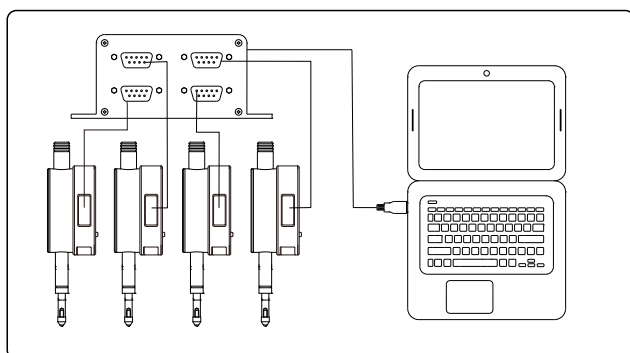


208-004-01

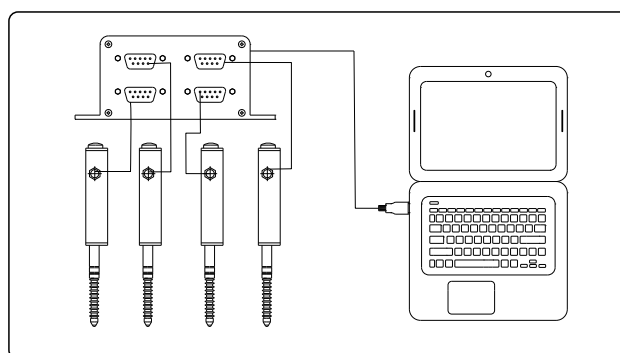


208-008-01

Connected digital indicator



Connected linear gauge



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



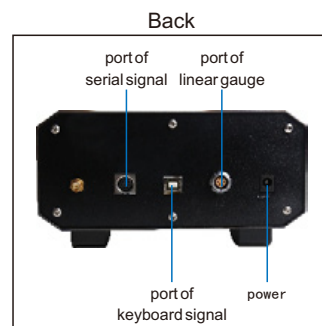
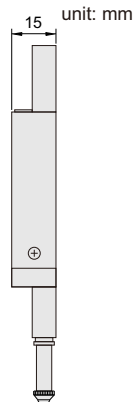
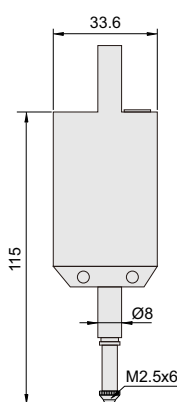
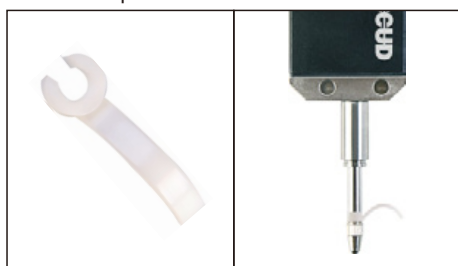
## SERIES 205

## LINEAR GAUGES AND DISPLAY UNIT



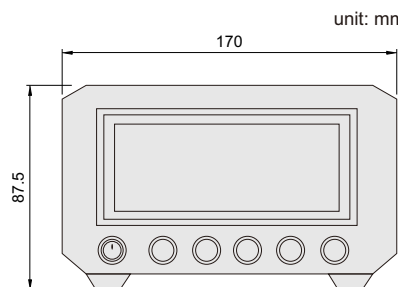
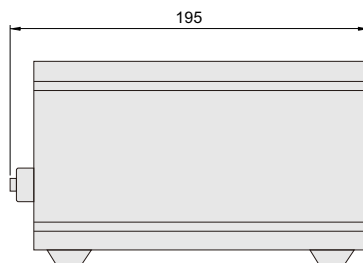
205-010-01

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

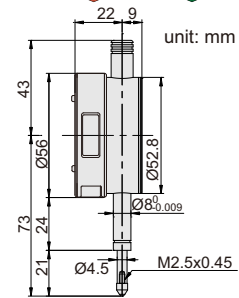
- ◆ Button: tolerance set, data preset, inch/mm conversion, measuring direction set, max./min./range measurement, absolute/incremental measurement
- ◆ Data output(cable code:200-03 or 200-04)
- ◆ Automatic power off
- ◆ Supplied with flat and lug back



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"

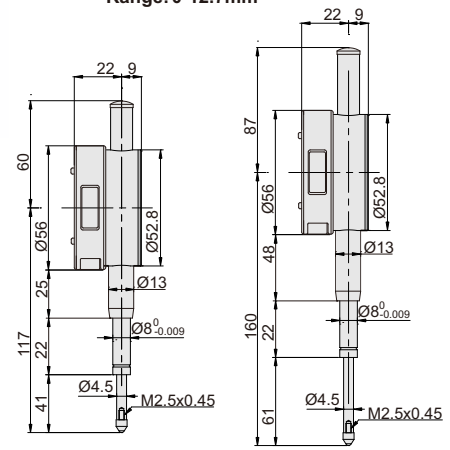
Code	Range	Accuracy	Hysteresis
210-010-13	12.7mm/0.5"	20µm	10µm
210-025-13	25.4mm/1"	20µm	10µm
210-050-13	50.8mm/2"	30µm	10µm

With manufacturer inspection certificate

Styli(optional)



Application



Range: 0-25.4mm

Range: 0-50.8mm

## SERIES 211

## DIGITAL INDICATOR

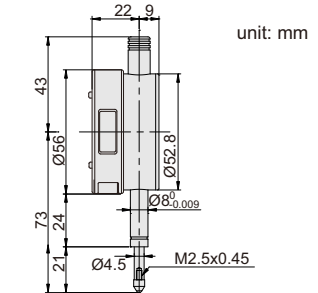
- ◆ With analog reading
- ◆ Button: tolerance set, data preset, inch/mm conversion, measuring direction set, max./min./range measurement, absolute/incremental measurement
- ◆ Data output(cable code:200-03 or 200-04)
- ◆ Automatic power off
- ◆ Supplied with flat and lug back



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"

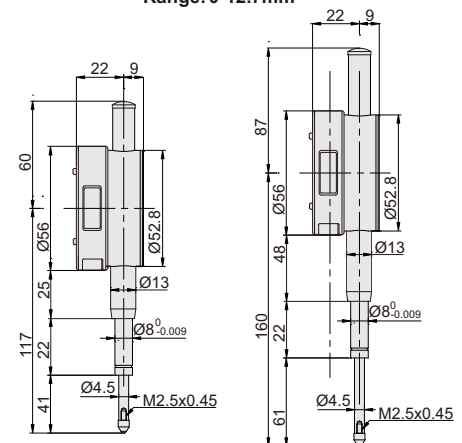
Code	Range	Accuracy	Hysteresis
211-010-13	12.7mm/0.5"	20µm	10µm
211-025-13	25.4mm/1"	20µm	10µm
211-050-13	50.8mm/2"	30µm	10µm

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



VIDEO



212-010-13



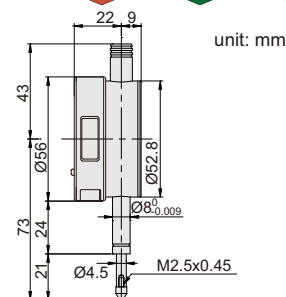
Certificate



Data output

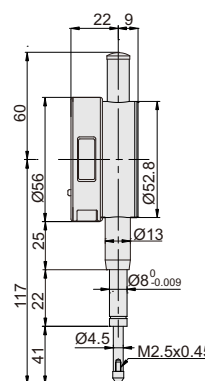


CR2032

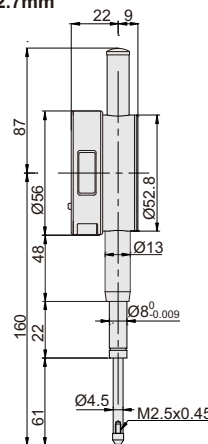


unit: mm

Range: 0-12.7mm



Range: 0-25.4mm



Range: 0-50.8mm

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)



Series 270

Application



## 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)



VIDEO



215-010-12



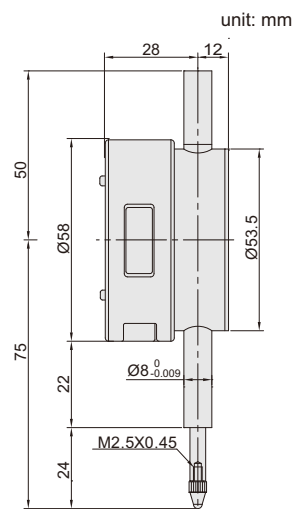
Certificate



Data output



CR2032



unit: mm

Resolution 0.001mm/0.00005"

Code	Range	Accuracy(fges)	Hysteresis(fu)	Remark
215-010-02	12.7mm/0.5"	5μm	2μm	flat back

Resolution 0.002mm/0.0001"

Code	Range	Accuracy(fges)	Hysteresis(fu)	Remark
215-010-12	12.7mm/0.5"	20μm	10μm	flat back

With manufacturer inspection certificate

Application



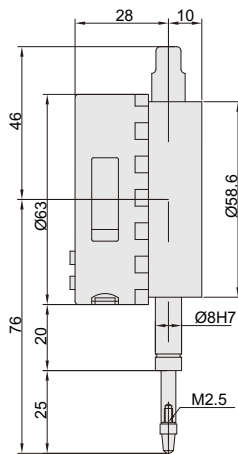
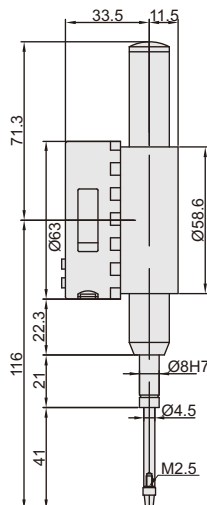
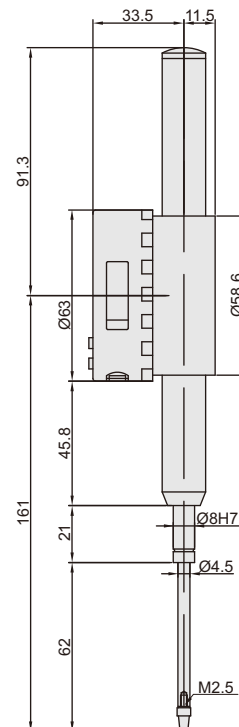
Series 251(optional)



- ◆ 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
<b>216-010-01</b>	12.7mm/0.5"	5µm	2µm
<b>216-025-01</b>	25.4mm/1"	5µm	3µm
<b>216-050-01</b>	50.8mm/2"	6µm	3µm

**Resolution 0.002mm/0.0005"**

Code	Range	Accuracy	Hysteresis
<b>216-010-11</b>	12.7mm/0.5"	20µm	10µm
<b>216-025-11</b>	25.4mm/1"	20µm	10µm
<b>216-050-11</b>	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



VIDEO



Certificate



Data output



CR2032



IP65



IP54

Styli(optional)



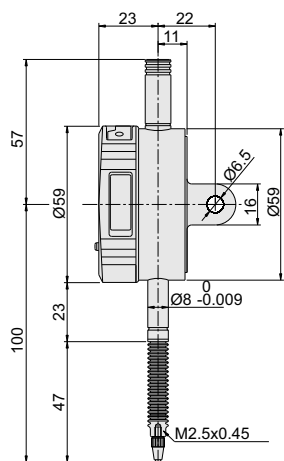
Series 270

Application

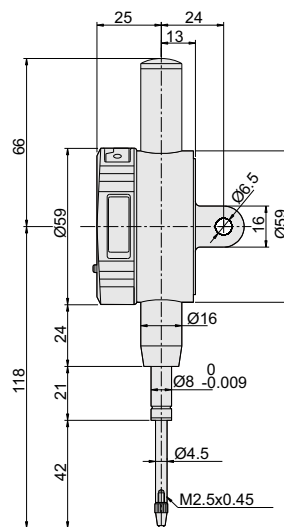


213-010-01

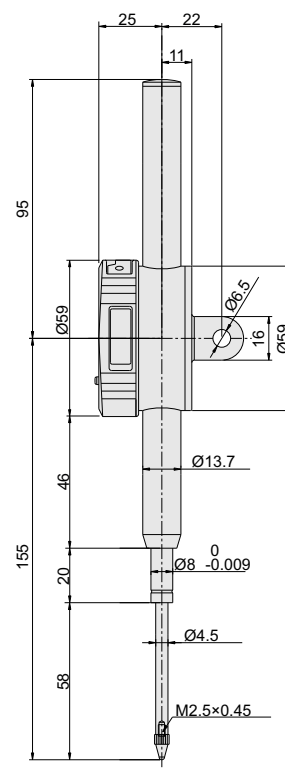
unit: mm



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

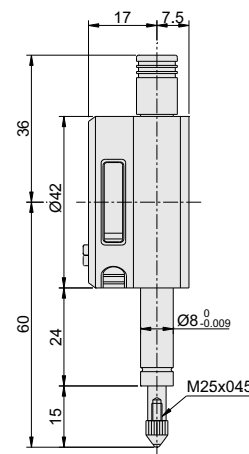


VIDEO



214-005-12

unit: mm



Styli(optional)



Series 270

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

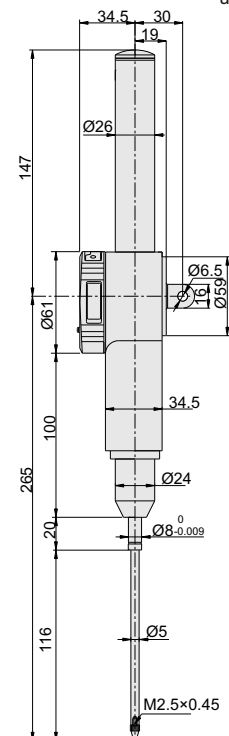


VIDEO



214-100-11

unit: mm



Styli(optional)



Series 270

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

INDICATOR



## SERIES 217

## HIGH PRECISION DIGITAL INDICATOR



- ◆ 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

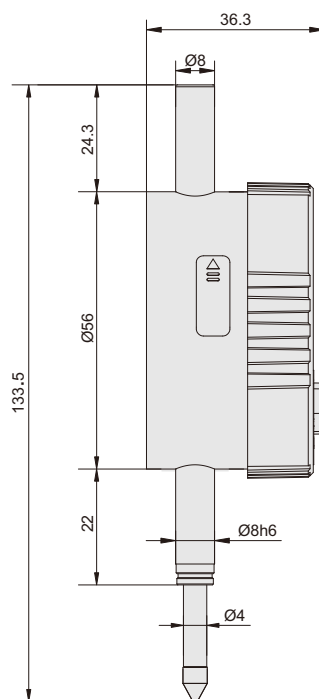
Cable (Included)



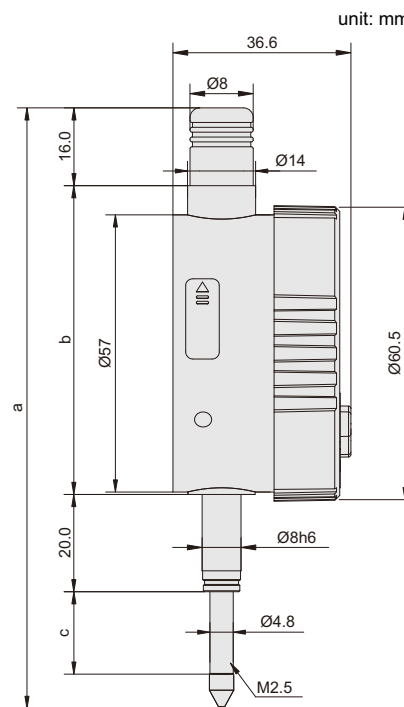
Application



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

With manufacturer inspection certificate



# Acad



- ◆ 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)



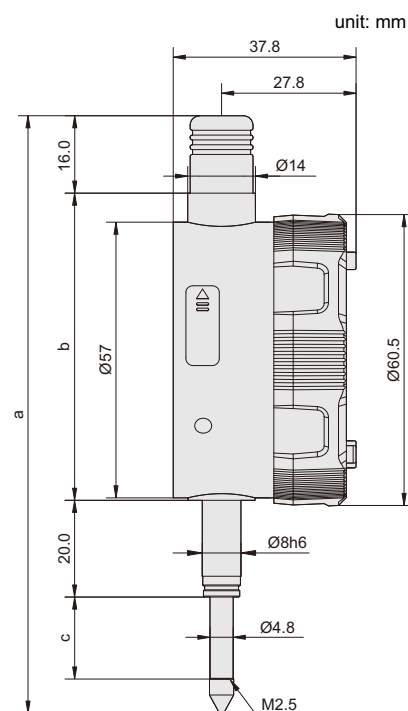
Series 270



display can be rotated by  $270^\circ$



Smart phone, Computer, Ipad



unit: mm

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

**With manufacturer inspection certificate**

## SERIES 218

## HIGH PRECISION DIGITAL INDICATOR



- ◆ 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)



VIDEO

RS232 cable (Included)



218-010-01



218-025-01

unit: mm

Lifting lever (Included)



Application



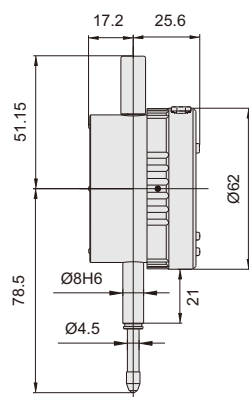
Contact points (optional)



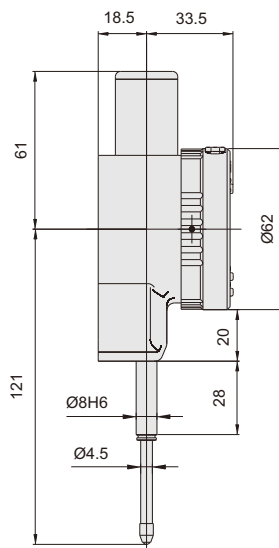
Series 270



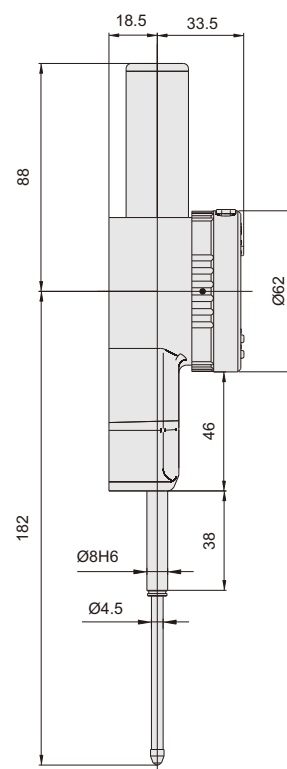
display can be rotated by 320°



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" 0.01mm/0.0005"	3μm	1.5μm	Carbide	flat
218-050-11	50.8mm/2"	0.01mm/0.0005"	3μm	1.5μm	Carbide	flat

With manufacturer inspection certificate

# SERIES 218

# WIRELESS HIGH PRECISION DIGITAL INDICATOR



ACCUD



- ◆ 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)



VIDEO

Lifting lever (Included)



218-010-01W

218-025-01W

unit: mm



display can be rotated by 320°



Blue tooth

Smart phone, Ipad

RS232 cable (Included)

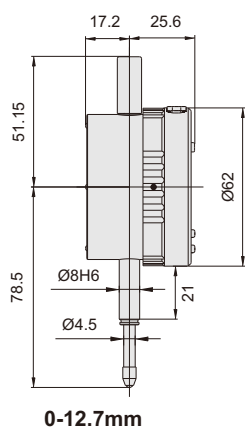


Contact points (optional)

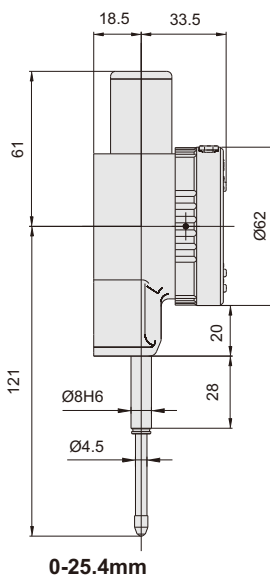


Series 270

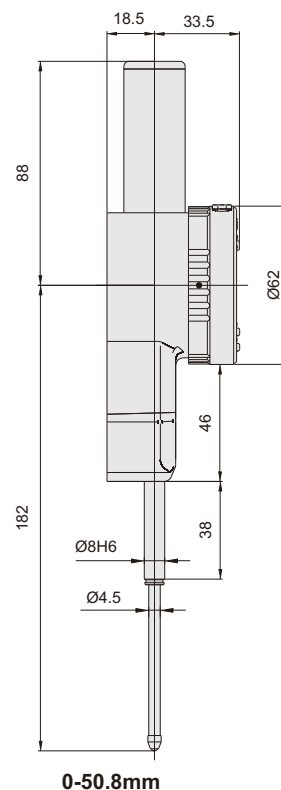
Application



0-12.7mm



0-25.4mm



0-50.8mm

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"	1.8μm	1μm	Ruby	flat
		0.01mm/0.0005"				

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"	3μm	1.5μm	Carbide	flat
218-050-11W	50.8mm/2"	0.01mm/0.0005"	3μm	1.5μm	Carbide	flat

With manufacturer inspection certificate

INDICATOR



## SERIES 227

## DIGITAL INDICATOR WITH LIFTING LEVER



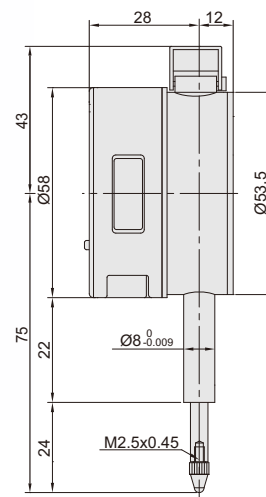
- ◆ Button: on/off, zero, inch/mm conversion, measuring direction set, data preset absolute/incremental measurement
- ◆ Data output(cable code:200-03 or 200-04)
- ◆ Automatic power off



VIDEO



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

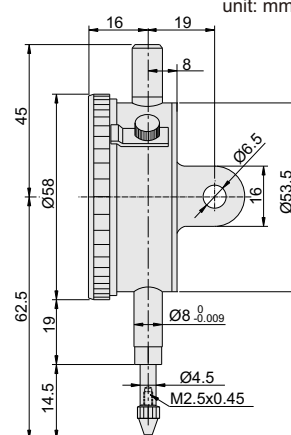
## DIAL INDICATOR



- ◆ 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

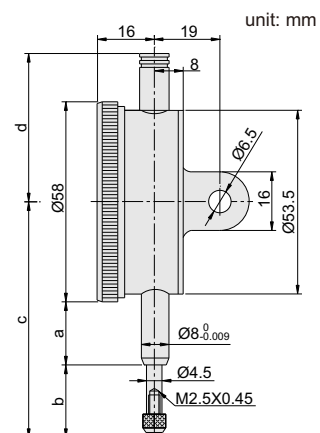
Code	Range	Back	Scale	Accuracy	Hysteresis
222-001-01	1mm	lug	0-100-0	5µm	2µm
222-001-02	1mm	flat	0-100-0	5µm	2µm

With manufacturer inspection certificate



## DIAL INDICATOR

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



## Styli(optional)

## Application



Series 270

221-001-01

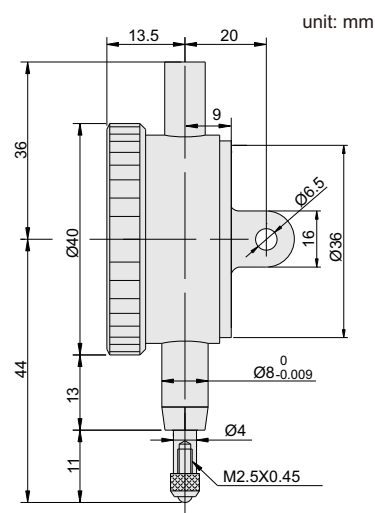
Code	Range	Scale	Accuracy	Hysteresis	a	b	c	d
221-001-01	1mm	0-200	5µm	2µm	15	19.5	62.5	45
221-003-01	3mm	0-200	10µm	4µm	10	21.5	59.5	41.5
221-005-01	5mm	0-200	10µm	4µm	10	21.5	59.5	41.5

**With manufacturer inspection certificate**

## 228

## DIAL INDICATOR

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



228-001-01



## Application

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

**With manufacturer inspection certificate**

Contact points (optional)



Series 270

## SERIES 222

## DIAL INDICATOR



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



222-010-11

Styli(**optional**)



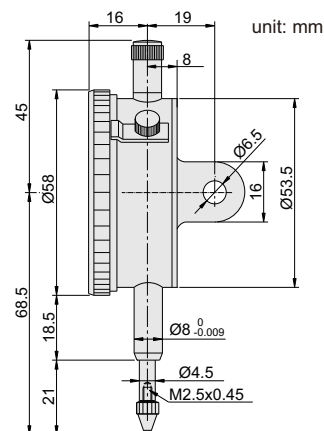
Series 270

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**)



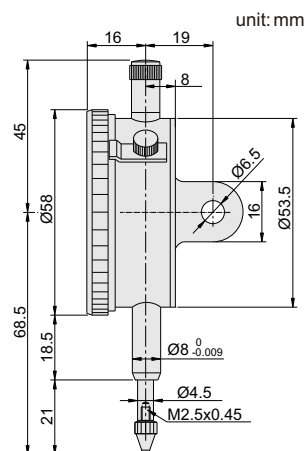
Series 270

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

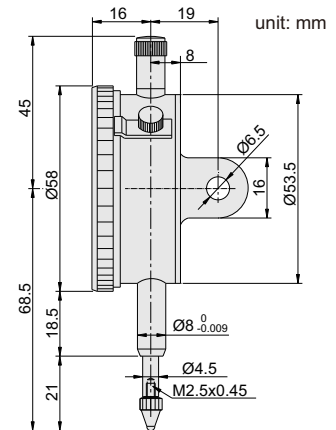
## DIAL INDICATOR



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



224-010-11



Styli(optional)



Series 270

Application



Package

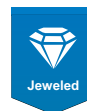


Code	Range	Back	Accuracy	Hysteresis	Scale
224-010-11	10mm	lug	17µm	3µm	0-100
224-010-12	10mm	flat	17µm	3µm	0-100

With manufacturer inspection certificate

## SERIES 226

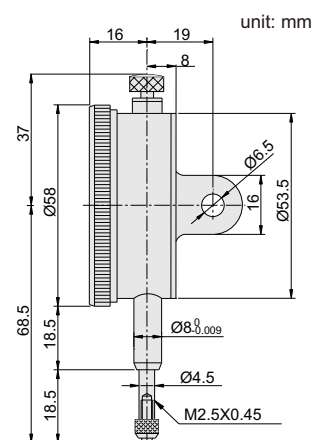
## SHOCKPROOF DIAL INDICATOR



- ◆ 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

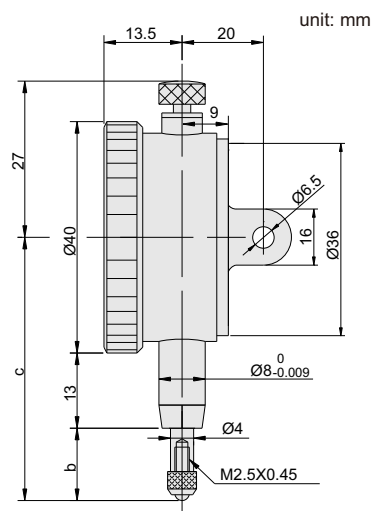
## DIAL INDICATOR



- ◆ 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

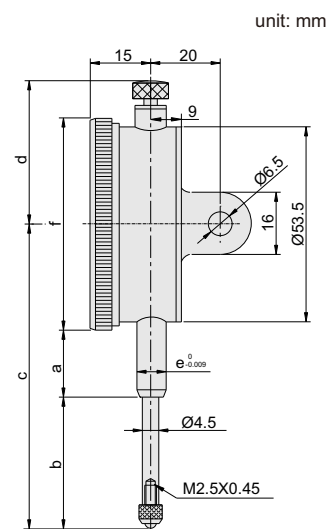
## DIAL INDICATOR



- ◆ 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



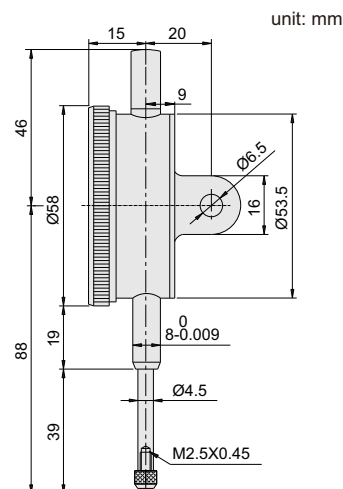
- ◆ Graduation: 0.01mm
- ◆ With limit hands
- ◆ Rang per revolution: 1mm
- ◆ Supplied with lug and flat back



Styli(**optional**)



Application



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

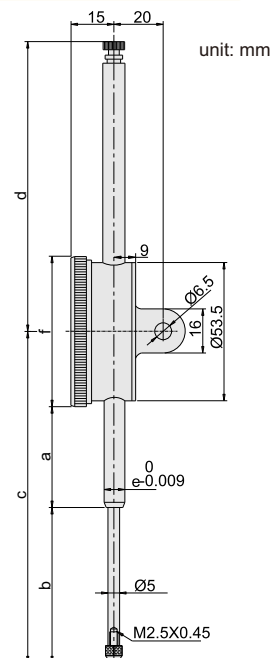
Stem clamp Ø10mm  
for 229-100-21 (included)



Styli(**optional**)



Application



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

ACCUD



INDICATOR



231

## WATERPROOF DIAL INDICATOR

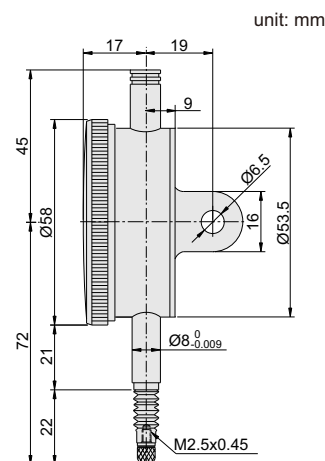


- ◆ IP54 dust/waterproof
- ◆ Graduation:0.01mm
- ◆ Jeweled bearing

Styli(optional)



Application

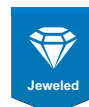


Code	Range	Accuracy(f <sub>ges</sub> )	Hysteresis(f <sub>u</sub> )	Range/rev	Dial reading
231-010-11	10mm	17µm	3µm	1mm	0-100

With manufacturer inspection certificate

231

## WATERPROOF DIAL INDICATOR

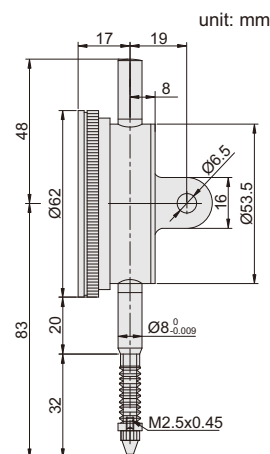


- ◆ Meet DIN878
- ◆ Graduation:0.01mm
- ◆ IP54 dust/waterproof
- ◆ Jeweled bearing
- ◆ Supplied with lug and flat back

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)

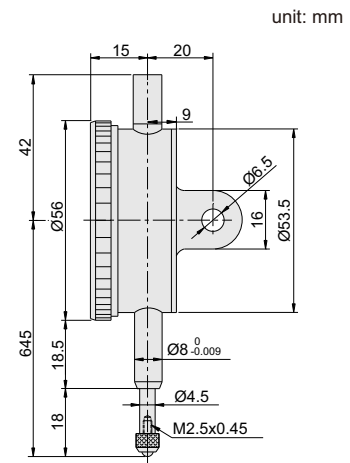


Series 270

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



front side

reverse side

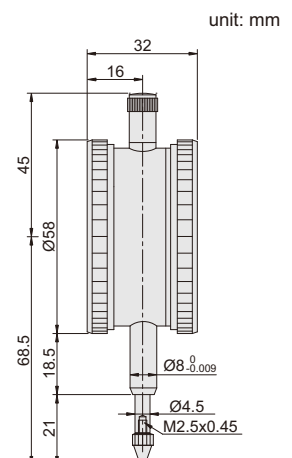
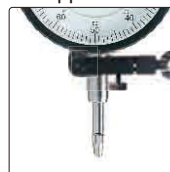
- ◆ Meet DIN878
- ◆ Read from both sides
- ◆ Jeweled bearing
- ◆ Supplied with limit pointers

Styli (optional)



Series 270

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)

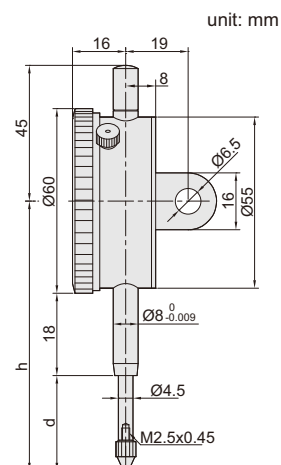


Series 270

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
230-025-11	25mm	0.1mm	60µm	20µm	10mm	0-10mm	lug back	85	35
230-030-11	30mm	0.1mm	60µm	20µm	10mm	0-10mm	lug back	90	40

## 291

## REVERSE DIAL INDICATOR



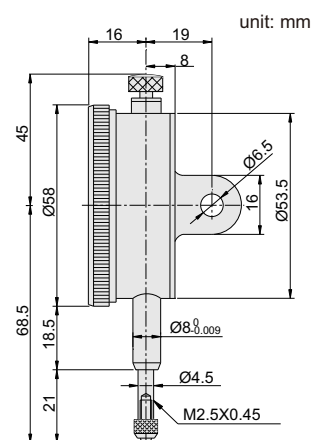
- ◆ Shockproof
- ◆ Graduation: 0.01mm
- ◆ Reverse reading
- ◆ With limit hands
- ◆ Jeweled bearing
- ◆ Rang per revolution: 1mm
- ◆ Supplied with lug and flat back

Styli(optional)



Series 270

Application



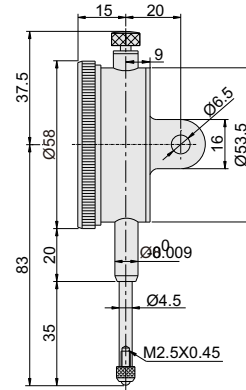
Code	Range	Accuracy	Hysteresis	Scale
291-010-I	10mm	17µm	3µm	0-100

## REVERSE DIAL INDICATOR

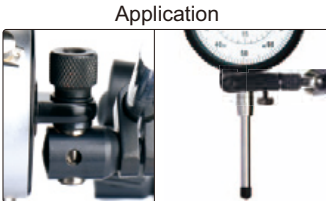
- ◆ Graduation: 0.01mm
- ◆ Reverse reading
- ◆ With limit hands
- ◆ Rang per revolution: 1mm
- ◆ Supplied with lug and flat back



unit: mm



## Styli(optional)



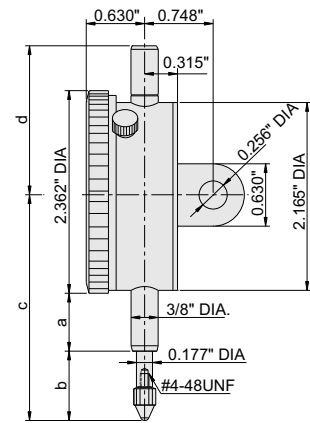
Code	Range	Accuracy	Hysteresis	Scale
<b>292-030-I</b>	30mm	35µm	7µm	0-100

**SERIES 225**

## INCH DIAL INDICATOR



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



**Graduation 0.001"**

**225-025-11**

Code	Range	Dial reading	Range/rev	Accuracy		a	b	c	d
				First 2.5rew	Overall				
225-006-11	0.25"	0-100	0.1"	±0.001"	±0.001"	0.787"	0.984"	2.953"	1.811"
225-012-11	0.5"	0-100	0.1"	±0.001"	±0.002"	0.787"	0.984"	2.953"	1.811"
225-025-11	1"	0-100	0.1"	±0.001"	±0.002"	0.787"	1.378"	3.346"	1.811"
225-050-11	2"	0-100	0.1"	±0.001"	±0.004"	1.969"	2.323"	5.472"	4.370"

**Graduation 0.0005"**

Code	Range	Dial reading	Range/rev	Accuracy		a	b	c	d
				First 2.5 rew	Overall				
225-006-05	0.25"	0-50	0.05"	±0.0005"	±0.0015"	0.787"	0.984"	2.953"	1.811"
225-012-05	0.5"	0-50	0.05"	±0.0005"	±0.0015"	0.787"	0.984"	2.953"	1.811"
225-025-05	1"	0-50	0.05"	±0.0005"	±0.002"	0.787"	1.378"	3.346"	1.811"
225-050-05	2"	0-50	0.05"	±0.0005"	±0.002"	1.969"	2.323"	5.472"	4.370"

**With manufacturer inspection certificate**

## SERIES 261

## DIAL TEST INDICATOR

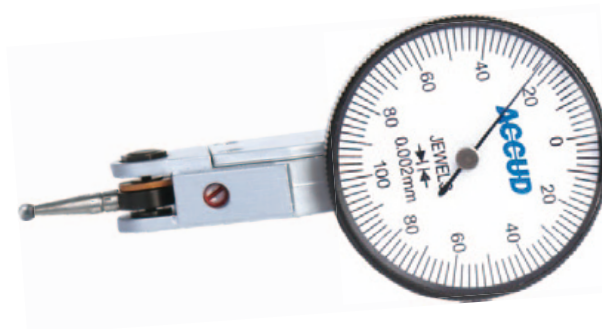
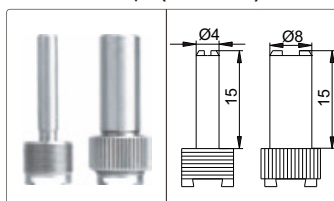


- ◆ Jeweled bearing
- ◆ Double scale spacing
- ◆ Anti-magnetic copper body
- ◆ With two clamps: Ø4mm and Ø8mm

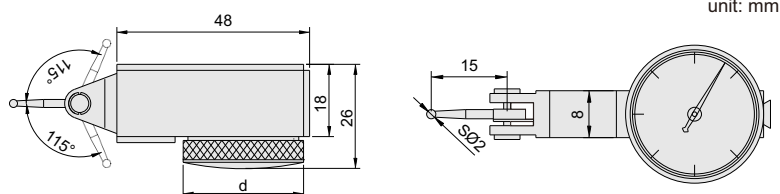
Application



Clamps (included)



261-002-01



Code	Range	Bezel(d)	Graduation	Styli	Accuracy	Hysteresis	Scale	L
261-002-01	0.2mm	Ø30mm	0.002mm	carbide	6µm	2µm	0-100-0	15
261-002-02	0.2mm	Ø37.5mm	0.002mm	carbide	6µm	2µm	0-100-0	17

With manufacturer inspection certificate

## SERIES 261

## DIAL TEST INDICATOR

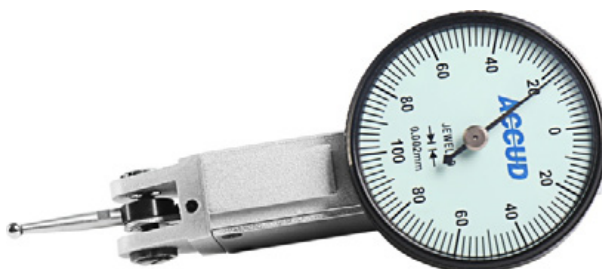
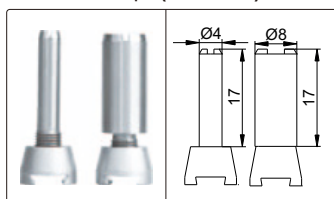


- ◆ Economic type
- ◆ Jeweled bearing
- ◆ Double scale spacing
- ◆ Anti-magnetic copper body
- ◆ With two clamps: Ø4mm and Ø8mm

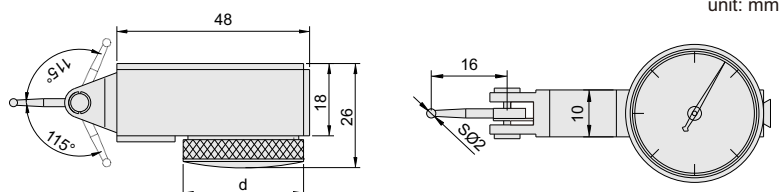
Application



Clamps (included)



261-002-61P



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

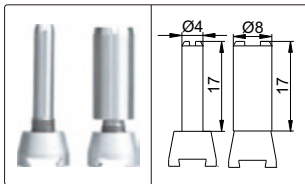


- ◆ Jeweled bearing
- ◆ Double scale spacing
- ◆ Anti-magnetic copper body
- ◆ With two clamps: Ø4mm and Ø8mm

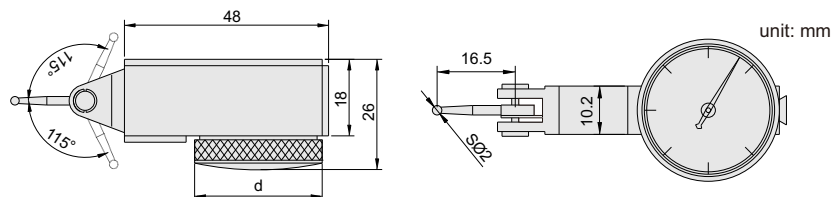
Application



Clamps (included)



261-008-12



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

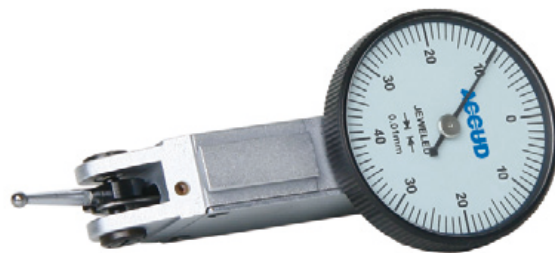
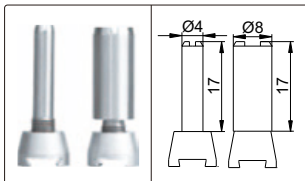


- ◆ Economic type
- ◆ Jeweled bearing
- ◆ Double scale spacing
- ◆ Anti-magnetic copper body
- ◆ With two clamps: Ø4mm and Ø8mm

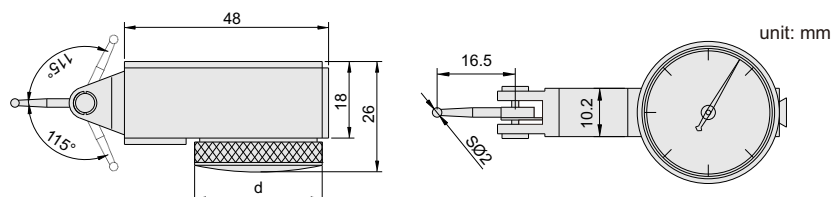
Application



Clamps (included)



261-008-62P



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

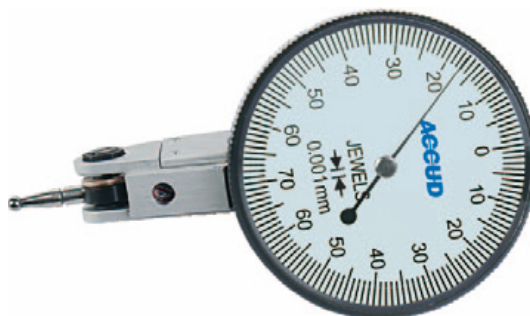


261

## PRECISION DIAL TEST INDICATOR

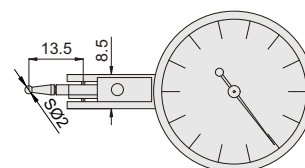
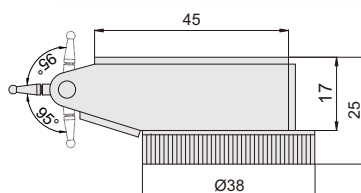
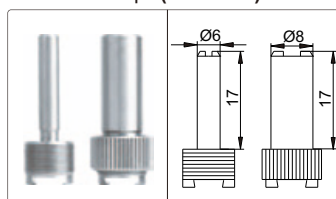


- ◆ Meet DIN2270
- ◆ Jeweled bearing
- ◆ Double scale spacing
- ◆ With two clamps: Ø6mm and Ø8mm



unit: mm

Clamps (included)



Application



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

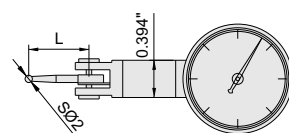
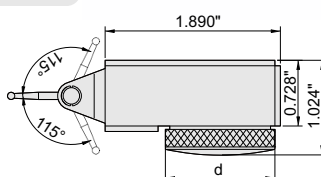
## DIAL TEST INDICATOR



- ◆ 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"
261-030-12	0.03"	±0.001"	0-15-0	1.457"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"
261-080-02	0.008"	±0.0001"	0-40-0	1.457"DIA	0.563"

Graduation 0.0005"

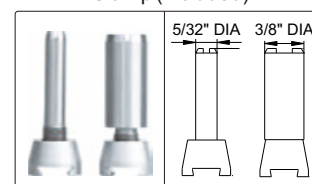
Code	Range	Accuracy	Dial reading	d	L
261-030-51	0.03"	±0.0005"	0-15-0	1.181"DIA	0.50"
261-030-52	0.03"	±0.0005"	0-15-0	1.457"DIA	0.50"

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

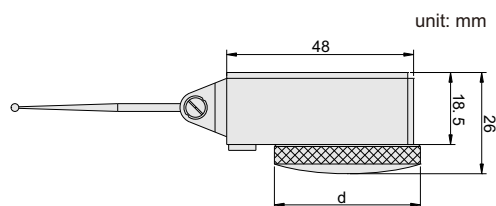
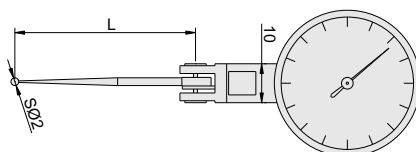
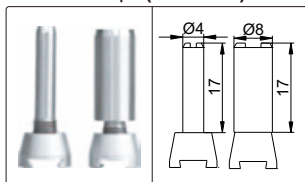


263-008-11L

Application



Clamps (included)



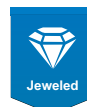
unit: mm

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

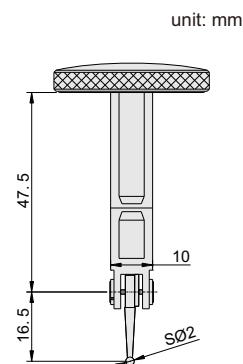
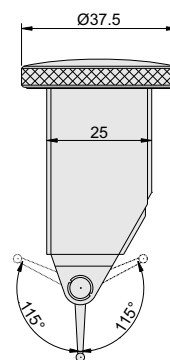
## BACK PLUNGER TYPE DIAL TEST INDICATOR



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

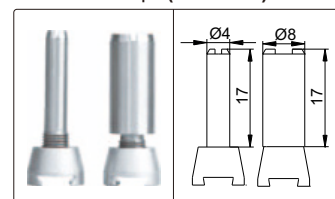


Application



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

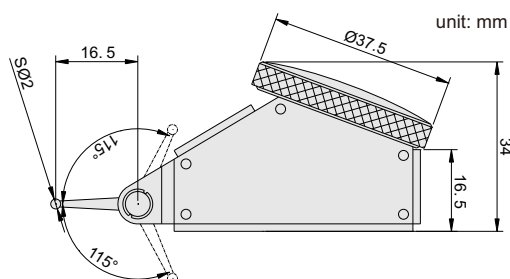
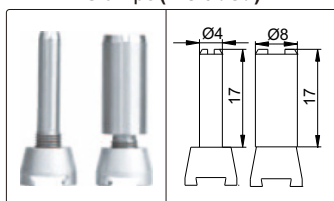
## DIAL TEST INDICATOR



- ◆ 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(fges)	Hysteresis	Dial Reading
265-008-11	0.8mm	0.01mm	13µm	3µm	0-40-0

With manufacturer inspection certificate

266

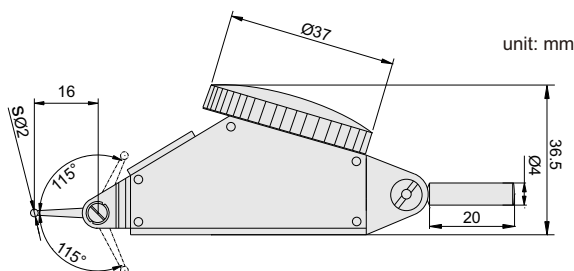
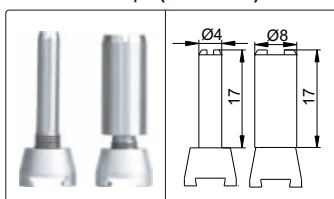
## LARGE RANGE DIAL TEST INDICATOR



- ◆ 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



260-002-02



260-010-01

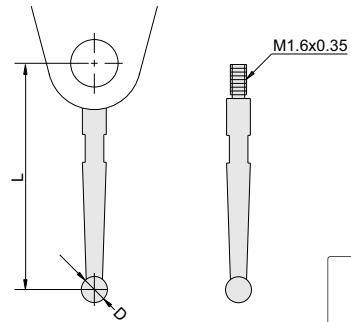
(For 261-008-11 and 261-008-12)



260-009-01

(For 261-002-01 and 261-002-02)

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	carbide	SØ2	16.5
260-003-02	266-016-11	carbide	SØ3	16.5
260-010-01	264-008-11	carbide	SØ3	16.5
260-010-01	265-008-11	ruby	SØ2	16.5
260-009-01	261-002-01	ruby	SØ2	15
260-009-02	261-002-02	ruby	SØ2	17
260-010-02	263-008-11	carbide	SØ2	30.5
260-010-03	263-008-11L	ruby	SØ2	46.4

Package



## SERIES 267

## HOLDER FOR INDICATOR

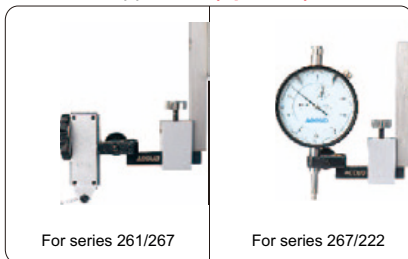
- ◆ Use as holder for dial/digital indicators, dial test indicators and height gages



267-100-01

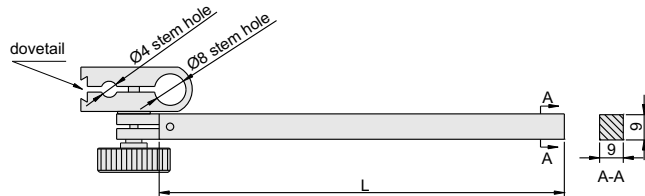
unit: mm

Application(optional)

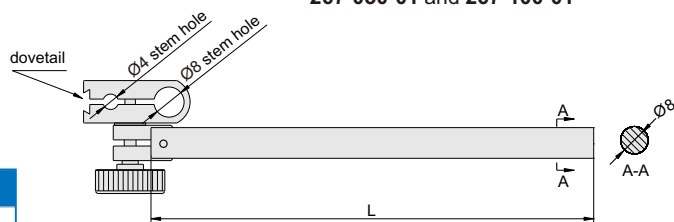


For series 261/267

For series 267/222



267-050-01 and 267-100-01



267-115-02

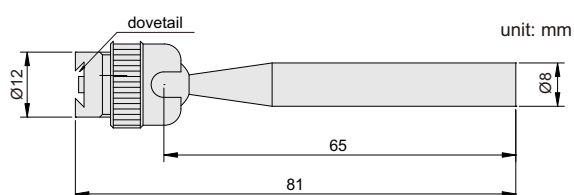
Code	Section size	Size(L)
267-050-01	9x9mm	50mm
267-100-01	9x9mm	100mm
267-115-02	Ø8mm	115mm

268

## UNIVERSAL HOLDER FOR DIAL TEST INDICATOR

- ◆ Universal head

Application



Package



Code

268-055-01

Section size

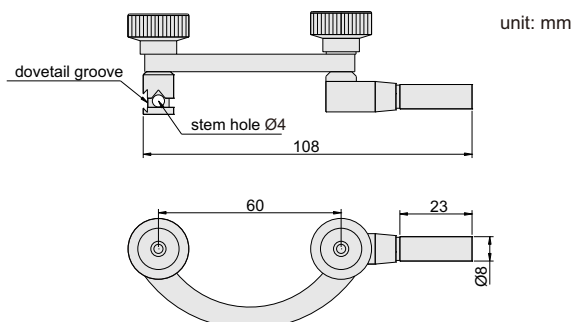
Ø8mm

269

## DIAL TEST INDICATOR CENTERING HOLDER

- ◆ Center cylinders or holes on a machine tool

Application



Code

269-060-01





## SERIES 270

## CONTACT POINTS

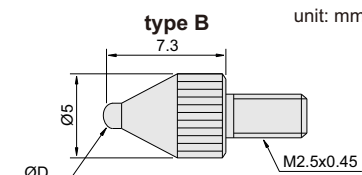
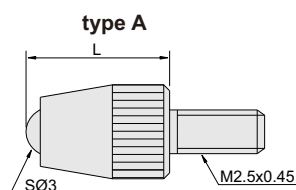
### Ball Point

#### type A

Code	Material	L
270-001-01	carbide	7.3
270-001-02	ceramic	7.3
270-001-03	carbide	8.3
270-001-91	ruby	8.5
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



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

#### Package

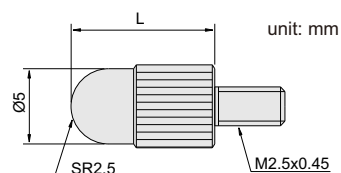


### Shell Type Point



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

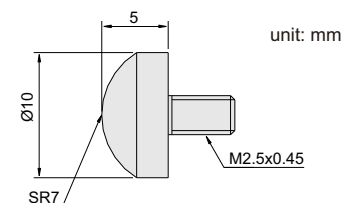


unit: mm

#### Package



### Spherical Point



unit: mm

Code	Material
270-003-01	steel

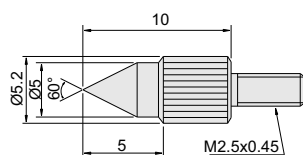




### Conical Point

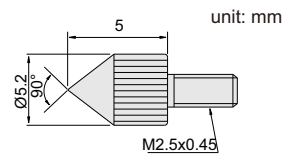


Package



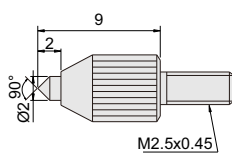
**270-004-01**

**270-004-02**

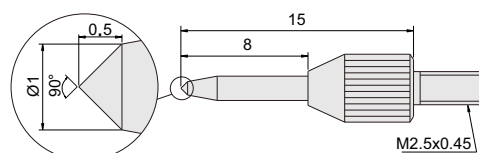


**270-004-02**

unit: mm



**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



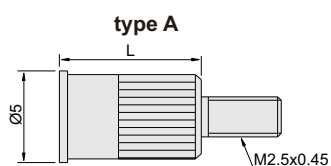
**270-005-12**



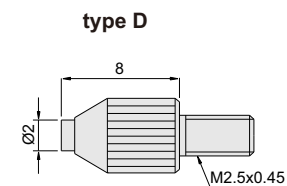
**270-010-16**

#### 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

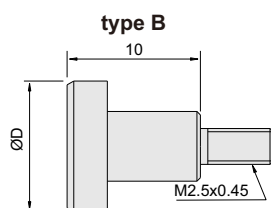


unit: mm



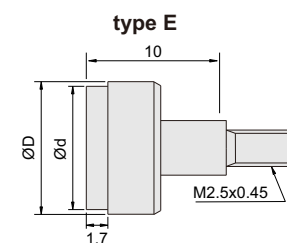
#### type C

Code	Material	ØD
270-010-16	ceramic	10



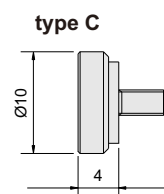
#### type D

Code	Material
270-005-21	carbide



#### type E

Code	Material	Ød	ØD
270-010-01	steel	6.5	7
270-010-02	steel	9.5	10.5



### 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

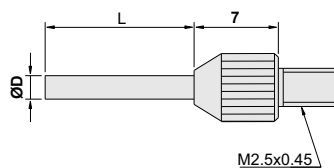
### Needle Point



270-006-16

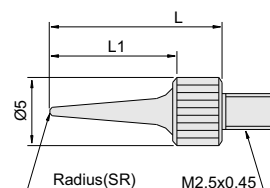
270-006-22

### type A



### type B

unit: mm



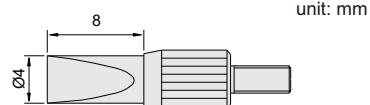
### type B

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

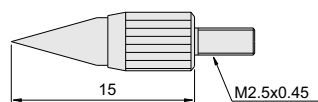
### Package



### Knife Edge Point



unit: mm



### Package

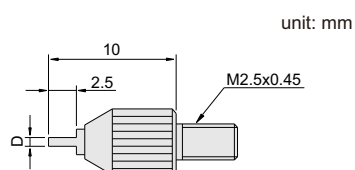


Code	Material
270-007-01	steel

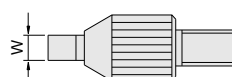
### Blade Point



270-008-03



unit: mm



### Package



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

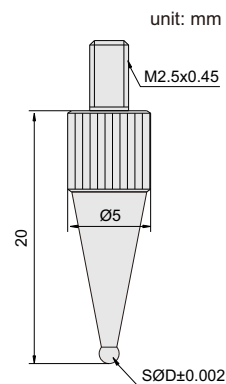
## CONTACT POINTS

### 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



Package



## SERIES 270

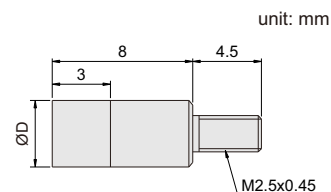
## CONTACT POINTS

### Flat Point



270-020-05

Package



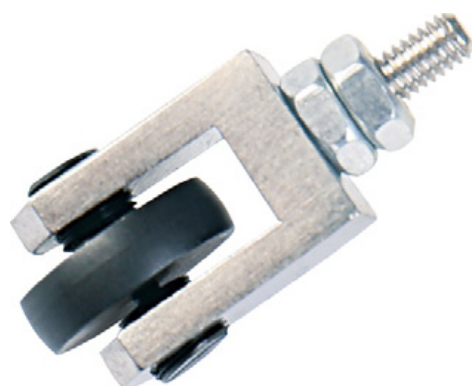
Code	Material of measuring face	ØD
270-020-04	carbide	4
270-020-05	carbide	5
270-020-06	carbide	6
270-020-08	carbide	8
270-020-10	carbide	10



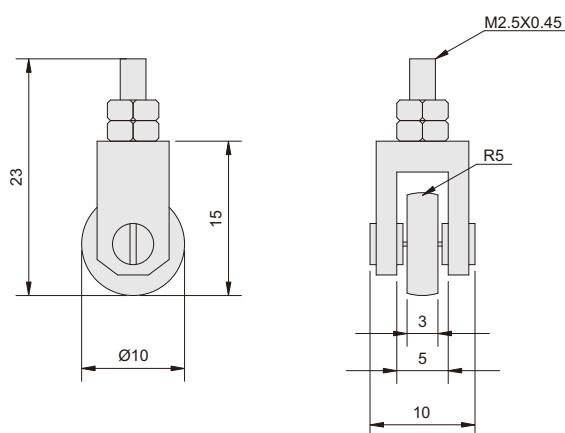


270

## ROLLER POINT



unit: mm



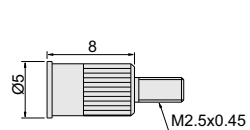
Code	Material of measuring face
270-009-01	steel

270

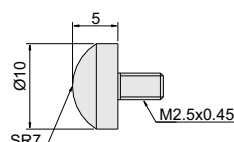
## POINT SET



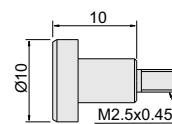
unit: mm



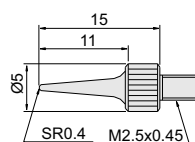
Flat Point



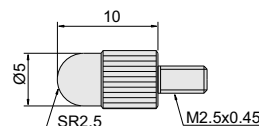
Spherical Point



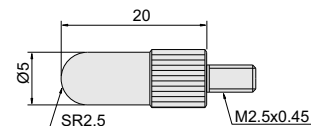
Flat Point



Needle Point



Shell Type Point



Shell Type Point

Code	Material of measuring face
270-100-06	steel



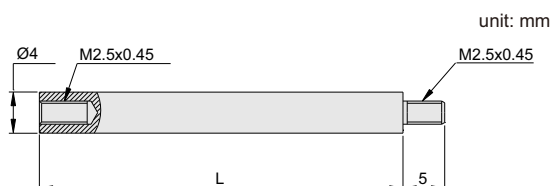
## SERIES 270

## EXTENSION ROD FOR CONTACT POINTS

Package



270-000-15



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

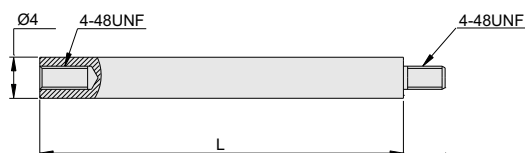
## SERIES 270

## EXTENSION ROD FOR CONTACT POINTS

- ◆ For series 225 Inch indicator



270-000-04I



Package



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

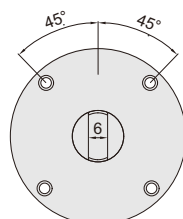


## SERIES 272

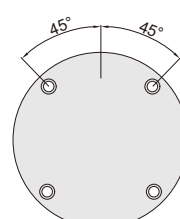
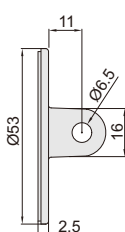
## LUG AND FLAT BACK



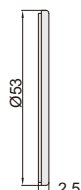
272-000-01



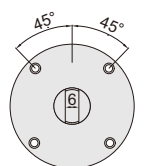
272-000-01



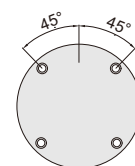
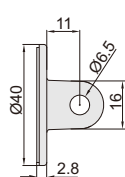
272-000-02



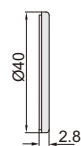
unit: mm



272-000-03



272-000-04



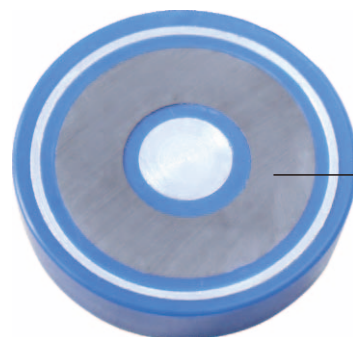
Code	Type	Material
272-000-01	lug	metal
272-000-02	flat	plastic
272-000-03	lug	metal
272-000-04	flat	plastic

## 272

## MAGNETIC BACK



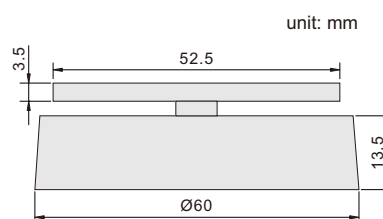
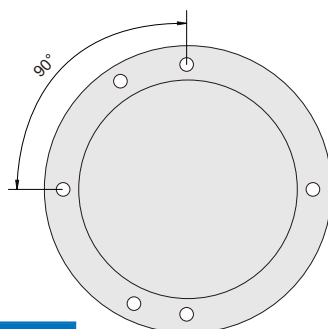
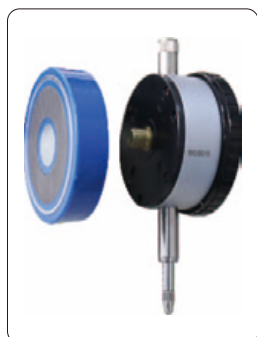
front



back

magnet

Application

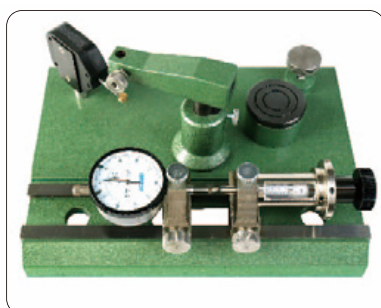
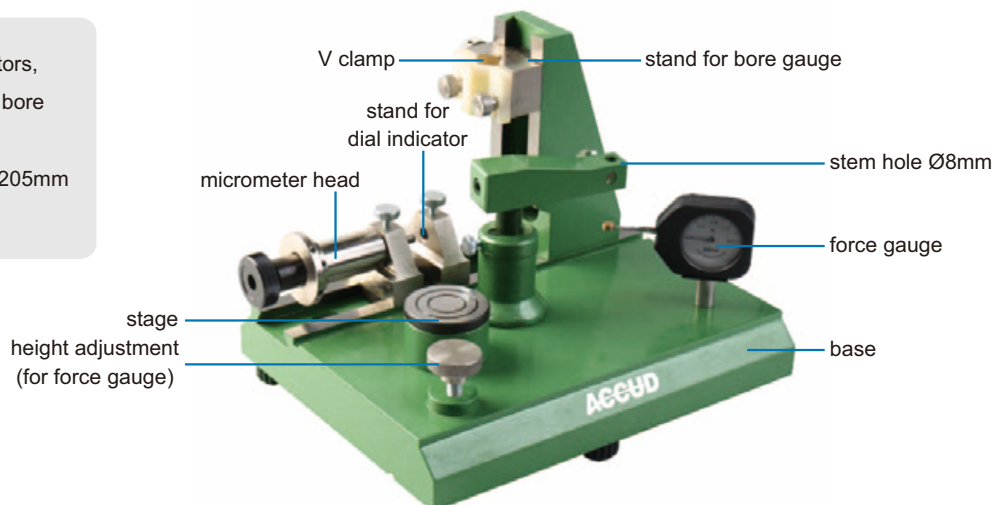


unit: mm

Code	For digital/dial indicators
272-020-11	series 222, 212



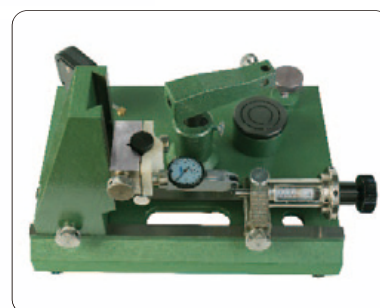
- ◆ To calibrate dial indicators, test indicators and dial bore gauges
- ◆ Dimension: 270x210x205mm
- ◆ Weight: 11kg



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



half round gauge block  
(included)

#### Code

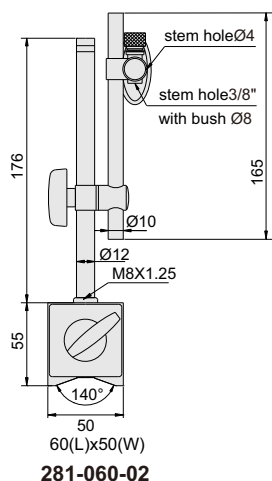
499-025-01

## SERIES 281

## MAGNETIC STAND

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

### Application

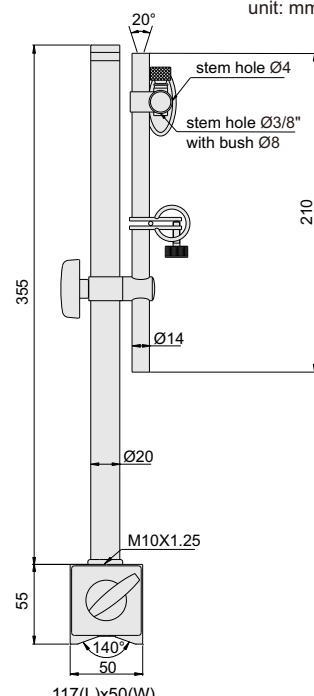
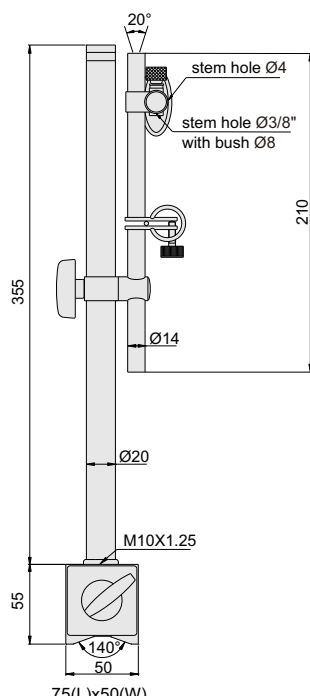
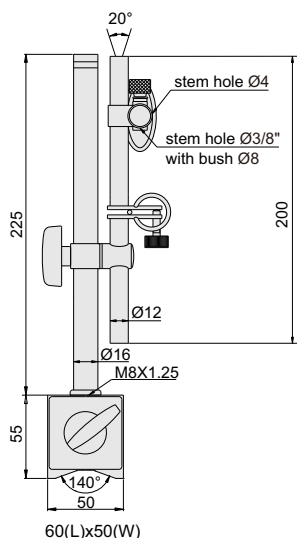
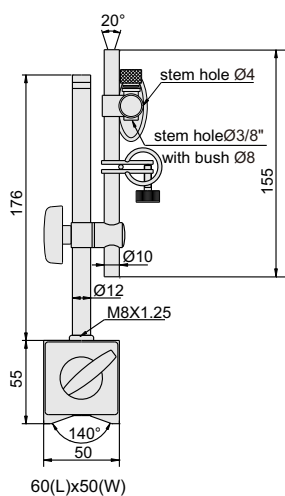


281-060-02



281-060-01

unit: mm



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

## SERIES 282

## UNIVERSAL MAGNETIC STAND

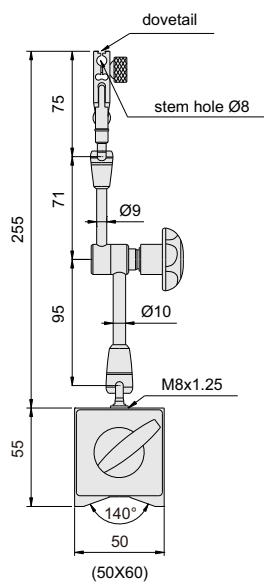
- ◆ For dial/digital indicators and dial test indicators
- ◆ Stem hole: Ø8mm
- ◆ With find adjustment and dovetail
- ◆ V-block base

Application

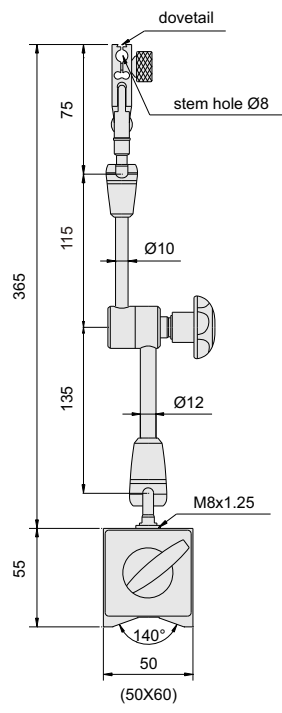


282-080-01

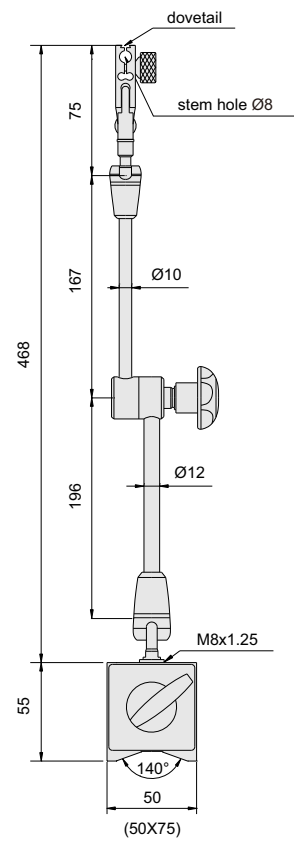
unit: mm



282-080-01



282-080-02



282-100-01

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

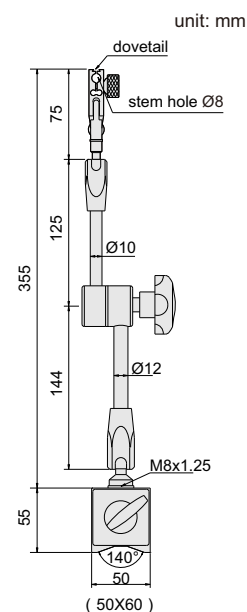


283

## 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

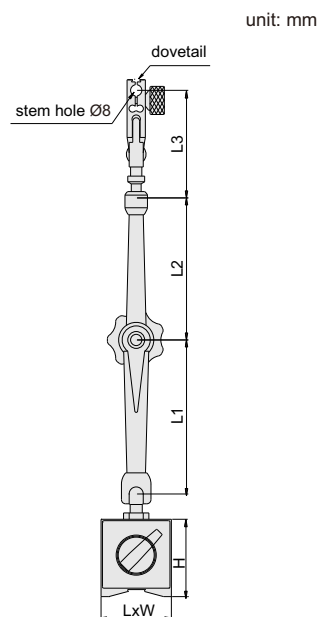
## UNIVERSAL MAGNETIC STAND

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

Application



279-080-01



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

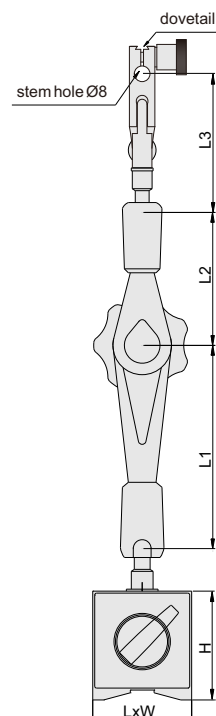
## HYDRAULIC UNIVERSAL MAGNETIC STAND

- ◆ 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

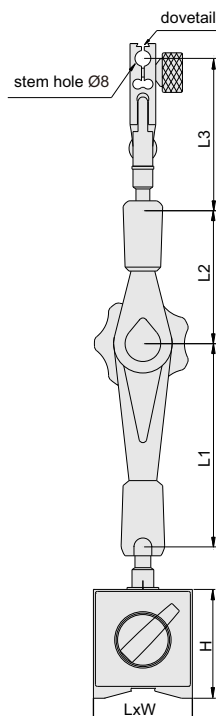
## UNIVERSAL MAGNETIC STAND

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

Application



278-080-01



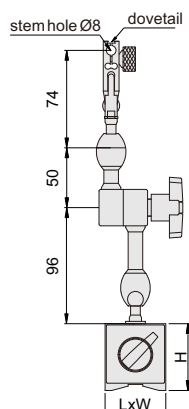
unit: mm

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

## SERIES 276

## LARGE LOCKING FORCE MAGNETIC STAND

◆ For digital/dial indicators and dial test indicators



276-050-01

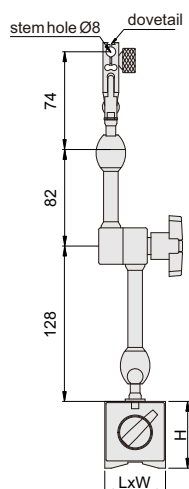


276-050-01

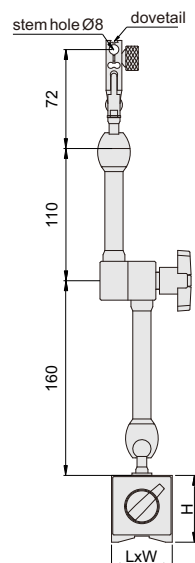


276-100-01

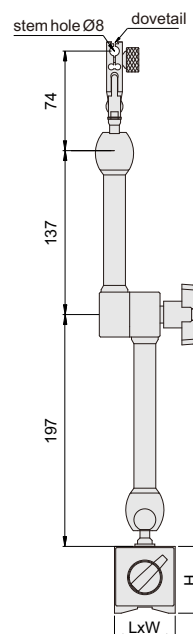
unit: mm



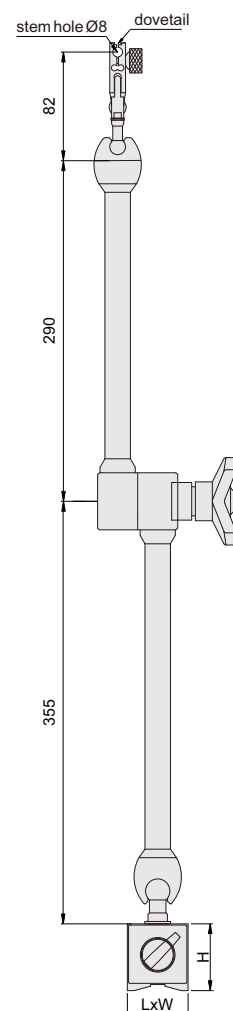
276-080-01



276-080-02



276-100-01



276-130-01

Code	Magnetic force	Base (LxWxH)
276-050-01	50kgf	40x40x40
276-080-01	80kgf	60x50x55
276-080-02	80kgf	60x50x55
276-100-01	100kgf	73x50x55
276-130-01	130kgf	117x50x55

Application



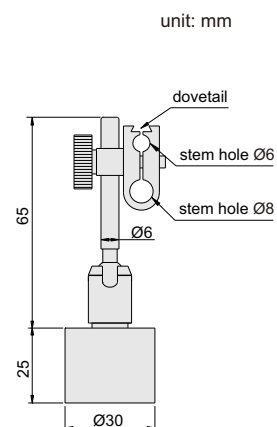


288

## MINI MAGNETIC STAND

- ◆ For dial test indicators

Application



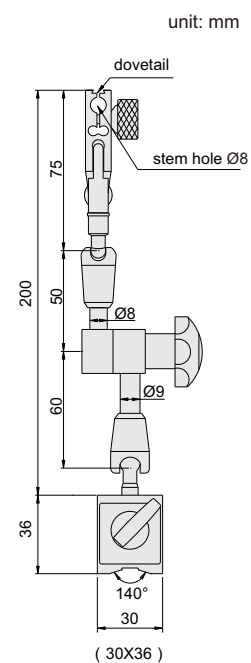
Code	Magnetic force	Stem hole
288-010-01	10kgf	Ø8mm, Ø6mm

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

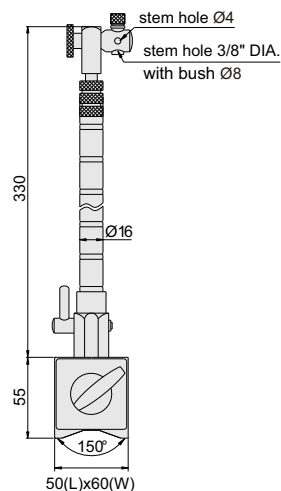
## FLEX ARM MAGNETIC STAND

- ◆ For dial test indicators

Application



unit: mm



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

284

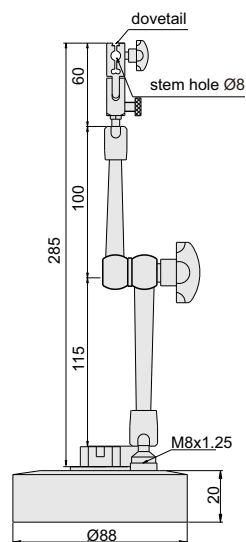
## VACUUM STAND

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

Application



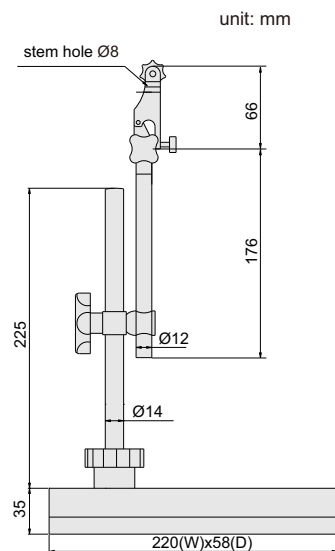
unit: mm



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

- ◆ For dial/digital indicators and dial test indicators

Application



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

## SERIES 289

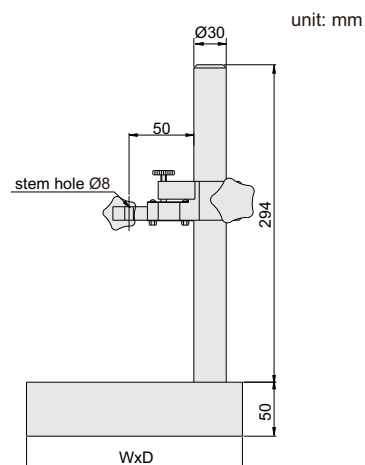
## INDICATOR STAND WITH GRANITE BASE

- ◆ 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

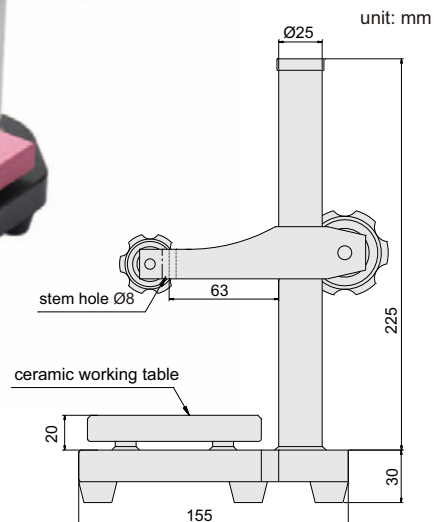


290-080-01

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: ±1.5mm
- ◆ Working table surface hardness is 60±2HRC

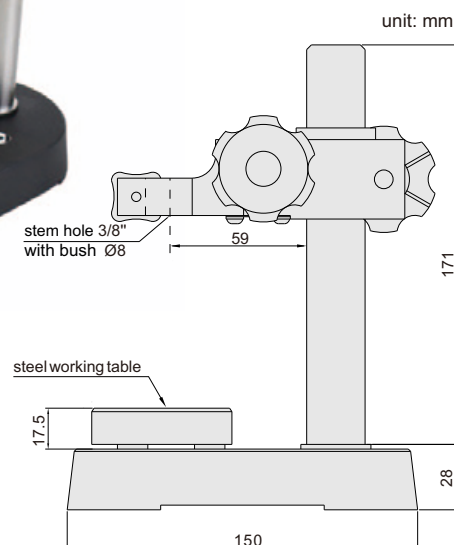


294-080-12

294-060-11

Code	Working table flatness	Working table size
294-060-11	1.5µm	Ø60mm

Code	Working table flatness	Working table size
294-080-12	1.5µm	80x80mm

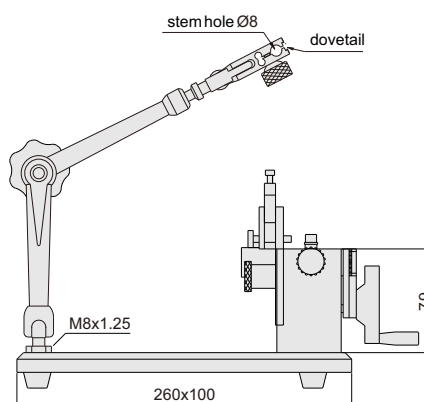
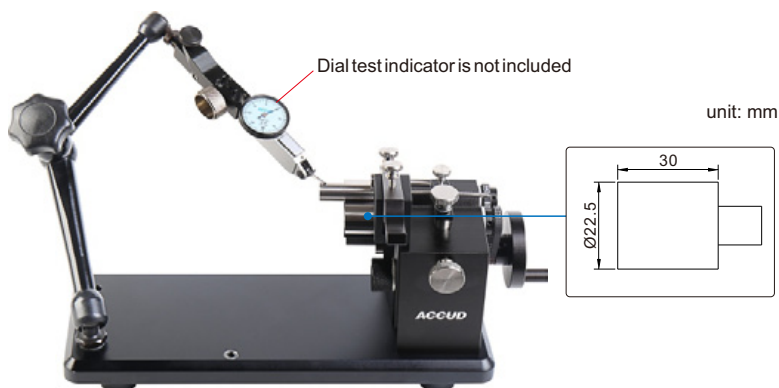




660

## CONCENTRICITY GAUGE

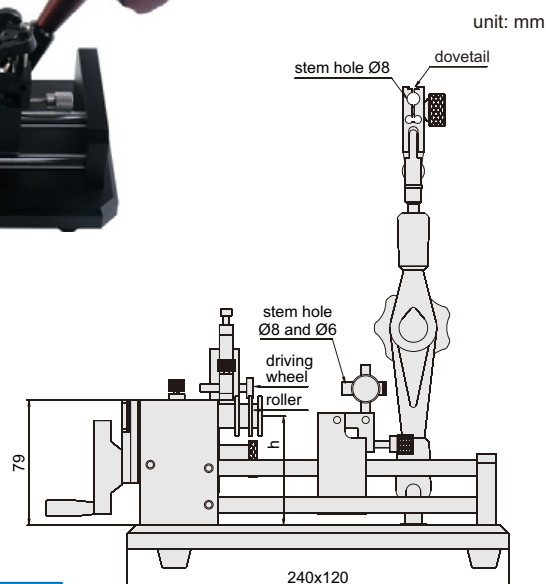
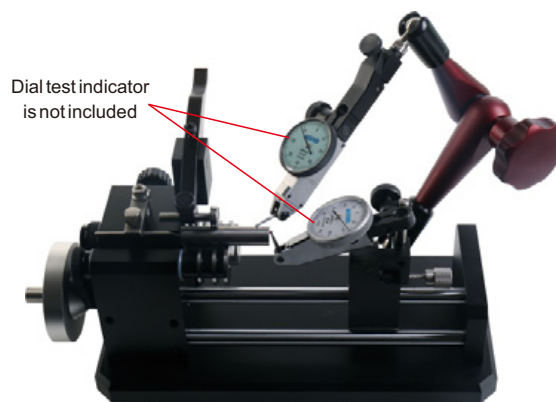
- ◆ Optional accessories: dial test indicator (code: 261-002-01 or 261-002-02) and Mini magnetic stand (code: 286-040-01)



Code	Applicable diameter	Accuracy
660-001-01	Ø3-35mm	0.002mm

661

## QUICK POSITIONING CONCENTRICITY GAUGE



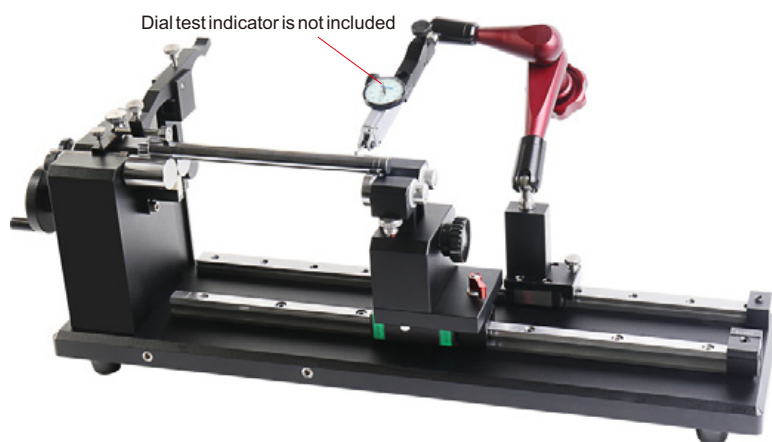
- ◆ Quick positioning, suitable for mass measurement
- ◆ Optional accessories: dial test indicator (code: 261-002-01 or 261-002-02)

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



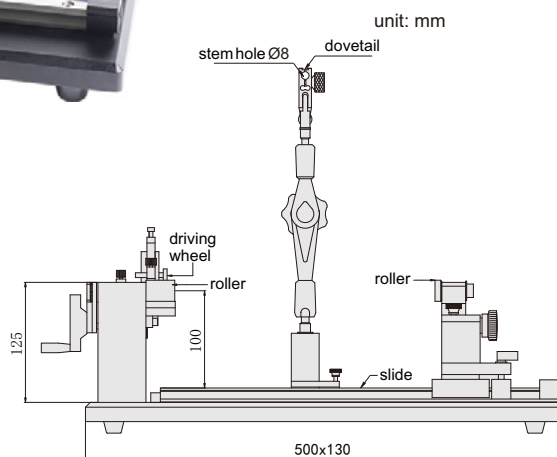
662

## CONCENTRICITY GAUGE



- ◆ Double guide
- ◆ Holding height can be adjusted

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



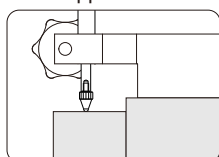
438

## DIAL HEIGHT GAUGE

- ◆ Measure height difference of two surfaces

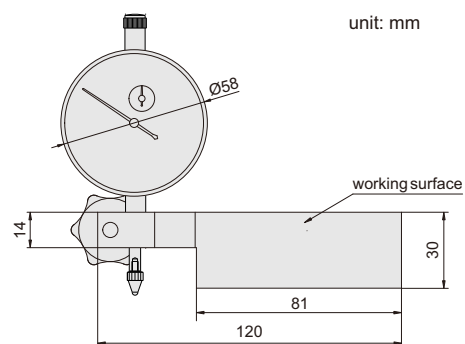


Application



INDICATOR

Code	Range	Dial indicator stroke	Dial indicator graduation	Accuracy
438-010-11	0-±5mm	10mm	0.01mm	17µm





## SERIES 410

## DIGITAL INTERNAL CALIPER GAUGE



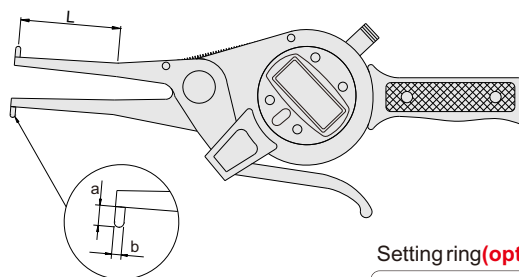
- ◆ Measure the internal dimension
- ◆ Resolution: 0.01mm/0.0005"



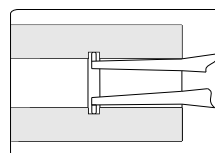
410-055-11

unit: mm

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



Setting ring (optional)



## SERIES 411

## INTERNAL DIAL CALIPER GAUGE

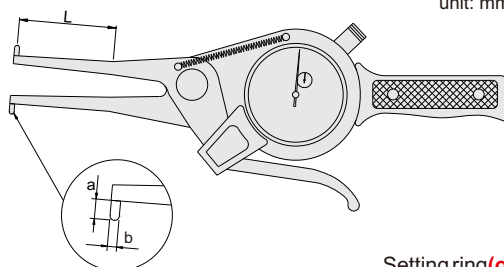
- ◆ Measure the internal dimension
- ◆ Graduation: 0.01mm



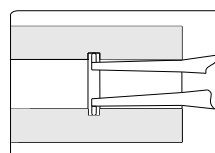
411-035-11

unit: mm

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
411-095-11L	75-95mm	±0.04mm	8	Ø3	250
411-115-11	95-115mm	±0.04mm	10	Ø3.2	120
411-115-11L	95-115mm	±0.04mm	10	Ø3	300
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



Setting ring (optional)



THICKNESS



## SERIES 420

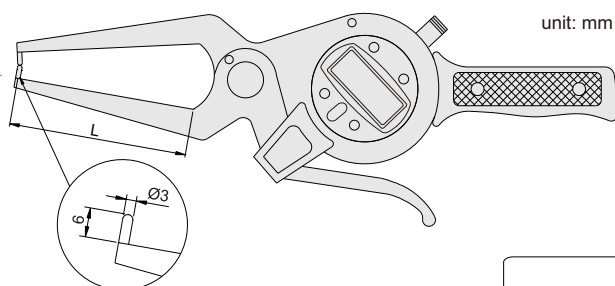
## DIGITAL EXTERNAL CALIPER GAUGE



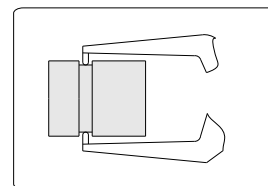
- ◆ Measure the external dimension
- ◆ Resolution: 0.01mm/0.0005"



420-020-11



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



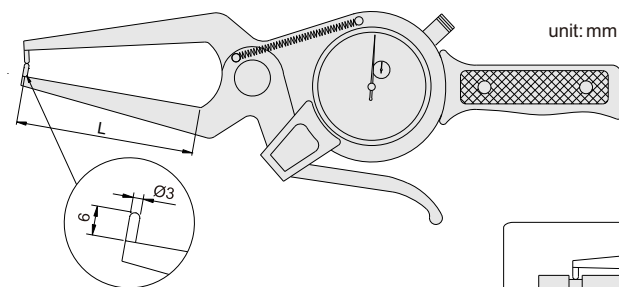
## SERIES 421

## EXTERNAL DIAL CALIPER GAUGE

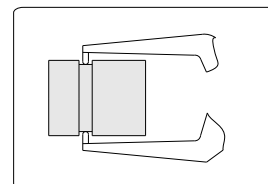
- ◆ Measure the external dimension
- ◆ Graduation: 0.01mm



421-020-11



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

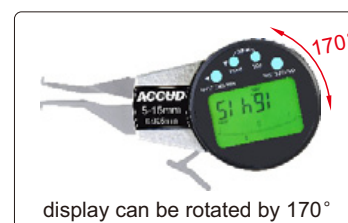
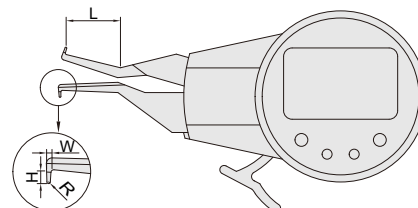


- ◆ Resolution: 0.005mm/0.0002"
- ◆ Reading in digit and analog
- ◆ Display can be rotated by 170°
- ◆ Button function: tolerance Go and No-Go display, data preset, max./min. measurement, data holding, inch/metric conversion, absolute/incremental measurement
- ◆ Automatic power off



412-015-11

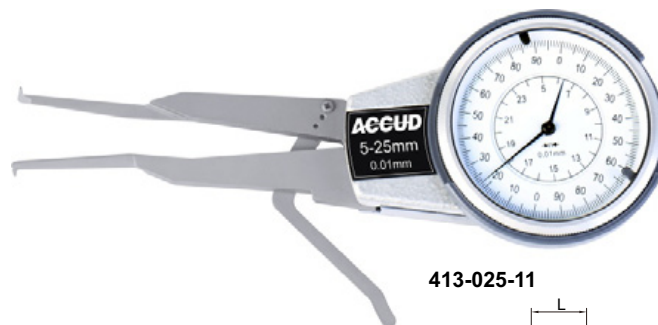
unit: mm



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

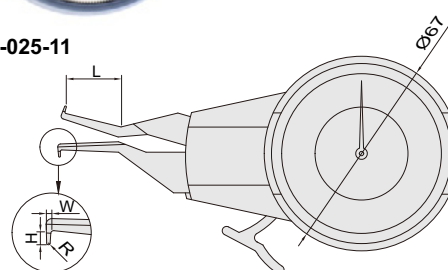
## SERIES 413

## 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

THICKNESS



## SERIES 422

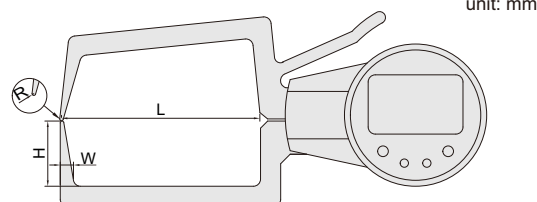
## DIGITAL EXTERNAL CALIPER GAUGE



- ◆ 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

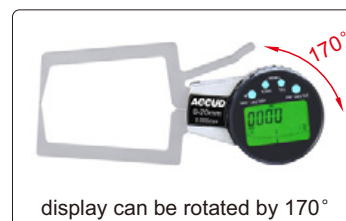


422-020-11



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



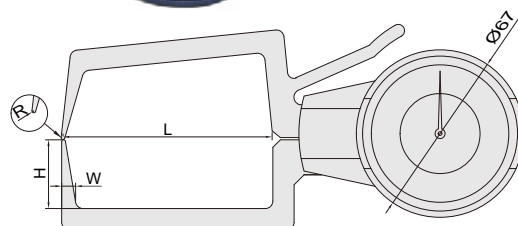
display can be rotated by 170°

## SERIES 423

## EXTERNAL DIAL CALIPER GAUGE



423-020-11



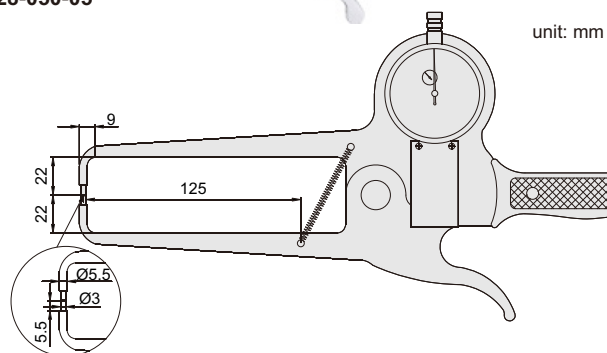
unit: mm

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

- ◆ Measure the external dimension



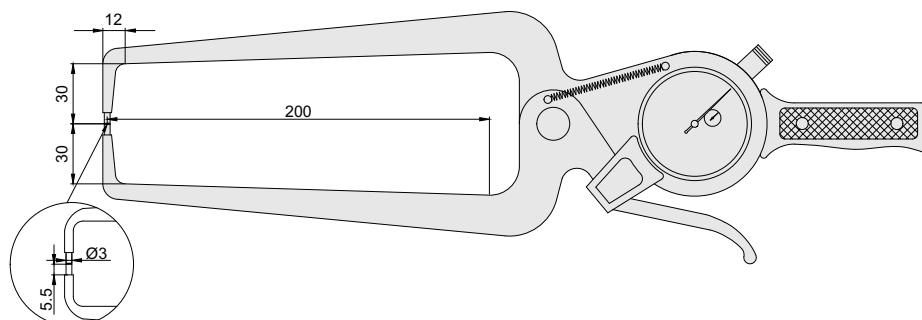
**428-050-05**



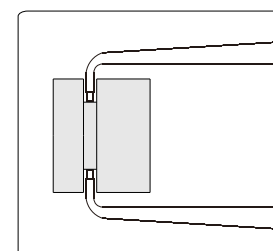
unit: mm



**428-250-05**



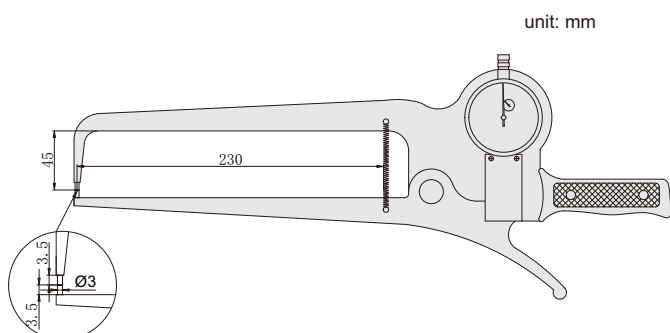
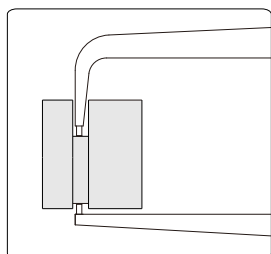
Code	Range	Graduation	Accuracy	Throat depth
<b>428-050-05</b>	0-50mm	0.05mm	±0.1mm	125mm
<b>428-250-05</b>	0-50mm	0.05mm	±0.1mm	200mm



428

## EXTERNAL DIAL CALIPER GAUGE

◆ Measure the external dimension



Code	Range	Graduation	Accuracy
428-050-25	0-50mm	0.05mm	±0.1mm

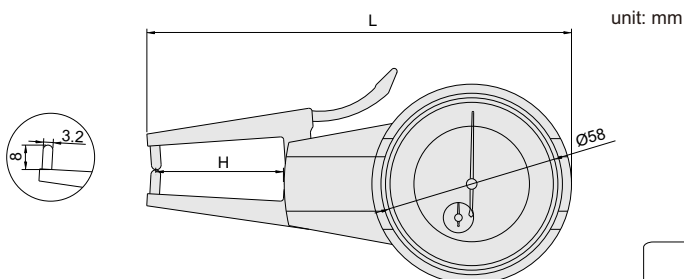
## SERIES 425

## EXTERNAL DIAL CALIPER GAUGE

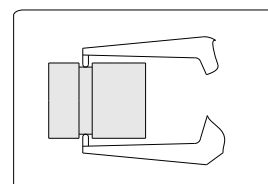
◆ Measure the external dimension



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



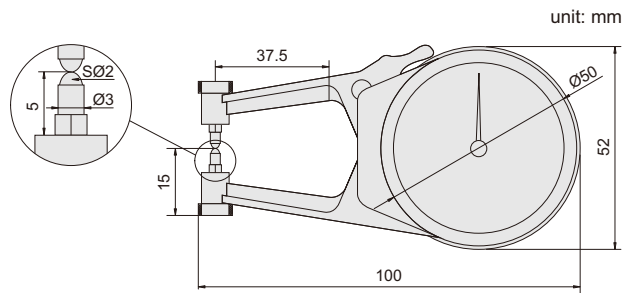




455

## THICKNESS GAUGE

- ◆ Main body is made of hard plastic



Code	Range	Graduation	Accuracy
455-010-11	0-10mm	0.1mm	±0.1mm

## SERIES 419

## DIGITAL INTERNAL CALIPER GAUGE

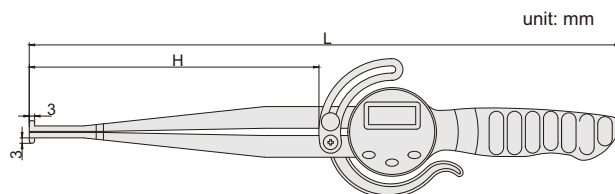
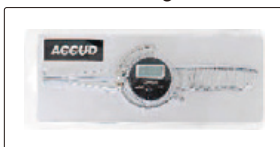


- ◆ For measuring the internal dimension
- ◆ Buttons: on/off, zero, data preset, mm/inch, data hold
- ◆ With fraction reading
- ◆ Automatic power off

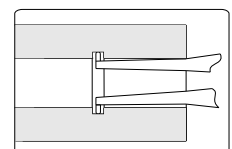


419-008-11

Package



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



THICKNESS



## SERIES 429

## DIGITAL EXTERNAL CALIPER GAUGE

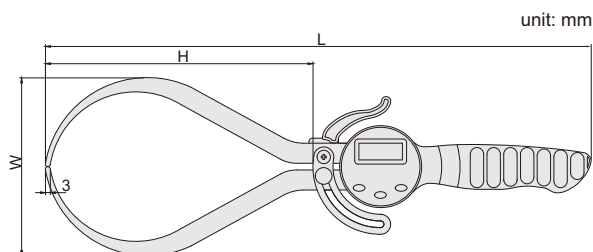


- ◆ For measuring the thickness
- ◆ Buttons: on/off, zero, data preset, mm/inch, data hold
- ◆ With fraction reading
- ◆ Automatic power off

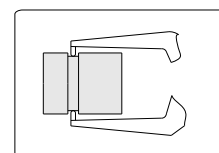


429-008-11

Package



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

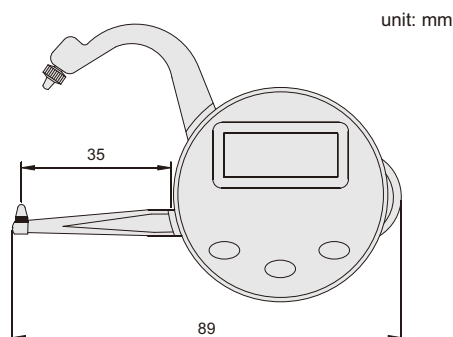


## 457

## DIGITAL THICKNESS GAUGE



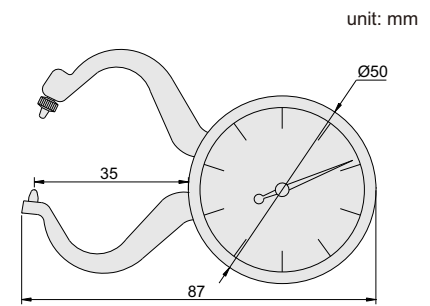
- ◆ Buttons: on/off, zero, mm/inch, data hold
- ◆ Automatic power off



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

451

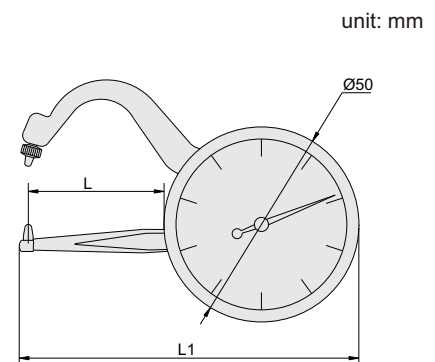
## THICKNESS GAUGE



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

SERIES 452

## THICKNESS GAUGE

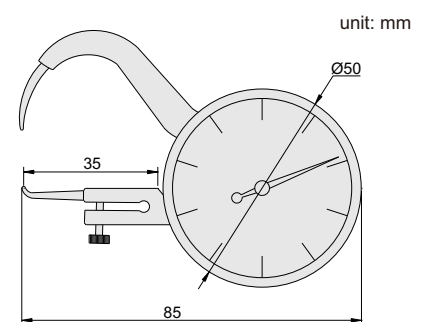


Code	Range	Graduation	Accuracy	L	L1
452-010-11	0-10mm	0.05mm	±0.1mm	35	85
452-010-12	0-10mm	0.05mm	±0.1mm	60	110

453

## THICKNESS GAUGE WITH POINTED TIPS

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



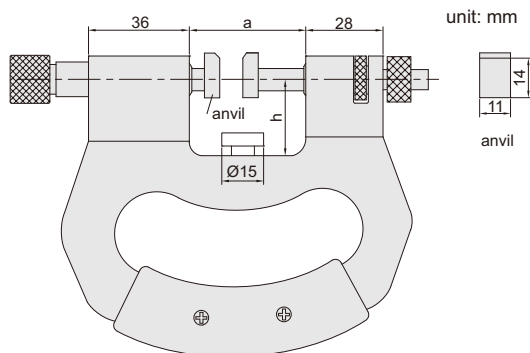
Code	Range	Graduation	Accuracy
453-010-11	0-10mm	0.05mm	±0.1mm



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/0.0005"  
(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



ACCUD



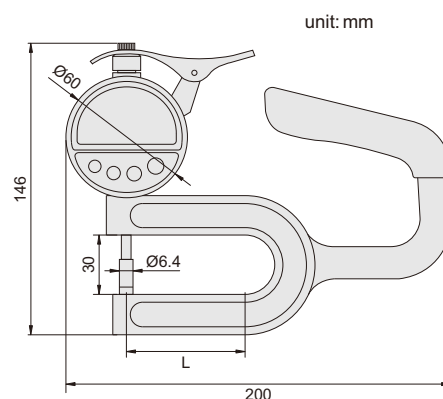
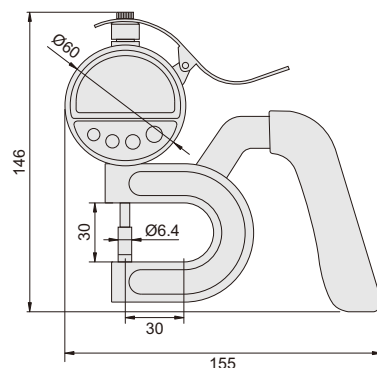
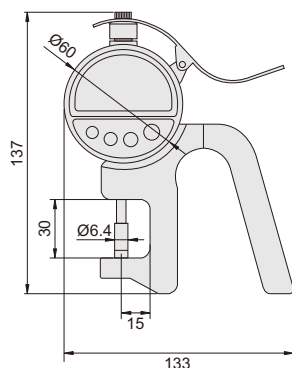
442-105-15



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./range measurement, 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

THICKNESS

## SERIES 441

## THICKNESS GAUGE



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



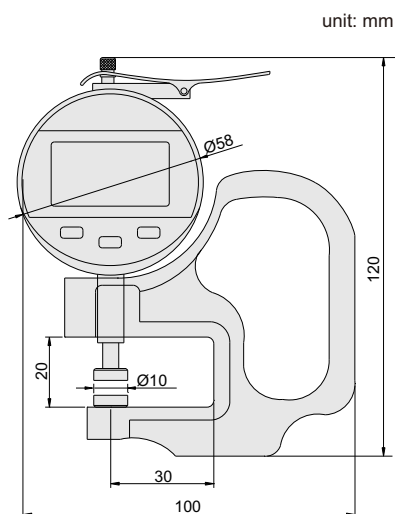
441-010-11

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

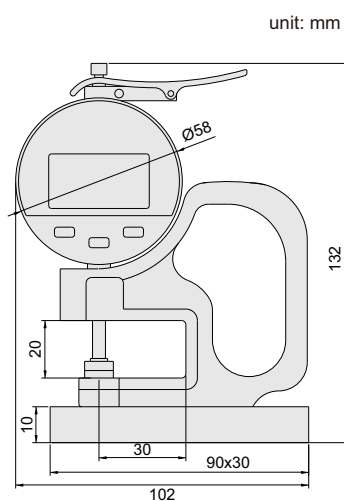


## 441

## 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

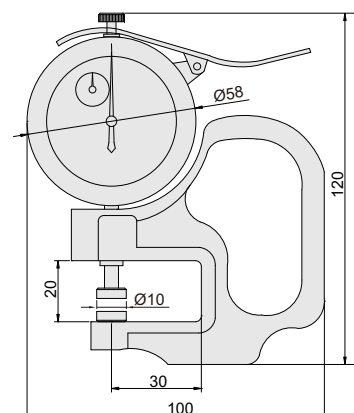
## THICKNESS GAUGE



- ◆ Ceramic spindle tip and anvil



unit: mm



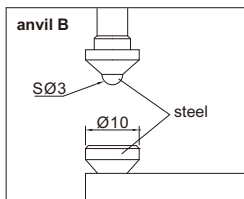
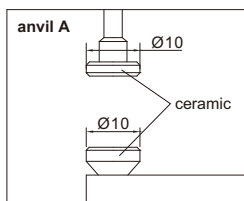
Code	Range	Graduation	Accuracy
443-001-01	0-1mm	0.001mm	±0.005mm

## SERIES 443

## THICKNESS GAUGE

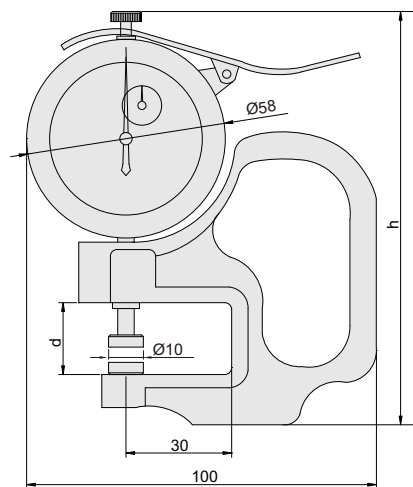


- ◆ Graduation: 0.01mm



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
443-030-12	0-30mm	±0.02mm	B	38	140

THICKNESS

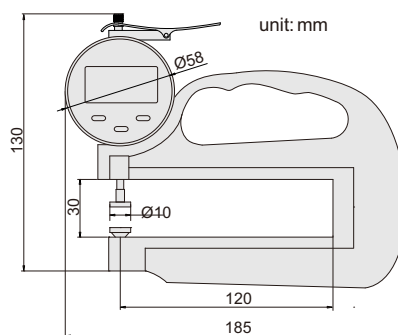


460

## 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)



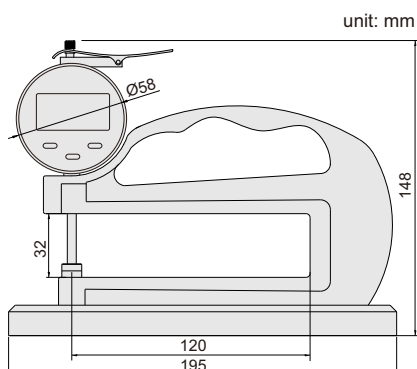
Code	Range	Resolution	Accuracy
460-010-11	0-10mm/0-0.4"	0.01mm/0.0005"	±0.02mm

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

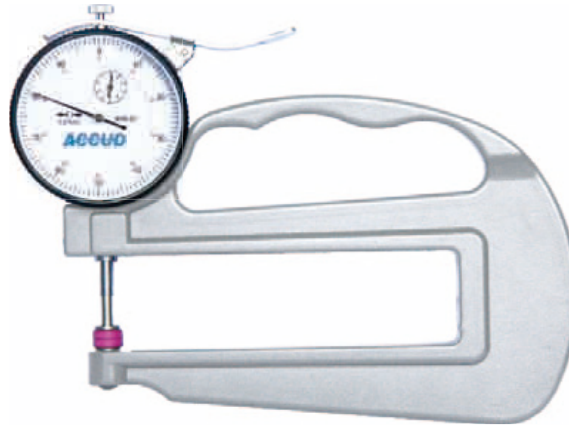
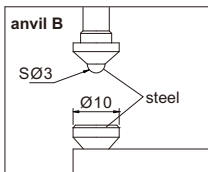
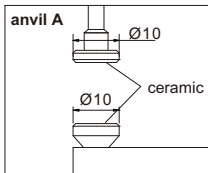
## SERIES 444

## THICKNESS GAUGE

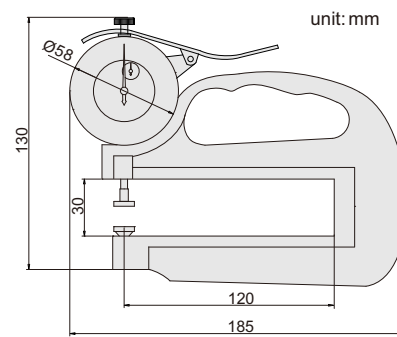


Accud

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



444-010-11



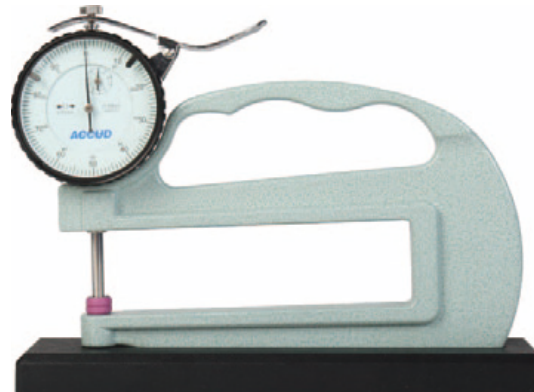
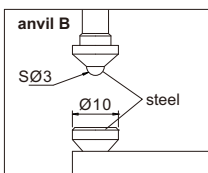
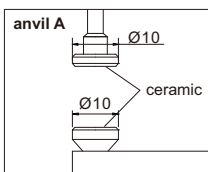
Code	Range	Accuracy	Anvil
444-010-11	0-10mm	±0.02mm	A
444-020-11	0-20mm	±0.03mm	A
444-010-12	0-10mm	±0.02mm	B
444-020-12	0-20mm	±0.03mm	B

## SERIES 444

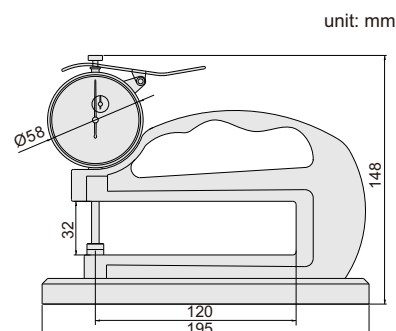
## THICKNESS GAUGE



- ◆ 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

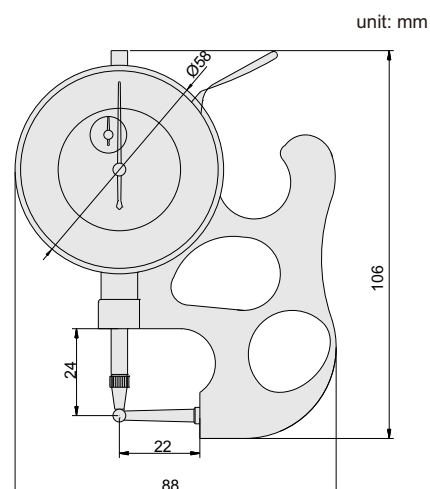
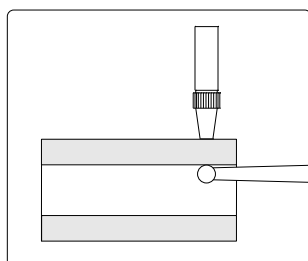
THICKNESS

448

## THICKNESS GAUGE



- ◆ Measure the wall thickness of tube



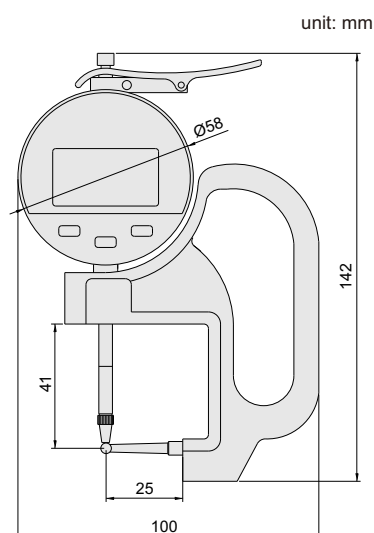
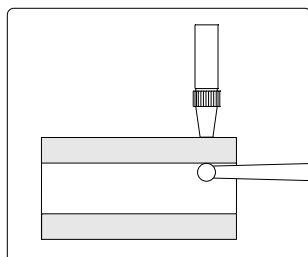
Code	Range	Accuracy	Graduation
448-010-11	0-10mm	±0.02mm	0.01mm

461

## DIGITAL TUBE THICKNESS GAUGE



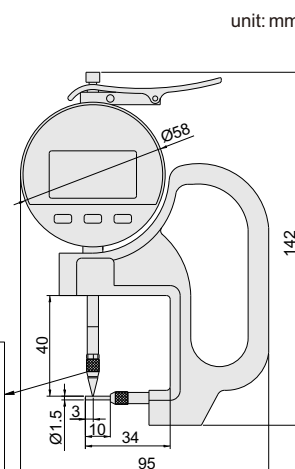
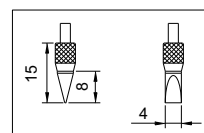
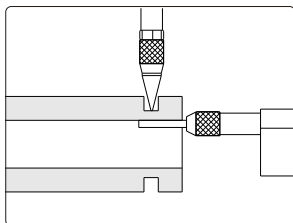
- ◆ Buttons: on/off, zero, mm/inch, ABS
- ◆ Automatic power off
- ◆ Data output(cable code:200-03 or 200-04)



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



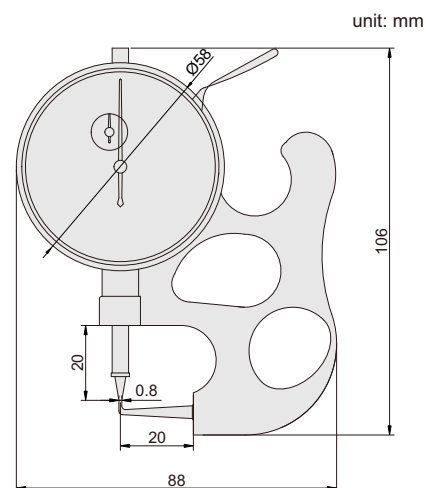
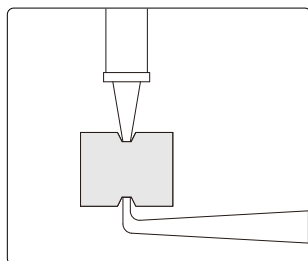
- ◆ Buttons: on/off, zero, mm/inch, ABS
- ◆ Automatic power off
- ◆ Data output(cable code:200-03 or 200-04)



unit: mm

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

- ◆ 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

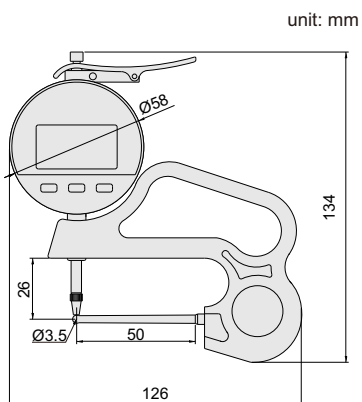


463

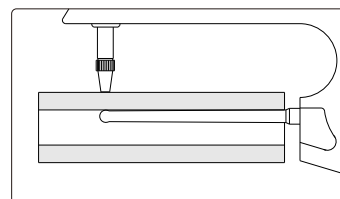
## DIGITAL TUBE THICKNESS GAUGE



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



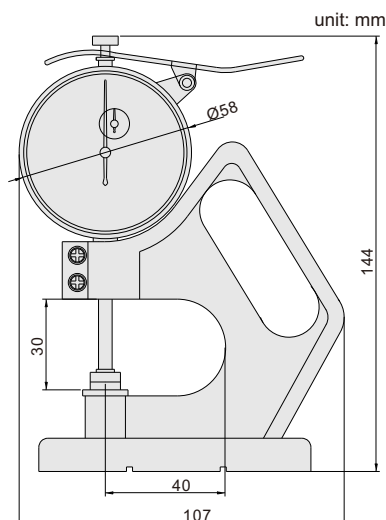
Code	Range	Resolution	Accuracy
463-010-11	0-10mm/0-0.4"	0.01mm/0.0005"	±0.02mm



449

## THICKNESS GAUGE

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



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



445

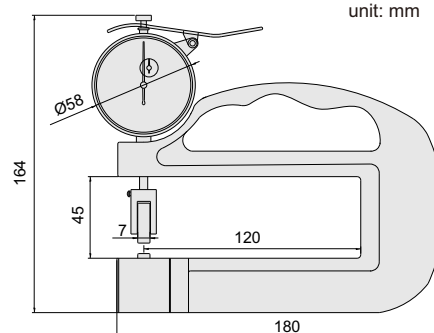
## THICKNESS GAUGE WITH ROLLING WHEEL



- ◆ For continuous measurement



unit: mm



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

## SERIES 465

DIGITAL THICKNESS GAUGE WITH  
CONSTANT MEASURING FORCE

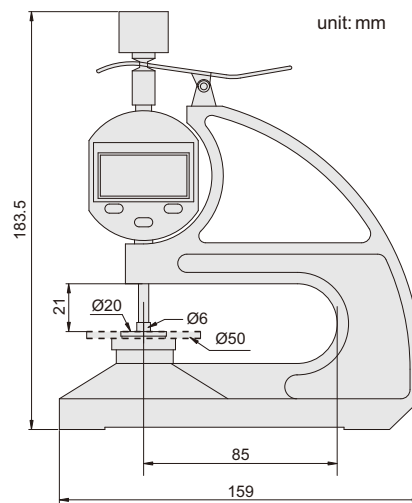
- ◆ Buttons: on/off, zero, unit (mm/in/fraction)
- ◆ Automatic power off
- ◆ With 50g standard weight block

Aluminum alloy stage



465-010-01

unit: mm

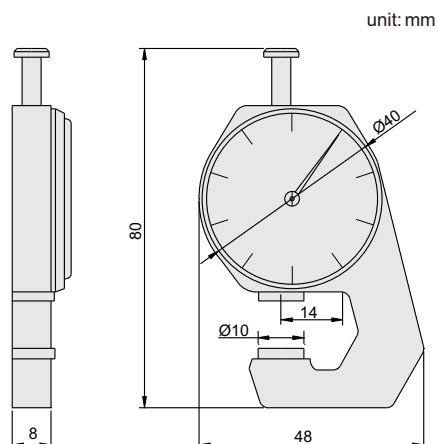


Code	Range	Resolution	Accuracy
465-010-01	0-12.7mm/0.5"	0.001mm/0.00005"	±0.005mm
465-010-11	0-12.7mm/0.5"	0.01mm/0.0005"	±0.02mm

THICKNESS

446

## THICKNESS GAUGE

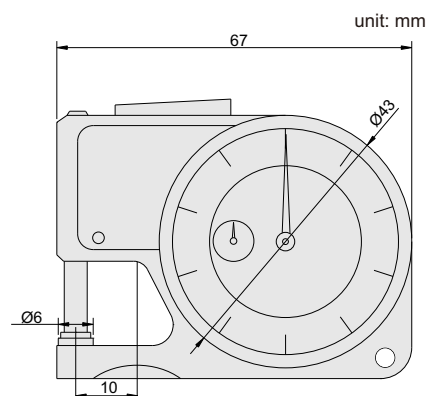


Code	Range	Graduation	Accuracy
446-010-11	0-10mm	0.1mm	±0.05mm

447

## THICKNESS GAUGE

- ◆ Stainless steel spindle tip and anvil



Code	Range	Graduation	Accuracy
447-010-11	0-10mm	0.01mm	±0.02mm



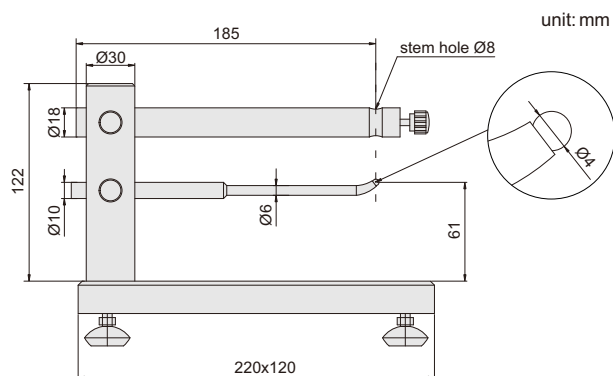
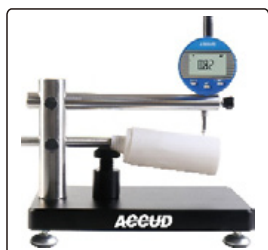
450

## PET BOTTLE WALL THICKNESS GAUGE

- Optional accessories: digital indicator (code: 212-010-13)



Application



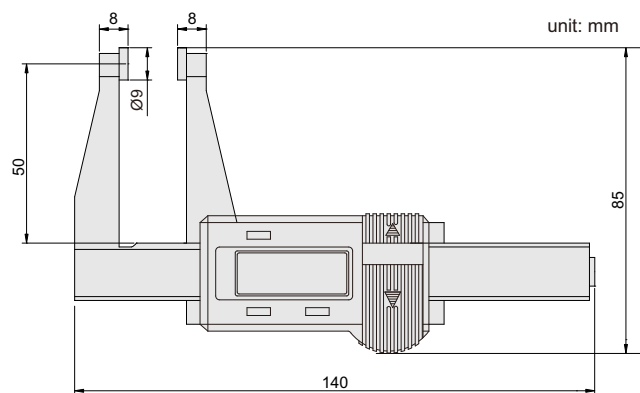
Code	Measuring thickness	Accuracy
450-010-11	12.7mm	±0.02mm

433

## DIGITAL SNAP GAUGE



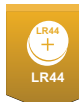
- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/inch
- Automatic power on/off
- Data output
- Made of stainless steel



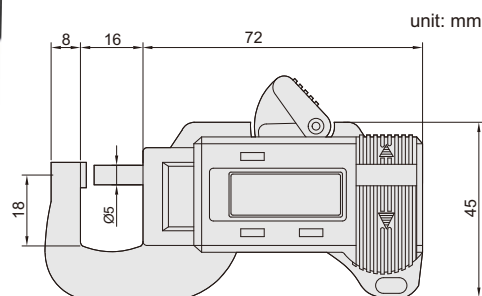
Code	Range	Accuracy
433-002-11	0-50mm/0-2"	±0.03mm

432

## DIGITAL SNAP GAUGE



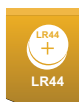
- Buttons: on/off, zero, mm/inch



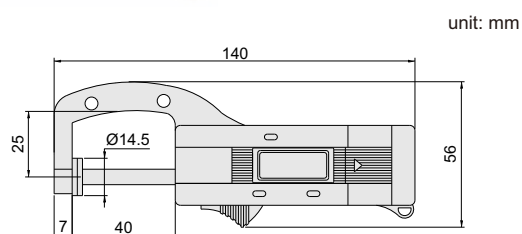
Code	Range	Resolution	Accuracy
432-012-11	0-12.7mm/0-0.5"	0.01mm/0.0005"	±0.03mm

434

## DIGITAL SNAP GAUGE



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



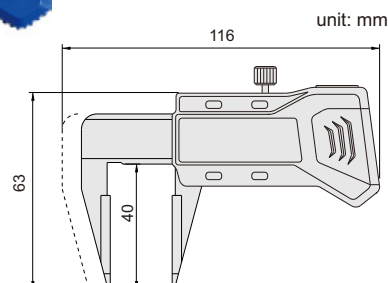
Code	Range	Resolution	Accuracy
434-001-11	0-25mm/0-1"	0.01mm/0.0005"	±0.03mm

435

## DIGITAL SNAP GAUGE

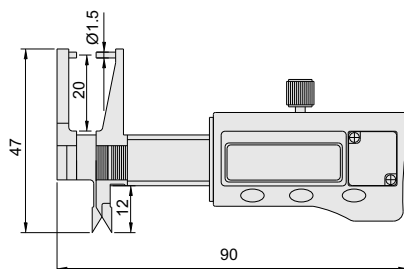
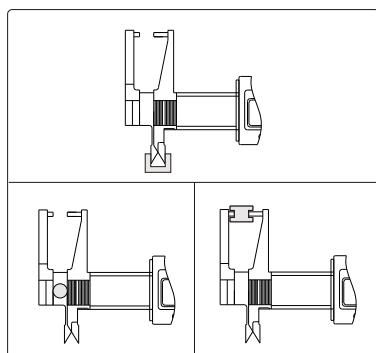


- Resolution: 0.01mm/0.0005"
- Buttons: on/off, zero, mm/in, INC
- Automatic power on/off
- Data output(cable code: 100-03 or 100-04)
- Made of stainless steel



Code	Range	Accuracy
435-001-11	0-25mm/0-1"	±0.03mm

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



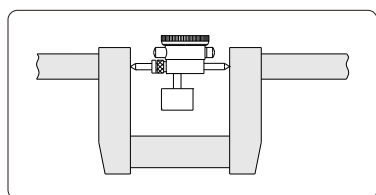
unit: mm

Code	Range	Accuracy
436-001-11	0-25mm/0-1"	±0.03mm

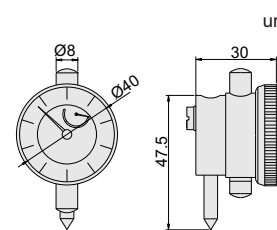
## SERIES 298

## CRANKSHAFT TESTER

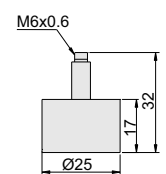
- ◆ To test crankshaft deflection
- ◆ The balance block is mounted on the back of dial indicator to keep the dial indicator facing up



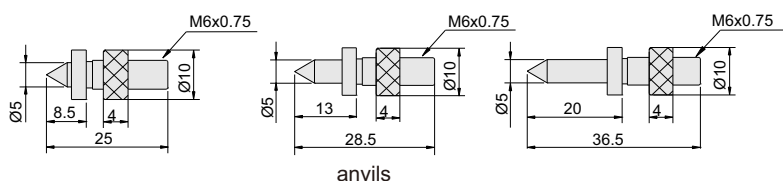
298-012-11



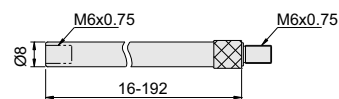
dial indicator



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

## SERIES 511

## CERAMIC GAUGE BLOCK SET



- ◆ Made of ceramic
- ◆ Meet ISO 3650
- ◆ With manufacturer inspection certificate
- ◆ Code explanation

511-□□□-□X  
 → 0: grade 0  
 → 1: grade 1

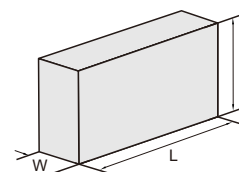
Example:

Code	Quantity	Grade
511-112-00	112	0
511-112-01	112	1



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
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
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
511-047-0X	47	25-100	25	4
		1.005		1
		1.01-1.09	0.01	9
		1.1-1.9	0.1	9
		1-24	1	24
511-047-1X	47	25-100	25	4
		1.005		1
		1.01-1.19	0.01	19
		1.2-1.9	0.1	8
		1-9	1	9
511-046-0X	46	10-100	10	10
		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
511-034-0X	34	10-100	10	10
		1.0005		1
		1.001-1.009	0.001	9
		1.01-1.09	0.01	9
		1.1-1.9	0.1	9
511-032-0X	32	1-5	1	5
		10		1
		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



- ◆ Made of carbide
- ◆ Meet ISO 3650
- ◆ With manufacturer inspection certificate
- ◆ Code explanation

512-□□□-□XT

→0: grade0

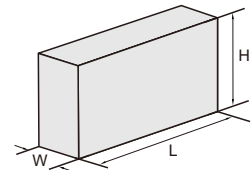
→1: grade1

Example:

Code	Grade	Quantity
512-112-00T	0	112
512-112-01T	1	112



512-087-01T



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
512-122-0XT	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
		0.5-24.5	0.5	49
		25-100	25	4
512-103-0XT	103	1.005		1
		1.01-1.49	0.01	49
		0.5-24.5	0.5	49
		25-100	25	4
512-087-0XT	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
512-083-0XT	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
		50-100	25	3
512-076-0XT	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
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
		25-100	25	4
512-047-1XT	47	1.005		1
		1.01-1.19	0.01	19
		1.2-1.9	0.1	8
		1-9	1	9
512-046-0XT	46	10-100	10	10
		1.001-1.009	0.001	9
		1.01-1.09	0.01	9
		1.1-1.9	0.1	9
512-034-0XT	34	1-9	1	9
		10-100	10	10
		1.0005		1
		1.001-1.009	0.001	9
		1.01-1.09	0.01	9
		1.1-1.9	0.1	9
512-032-0XT	32	1-5	1	5
		10		1
		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

# SERIES 512

# STEEL GAUGE BLOCK SET



- ◆ Made of steel
- ◆ Meet ISO 3650
- ◆ With manufacturer inspection certificate
- ◆ Code explanation

512-□□□-□X

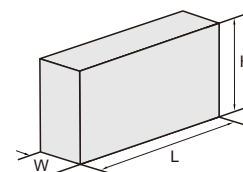
- 0: grade0
- 1: grade1
- 2: grade2

Example:

Code	Grade	Quantity
512-112-00	0	112
512-112-01	1	112
512-112-02	2	112



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
512-112-0X	112	25-75	50	2
		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
512-103-0X	103	1.0005		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	10-100	10	10
		1.001-1.009	0.001	9
		1.01-1.49	0.01	49
		0.5-9.5	0.5	19
512-083-0X	83	10-100	10	10
		0.5		1
		1		1
		1.0005		1
		1.01-1.49	0.01	49
		1.5-1.9	0.1	5
512-083-0X	83	2-9.5	0.5	16
		10-100	10	10

Code	Blocks per set	Block allocation		
		Size(mm)	Step (mm)	Quantity
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
		50-100	25	3
		0.5		1
512-056-0X	56	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
		1.005		1
512-047-0X	47	1.01-1.09	0.01	9
		1.1-1.9	0.1	9
		1-24	1	24
		25-100	25	4
		1.005		1
		1.01-1.19	0.01	19
512-047-1X	47	1.2-1.9	0.1	8
		1-9	1	9
		10-100	10	10
		1.001-1.009	0.001	9
		1.01-1.09	0.01	9
		1.1-1.9	0.1	9
512-046-0X	46	1-9	1	9
		10-100	10	10
		1.005		1
		1.01-1.09	0.01	9
		1.1-1.9	0.1	9
		1-9	1	9
512-038-0X	38	10-100	10	10
		1.005		1
		1.01-1.09	0.01	9
		1.1-1.9	0.1	9
		1-9	1	9
		10-100	10	10

Code	Blocks per set	Block allocation		
		Size(mm)	Step (mm)	Quantity
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
		10		1
512-032-0X	32	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
512-032-1X	32	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
		60		1
512-010-1X	10	0.991-1	0.001	10
512-010-2X	10	1-1.009	0.001	10
512-008-0X	8	125-175	25	3
		200-250	50	2
		300-500	100	3

## SERIES 512

## STEEL GAUGE BLOCK SET



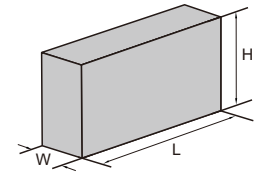
- ◆ Made of alloy steel
- ◆ Meet ASME B89.1.9
- ◆ With manufacturer inspection certificate
- ◆ Code explanation

512-□□□-□XI

- 0: grade 0
- 1: grade 1
- 2: grade 2



512-081-00I



Size:

Size(L)	W	H
0.02≤L≤0.394"	0.354"	1.181"
L > 0.394"	0.354"	1.378"

Example:

Code	Quantity	Grade
512-036-00I	36	0
512-036-01I	36	1
512-036-02I	36	2

Code	Blocks per set	Block allocation		
		Size(inch)	Step(inch)	Quantity
512-008-0XI	8	5-8	1	4
		10-12	2	2
		16		1
		20		1
512-081-0XI	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
512-036-0XI	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)



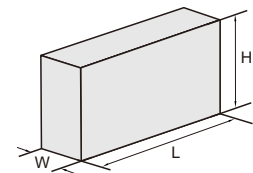
- ◆ Made of ceramic
- ◆ Meet ISO 3650
- ◆ With manufacturer inspection certificate
- ◆ Code explanation

515-□□□-□X

- 0: grade 0
  - 1: grade 1
- decimal ← integer



515-700-70



Size:

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

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

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

## SERIES 516

## CERAMIC INDIVIDUAL GAUGE BLOCK (≥10MM)

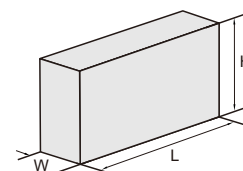


- ◆ Made of ceramic
- ◆ Meet ISO 3650
- ◆ With manufacturer inspection certificate
- ◆ Code explanation

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

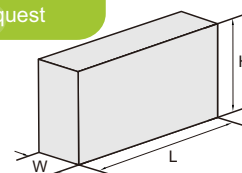


- ◆ Made of steel
- ◆ Meet ISO 3650
- ◆ With manufacturer inspection certificate
- ◆ Code explanation

513-□□□-□X  
 decimal ← integer  
 →0: grade0  
 →1: grade1  
 →2: grade2



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)

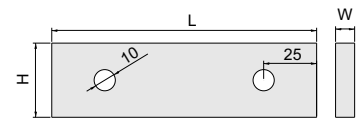
- ◆ Made of steel
- ◆ Meet ISO 3650
- ◆ With manufacturer inspection certificate
- ◆ Code explanation

514-□□□-□X  
 → 0: grade0  
 → 1: grade1  
 → 2: grade2



514-004-1X

CUSTOM-MADE  
other sizes are available  
upon request



Size: With hole (size ≥ 125mm)

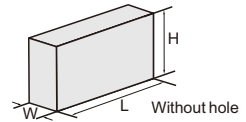
Size (L)	W	H
0.5mm ≤ L ≤ 10mm	9mm	30mm
L > 10mm	9mm	35mm

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

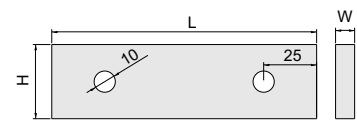
## INDIVIDUAL STEEL GAUGE BLOCKS

- ◆ 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:

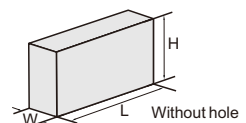
Size (L)	W	H
.02" ≤ L ≤ .394"	.354"	1.181"
L > .394"	.354"	1.378"

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"



GAUGE



## 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
517-005-01	30, 41.3, 131.4mm	5pcs	1	Ø4, Ø25mm
517-006-01	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
517-012-01	10, 20, 20, 41.2, 51.2, 81.5, 101.2, 121.5, 121.8, 191.8, 201.5, 291.8mm	12pcs	0
517-012-02	10, 20, 20, 41.2, 51.2, 81.5, 101.2, 121.5, 121.8, 191.8, 201.5, 291.8mm	12pcs	1
517-012-03	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

Measure



518-001-03

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

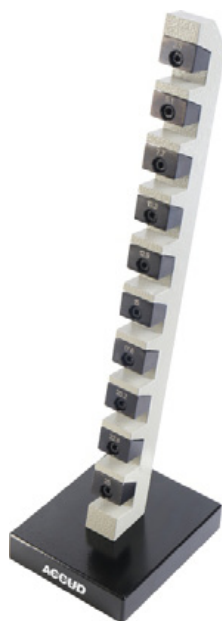


Code	Quantity	Applicable micrometer	Material	Gauge blocks included in set
518-104-01	20pcs	0-100mm	alloy steel	5.12mm, 10.24mm, 15.36mm, 21.5mm, 25mm, 30.12mm, 35.24mm, 40.36mm, 46.5mm, 50mm, 55.12mm, 60.24mm, 65.36mm, 71.5mm, 75mm, 80.12mm, 85.24mm, 90.36mm, 96.5mm, 100mm

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

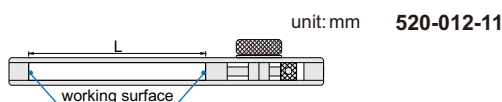
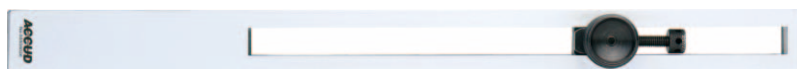


Code	Remark	Accessory allocation
519-016-01H	16pcs	4pcs holder(0-50mm, 50-100mm, 100-200mm, 200-300mm); 1pc base; 1pair plain jaw; 1pc parallel jaw; 3pairs half round jaw(2.5mm, 5mm, 6mm); 1pc scriber; 1pc center point

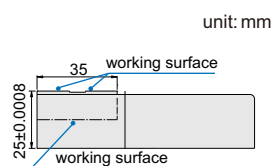
## SERIES 520

## 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



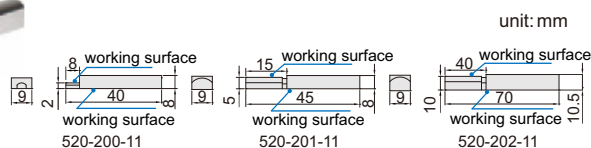
Code	Name
520-100-11	base



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



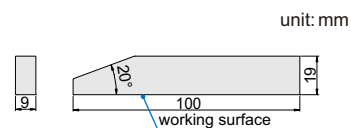
supplied a pair



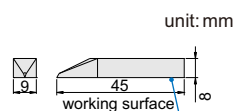
Code	Name	Material
520-300-11	plain jaw	carbide



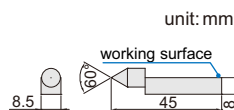
supplied a pair



Code	Name	Material
520-400-11	scriber	carbide



Code	Name	Tip Material
520-500-11	center point	carbide



### Application



(plain jaw+holder)  
set zero



(half round jaw+holder) set a standard inside length L



(half round jaw+holder)  
measure inside diameter



(base+holder+scriber)  
measure height or scribe



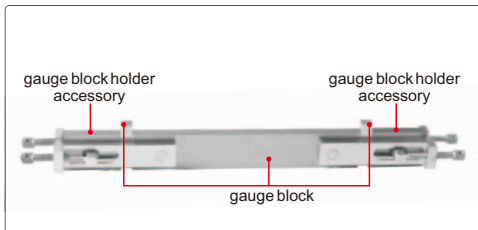
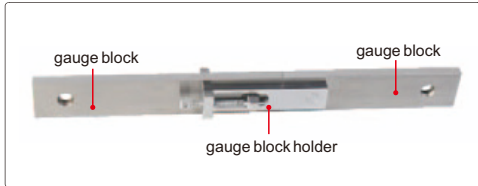
(scriber+centre point+holder)  
scribe circle

510

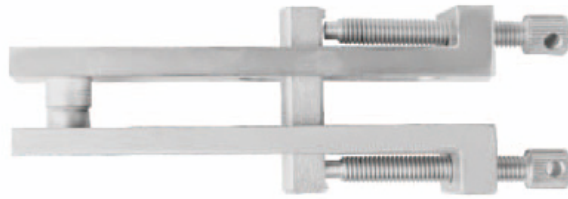
## GAUGE BLOCK HOLDER

- ◆ For gauge blocks over 100mm with clamping holes
- ◆ Optional accessory: gauge block holder accessory, gauge block accessory

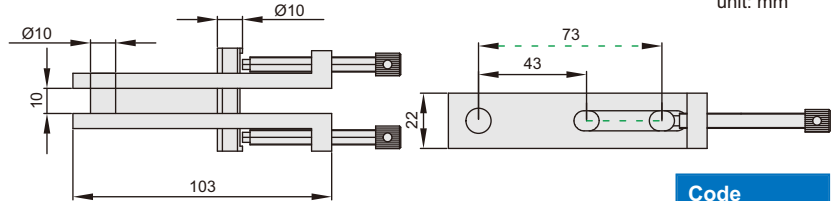
### Application



Code	Include
<b>510-302-01</b>	510-000-01 (3 set) 510-000-02 (1 pairs)



510-000-01

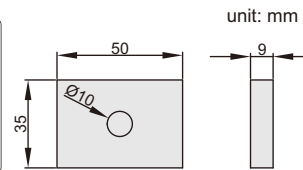


Code

**510-000-01**



50mm gage block



510-000-02

Code

**510-000-02**

## SERIES 561

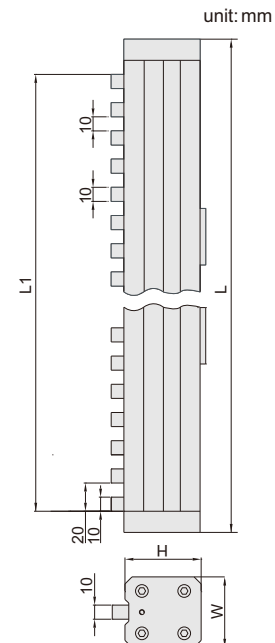
## CHECK MASTER



- ◆ 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



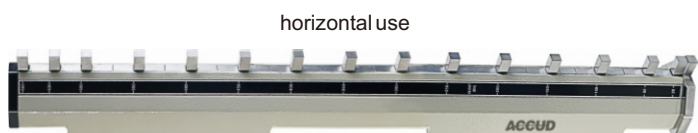
Code	Range	Parallelism of blocks	Accuracy	W	H	L1	L
<b>561-012-01</b>	300mm	1.2µm	±2.5µm	35	32	310	350
<b>561-018-01</b>	450mm	1.5µm	±3.5µm	42	50	470	510
<b>561-024-01</b>	600mm	1.5µm	±3.5µm	42	50	610	650

## SERIES 560

## CALIPER/HEIGHT GAUGE CHECKERS



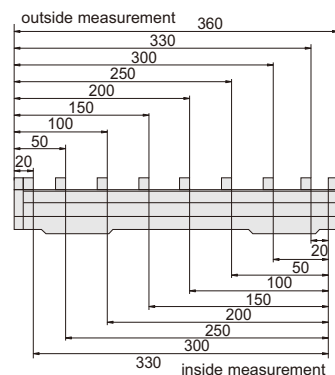
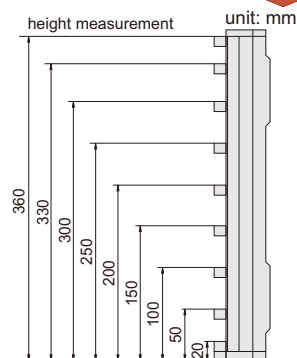
- ◆ To check calipers and height gages
- ◆ Constructed with steel gage blocks
- ◆ With manufacturer inspection certificate



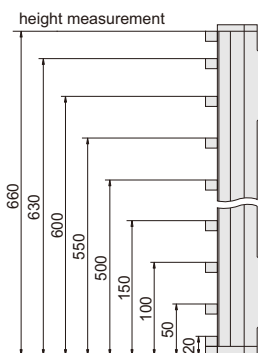
vertical use



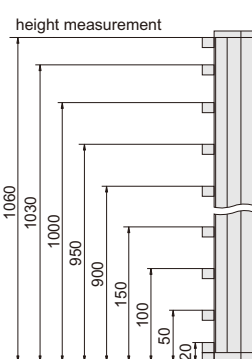
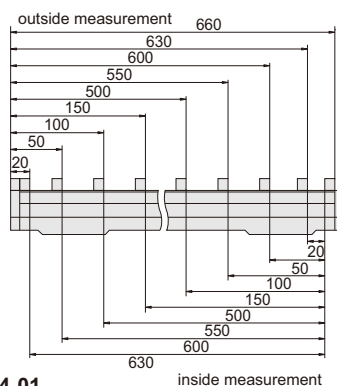
560-024-01



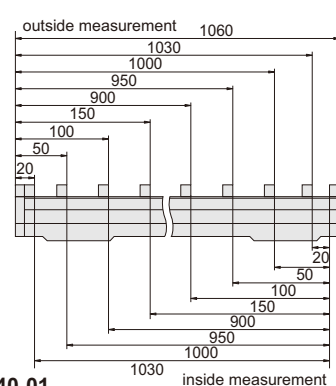
560-012-01



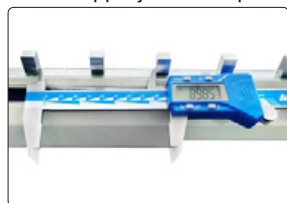
560-024-01



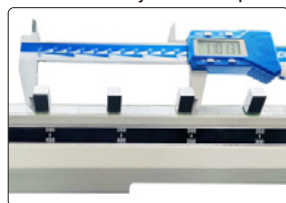
560-040-01



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
560-012-01	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
560-024-01	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
560-040-01	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

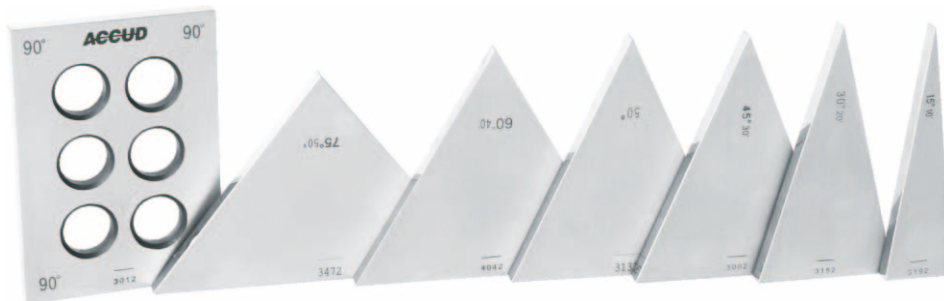


570-015-01

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

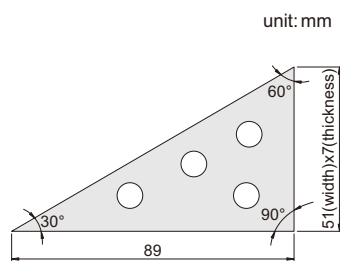
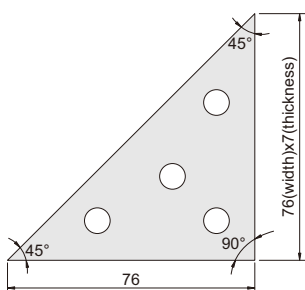
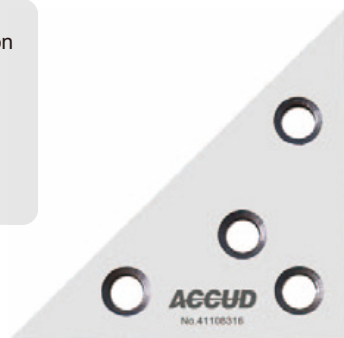
- ◆ For angle comparison
- ◆ One angle can be as used in triangle blocks  
four angles can be as used in rectangle blocks
- ◆ With manufacturer inspection certificate

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

572

## ANGLE BLOCK SET

- ◆ For angle set-up in tooling, production and inspection
- ◆ Accuracy of angle:  $\pm 9$  seconds
- ◆ Made of alloy steel
- ◆ Hardness HRC60 $\pm 2$



Code	Angle plates included	Angle
572-004-12	2	45°, 45°, 90°
		30°, 60°, 90°

## SERIES 522

## INDIVIDUAL PIN GAUGE

CUSTOM-MADE

Standard size above 40mm are available upon request

- ◆ Accuracy:
  - $\pm 1\mu\text{m}$  (range: 0.1-13mm)
  - $\pm 2\mu\text{m}$  (range: 13-40mm)
- ◆ Made of alloy steel
- ◆ Hardness HRC62-65
- ◆ Code explanation:

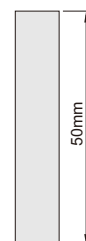
522-□□□□-2

diameter



522-06933-2

unit: mm



Package



Example:

Code	Size(mm)	Accuracy
522-00125-2	0.125	$\pm 1\mu\text{m}$
522-09125-2	9.125	$\pm 1\mu\text{m}$
522-19125-2	19.125	$\pm 2\mu\text{m}$

- ◆ Supplied diameter from 0.3 to 30mm,
- ◆ Accuracy:  
     $\pm 1\mu\text{m}$  (range: 0.3-13mm)  
     $\pm 2\mu\text{m}$  (range: 13-30mm)
- ◆ Carbide material
- ◆ Hardness HRA90-90.5
- ◆ Length 50mm
- ◆ Code explanation:

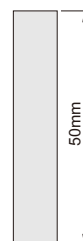
522-□□□□-2T

diameter



522-06000-2T

unit: mm



Package



Example:

Code	Size(mm)	Accuracy
522-10000-2T	10	$\pm 1\mu\text{m}$

- ◆ 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:

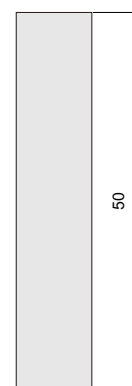
528-□□□□-1

diameter



528-10000-1

unit: mm



Example:

Code	Size(mm)
528-05000-1	5
528-10000-1	10

## SERIES 521

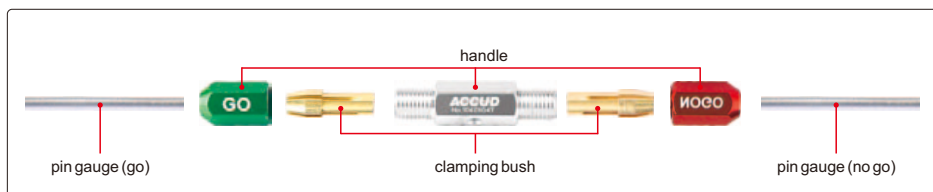
## PIN GAUGE HANDLE

- ◆ 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

## SERIES 523

## CARBIDE PIN GAUGE SET

- ◆ Meet DIN2269, grade 1
- ◆ Made of carbide
- ◆ Hardness HRA90-90.5
- ◆ Diameter accuracy:  $\pm 1\mu\text{m}$



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


**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
523-500-51	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 528

## CERAMIC PIN GAUGE SET



528-0650-51



528-0300-101

- ◆ Meet DIN2269, grade 1
- ◆ Diameter range: 1.00-10.00mm
- ◆ Diameter accuracy:  $\pm 1\mu\text{m}$
- ◆ Made of ceramic, extremely wear resistance, corrosion resistance and dimensional stability

## 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

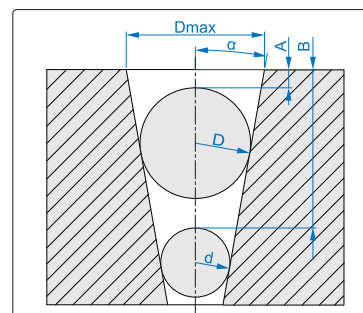
## STEEL BALL SET



- ◆ 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

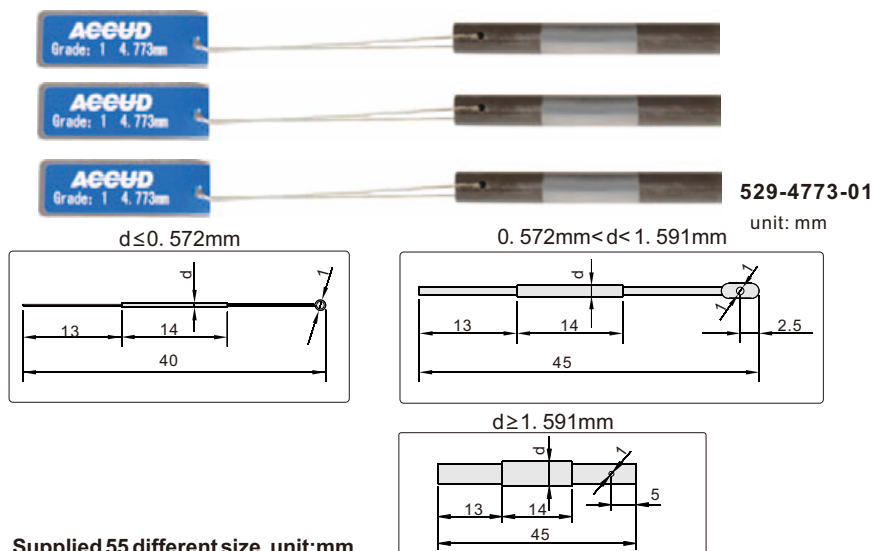
→1: grade1

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



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	

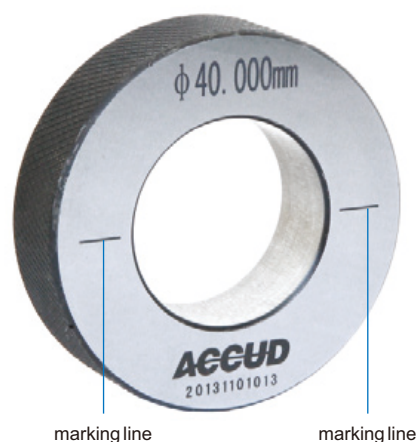
## SERIES 531

## SETTING RING

CUSTOM-MADE

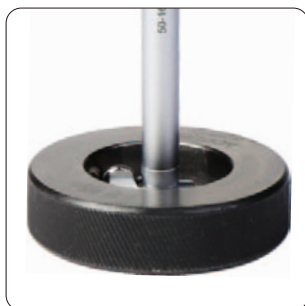
other sizes are available  
upon request

- ◆ 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



Diameter d	Size difference	Roundness and cylindricity	Accuracy
Ø2~≤10	±3.0µm	0.4µm	±1.5µm
Ø10~≤20		0.5µm	
Ø20~≤30		0.6µm	
Ø30~≤50		0.7µm	
Ø50~≤80		0.8µm	
Ø80~≤100		1.0µm	
Ø100~≤130	±5.0µm	1.0µm	±2µm
Ø130~≤150		1.2µm	
Ø150~≤210		1.5µm	
Ø210~≤250		2.5µm	
Ø250~≤300		3.0µm	±2.5µm

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

GAUGE

## 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

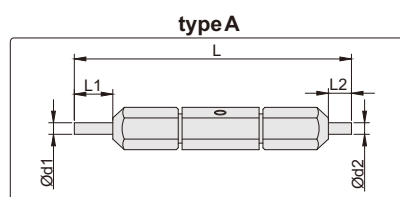


541-020-17

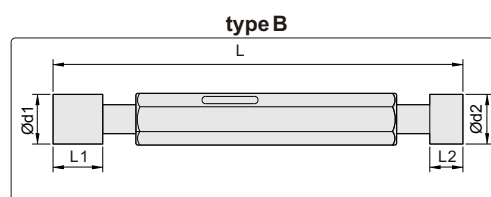


541-006-17

unit: mm

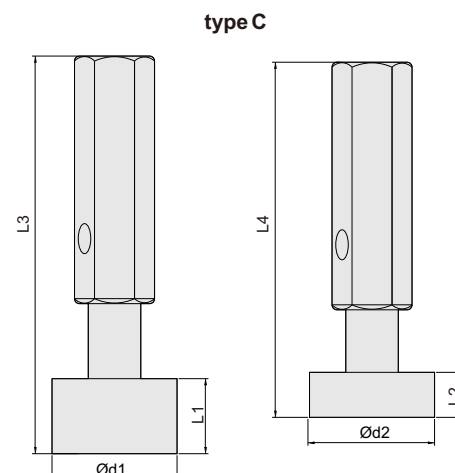


type A



type B

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



type C

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

# SERIES 541

# CARBIDE PLAIN PLUG GAUGE

CUSTOM-MADE

Size between 1 to 30mm,  
are available upon request



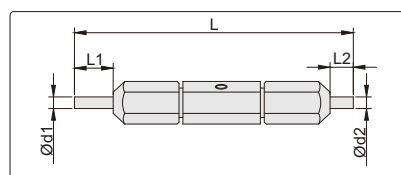
541-020-17T



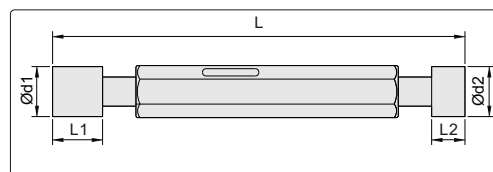
541-006-17T

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

GAUGE

## 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 ←

Type A



589-060-07

Type B



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

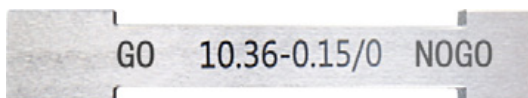
## KEY SLOT LIMIT GAUGE

### 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	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	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	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

GAUGE

## 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

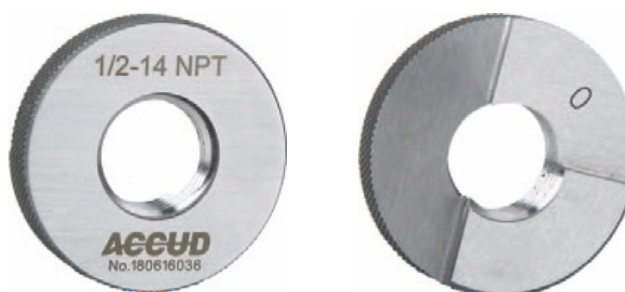
Code	Size	Code	Size
544-027-04	NPT 1/16" x 27	544-11D5-12	NPT1-1/4"x11.5
544-027-03	NPT 1/8" x 27	544-11D5-11	NPT1-1/2"x11.5
544-018-02	NPT 1/4" x 18	544-11D5-20	NPT2"x11.5
544-018-33	NPT 3/8"x18	544-008-21	NPT2-1/2"X8
544-014-01	NPT 1/2" x 14	544-008-30	NPT3"X8
544-014-32	NPT 3/4"x14	544-008-32	NPT3-1/2"X8
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	NPT 1/4" x 18	544-11D5-20R	NPT2"x11.5
544-018-33R	NPT 3/8"x18	544-008-21R	NPT2-1/2"X8
544-014-01R	NPT 1/2" x 14	544-008-30R	NPT3"X8
544-014-32R	NPT 3/4"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



594-xxxxx-01

Outside air snap gauge and standard column gauge



594-xxxxx-05

Code	Range	Remark
594-XXXXX-01	Ø2-150mm	measure diameter of hole

Code	Range	Remark
594-XXXXX-05	Ø4-120mm	measure diameter of shaft





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

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



Application



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			

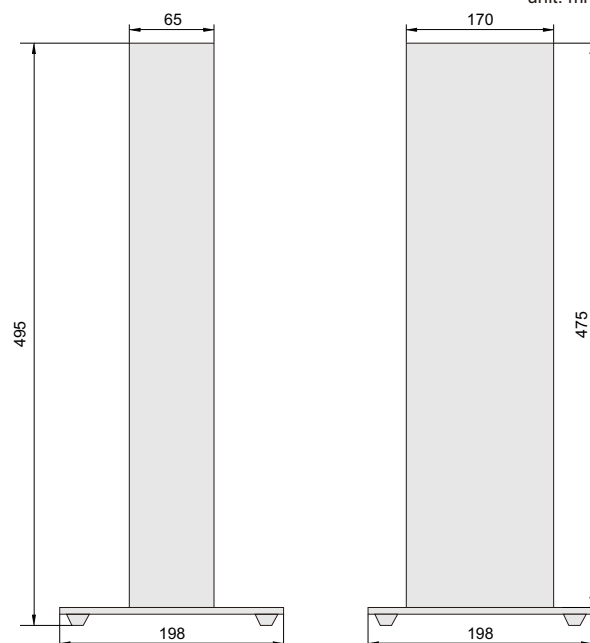
### OPTIONAL ACCESSORIES

Air filter

Pressure regulating valve

RS232 cable

unit: mm





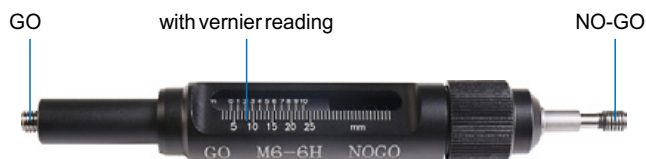
## SERIES 559

## THREAD DEPTH GAUGE

CUSTOM-MADE

other sizes are available upon request

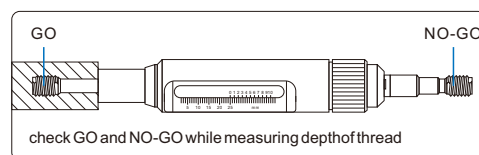
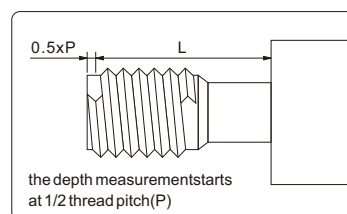
- ◆ Supplied with GO and NO-GO gages together
- ◆ Check GO and NO-GO while measuring the depth thread
- ◆ The GO gage can be replaced after wear
- ◆ Graduation: 0.1mm
- ◆ Accuracy:  $\pm 0.1\text{mm}$



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

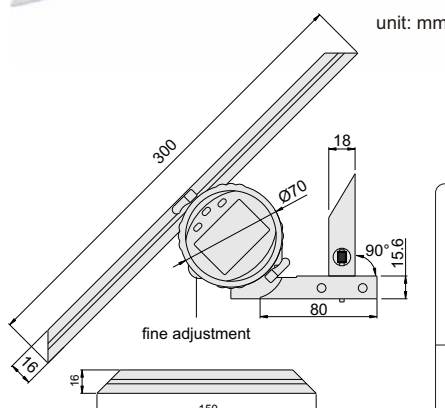
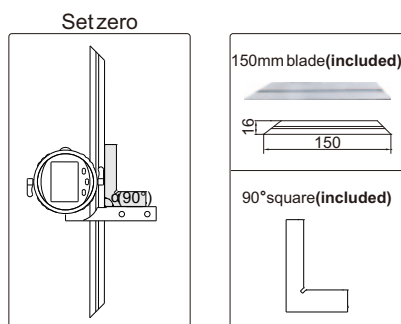


## 822

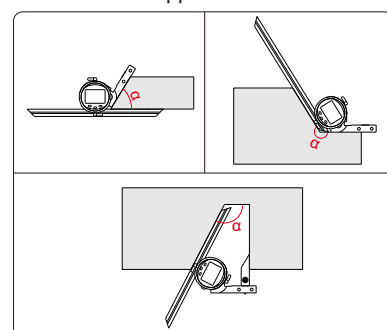
## DIGITAL PROTRACTOR



- ◆ 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 150mm and 300mm blade
- ◆ With 90° square
- ◆ Made of stainless steel



Application



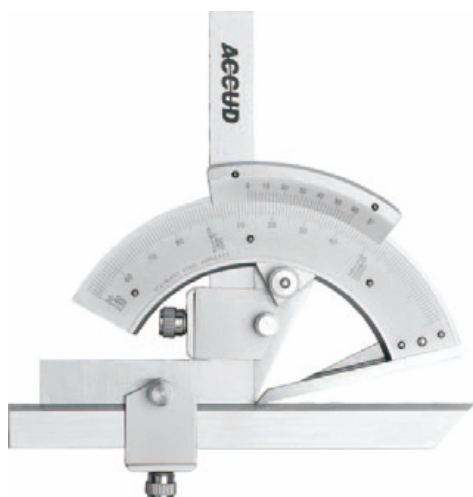
Code	Range	Resolution	Accuracy
822-360-01	0-360°	10"/0.005°	$\pm 5'$

PROTRACTOR

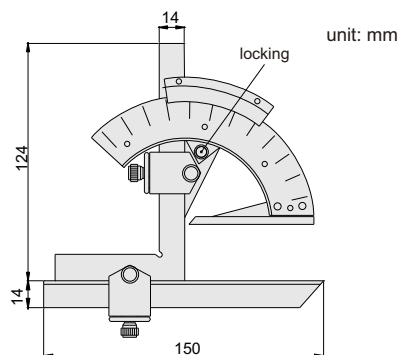
GAUGE

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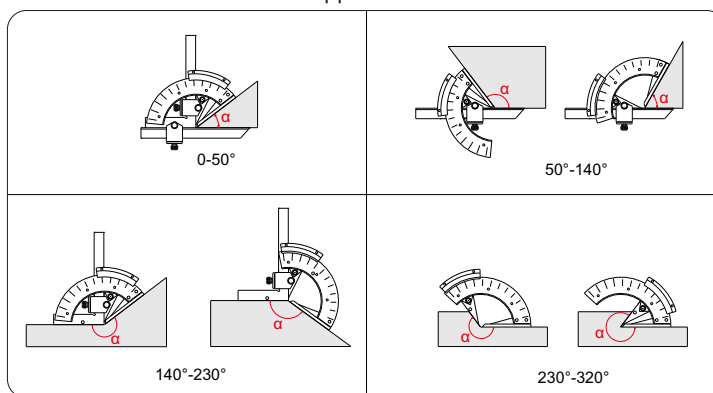
## UNIVERSAL PROTRACTOR



- ◆ Graduation : 2'
- ◆ Made of stainless steel
- ◆ Satin chrome plated scale



Application



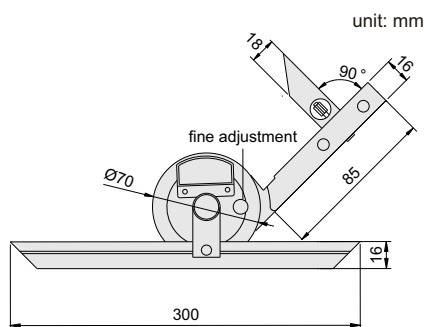
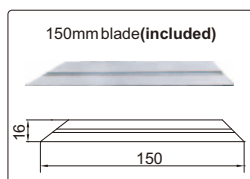
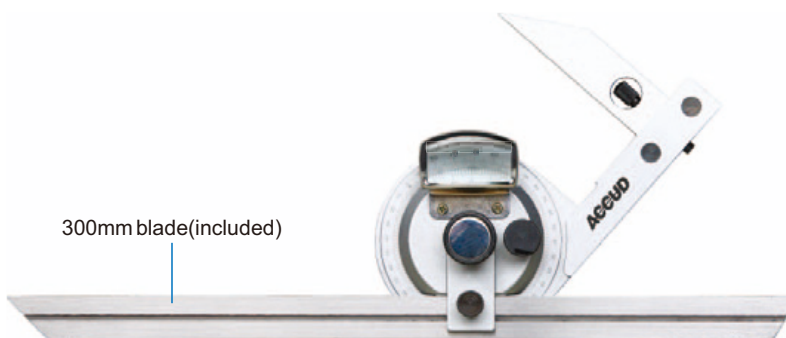
Code	Range	Accuracy
814-320-01	0 - 320°	±2'

815

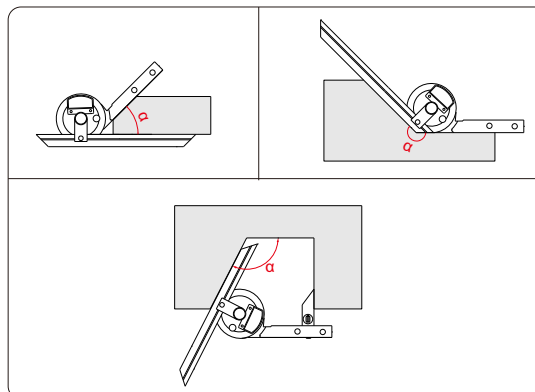
## UNIVERSAL PROTRACTOR

- ◆ Graduation : 5'
- ◆ Parallax-free reading
- ◆ With 150mm and 300mm blade
- ◆ With 90° square
- ◆ Made of stainless steel
- ◆ Optional accessory: clamp for height gages

300mm blade(included)



Application

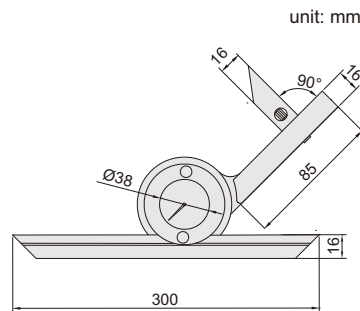
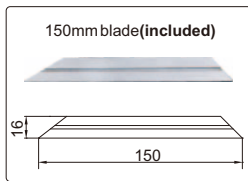


Code	Range	Accuracy
815-360-01	0 - 360°	±5'

816

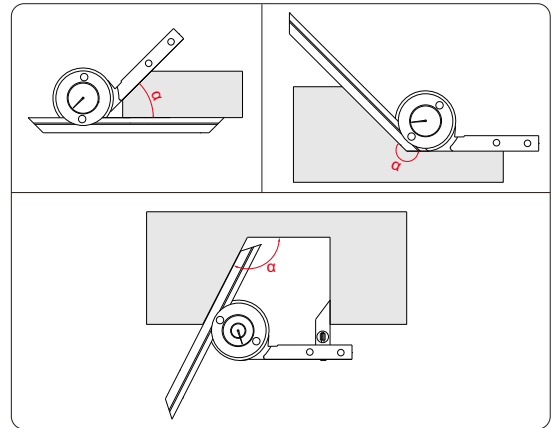
## UNIVERSAL PROTRACTOR

- ◆ Graduation: 5'
- ◆ With 150mm and 300mm blade
- ◆ With 90° square
- ◆ Made of stainless steel
- ◆ Optional accessory: clamp for height gages



unit: mm

### Application



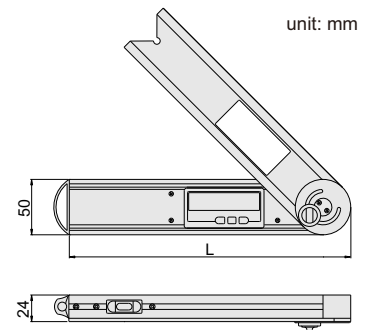
Code	Range	Accuracy
816-360-01	0 - 360°	±5'

726

## DIGITAL PROTRACTOR

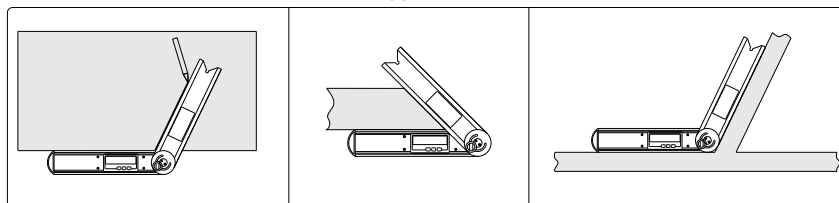


- ◆ Buttons: ON/OFF, HOLD, ZERO, ABS
- ◆ Measuring ranges can be set 0°~225°, -225°~0°, -45°~180°, -180°~45°
- ◆ Remove the locking screw for 360° range
- ◆ With level vial
- ◆ Automatic power off



unit: mm

### Application



Code	Range	Resolution	Accuracy	Size(L)
726-360-01	0 - 360°	0.05°	±0.15°	250mm

823

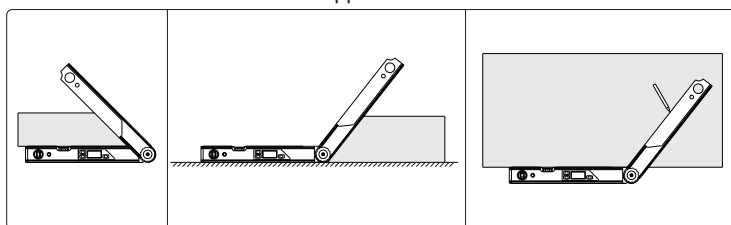
## DIGITAL PROTRACTOR



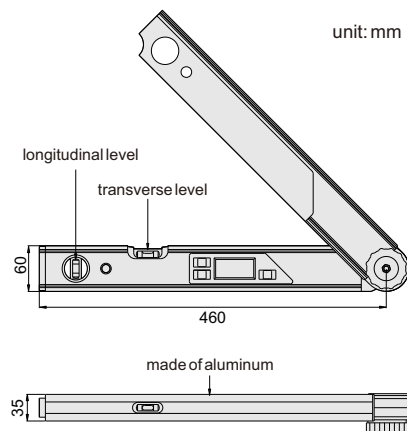
- ◆ Suitable for setting horizontal and vertical mitre angles of cutting machines
- ◆ Buttons: on/off, HOLD/SUP, SPR/CNR/MTR/BVL
- ◆ IP54 dust/waterproof
- ◆ With transverse and longitudinal level
- ◆ Absolute level, zero setting is not needed when batteries are replaced
- ◆ Backlight turns off in one 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

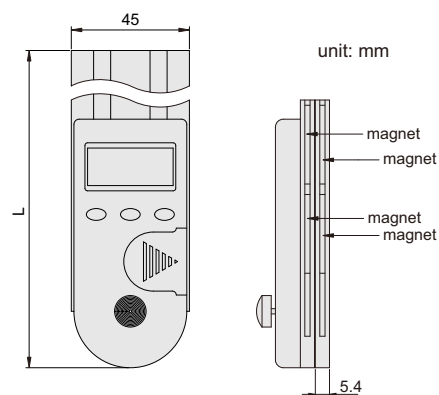
## DIGITAL PROTRACTOR



- ◆ 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



Package



Code	Size	Range	Accuracy	L
824-004-11	100mm	0-360°	±0.3°	103
824-008-11	200mm	0-360°	±0.3°	205
824-012-11	300mm	0-360°	±0.3°	306

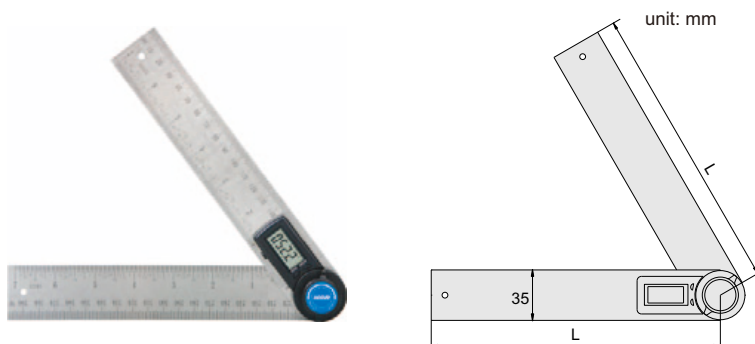
## SERIES 821

## DIGITAL PROTRACTOR



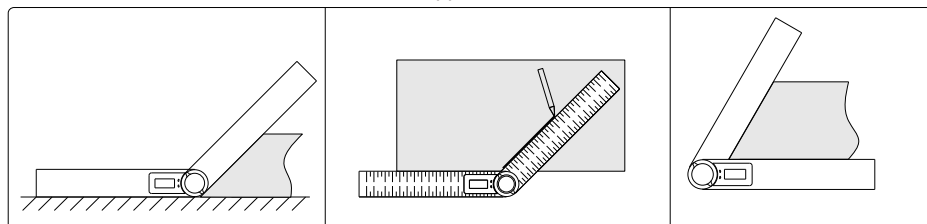
- ◆ Resolution: 0.1°
- ◆ Buttons: on/off, zero
- ◆ With locking attachment
- ◆ Rule graduation: 1mm and 1/32"
- ◆ Automatic power off

Package



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



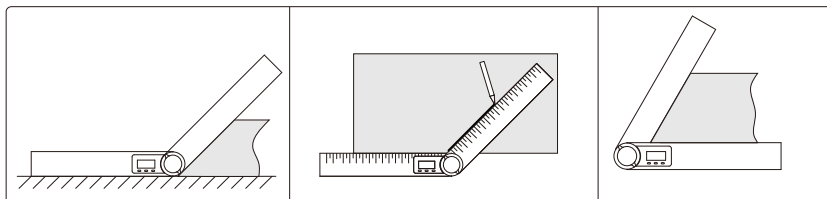
- ◆ Economic type
- ◆ Resolution: 0.1°
- ◆ Buttons: on/off, zero
- ◆ With locking attachment
- ◆ Rule graduation: 1mm and 1/32"
- ◆ Automatic power off

Package



821-008-01N

Application



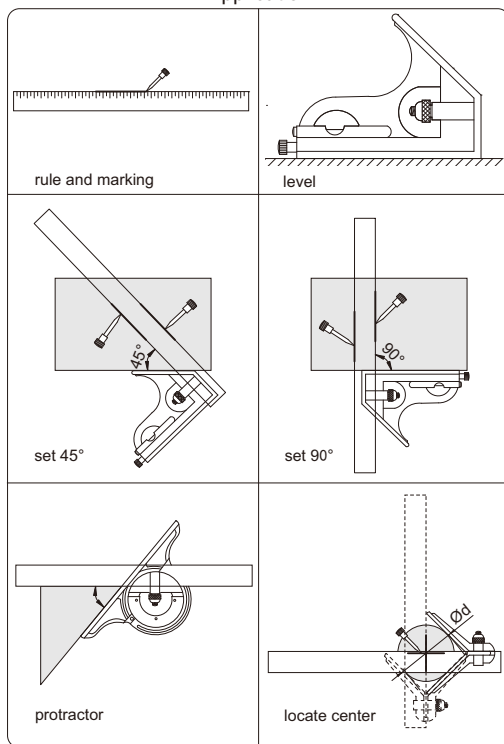
Code	Size(L)	Range	Accuracy
821-008-01N	200mm	0-360°	±0.3°
821-012-01N	300mm	0-360°	±0.3°

# SERIES 817

## COMBINATION SQUARE SET

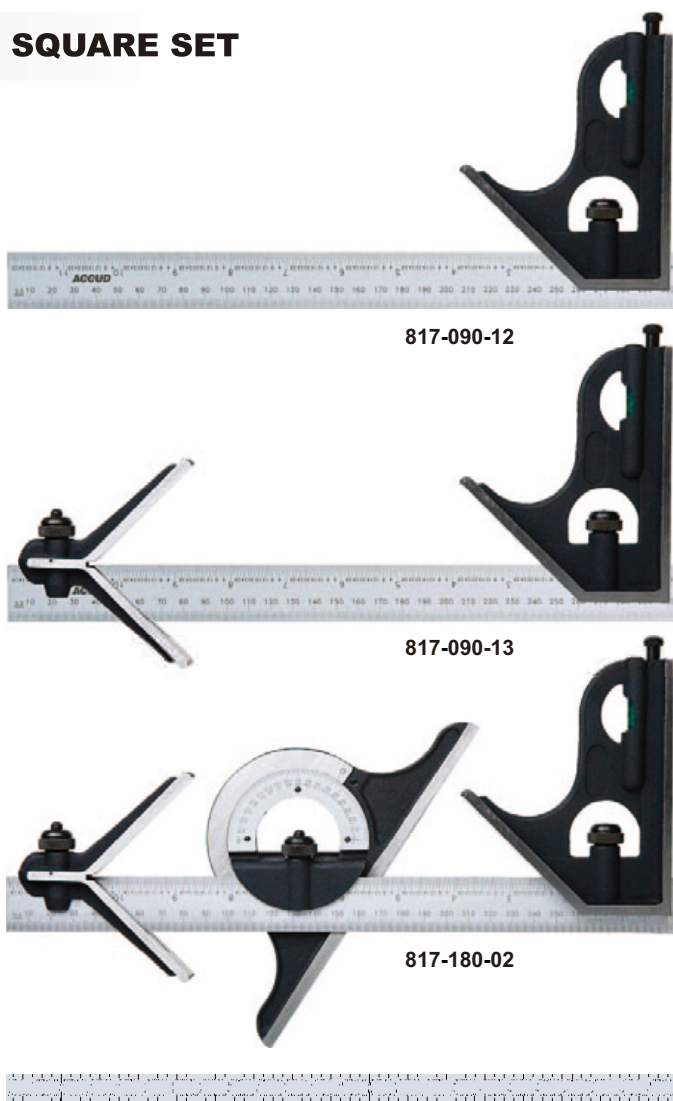
- ◆ Protractor (made of cast iron), only for **817-180-02**:  
Used to set an angle or angle measurement,  
measuring range: 0-180°, accuracy:  $\pm 20'$
- ◆ Square (made of cast iron):  
Used as 90° square or 45° square  
accuracy of 90° square:  $\pm 8'$ ,  
accuracy of 45° square:  $\pm 10'$
- ◆ Blade (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  
( $\varnothing$ d): 30-100mm, accuracy:  $\pm 0.15$ mm

Application



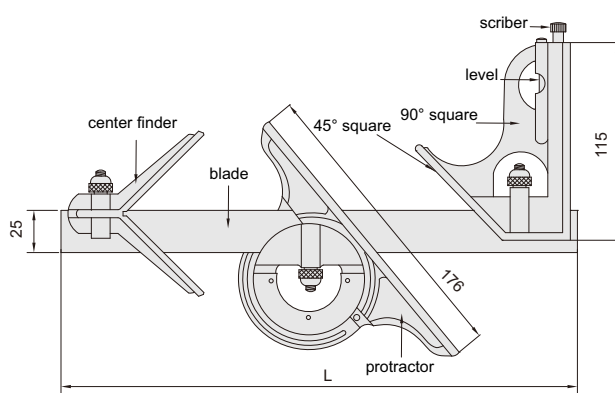
Code	L	Remark
817-090-12	305	2-piece set
817-090-13	305	3-piece set
817-180-02	305	4-piece set

Code	L
817-000-24	610

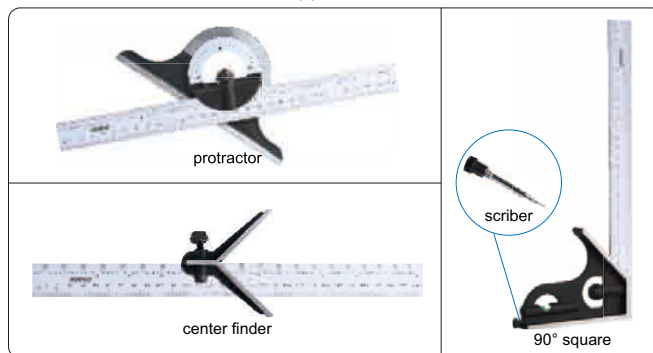


817-000-24

unit: mm



Application

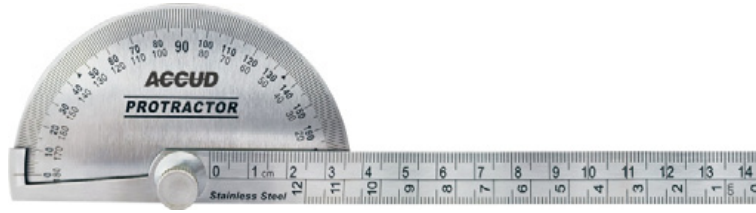




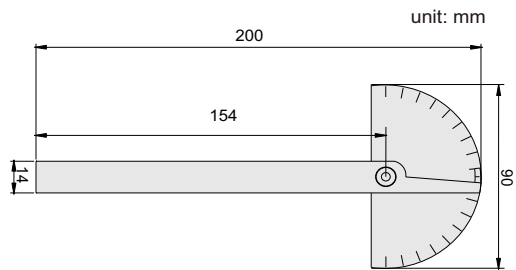
811

## 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°

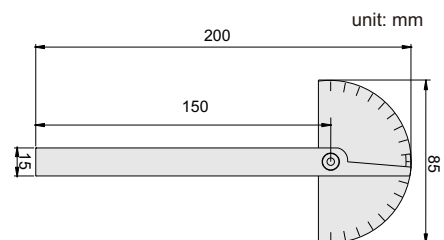
SERIES 811

## PROTRACTOR

- ◆ Graduation : 1°
- ◆ Made of stainless steel
- ◆ Satin chrome plated scale
- ◆ With locking screw



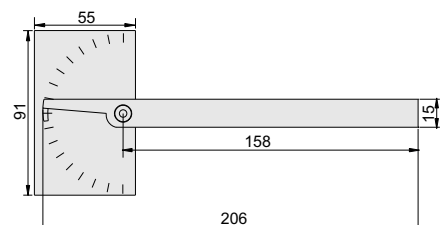
811-180-01



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

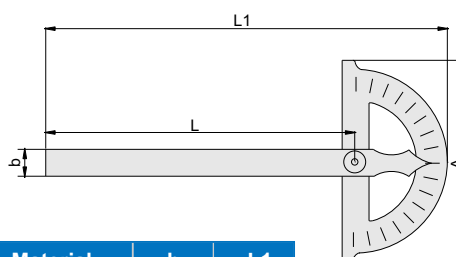
## PROTRACTOR

- ◆ Graduation : 1°
- ◆ Satin chrome plated scale
- ◆ With locking screw



812-005-01

unit: mm



Package

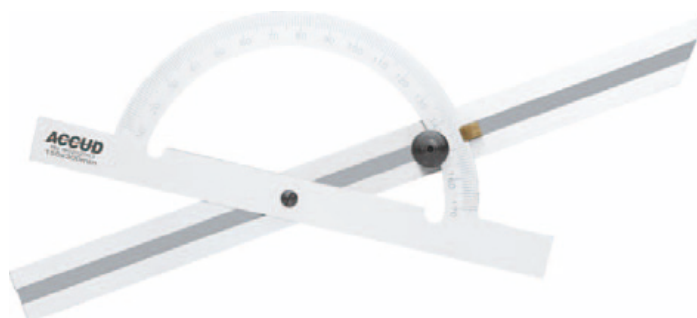


Code	Size(AxL)	Range	Accuracy	Material	b	L1
812-003-01	80x120mm	0 - 180°	±0.3°	stainless steel	11	165
812-005-01	120x150mm	0 - 180°	±0.3°	stainless steel	13	215
812-006-01	150x200mm	0 - 180°	±0.3°	stainless steel	16	280
812-008-01	200x300mm	0 - 180°	±0.3°	stainless steel	20	410
812-012-01	300x500mm	0 - 180°	±0.3°	carbon steel	30	675

## SERIES 813

## PROTRACTOR

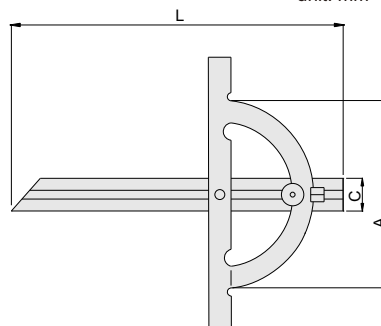
- ◆ Graduation : 1°
- ◆ Made of carbon steel
- ◆ Satin chrome plated scale
- ◆ The blade is moveable



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

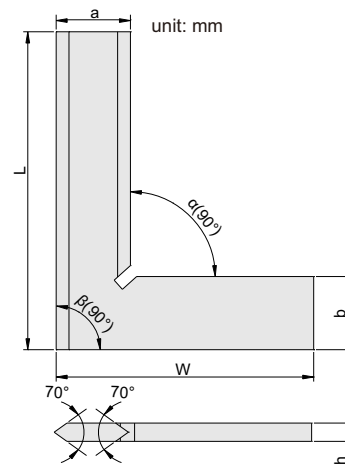
- ◆ Two beveled measuring faces
- ◆ Made of hardened stainless steel

### 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

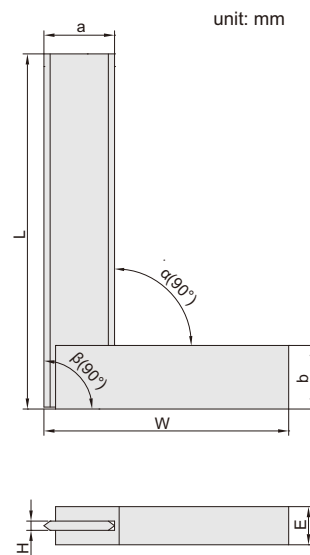
## 90° BEVELED EDGE SQUARE WITH WIDE BASE

- ◆ 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



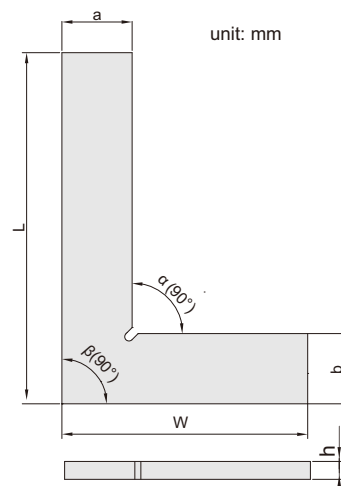
PROTRACTOR

## SERIES 841

## 90° FLAT EDGE SQUARE

- ◆ DIN875 grade 0
- ◆ Made of hardened stainless steel

841-004-10



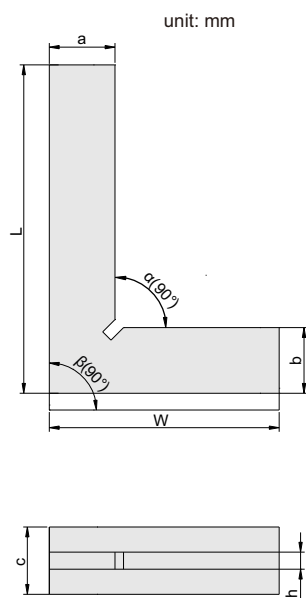
Code	Size(LxW)	Squareness(α)	Squareness(β)	a	b	h
841-002-10	50x40mm	6μm	6μm	15	15	4
841-003-10	75x50mm	6μm	7μm	15	15	4
841-004-10	100x70mm	7μm	7μm	20	20	5
841-006-10	150x100mm	7μm	8μm	30	30	6
841-008-10	200x130mm	8μm	9μm	34	34	7
841-010-10	250x165mm	9μm	10μm	35	35	7
841-012-10	300x200mm	10μm	11μm	40	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(α)	Squareness(β)	a	b	c	h
842-002-10	50x40mm	6μm	6μm	13	13	13	4
842-003-10	75x50mm	6μm	7μm	15	15	15	4
842-004-10	100x70mm	7μm	7μm	20	20	20	5
842-006-10	150x100mm	7μm	9μm	30	30	30	6
842-008-10	200x130mm	8μm	9μm	34	34	30	7
842-010-10	250x165mm	9μm	10μm	35	35	35	7
842-012-10	300x200mm	10μm	11μm	40	40	40	8

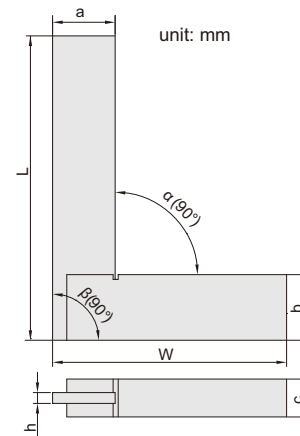
## SERIES 843

## 90° FLAT EDGE SQUARE WITH WIDE BASE

- ◆ DIN875 grade 0
- ◆ Made of hardened stainless steel



843-004-10



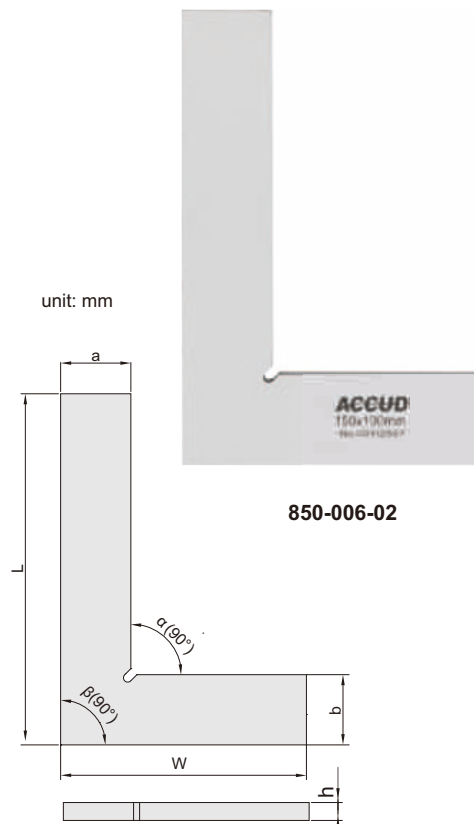
Code	Size(LxW)	Squareness(α)	Squareness(β)	a	b	c	h
843-002-10	50x40mm	6μm	6μm	12	12	10	3
843-003-10	75x50mm	6μm	7μm	14	14	10	3
843-004-10	100x70mm	7μm	7μm	18	18	10	3
843-006-10	150x100mm	8μm	8μm	22	22	12	4
843-008-10	200x130mm	9μm	9μm	25	25	12	4

## SERIES 850

## MACHINIST SQUARE

- ◆ Made of carbon steel, no anti-rust treatment, not hardened

Code	Size(LxW)	Squareness		a	b	h
		Inside(α)	Outside(β)			
850-002-02	50x30mm	24μm	25μm	12	12	3
850-003-02	75x50mm	26μm	28μm	16	16	3
850-004-02	100x70mm	28μm	30μm	19	19	5
850-005-02	125x80mm	30μm	33μm	22	22	5
850-006-02	150x100mm	33μm	35μm	25	25	6
850-008-02	200x130mm	38μm	40μm	25	25	6
850-010-02	250x165mm	43μm	45μm	25	25	6
850-012-02	300x200mm	47μm	50μm	30	30	6
850-014-02	350x200mm	51μm	55μm	38	38	6
850-016-02	400x200mm	56μm	60μm	38	38	9
850-018-02	450x250mm	58μm	65μm	38	38	9
850-020-02	500x300mm	65μm	70μm	38	38	9



850-006-02

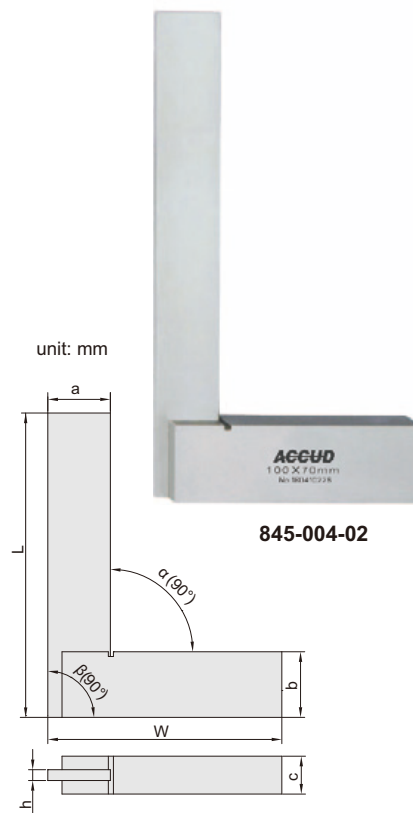
PROTRACTOR

## 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



## 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**



## SERIES 833

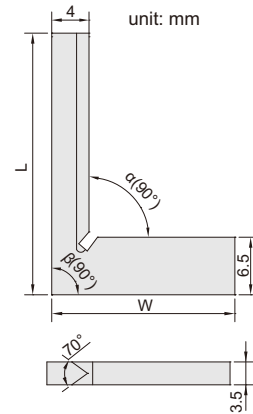
## 90° TOOL MAKER SQUARE

- ◆ DIN875 grade 00
- ◆ Beveled edge for inside measurement
- ◆ Made of hardened stainless steel

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



833-040-00



## SERIES 838

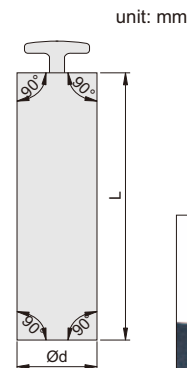
## CYLINDER SQUARE

- ◆ Made of special alloy steel, hardness HRC58~60
- ◆ The handle can be removed

Code	Size( $\varnothing$ dxL)	Squareness
838-008-00	$\varnothing$ 80x200mm	1 $\mu$ m
838-012-00	$\varnothing$ 100x315mm	2 $\mu$ m



838-008-00



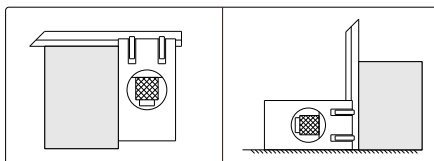
Inspect 90° external angles



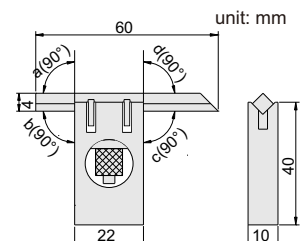
## 831

## ADJUSTABLE SQUARE

- ◆ The straight edge can move and can be locked by the screw
- ◆ Made of hardened stainless steel



Code	Squareness (a, b, c, d)
831-002-10	7 $\mu$ m



## SERIES 846

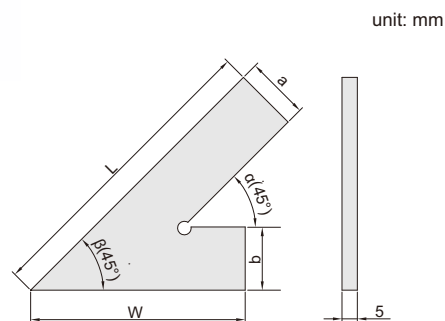
## 45° SQUARE

◆ Made of hardened stainless steel



846-006-02

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



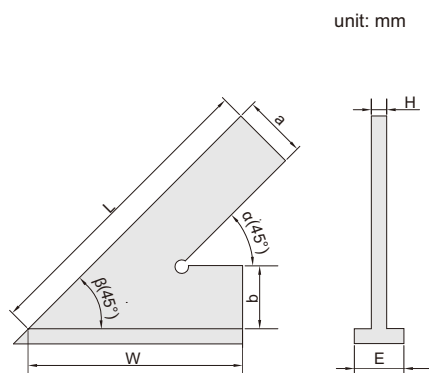
## SERIES 856

## 45° SQUARE WITH WIDE BASE

◆ Made of hardened stainless steel



856-006-02

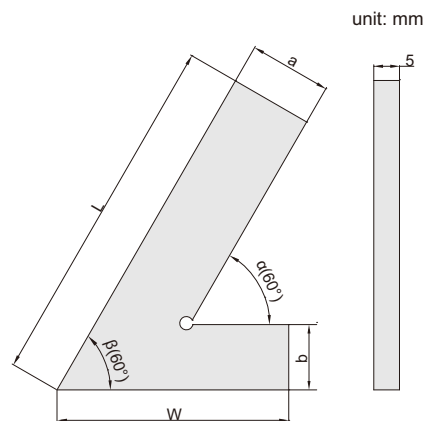


Code	Size(LxW)	Accuracy		a	b	H	E
		Inside( $\alpha$ )	Outside( $\beta$ )				
856-005-02	120x80mm	29 $\mu$ m	32 $\mu$ m	20	20	5	20
856-006-02	150x100mm	32 $\mu$ m	35 $\mu$ m	20	20	5	20
856-008-02	200x130mm	36 $\mu$ m	40 $\mu$ m	25	25	5	25

## 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

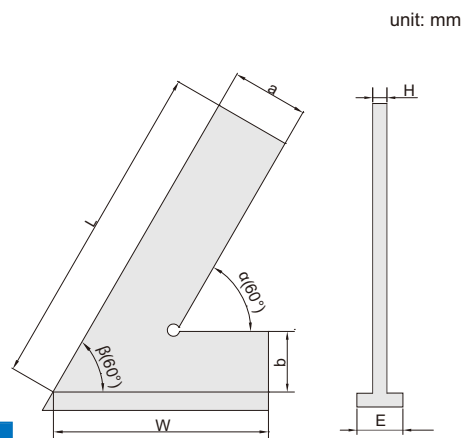
## SERIES 857

## 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**

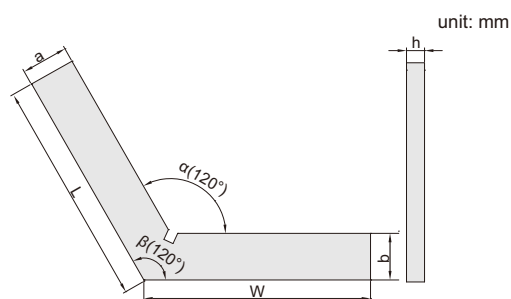
**120° SQUARE**

◆ 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



unit: mm

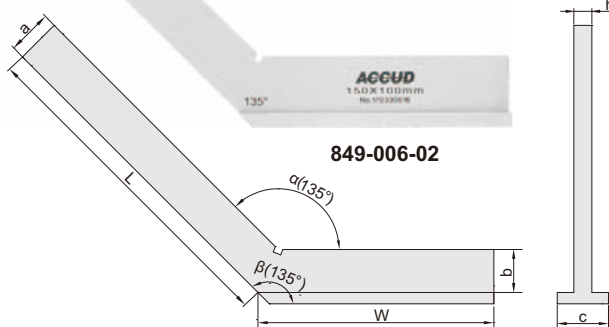
**SERIES 849**

**135° SQUARE WITH WIDE BASE**

◆ Made of hardened stainless steel



849-006-02



unit: mm

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

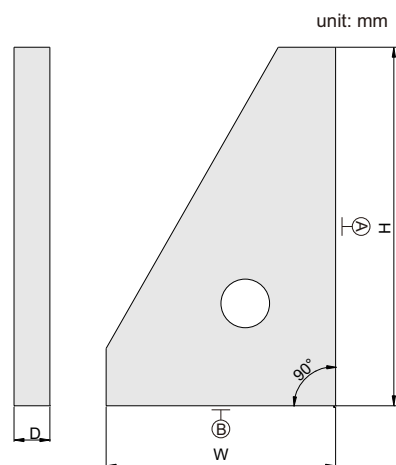


### CUSTOM-MADE

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

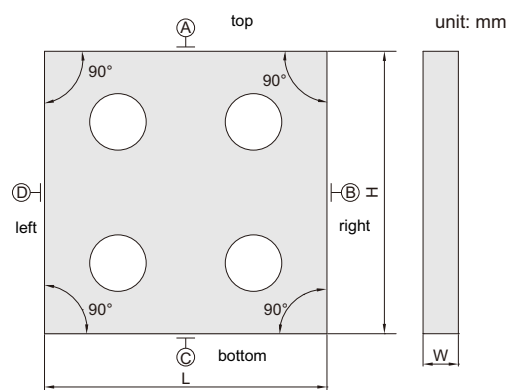


### CUSTOM-MADE

other sizes are available  
upon request



644-012-01



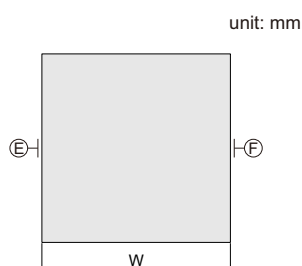
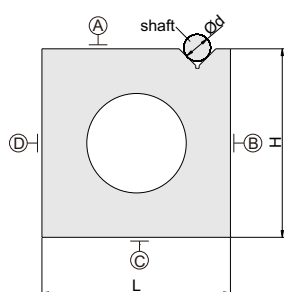
Code	Size(LxH)	Flatness (A, B, C and D)	Parallelism or squareness (A, B, C and D)	W
644-012-01	315x315mm	1.1μm	2.6μm	40
644-020-01	500x500mm	1.5μm	3.5μm	60

With manufacturer inspection certificate

645

## GRANITE SQUARE AND V-BLOCK

◆ Thread holes: M8



unit: mm

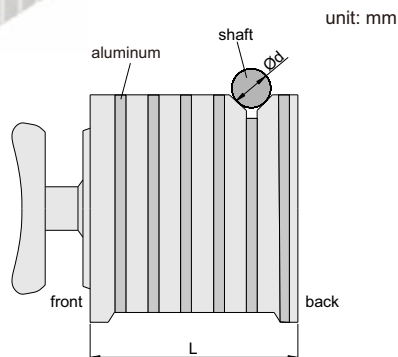
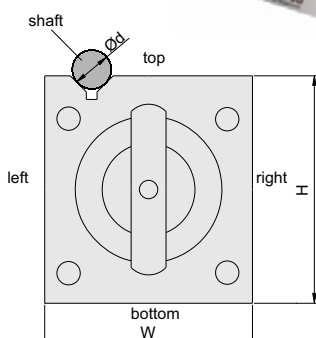
Code	Size(LxWxH)	Range of shafts (Ød)	Parallelism or squareness A, B, C, D, E and F	Parallelism or squareness of V grooves to A, B, C, D, E and F
645-006-01	160x160x160mm	6 - 42mm	6µm	6µm

SERIES 649

## MAGNETIC SQUARE AND V-BLOCK



649-004-01



unit: mm

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

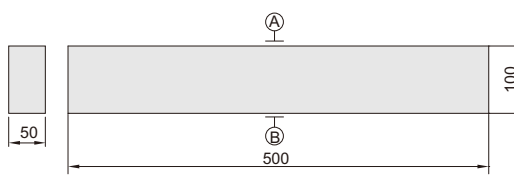
## GRANITE STRAIGHT EDGE



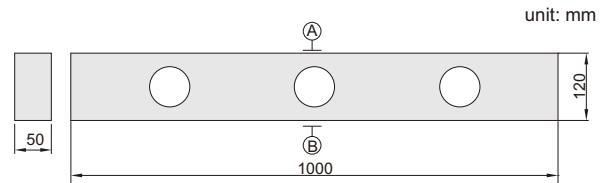
ACCUD



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

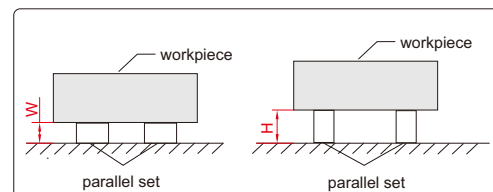
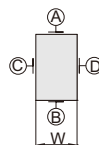
## GRANITE PARALLEL SET



- ◆ Made of granite
- ◆ Two parallels per set



unit: mm



PARALLEL

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

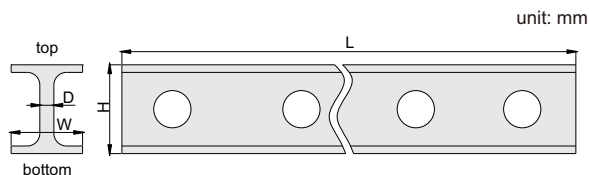
## SERIES 647

## 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

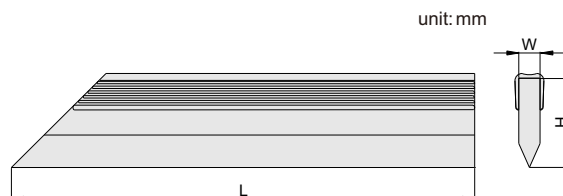
## STRAIGHT EDGE

- ◆ 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



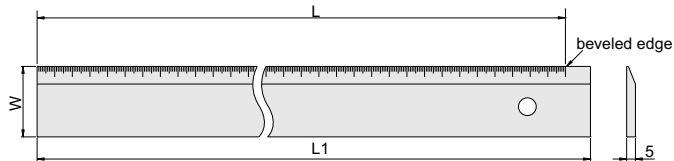
## SERIES 991

## STRAIGHT EDGE RULE



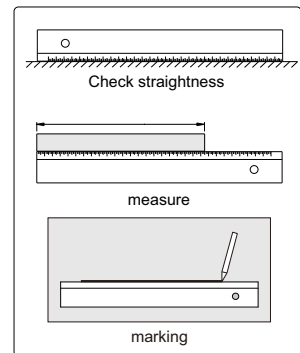
991-012-01

unit: mm



- ◆ Check straightness, as well as for measurement
- ◆ Made of hardened tool steel, chrome plated
- ◆ Graduation: 1mm

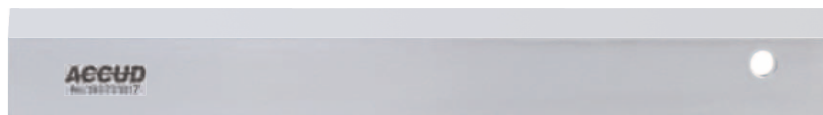
### Application



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

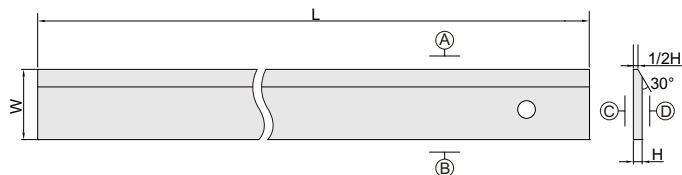
## SERIES 907

## PRECISION STRAIGHT EDGE WITH BEVELED EDGE



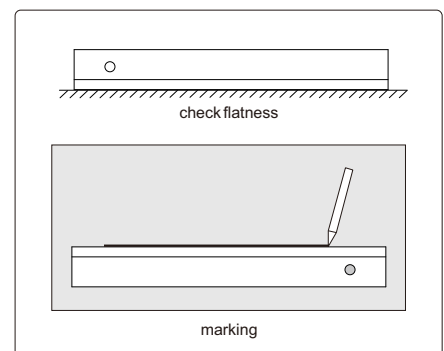
907-012-11

unit: mm



- ◆ Check flatness and for marking
- ◆ Made of tool steel

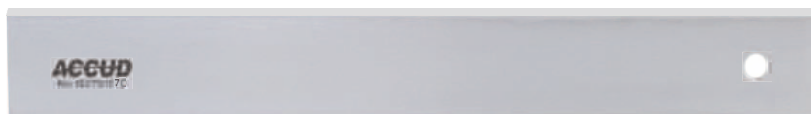
### Application



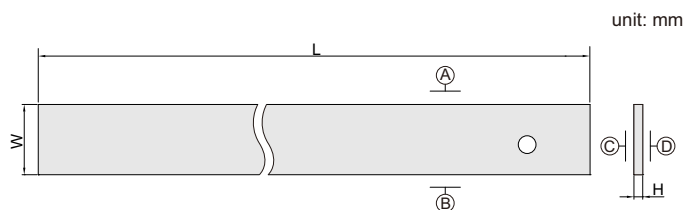
Code	Range(L)	Flatness of A and B	Flatness of C and D	W	H
907-012-11	305mm	0.005mm	0.05mm	41	6.3
907-024-11	610mm	0.006mm	0.06mm	51	7.9
907-036-11	914mm	0.007mm	0.06mm	64	9.5

## SERIES 906

## PRECISION STRAIGHT EDGE



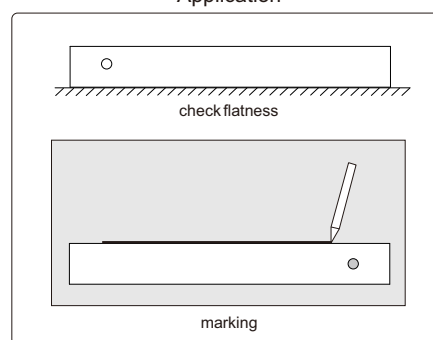
906-012-11



- ◆ 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



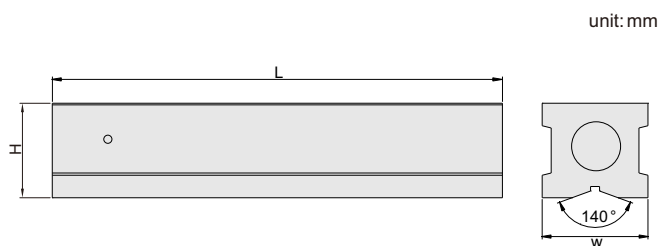
## SERIES 713

## BLOCK LEVEL

- ◆ For use in setting machined surfaces precisely horizontal
- ◆ Sensibility: 0.02mm/m per division
- ◆ Vee angle : 140°



713-006-02



Code	Size (L)	H	W
713-006-02	150mm	42	47
713-008-02	200mm	45	47
713-012-02	300mm	45	49

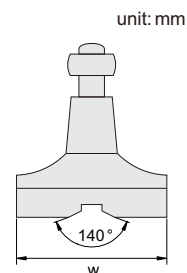
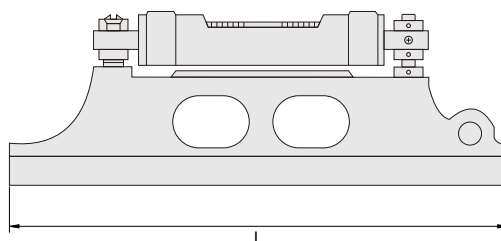
## SERIES 715

## BLOCK LEVEL

- ◆ For use in setting machined surfaces precisely horizontal
- ◆ Vee angle : 140°



715-008-05



unit: mm

Sensibility 0.05mm/m

Code	Size (L)	W
715-006-05	150mm	38
715-008-05	200mm	44
715-012-05	300mm	44

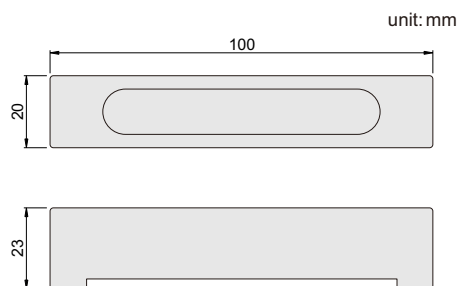
Sensibility 0.1mm/m

Code	Size (L)	W
715-006-10	150mm	38
715-008-10	200mm	44
715-012-10	300mm	44

## 710

## MINI LEVEL

- ◆ No need to set zero before use
- ◆ Sensibility: 0.1mm/m(=0.0057°)



unit: mm

Code

710-004-10

## 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)

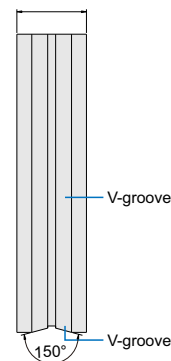
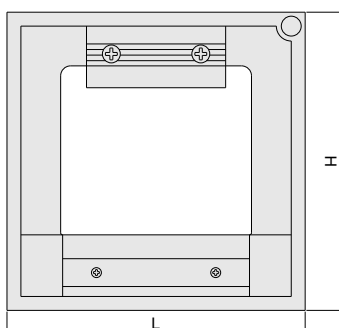


711-006-02



711-004-02

unit: mm

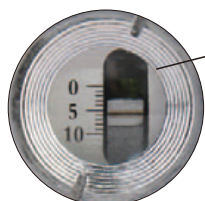


Code	Size (LxHxW)
711-004-02	100x100x32mm
711-006-02	150x150x38mm
711-008-02	200x200x40mm
711-010-02	250x250x42mm
711-012-02	300x300x45mm

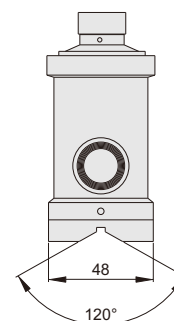
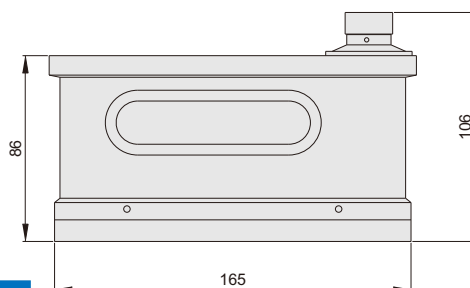
## 714

## 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



unit: mm



Code	Range	Graduation
714-006-01	0-10mm/m( $\pm 5$ mm/m)	0.01mm/m

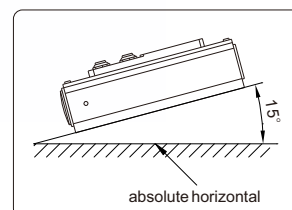




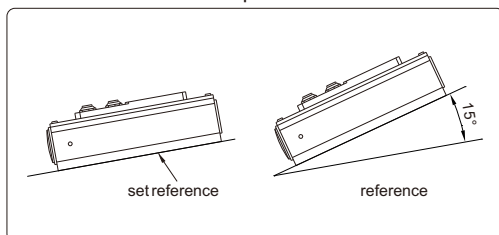
- ◆ Sensibility: 0.01mm/m(0.001°)
- ◆ Accuracy: 10mm range  $\leq \pm 0.01$ mm/m  
10mm-50mm range  $\leq \pm 0.02$ mm/m
- ◆ For use in setting machined surfaces precisely horizontal
- ◆ With longitudinal level
- ◆ Buttons: on/off, zero, mm/inch, save/mode, ABS
- ◆ 3.6V li-ion battery for 15 hours working
- ◆ Memory: 6



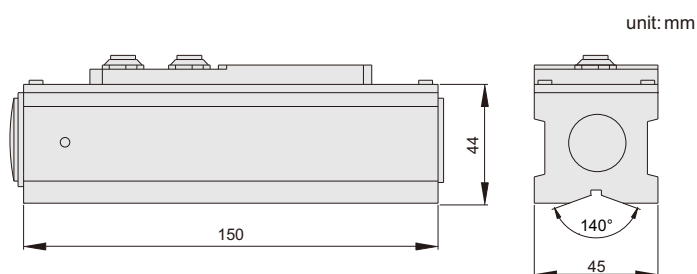
Use as level



Use as protractor



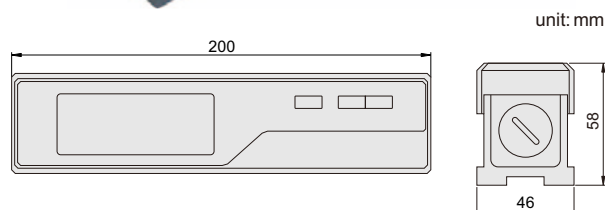
Code	Range	Graduation
712-006-01	$\pm 50$ mm/m	0.01mm/m



unit: mm



- ◆ Button function: on/off, data hold, reading flips over, unit conversion (°, mm/m)
- ◆ Analog bubbles can show tilt trends in X-axis and Y-axis
- ◆ Built-in Bluetooth, transmission distance is 10 meters (under the condition of no obstruction and no electromagnetic interference)
- ◆ With software for Android system
- ◆ Automatic power off



unit: mm

Code	Range	Resolution	Accuracy	Repeatability	Response time
718-008-01	$\pm 0.5$ mm/m( $\pm 0.028^\circ$ )	0.01mm/m(0.001°)	$\pm (1 + A \times 2\%) \Delta^*$	0.01mm/m	< 3s

\* A is the measured value,  $\Delta$  is the resolution



- ◆ 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



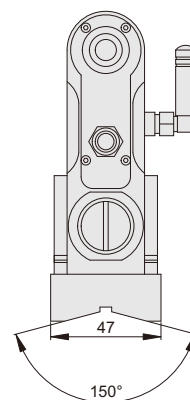
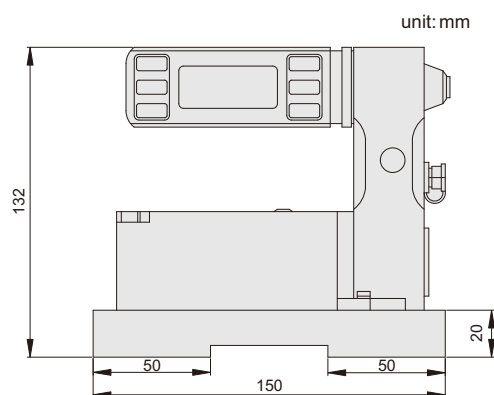
Charging cable



Control box



Wireless transmitter



### 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

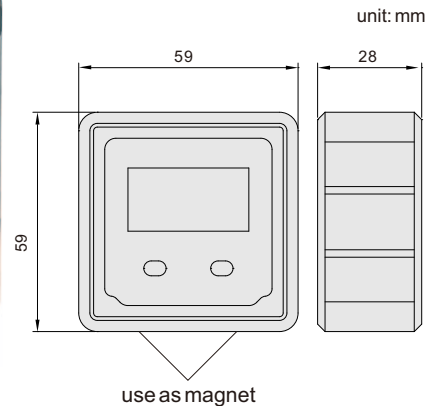
Charging cable	1pc
Control box	1pc
Rechargeable battery	2pcs
Wireless transmitter	1pc
Lithium battery socket	1pc
Measuring software	1pc

721

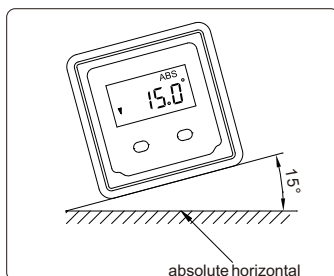
## DIGITAL LEVEL



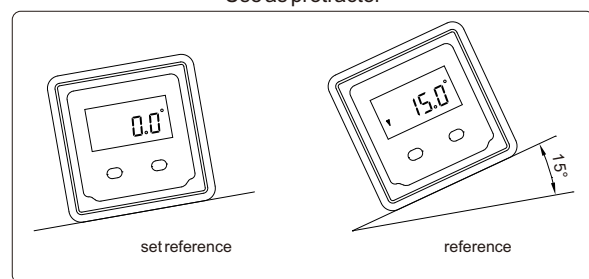
- ◆ Use as level or protractor
- ◆ Accuracy :  $\pm 0.1^\circ$  (vertical and horizontal),  $\pm 0.2^\circ$  (other direction)
- ◆ Absolute horizontal reference can save in memory for ever
- ◆ Button: on/off, zero
- ◆ Magnetic base
- ◆ Use in 4 directions
- ◆ Automatic power off



Use as level



Use as protractor



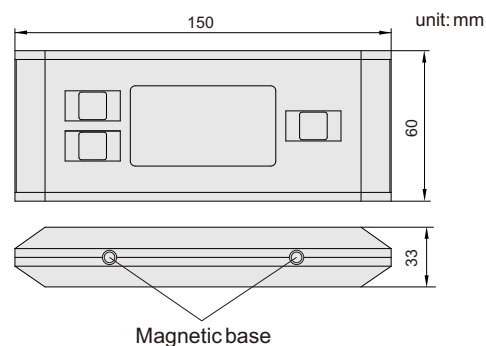
Code	Range	Resolution
721-180-01	0 - 360° (90°x4)	0.05°

722

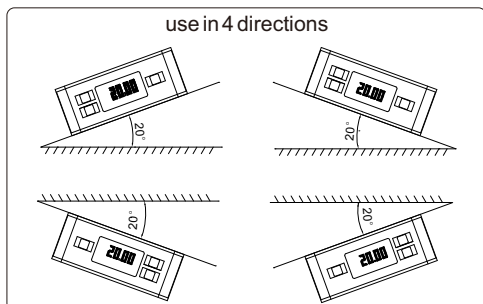
## DIGITAL LEVEL



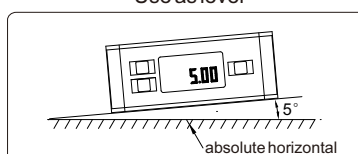
- ◆ Use as level or protractor
- ◆ Resolution: 0.05°
- ◆ Accuracy :  $\pm 0.1^\circ$  (vertical and horizontal),  $\pm 0.2^\circ$  (other direction)
- ◆ Magnetic base, with groove
- ◆ Aluminum frame provides with high rigidity and low weight
- ◆ Absolute horizonation reference can save in memory for ever



use in 4 directions



Use as level



Use as protractor



Code	Range	Dimension(LxWxH)
722-360-01	0 - 360° (90°x4)	150x60x33mm

Accud

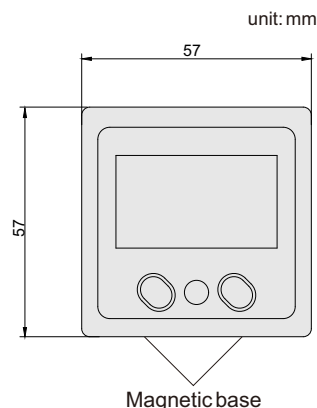
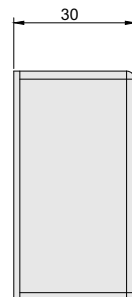
LEVEL

723

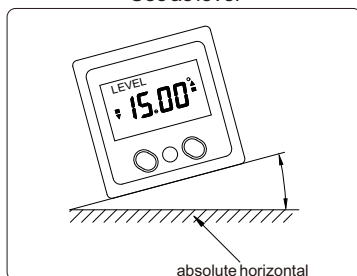
## DIGITAL LEVEL



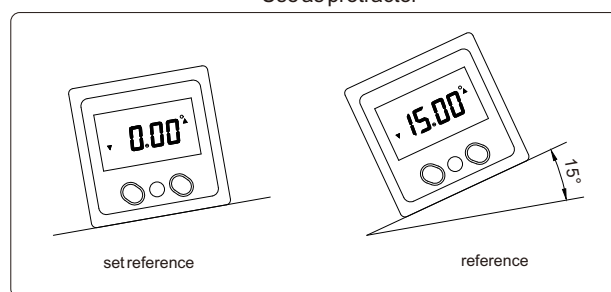
- ◆ Use as level or protractor
- ◆ Use in 4 directions
- ◆ Magnetic base
- ◆ Accuracy :  $\pm 0.1^\circ$  (vertical and horizontal),  $\pm 0.2^\circ$  (other direction)
- ◆ Metal cover
- ◆ Adjust the display direction automatically



Use as level



Use as protractor



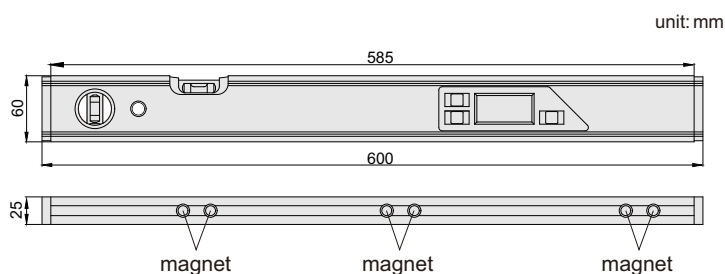
Code	Range	Resolution
723-360-01	0 - 360° (4x90°)	0.05°

725

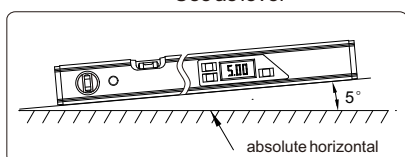
## DIGITAL LEVEL



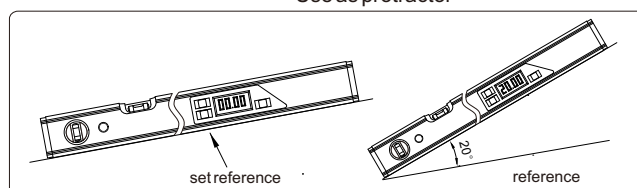
- ◆ Use as level or protractor
- ◆ Accuracy :  $\pm 0.1^\circ$  (vertical and horizontal),  $\pm 0.2^\circ$  (other direction)
- ◆ Buttons: on/off, ABS, hold, alarm unit, backlight
- ◆ With vertical and horizontal vials
- ◆ Absolute horizonation reference can save in memory for ever
- ◆ Magnetic base
- ◆ Adjust the display direction automatically



Use as level



Use as protractor

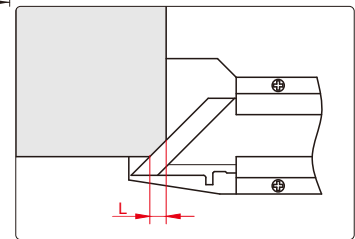
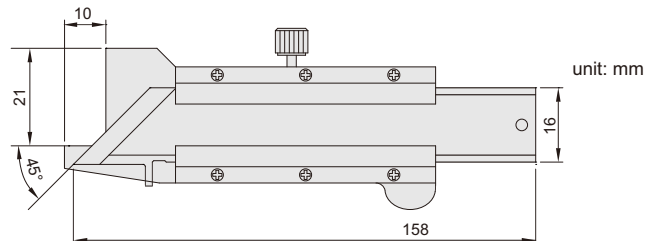
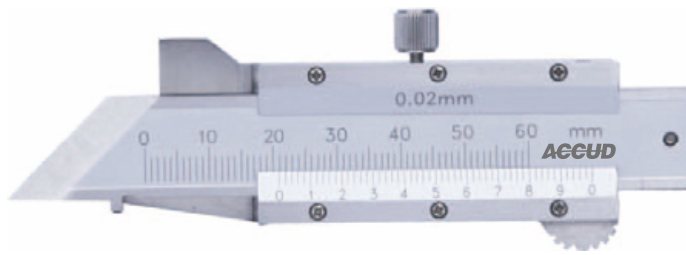


Code	Range	Resolution
725-360-01	0 - 360° (4x90°)	0.05°

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

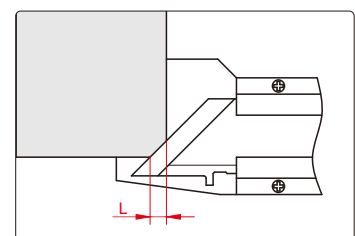
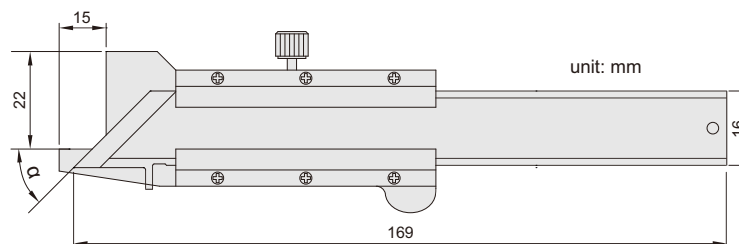
SERIES 160

CHAMFER GAUGE

- ◆ Measure α 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°

## SERIES 163

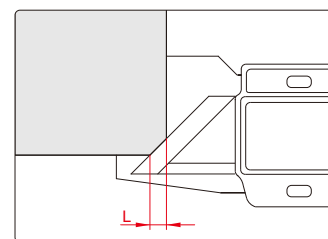
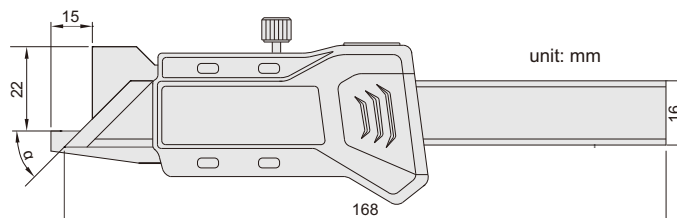
## DIGITAL CHAMFER GAUGE



- ◆ Measure a 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"	$\pm 0.06\text{mm}$	30°
163-010-12	0-10mm/0-0.39"	$\pm 0.06\text{mm}$	45°
163-010-13	0-10mm/0-0.39"	$\pm 0.06\text{mm}$	60°

## SERIES 164

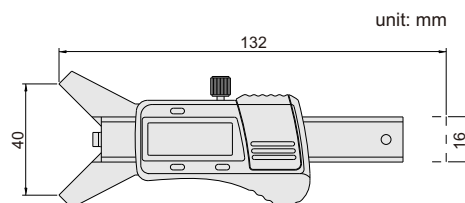
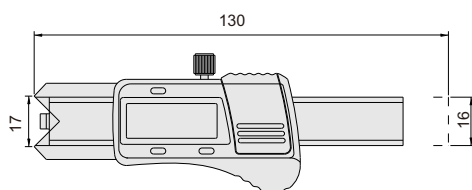
## DIGITAL CHAMFER GAUGE



164-001-11



164-002-11

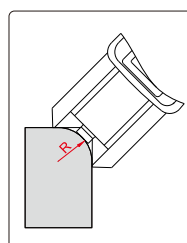


Set zero

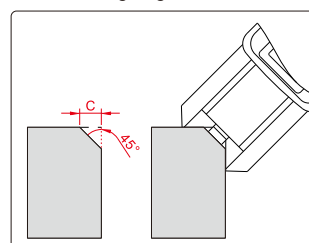


- ◆ Resolution: 0.01mm
- ◆ Made of stainless steel

Measure chamfer radius

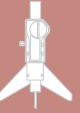


Measure leg length of 45° chamfer



Code	Range of radius (R)	Range of leg length (C)	Accuracy
164-001-11	0-15mm	0-6mm	$\pm 0.05\text{mm}$
164-002-11	0-30mm	0-18mm	$\pm 0.05\text{mm}$

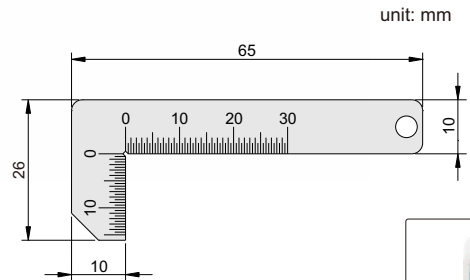
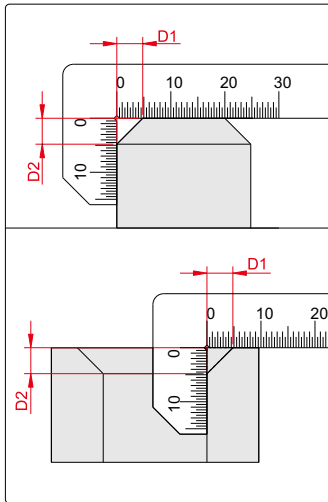




967

## CHAMFER GAUGE

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



unit: mm

Package



Code	Graduation	Accuracy
967-001-11	0.5mm	±0.25mm

195

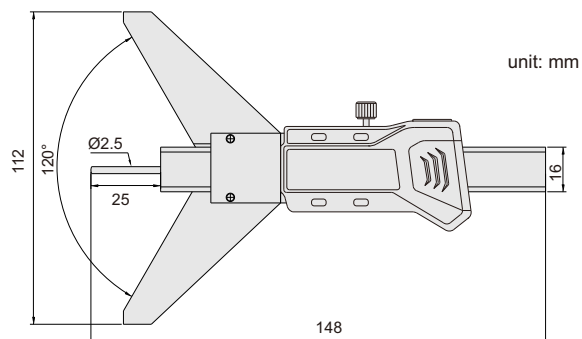
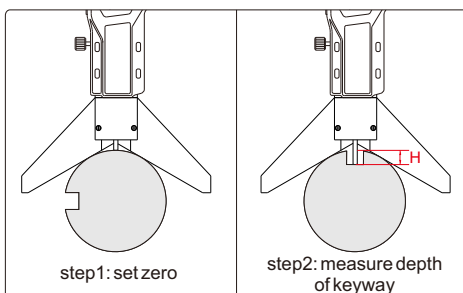
## DIGITAL KEYWAY GAUGE



- ◆ 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



unit: mm

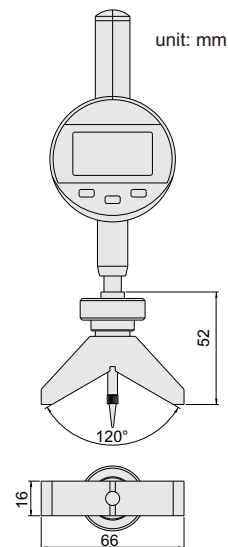
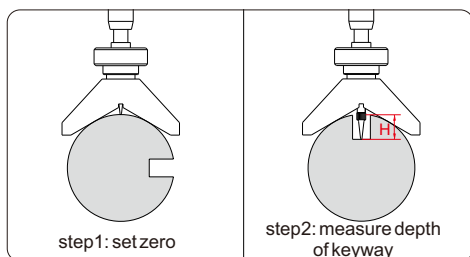
Code	Range	Accuracy
195-002-11	0-50mm/0-2"	±0.03mm

KEYWAY



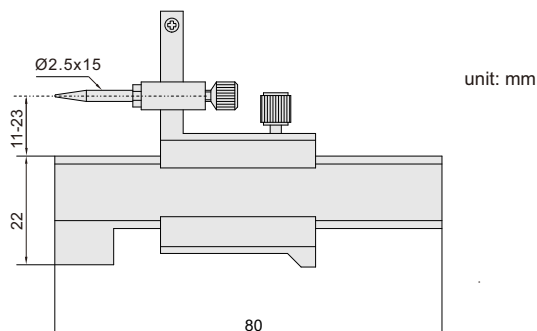
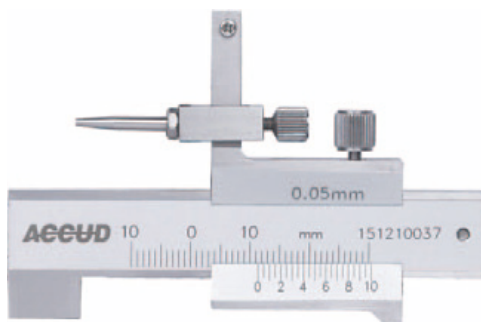
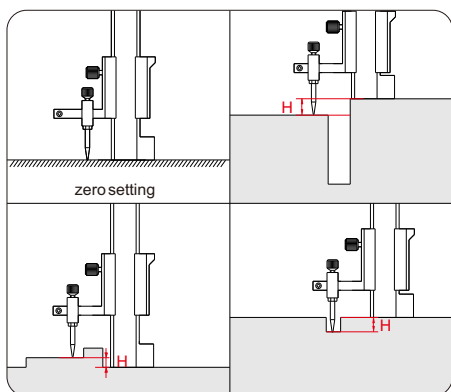
- ◆ Measure the keyway depth of cylindrical workpieces with a diameter of  $\varnothing 0-100\text{mm}$
- ◆ Button: on/off, zero, mm/inch, ABS, data preset, change measuring direction
- ◆ Automatic power off
- ◆ Data output (cable code: 200-03 or 200-04)
- ◆ Stainless steel base
- ◆ Pointed tip (Code: 270-006-21)

Measure



Code	Range	Resolution	Accuracy
196-001-11	0-25.4mm/0-1"	0.01mm/0.0005"	$\pm 0.02\text{mm}$

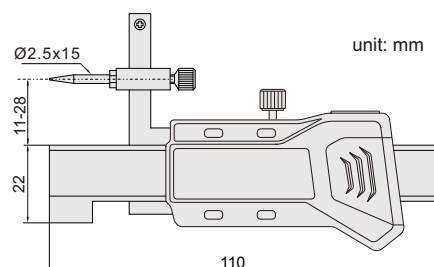
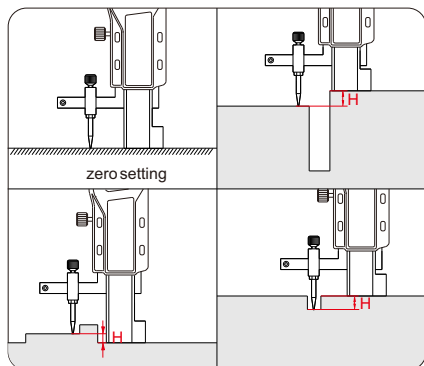
- ◆ Measure the height difference of two surface
- ◆ Resolution: 0.05mm



Code	Range	Accuracy
998-010-11	-10~+10mm	$\pm 0.05\text{mm}$



- ◆ 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



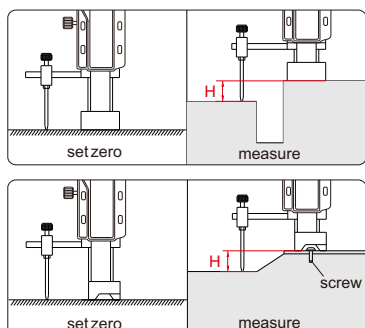
Code	Range	Accuracy
999-010-11	-10~+10mm	±0.05mm

## SERIES 999

## MINI DIGITAL HEIGHT GAUGE



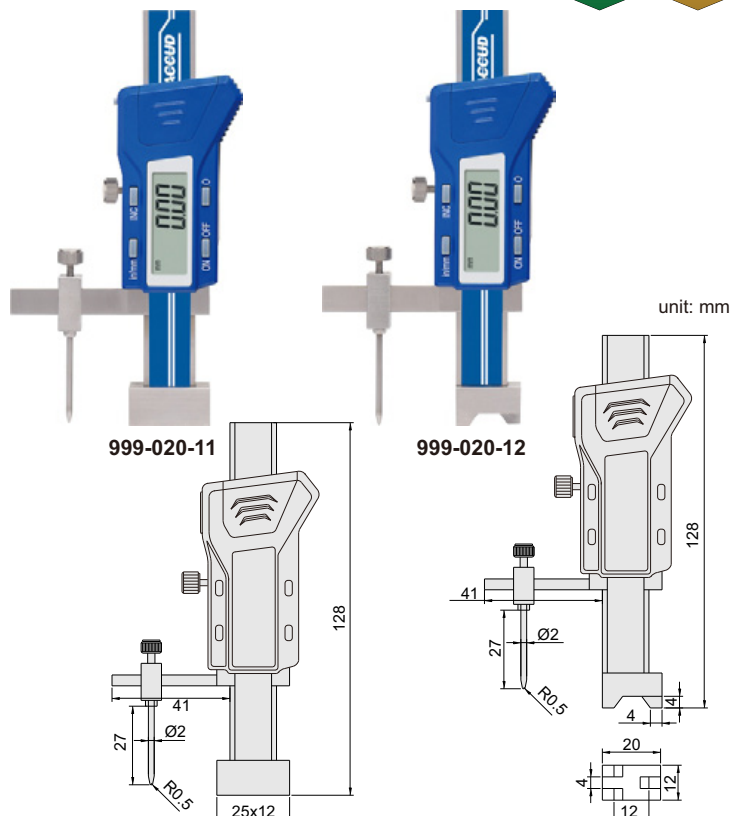
- ◆ Measure height difference of two surfaces  
(999-020-12 suitable for surfaces with barrier, such as screw)
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/in, INC
- ◆ Data output(cable code : 100-03 or 100-04)
- ◆ Automatic power off
- ◆ Made of stainless steel



999-020-11

999-020-12

Code	Range	Accuracy
999-020-11	0~±20mm/0~±0.8"	±0.02mm
999-020-12	0~±20mm/0~±0.8"	±0.02mm

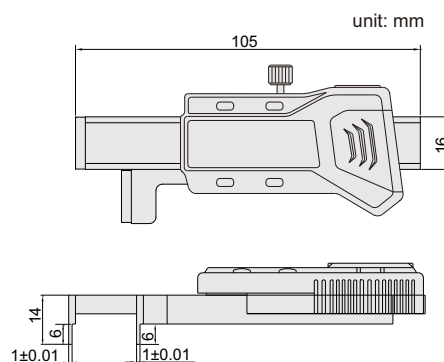
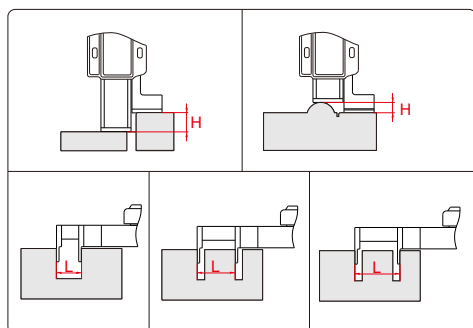


437

## 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



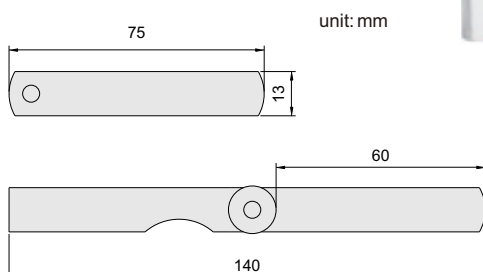
Zero setting block(included)

Code	Range	Accuracy
437-001-11	0-12.7mm/0-0.5"	±0.03mm

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



Package

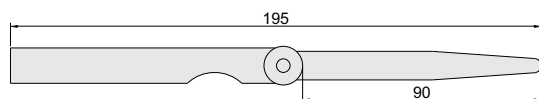


Code	Range	Quantity	Leaves thickness (mm)
911-100-25	0.04 - 1.00mm	25	0.04, 0.05, 0.06, 0.07, 0.08, 0.09, 0.10, 0.15, 0.20, 0.25, 0.30, 0.35, 0.40, 0.45, 0.50, 0.55, 0.60, 0.65, 0.70, 0.75, 0.80, 0.85, 0.90, 0.95, 1.00

## 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

Package



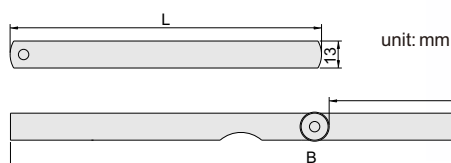
Code	Range	Quantity	Leaves thickness (mm)
912-050-13	0.03 - 0.50mm	13	0.03, 0.04, 0.05, 0.06, 0.07, 0.08, 0.09, 0.10, 0.15, 0.20, 0.30, 0.40, 0.50
912-100-13	0.05 - 1.00mm	13	0.05, 0.10, 0.15, 0.20, 0.25, 0.30, 0.40, 0.50, 0.60, 0.70, 0.80, 0.90, 1.00
912-100-17	0.02 - 1.00mm	17	0.02, 0.03, 0.04, 0.05, 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

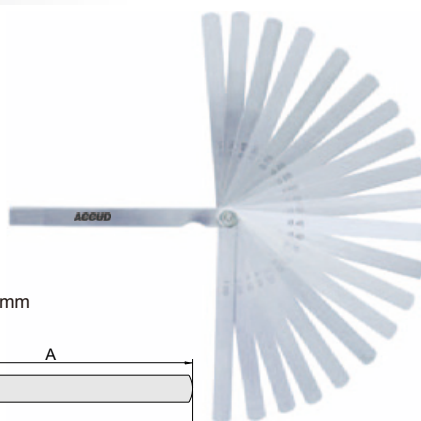
## FEELER

- ◆ 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

L	A	B
150	135	295
200	185	395
300	285	590



913-100-20



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



916-002-01

Code	Thickness	Accuracy
916-001-01	0.01mm	±3μm
916-002-01	0.02mm	±4μm
916-003-01	0.03mm	±4μm
916-004-01	0.04mm	±4μm
916-005-01	0.05mm	±4μm
916-006-01	0.06mm	±4μm
916-007-01	0.07mm	±5μm
916-008-01	0.08mm	±5μm
916-009-01	0.09mm	±5μm
916-010-01	0.10mm	±5μm

Code	Thickness	Accuracy
916-015-01	0.15mm	±5μm
916-018-01	0.18mm	±7μm
916-020-01	0.20mm	±8μm
916-025-01	0.25mm	±9μm
916-030-01	0.30mm	±9μm
916-035-01	0.35mm	±11μm
916-040-01	0.40mm	±12μm
916-045-01	0.45mm	±12μm
916-050-01	0.50mm	±14μm
916-055-01	0.55mm	±14μm

Code	Thickness	Accuracy
916-060-01	0.60mm	±14μm
916-065-01	0.65mm	±14μm
916-070-01	0.70mm	±17μm
916-075-01	0.75mm	±17μm
916-080-01	0.80mm	±19μm
916-085-01	0.85mm	±19μm
916-090-01	0.90mm	±22μm
916-095-01	0.95mm	±22μm
916-100-01	1.00mm	±24μm

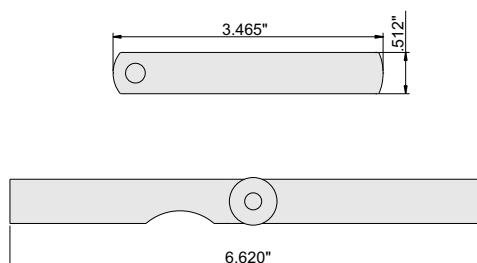
## 917

## 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"



Package



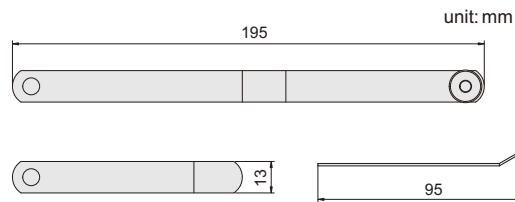




919

## 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)

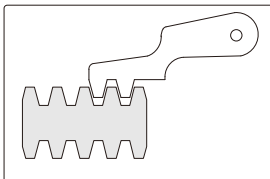
## SERIES 921

## PITCH GAUGE

- ◆ Measure the pitch of thread
- ◆ Accuracy:  $\pm 0.07\text{mm}$
- ◆ 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

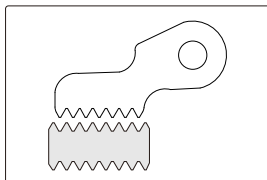
## SERIES 922/923/924/925

## PITCH GAUGE

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



922-007-22



Package



## 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

## METRIC 60° AND UNIFIED 60° SCREW

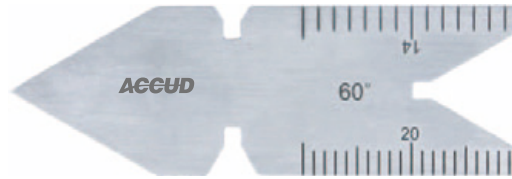
Code	Range	Quantity	Leaves pitch
925-642-52	0.4-7.0mm and 4-42TPI	52	pitch of 922-007-22 and 923-042-30

## SERIES 926

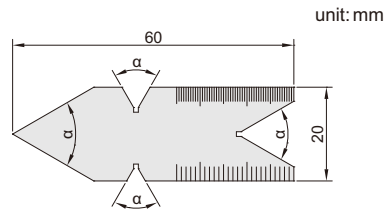
## CENTER GAUGE

- ◆ Check the screw angle and pitch
- ◆ Accuracy:  $\pm 30'$
- ◆ Made of stainless steel

Package

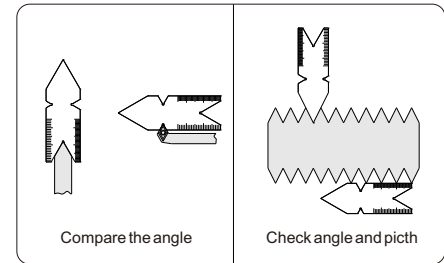


926-060-02



unit: mm

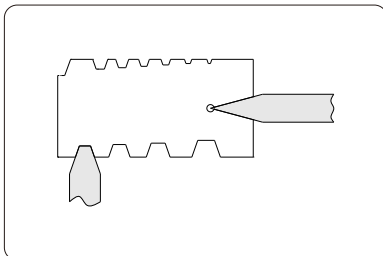
Code	Screw type	Angle( $\alpha$ )	Graduation
926-060-01	metric 60°	60°	0.5mm and 1mm
926-060-02	unified 60°	60°	front side: 1/14" and 1/20", reverse side: 1/24" and 1/32"
926-055-01	whitworth 55°	55°	front side: 1/14" and 1/20", reverse side: 1/24" and 1/32"



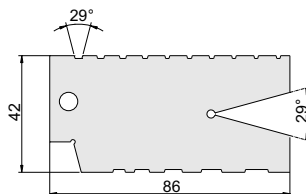
## SERIES 927

## THREAD GAUGE

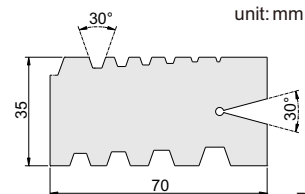
- ◆ To check and set screw cutting tools
- ◆ Angle accuracy:  $\pm 10\text{min}$ .
- ◆ Made of medium carbon steel



927-008-01



927-008-01



927-012-01

unit: mm

Package



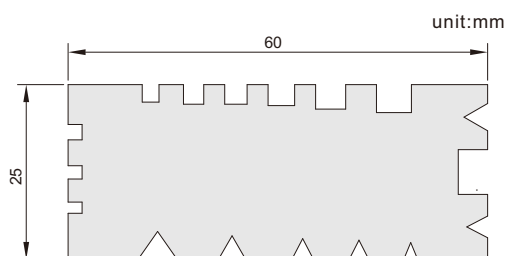
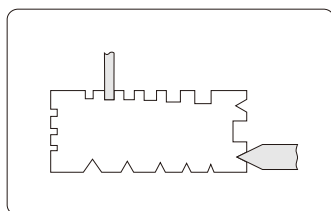
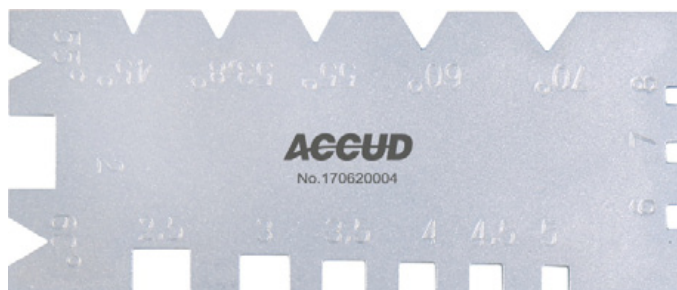
Code	Range	Thread type	Pitch
927-008-01	1 - 10TPI	ACME 29°	1, 1-1/3, 1-1/2, 1-3/4, 2, 2-1/2, 3, 4, 5, 6, 7, 8, 9, 10TPI
927-012-01	2 - 12mm	Tr30°	2, 3, 4, 5, 6, 7, 8, 9, 10, 12mm



933

## ANGLE GAUGE

- ◆ To check and set screw cutting tools
- ◆ Angle accuracy:  $\pm 10'$ min.
- ◆ Made of medium carbon steel



Package

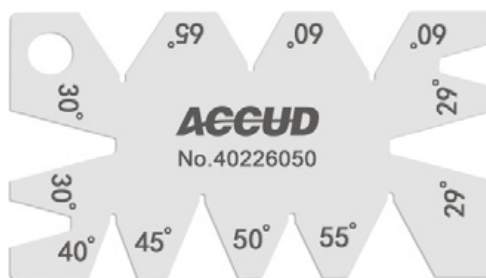


Code	Pitch	Angle( $\alpha$ )
933-008-11	2, 2.5, 3, 3.5, 4, 4.5, 5, 6, 7, 8TPI	45°, 53.8°, 55°, 60°, 70°

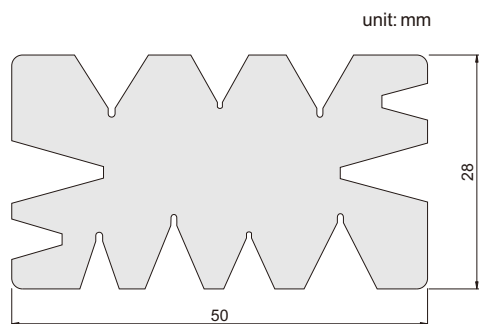
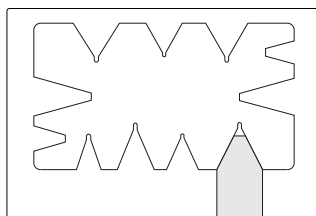
930

## ANGLE GAUGE

- ◆ Made of stainless steel



Check the angle of screw cutting tools



Package



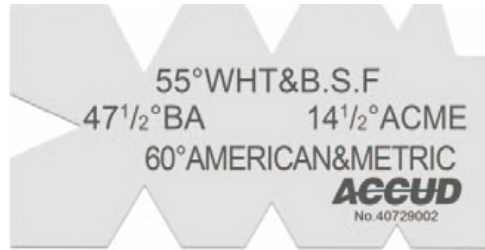
Code	Range	Accuracy
930-001-01	29°, 30°, 40°, 45°, 50°, 55°, 60°, 65°	$\pm 10'$



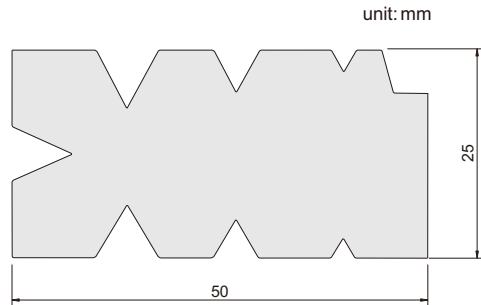
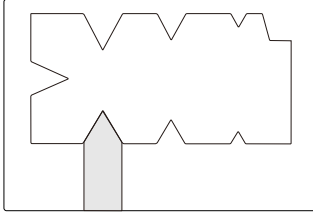
934

## ANGLE GAUGE

- ◆ Made of stainless steel



Check the angle of screw cutting tools



Package

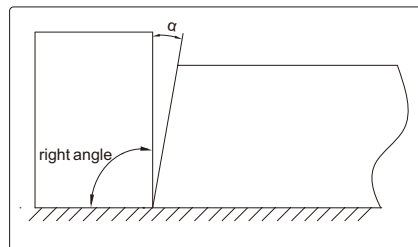


Code	Range	Accuracy
934-001-11	55°, 60°, 47 1/2°BA, 14 1/2°ACME	±10'

931

## ANGLE GAUGE

- ◆ Check the coangle
- ◆ Accuracy: ±30'



Code	Range	Quantity	Leaves angle(α)
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°

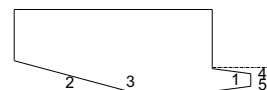
932

## ANGLE GAUGE SET

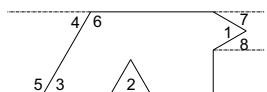
- ◆ Each blade checks primary, 1/2 primary and complementary angles

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°



Angle 1, 2 are primary angle  
Angle 3 is complementary angle  
Angle 4, 5 are 1/2 primary angle

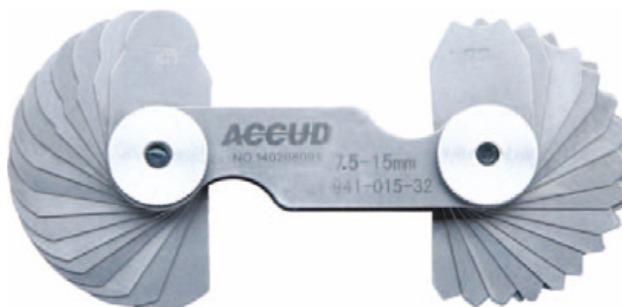


Angle 1, 2, 3, 4 are primary angle  
Angle 5, 6 are complementary angle  
Angle 7, 8 are 1/2 primary angle

## SERIES 941

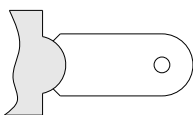
## RADIUS GAUGE

- ◆ Check the radius
- ◆ With concave and convex surface in each size

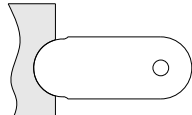


941-015-32

check convex surface



check concave surface



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

Package



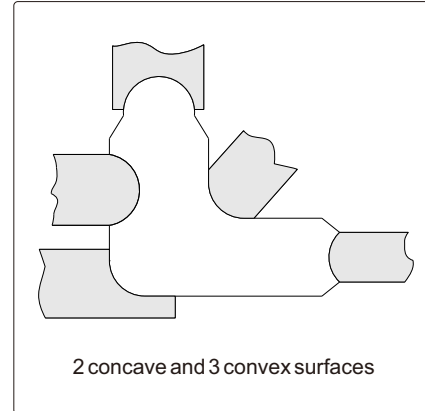




942

## RADIUS GAUGE

- ◆ Each piece has 2 concave and 3 convex surfaces
- ◆ With handle
- ◆ Accuracy:  $\pm 0.05\text{mm}$



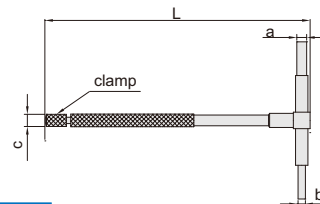
Code	Range	Quantity	Included radius(mm)
942-013-26	0.5 - 13mm	26	0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10, 10.5, 11, 11.5, 12, 12.5, 13

951

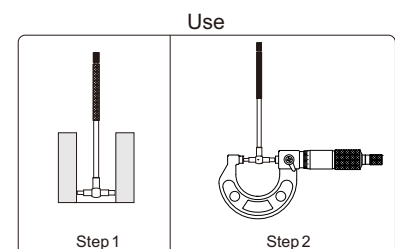
## TELESCOPING GAUGE SET



- ◆ 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

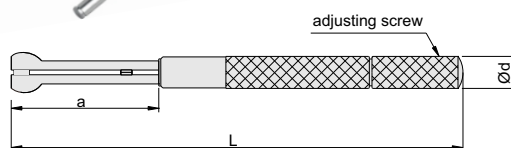
- ◆ 4 gauges per set
- ◆ For small holes, slots and grooves, etc.
- ◆ Satin chrome finish



Ball type

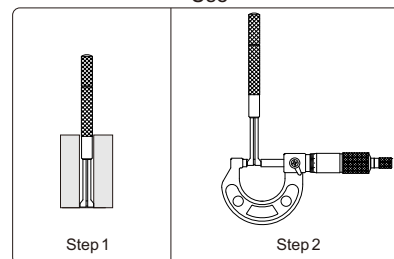


unit: mm



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

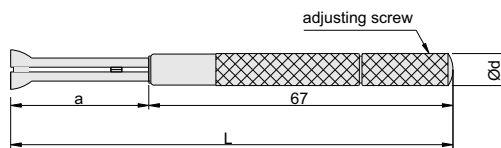
- ◆ 4 gauges per set
- ◆ For small holes, slots and grooves, etc.
- ◆ Satin chrome finish



Flat type

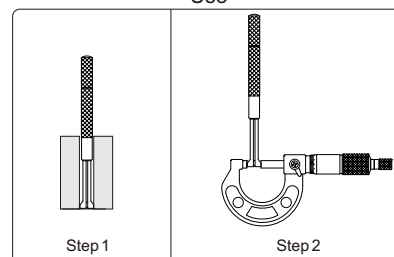


unit: mm



Use

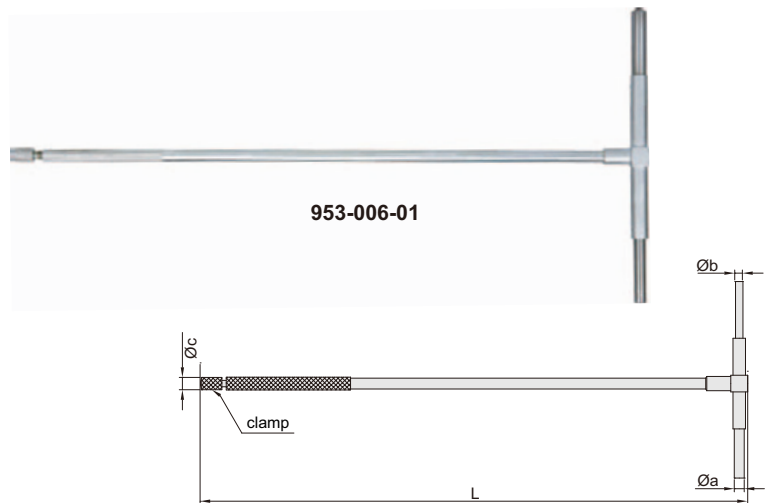
Code	Range	L	a	Ød
952-004-02	3-5mm	91	24	6
	5-7.5mm	98	31	6
	7.5-10mm	108	41	7
	10-13mm	109	42	7



## SERIES 953

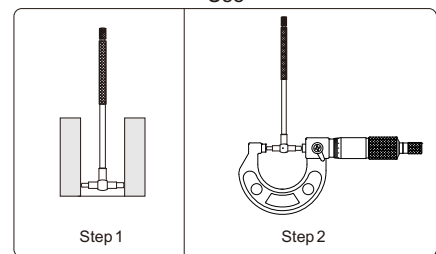
## LONG HANDLE TELESCOPING GAUGE

- ◆ 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

Use



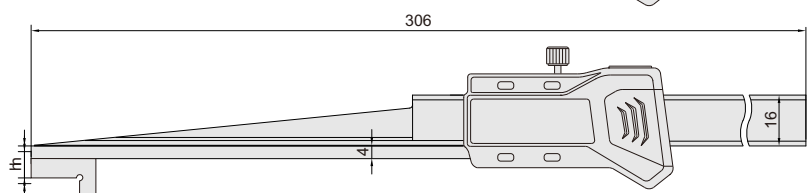
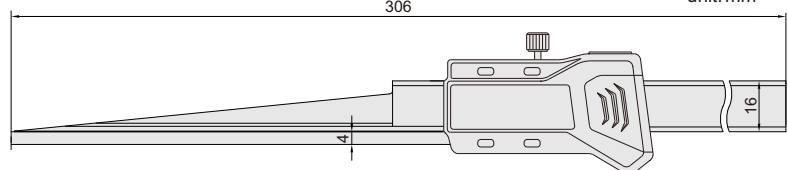
## SERIES 963

## DIGITAL TAPER GAUGE



963-010-11

unit: mm

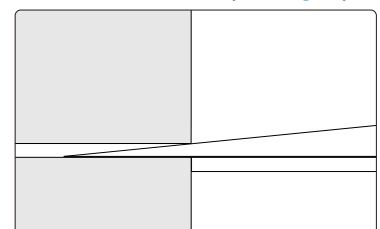


963-020-11, 963-030-11 and 963-040-11

- ◆ 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

Measure slot width(reading/10)

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

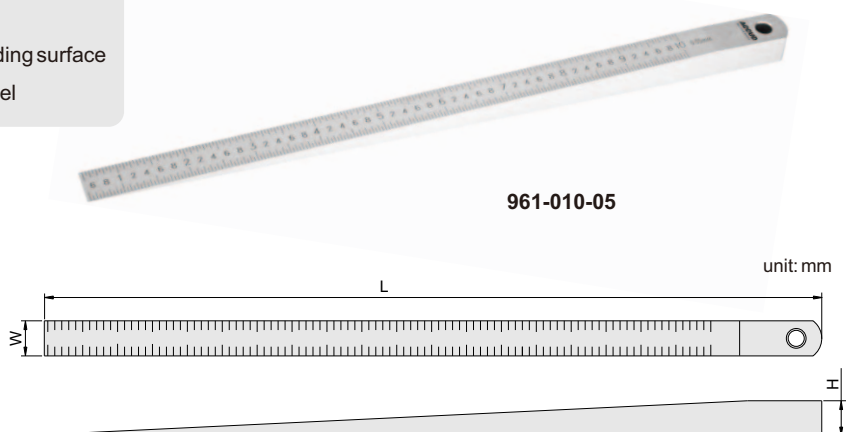




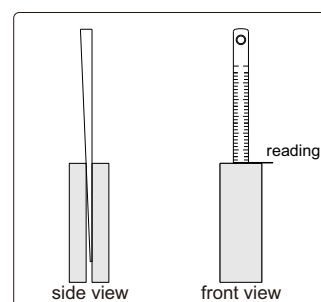
## SERIES 961

## TAPER GAUGE

- ◆ Measure the gap width
- ◆ Stain chrome plated reading surface
- ◆ Made of the stainless steel



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

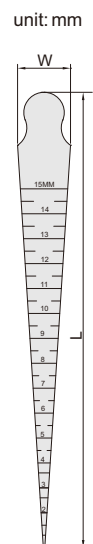


## SERIES 962

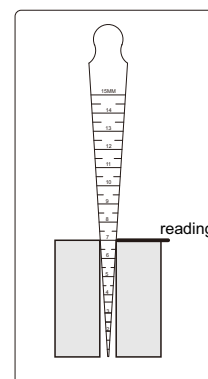
## TAPER GAUGE

- ◆ Measure the groove width and hole size
- ◆ Made of the stainless steel

Package



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

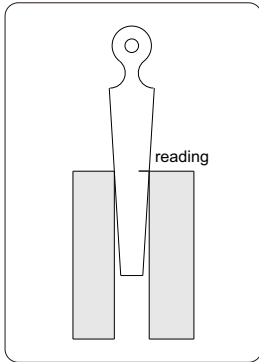




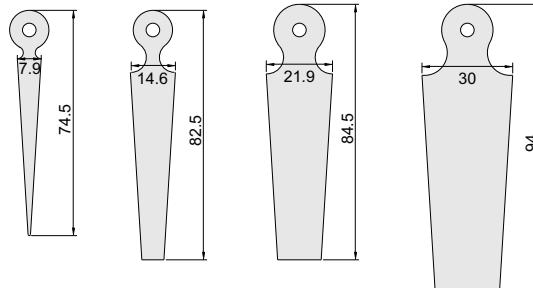
962

## 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



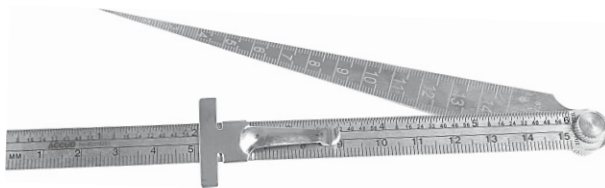
unit: mm



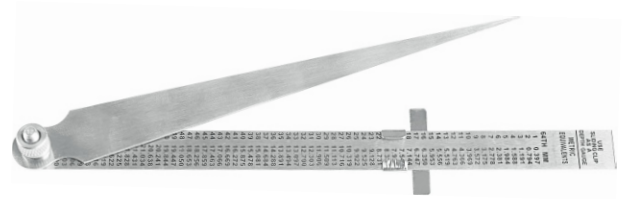
Code	Range	Graduation	Accuracy
962-029-41	1-29mm	0.1mm	±0.1mm

962

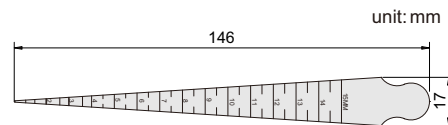
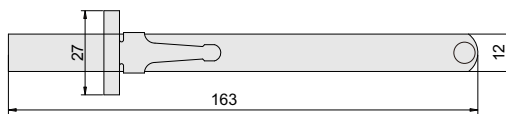
## TAPER GAUGE SET



front side



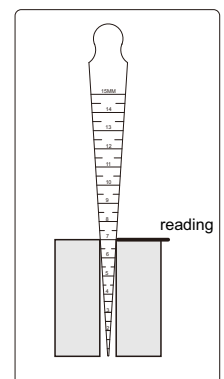
reverse side



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

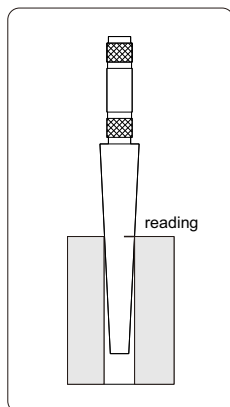




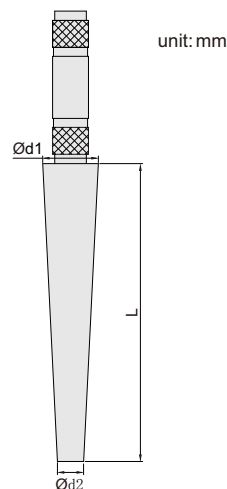
## SERIES 964

## TAPER BORE GAUGE

- ◆ Quick measuring diameter of the bore
- ◆ Graduation: 0.1mm
- ◆ Hardened steel, HRC50-58
- ◆ Satin chrome plated surface
- ◆ Aluminium oxidized handle



964-015-11

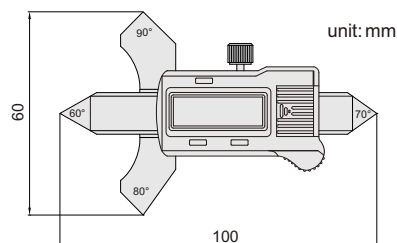
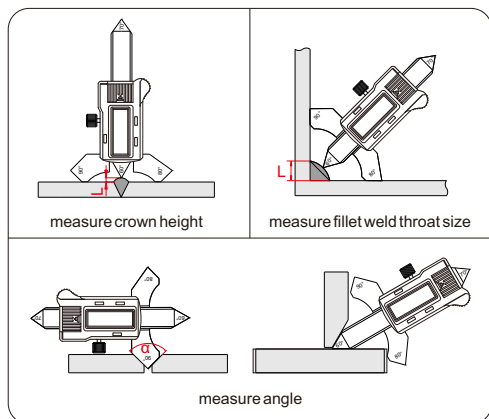


Code	Range	Accuracy	L	Ød1	Ød2
964-006-11	1-6.5mm	±0.05mm	62.5	7	0.8
964-015-11	3-15mm	±0.05mm	143	17	2.8
964-030-11	15-30mm	±0.05mm	165	31	14.7
964-045-11	30-45mm	±0.05mm	165	46	29.6
964-060-11	45-60mm	±0.05mm	167	61	44

## 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

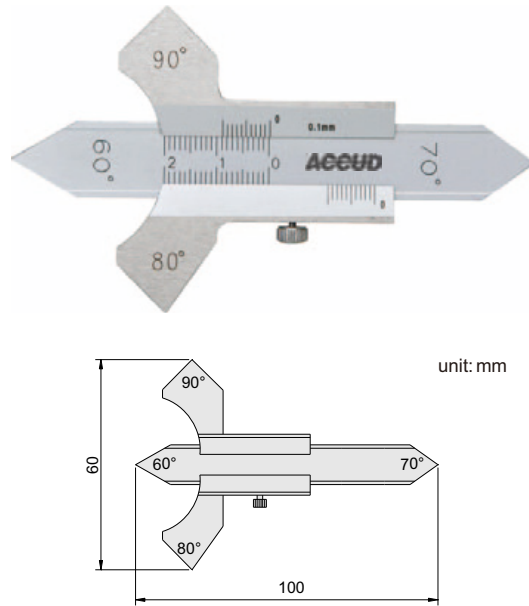
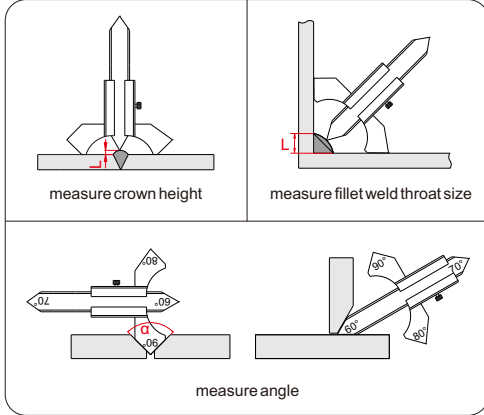




971

## WELDING GAUGE

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



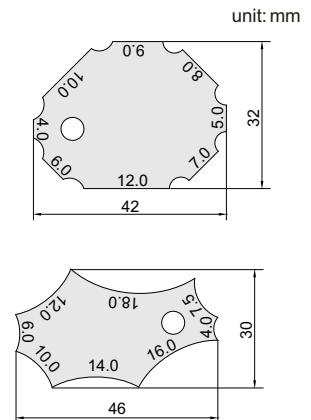
Code	Range	Graduation	Accuracy	Application
971-008-01	0 - 8mm	0.1mm	±0.1mm	measure crown height
	0 - 20mm	0.1mm	±0.3mm	measure fillet weld throat size
	60°, 70°, 80°, 90°	—	±1°	measure angle

972

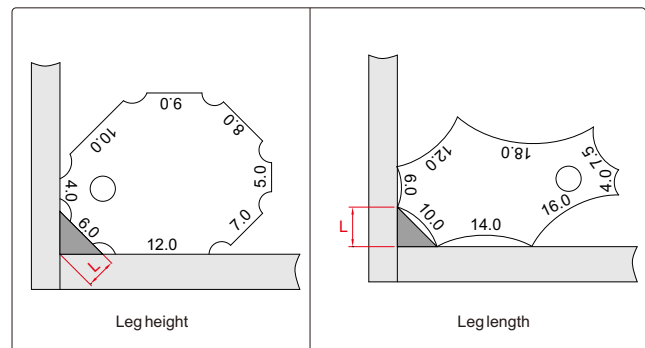
## WELDING GAUGE

- ◆ 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



973

## WELDING GAUGE

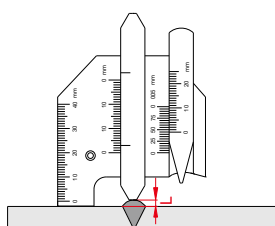
◆ Made of stainless steel



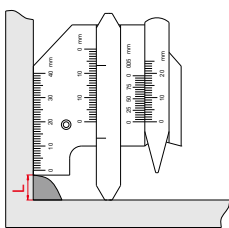
front side



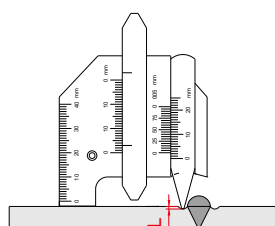
reverse side



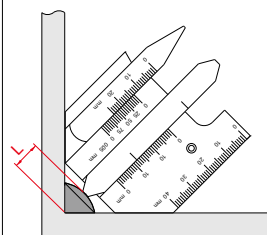
measure crown height



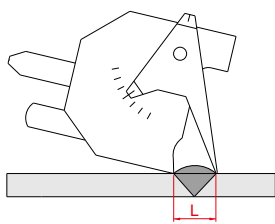
measure leg height



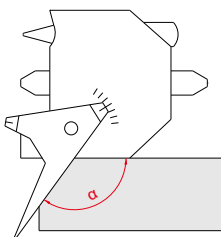
measure undercut depth



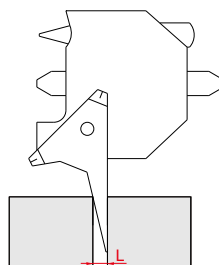
measure throat size



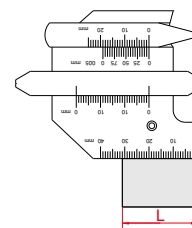
measure weld length



measure angle

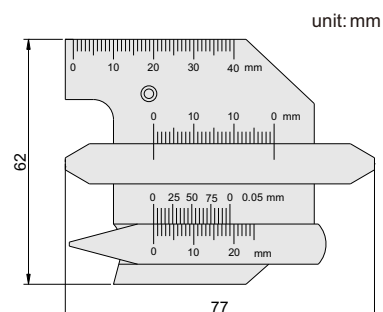


measure gap

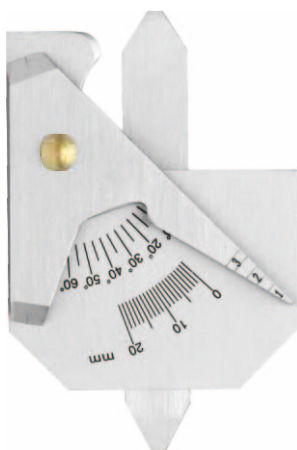


measure length

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



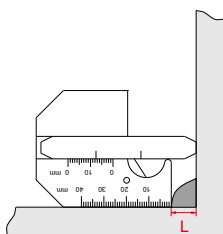
- ◆ Made of stainless steel
- ◆ Stain chrome plated surface



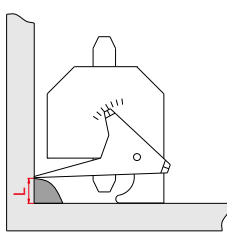
reverse side



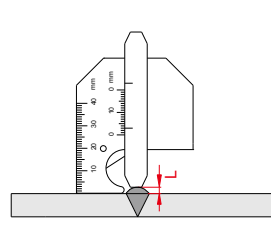
front side



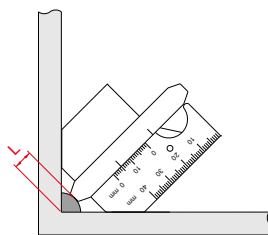
measure leg length



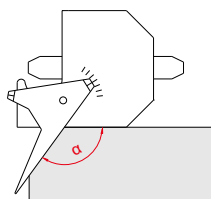
measure leg height



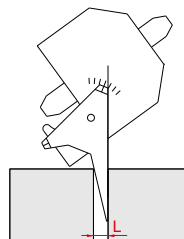
measure crown height



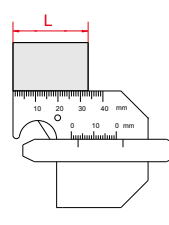
measure throat size



measure angle

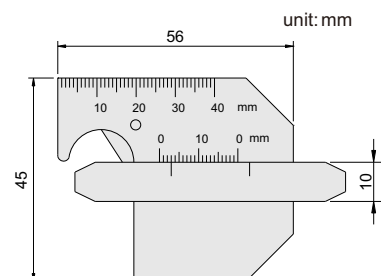


measure gap



measure length

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



unit: mm

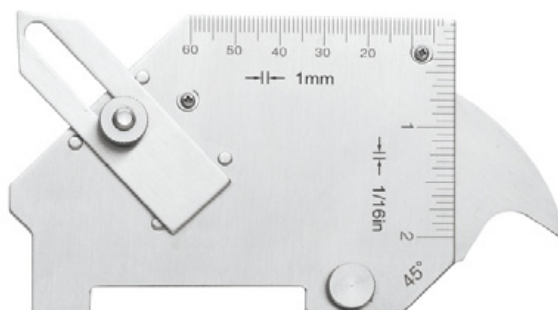
975

## WELDING GAUGE

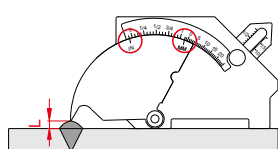
- ♦ Adjustable scale to compensate pointer wear
- ♦ Made of stainless steel



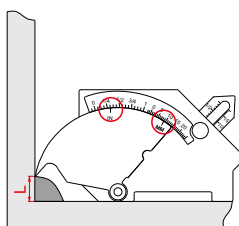
front side



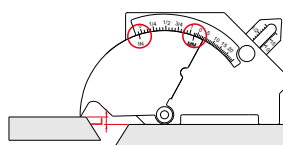
reverse side



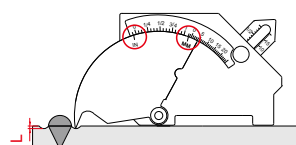
measure crown height



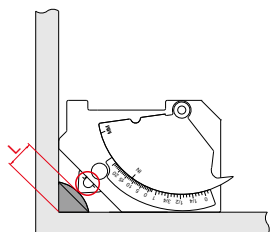
measure fillet weld leg height



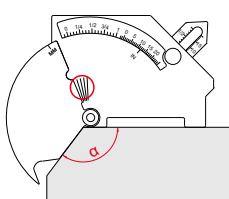
measure misalignment



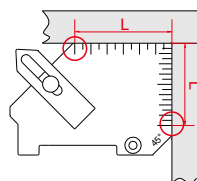
measure undercut depth



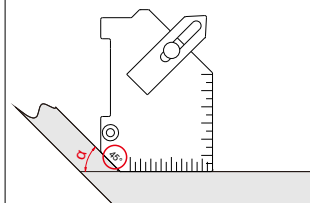
measure fillet weld throat size



measure angle of preparation

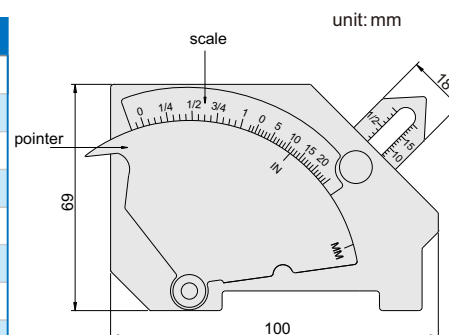


measure length

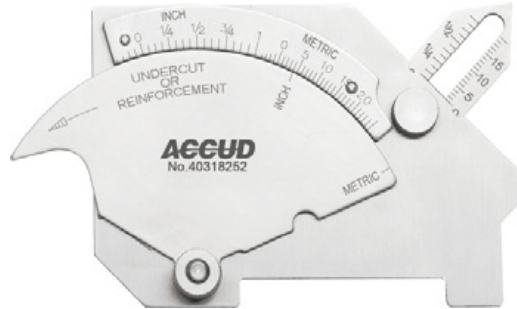


measure 45° angle

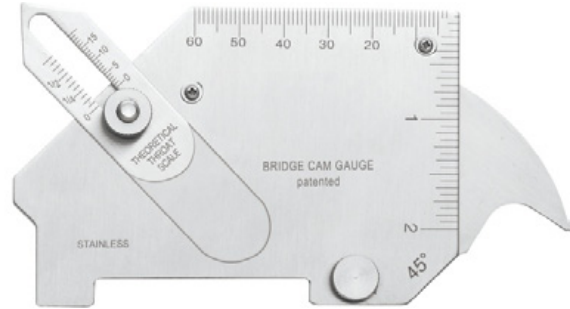
Code	Application	Range	Graduation	Accuracy
975-025-01	measure crown height	0 - 25mm (0 - 1")	1mm (1/16")	±0.5mm
	measure fillet weld leg height	0 - 25mm (0 - 1")	1mm (1/16")	±0.5mm
	measure misalignment	0 - 25mm (0 - 1")	1mm (1/16")	±0.5mm
	measure undercut depth	0 - 2mm (0 - 1/8")	1mm (1/16")	±0.5mm
	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°



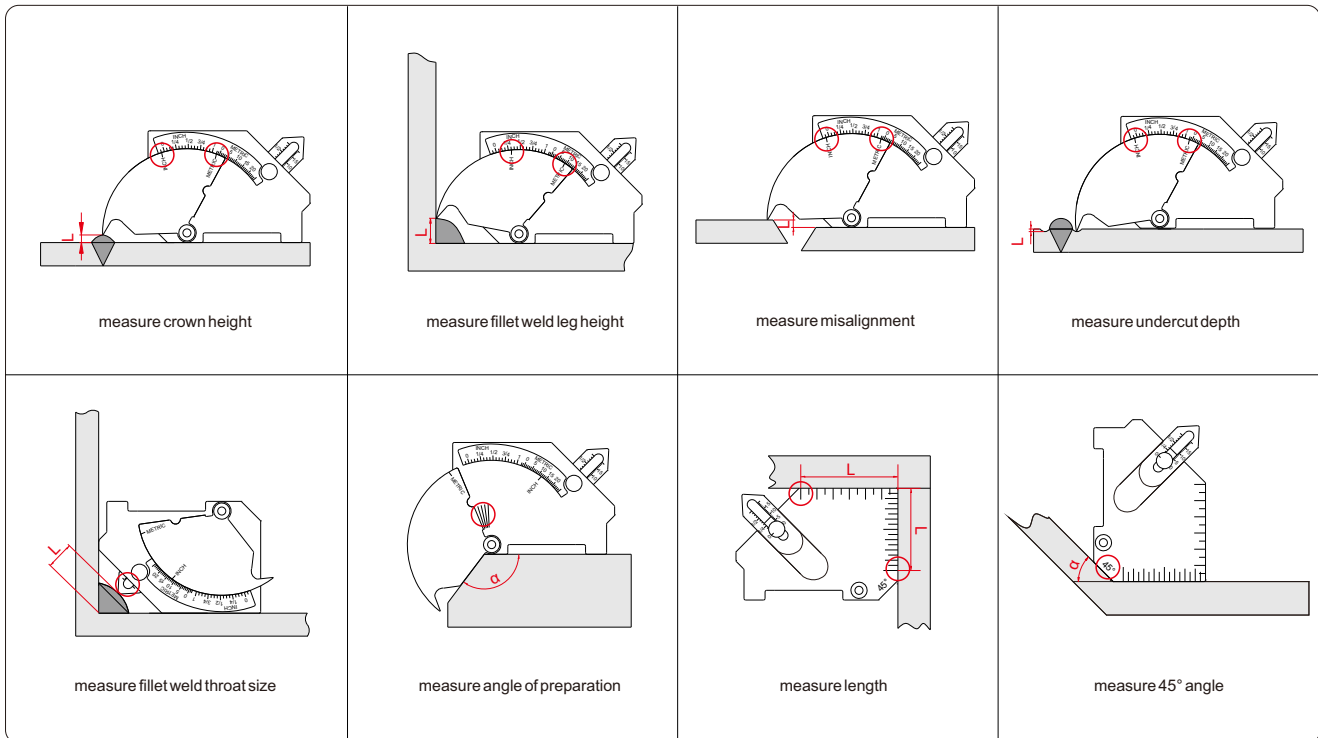
- ◆ Adjustable scale to compensate pointer wear
- ◆ Made of stainless steel



front side

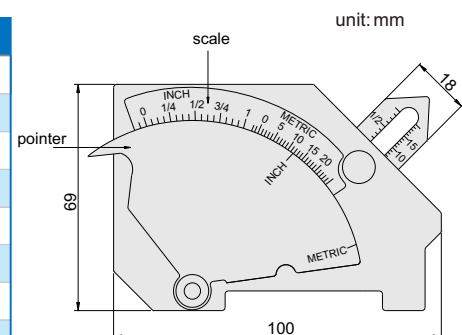


reverse side

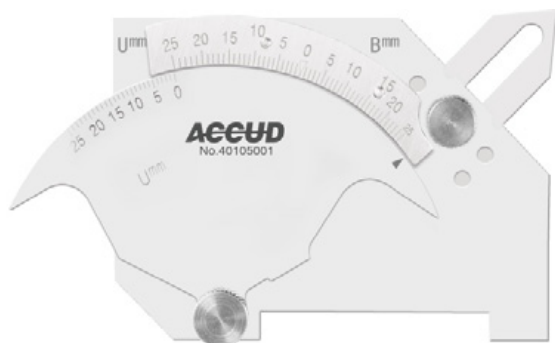


MEASURING TOOL  
SIMPLE

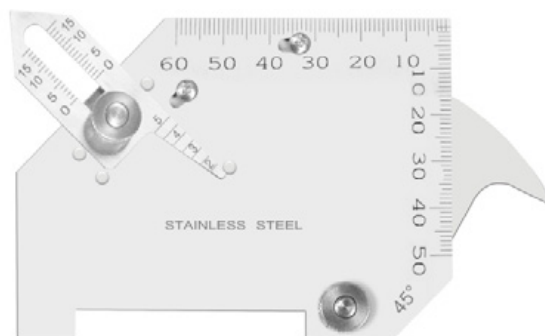
Code	Application	Range	Graduation	Accuracy
975-025-02	measure crown height	0 - 25mm (0 - 1")	1mm (1/16")	±0.5mm
	measure fillet weld leg height	0 - 25mm (0 - 1")	1mm (1/16")	±0.5mm
	measure misalignment	0 - 25mm (0 - 1")	1mm (1/16")	±0.5mm
	measure undercut depth	0 - 2mm (0 - 1/8")	1mm (1/16")	±0.5mm
	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°



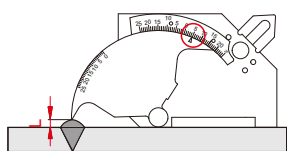
- ♦ Adjustable scale to compensate pointer wear
- ♦ Made of stainless steel



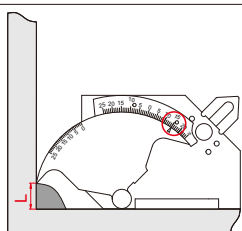
front side



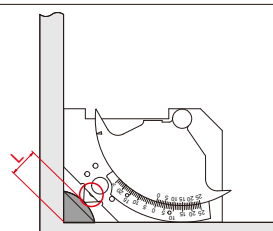
reverse side



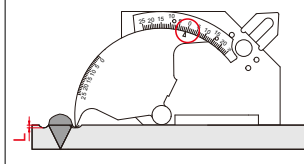
measure crown height



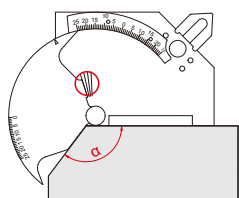
measure fillet weld leg height



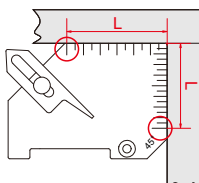
measure fillet weld throat size



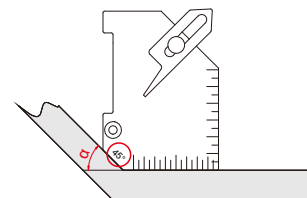
measure undercut depth



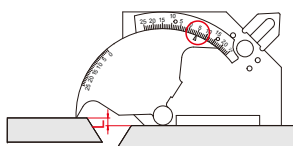
measure angle of preparation



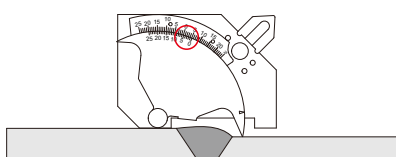
measure length



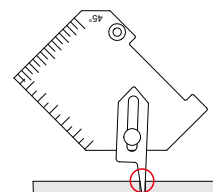
measure 45° angle



measure misalignment

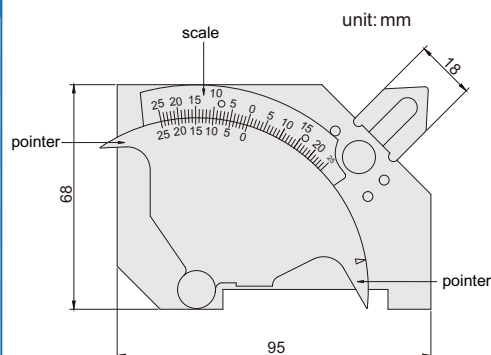


measure misalignment



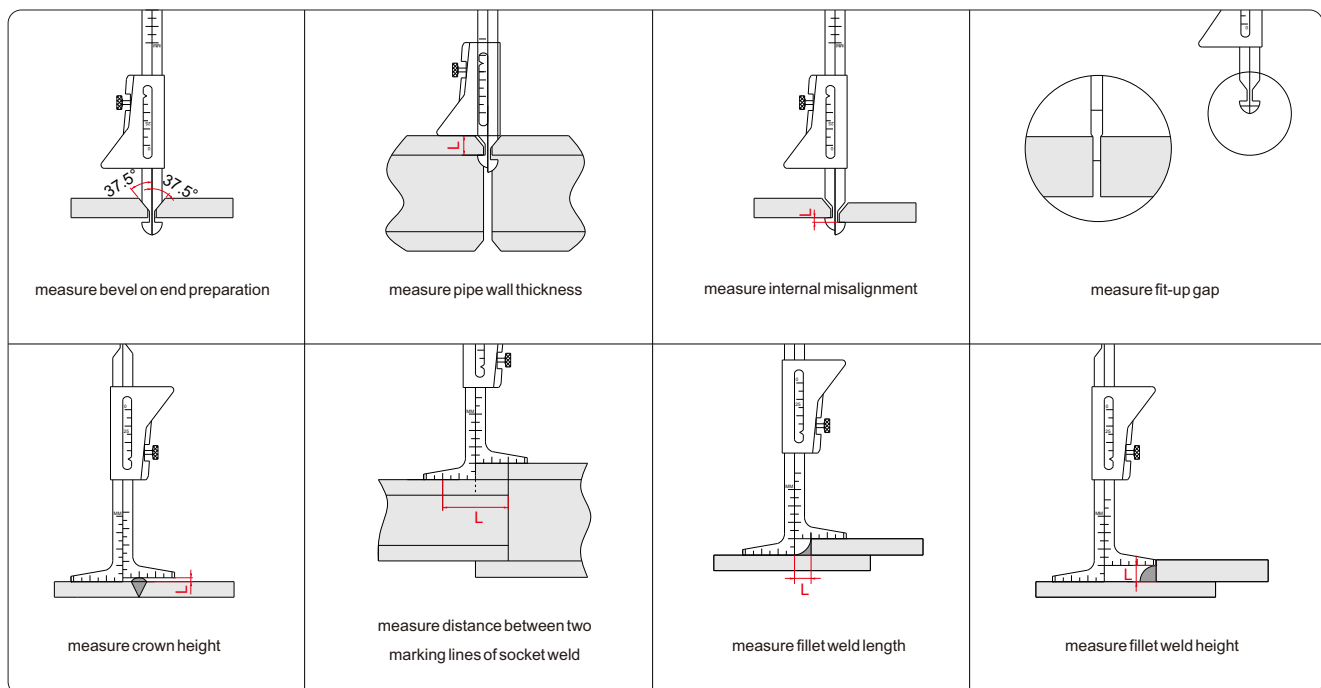
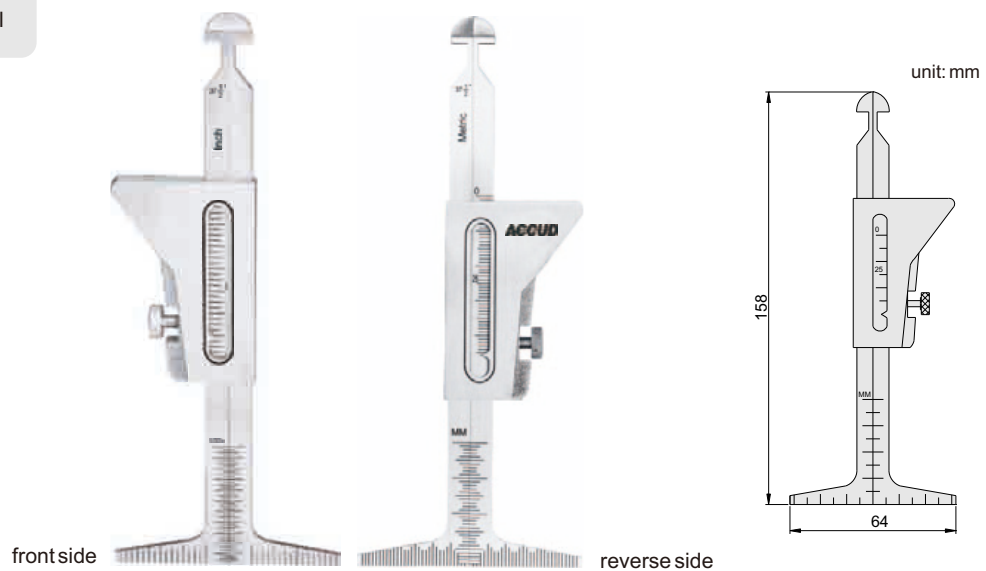
measure gap

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



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

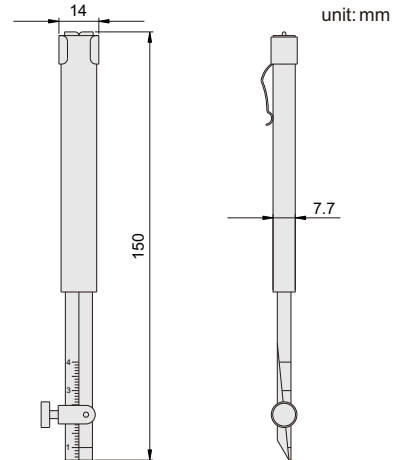
- ◆ Made of stainless steel



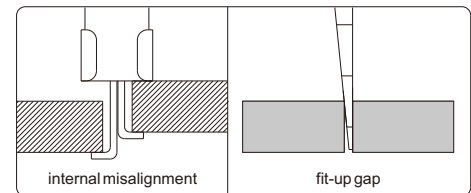
front side



reverse side



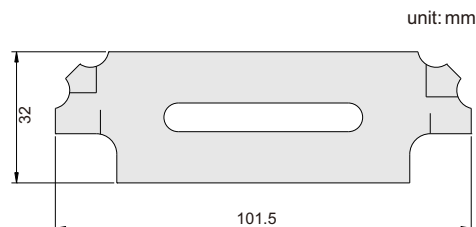
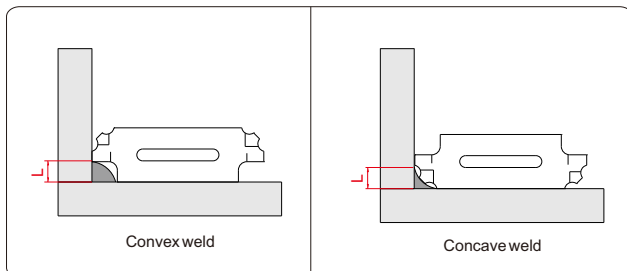
Code	Measurement	Range	Graduation	Accuracy
960-030-01	internal misalignment	0-30mm	1mm	±0.5mm
	fit-up gap	0.7-4mm	0.1mm	±0.1mm



## 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



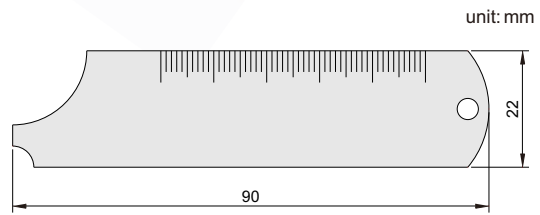
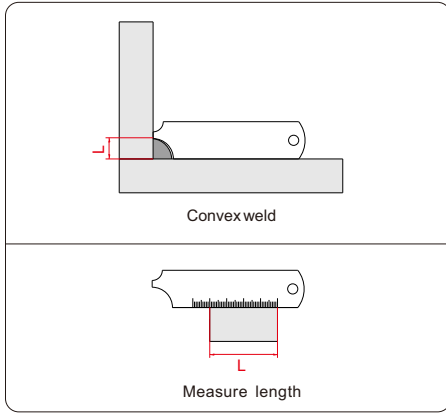
Code	Accuracy	Size
977-025-01	±0.5mm	3, 4, 5, 6, 8, 9, 10, 11, 12, 14, 16, 19, 22, 25
977-025-02	±0.02"	1/8", 3/16", 1/4", 5/16", 3/8", 7/16", 1/2", 5/8", 3/4", 7/8", 1"



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

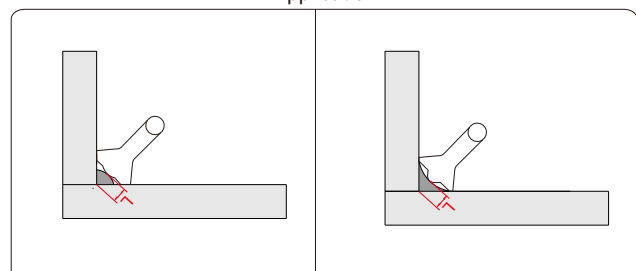
749

## WELDING GAUGE

- ◆ Made of stainless steel



Application

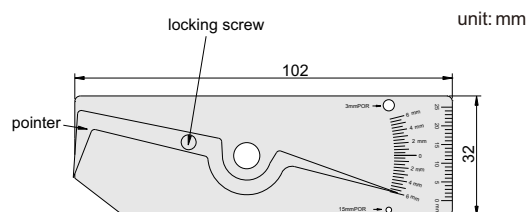
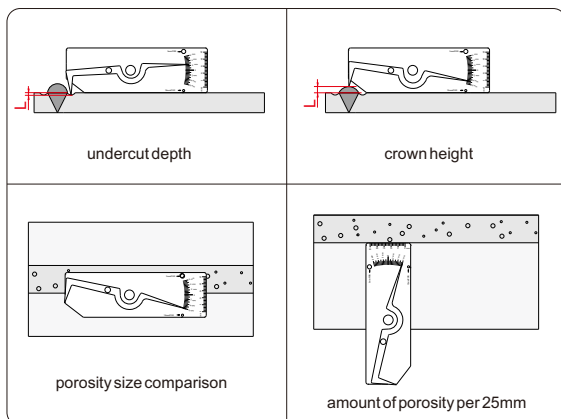


Code	Size
749-012-01	3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7, 8, 10, 12mm

978

## WELDING GAUGE

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

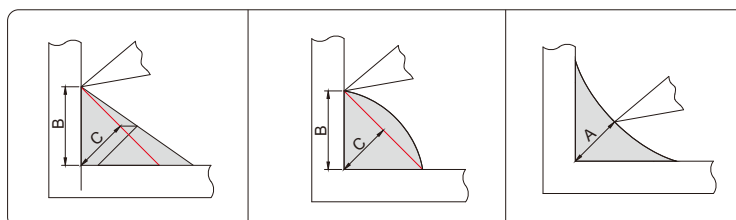
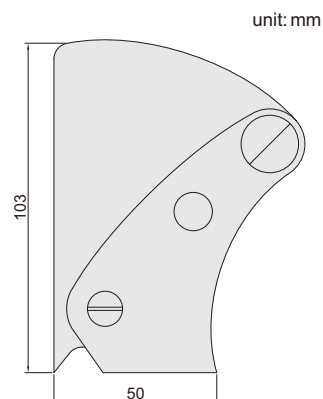
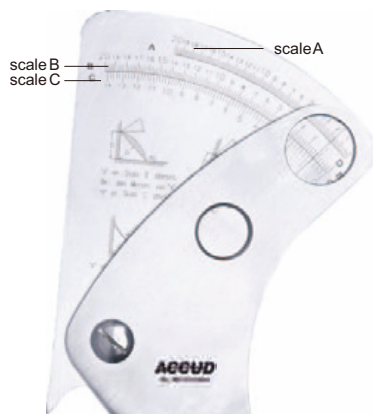


Code	Measurement	Range	Graduation	Accuracy
978-006-01	undercut depth	0 - 6mm	0.5mm	±0.5mm
	crown height	0 - 6mm	0.5mm	±0.5mm
	porosity size comparison	1.5mm, 3mm	—	±0.2mm
	amount of porosity per 25mm	25mm	1mm	—

966

## WELDING GAUGE

- ◆ Made of stainless steel



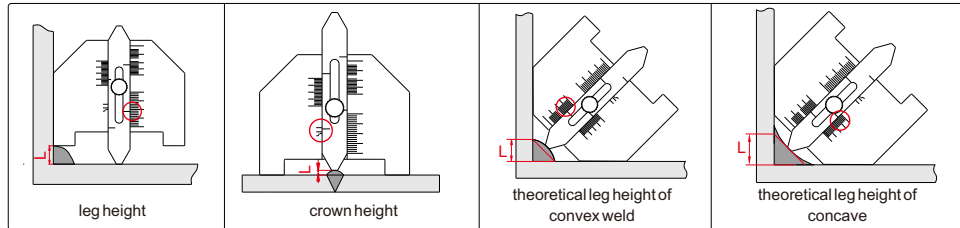
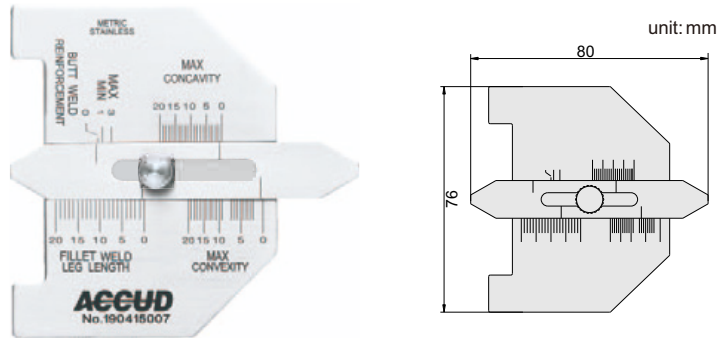
Code	Graduation	Accuracy
966-001-01	0.2mm	±0.3mm



979

## WELDING GAUGE

- ◆ Made of stainless steel



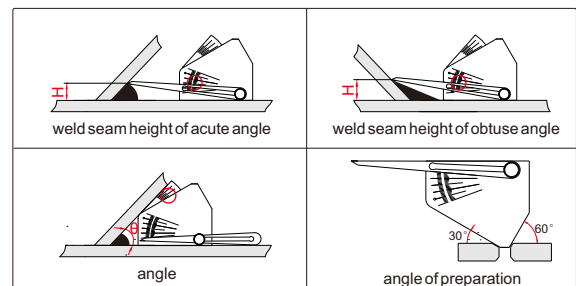
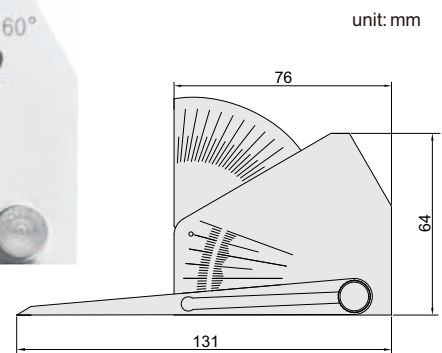
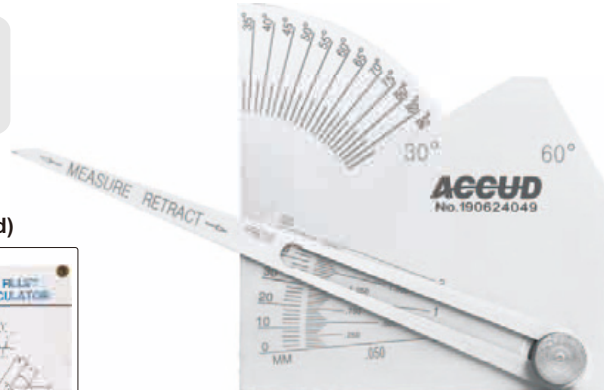
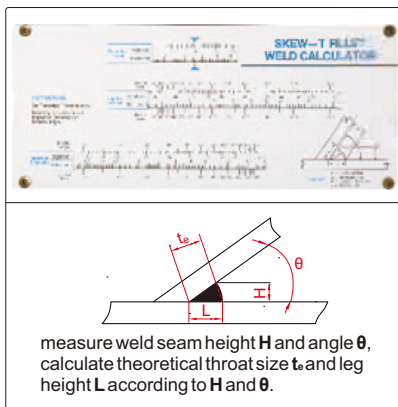
Code	Range	Graduation	Accuracy	Measurement
979-020-01	0-20mm	1mm	±0.5mm	leg height
	0-3mm	—	±0.5mm	crown height
	0-20mm	1mm	±0.5mm	theoretical leg height of convex weld
	0-20mm	1mm	±0.5mm	theoretical leg height of concave

969

## FILLET WELDING GAUGE

- ◆ Calculating card is included
- ◆ Made of stainless steel

Calculating card (included)

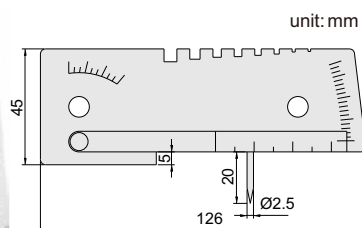
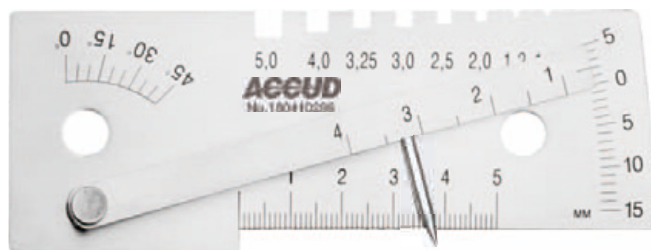


Code	Measurement	Range	Graduation	Accuracy
969-050-01	weld seam height H	0 - 50mm / 0-2"	2mm/.050"	±1mm
	angle θ	30° - 90°	2.5°	±1°
	90° angle	—	—	±0.5°

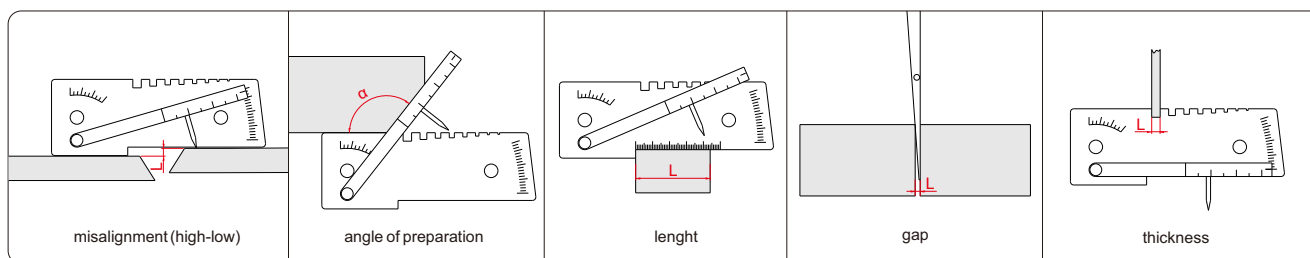
746

## WELDING GAUGE

- ◆ Made of stainless steel



unit: mm

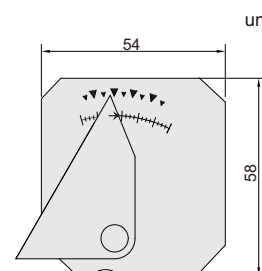


Code	Measurement	Range	Graduation	Accuracy
746-050-01	misalignment (high-low)	-5mm-15mm	1mm	±0.5mm
	angle of preparation	0°-45°	5°	±2.5°
	length	0-50mm	1mm	±0.5mm
	gap	1-4mm	0.5mm	±0.25mm
	thickness	1, 1.2, 2.0, 2.5, 3.0, 3.25, 4.0, 5.0mm	—	±0.1mm

747

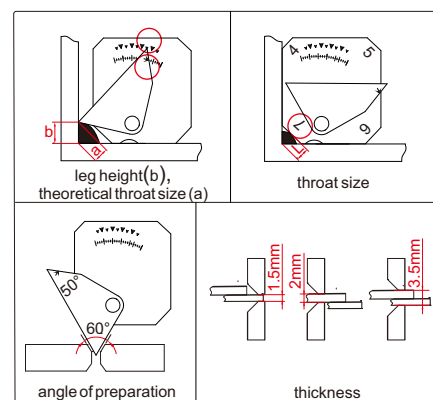
## WELDING GAUGE

- ◆ 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



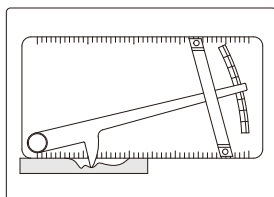


748

## PIPE PIT GAUGE

- ◆ Made of stainless steel

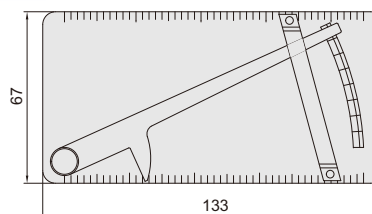
Application



front side



reverse side

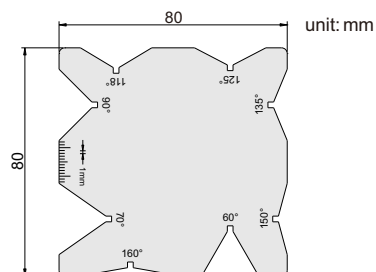
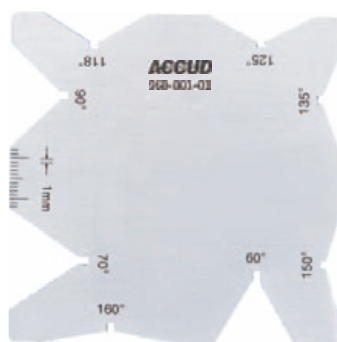
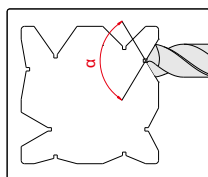


Code	Range	Graduation	Accuracy
748-012-01	0-0.5"(0-1/2")	0.01"(1/16")	±0.02"

968

## DRILL ANGLE GAUGE

- ◆ Check drills with angle 60°, 70°, 90°, 118°, 125°, 135°, 150° or 160°
- ◆ Made of stainless steel



Code	Accuracy
968-001-01	±0.5°

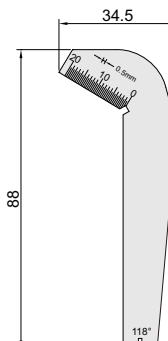
965

## DRILL POINT GAUGE

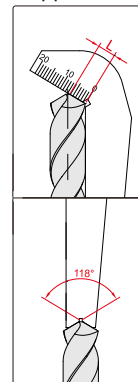
- ◆ For twist drills with 118° angle, to check if the center of tip is concentric with the drill body
- ◆ Made of stainless steel



unit: mm



Application



Package



Code	Accuracy	
	Angle	Length
965-005-01	±0.5°	±0.5mm

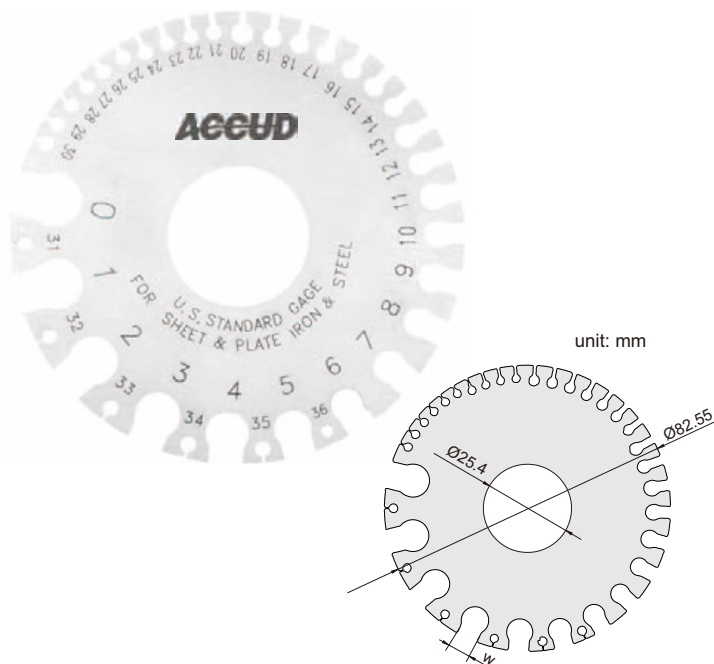


## SERIES 741

## U.S. STANDARD SHEET METAL GAUGE

Code	Range
741-036-12	0-36(7.938-0.179mm/.3125-.0070")

NO.	W	NO.	W
0	7.938mm(.3125")	19	1.111mm(.0438")
1	7.144mm(.2813")	20	0.953mm(.0375")
2	6.747mm(.2656")	21	0.873mm(.0344")
3	6.350mm(.2500")	22	0.794mm(.0313")
4	5.953mm(.2344")	23	0.714mm(.0281")
5	5.556mm(.2188")	24	0.635mm(.0250")
6	5.159mm(.2031")	25	0.556mm(.0219")
7	4.763mm(.1875")	26	0.476mm(.0188")
8	4.366mm(.1719")	27	0.437mm(.0172")
9	3.969mm(.1563")	28	0.397mm(.0156")
10	3.572mm(.1406")	29	0.357mm(.0141")
11	3.175mm(.1250")	30	0.318mm(.0125")
12	2.778mm(.1094")	31	0.278mm(.0109")
13	2.381mm(.0938")	32	0.258mm(.0102")
14	1.984mm(.0781")	33	0.238mm(.0094")
15	1.786mm(.0703")	34	0.218mm(.0086")
16	1.588mm(.0625")	35	0.198mm(.0078")
17	1.429mm(.0563")	36	0.179mm(.0070")
18	1.270mm(.0500")		



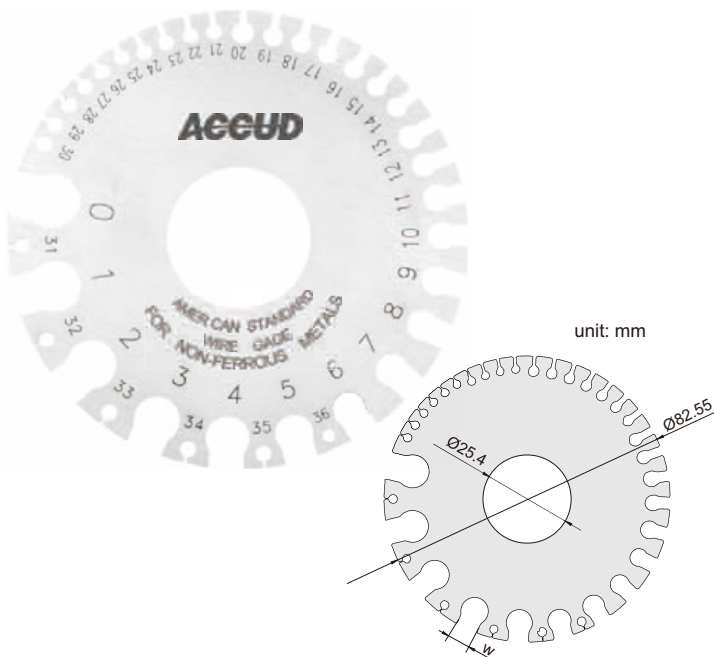
- ◆ For gaging sheet metal, plate iron and steel
- ◆ Hardened

## SERIES 741

## AMERICAN STANDARD WIRE GAUGE

Code	Range
741-036-11	0-36(8.250-0.127mm/.3249-.0050")

NO.	W	NO.	W
0	8.250mm(.3249")	19	0.912mm(.0359")
1	7.350mm(.2893")	20	0.813mm(.0320")
2	6.540mm(.2576")	21	0.724mm(.0285")
3	5.830mm(.2294")	22	0.643mm(.0253")
4	5.190mm(.2043")	23	0.574mm(.0226")
5	4.620mm(.1819")	24	0.511mm(.0201")
6	4.110mm(.1620")	25	0.440mm(.0179")
7	3.670mm(.1443")	26	0.404mm(.0159")
8	3.260mm(.1285")	27	0.361mm(.0142")
9	2.910mm(.1144")	28	0.320mm(.0126")
10	2.590mm(.1019")	29	0.287mm(.0113")
11	2.300mm(.0907")	30	0.254mm(.0100")
12	2.050mm(.0808")	31	0.226mm(.0089")
13	1.820mm(.0720")	32	0.203mm(.0080")
14	1.630mm(.0641")	33	0.180mm(.0071")
15	1.450mm(.0571")	34	0.160mm(.0063")
16	1.290mm(.0508")	35	0.142mm(.0056")
17	1.150mm(.0453")	36	0.127mm(.0050")
18	1.020mm(.0403")		



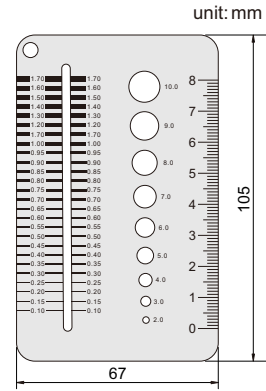
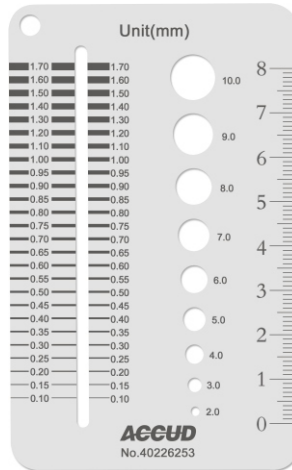
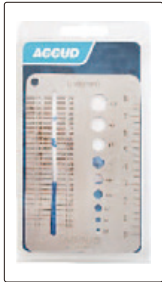
- ◆ For gaging non-ferrous wire and metals such as copper, brass and aluminum
- ◆ Hardened

940

## GAP/DIAMETER GAUGE

- ◆ Made of stainless steel

Package



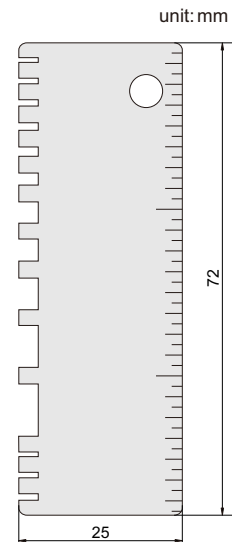
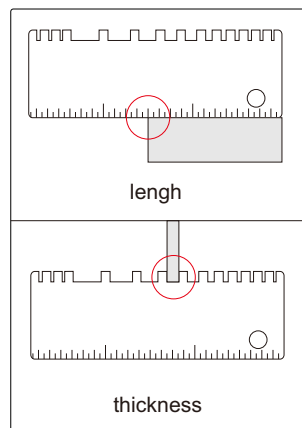
Code	Standard diameter	Gap
940-010-01	2, 3, 4, 5, 6, 7, 8, 9, 10mm	0.1-1.7mm

742

## THICKNESS GAUGE

- ◆ Made of stainless steel

Package

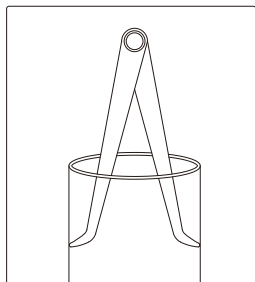


Code	Application	Range	Graduation	Accuracy
742-003-11	length	0-2 3/4"	1/16"	1/32"
	thickness	24GA.(.0239"), 22GA.(.0299"), 20GA.(.0359")	—	±0.002"
		18GA.(.0478"), 16GA.(.0598"), 14GA.(.0747"), 1/8"(0.125"), 10GA.(.0.1345"), 3/16"(0.1875"), 1/4"(0.250"), 5/16"(0.3125")	—	±0.004"
		0.024", 0.030", 0.035"	—	±0.002"

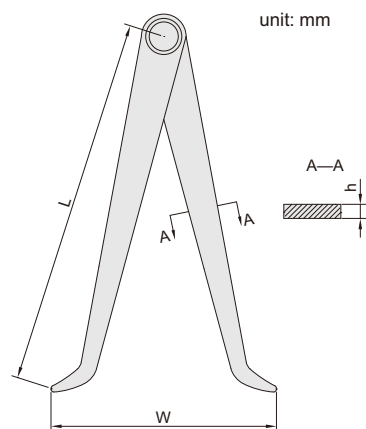
## SERIES 981

## INSIDE CALIPER

◆ Made of carbon steel



981-006-01



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

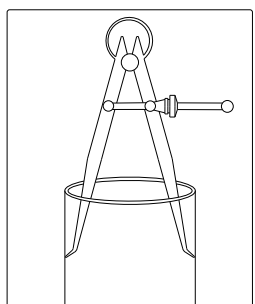
Package (size ≤ 300mm)



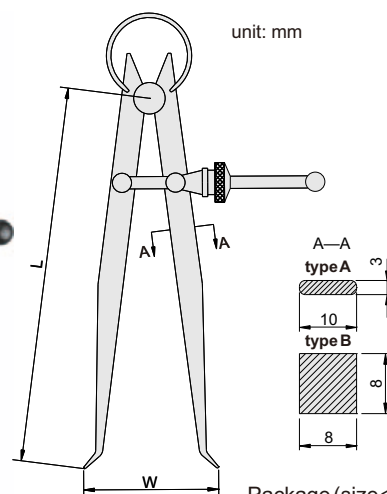
## SERIES 982

## INSIDE SPRING CALIPER

◆ Made of carbon steel



982-006-01



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

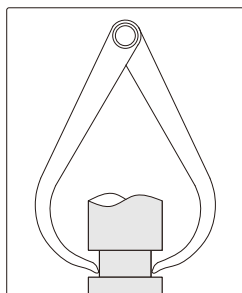
Package (size ≤ 300mm)



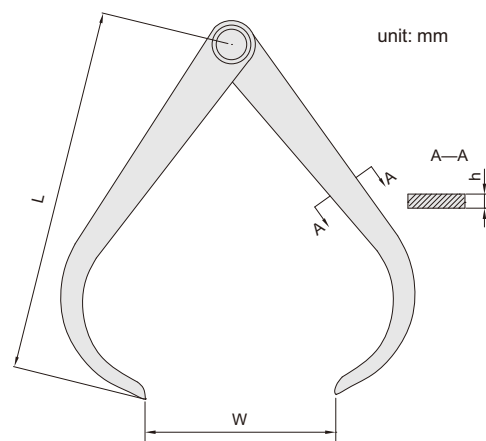
## SERIES 983

## 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

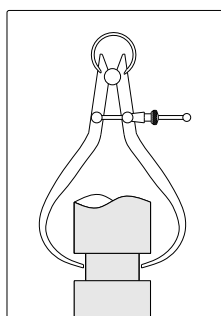
Package (size ≤ 300mm)



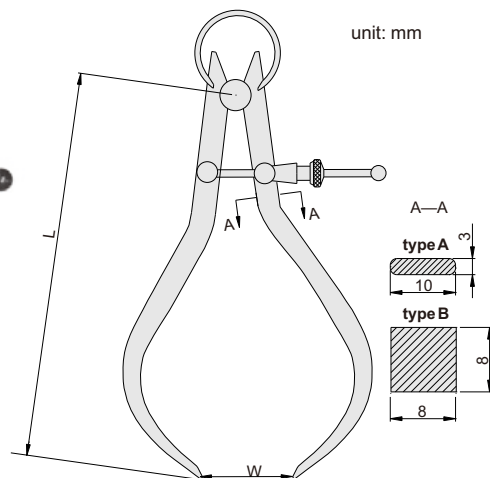
## SERIES 984

## 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

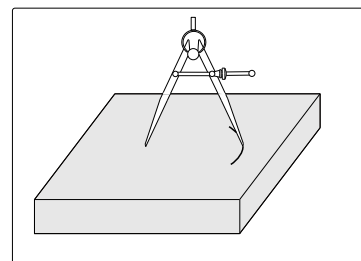
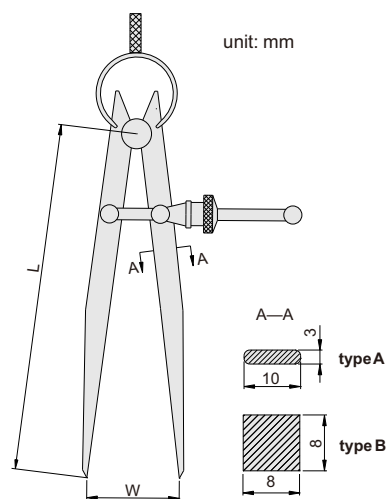
## SPRING DIVIDER

- ◆ 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

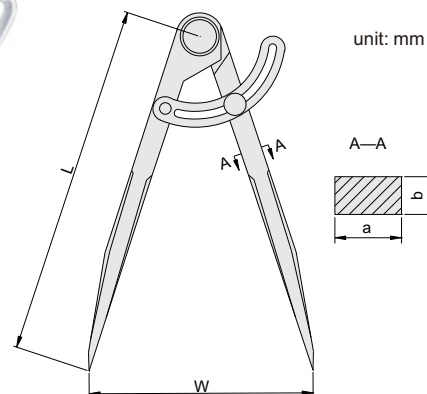
## SERIES 986

## DIVIDER

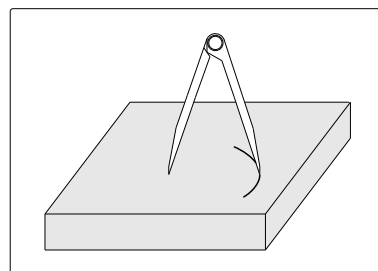
- ◆ Made of carbon steel
- ◆ Hardened points



986-005-01



Package (size ≤ 300mm)

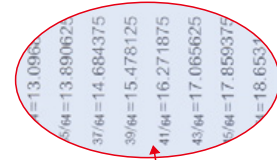
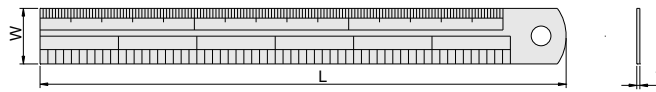


Code	Size(L)	Range(W)	a	b
986-005-01	125mm	0 - 115mm	8.5	7
986-006-01	150mm	0 - 140mm	8.5	7
986-008-01	200mm	0 - 190mm	10	7
986-010-01	250mm	0 - 240mm	11	7
986-012-01	300mm	0 - 290mm	12	7
986-016-01	400mm	0 - 390mm	12	7
986-020-01	500mm	0 - 490mm	12	7
986-024-01	600mm	0 - 590mm	12	7
986-032-01	800mm	0 - 790mm	16	11
986-040-01	1000mm	0 - 990mm	16	11





990-006-11



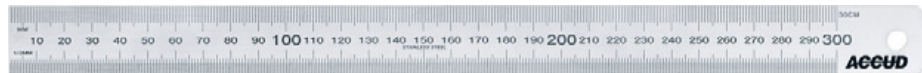
- ◆ Graduation: 0.5mm, 1mm, 1/64", 1/32", 1/16"
- ◆ Made of stainless steel

Range >1000mm

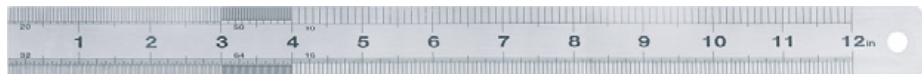


Code	Range	Accuracy	T	L	W	Remark
990-006-11	150mm/6"	±0.18mm	1	170	18	graduation on front and back
990-008-11	200mm/8"	±0.18mm	1	220	18	graduation on front and back
990-012-11	300mm/12"	±0.27mm	1	330	25	graduation on front and back
990-020-11	500mm/20"	±0.27mm	1	530	30	graduation on front and back
990-040-11	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

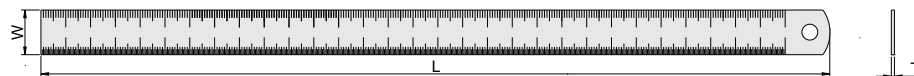
front side



reverse side



990-012-11H



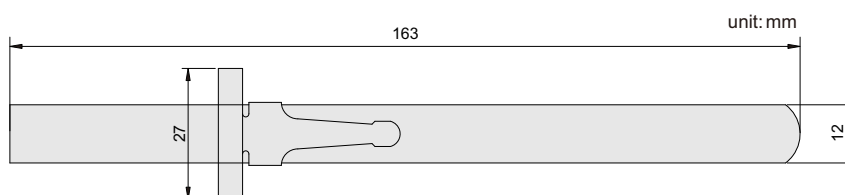
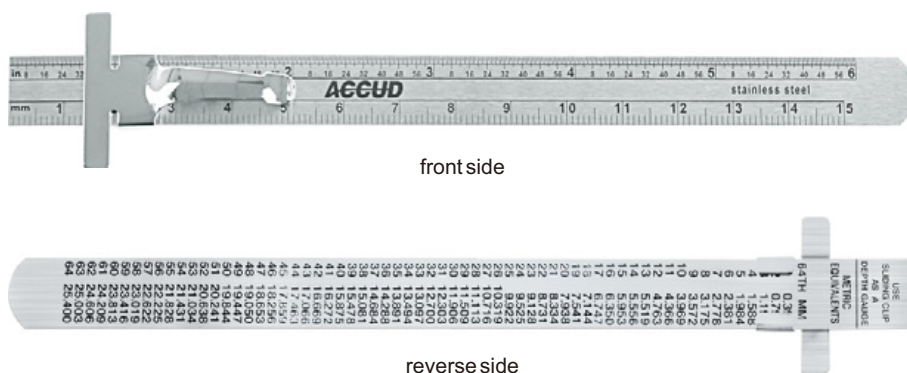
- ◆ Graduation: 0.5mm, 1mm, 1/64", 1/50", 1/32", 1/20", 1/16", 1/10"
- ◆ Matt finished
- ◆ Made of stainless steel

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

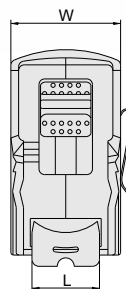
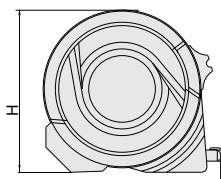
- ◆ With sliding clip, clip can be inserted in the pocket, also can be used as depth gage base
- ◆ Inch/metric conversion table on the back
- ◆ Made of stainless steel



Code	Range	Graduation	Accuracy
909-006-11	150mm/6"	1mm, 1/64"	±0.15mm

SERIES 989

## MEASURING TAPE



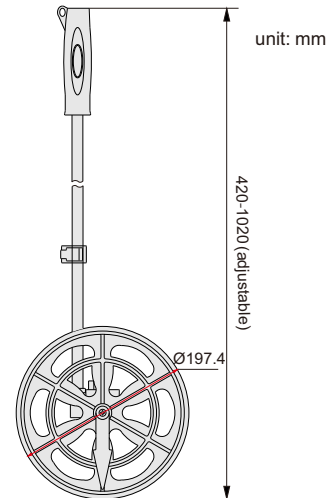
- ◆ Matt Nylon coating tape, wear resistance

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

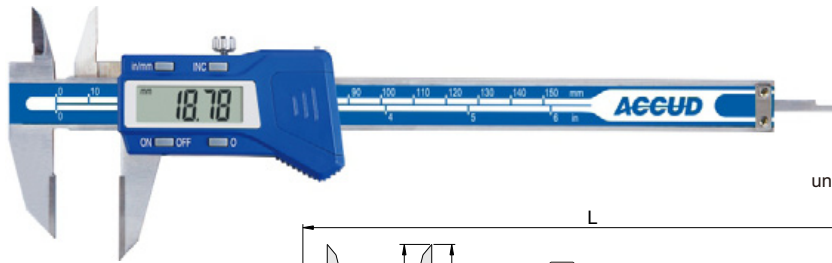
## DIGITAL SCRIBING CALIPER



MEASURING TOOL  
SIMPLE

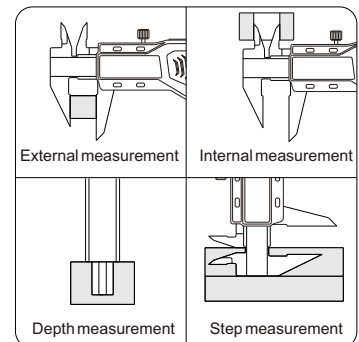
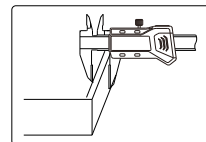
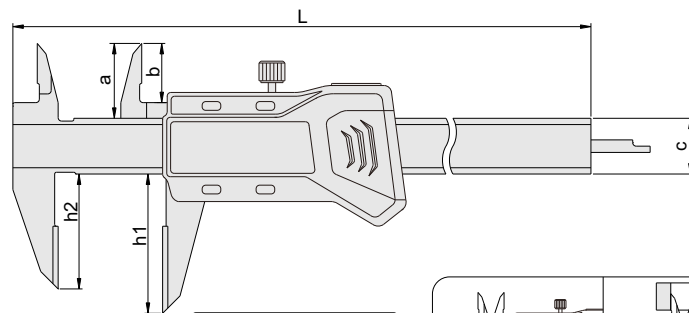


Carbide tipped jaws



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



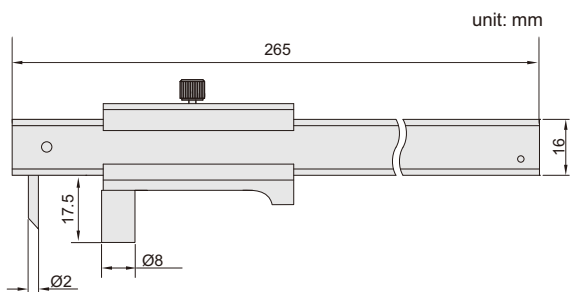
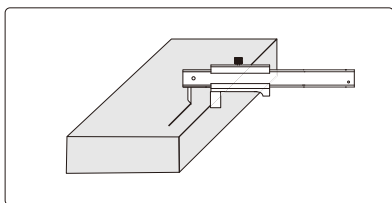
Code	Range	Accuracy	a	b	c	h1	h2	L
155-006-11	0-150mm/0-6"	±0.03mm	21	16.5	16	40	33	236
155-008-11	0-200mm/0-8"	±0.03mm	24	19.5	16	50	43	286
155-012-11	0-300mm/0-12"	±0.04mm	25	20.5	17	60	53	386

900

## SCRIBING CALIPER



- ◆ Made of stainless steel
- ◆ Satin chrome plated reading surface
- ◆ Carbide scriber tip
- ◆ With accessory: carbide scriber tip

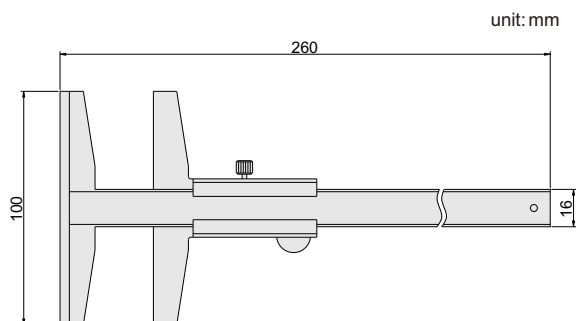
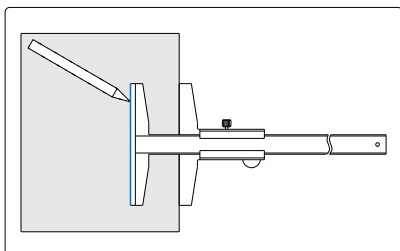


Code	Range	Graduation	Accuracy
900-008-11	0-200mm/0-8"	0.1mm, 1/128"	±0.1mm

902

## T-SHAPE MARKING GAUGE

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

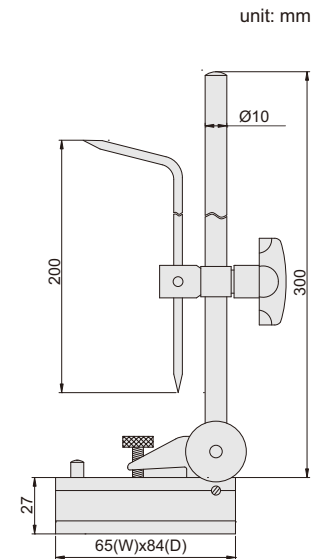
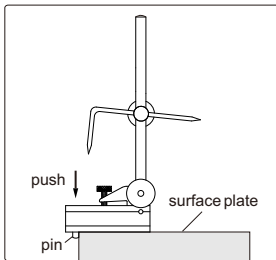
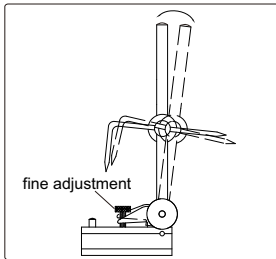


Code	Range	Graduation	Accuracy
902-006-51	0-150mm	0.05mm	±0.05mm

903

## HEIGHT SCRIBER

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



Code

903-012-11

SERIES 992

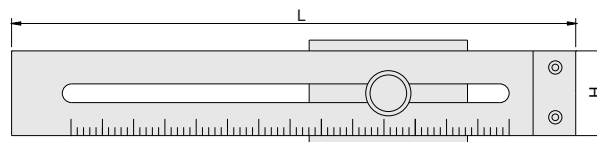
## MARKING GAUGE

- ◆ Made of stainless steel
- ◆ Stain chrome finish

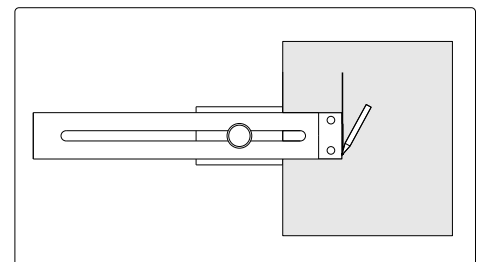


992-008-01

unit: mm



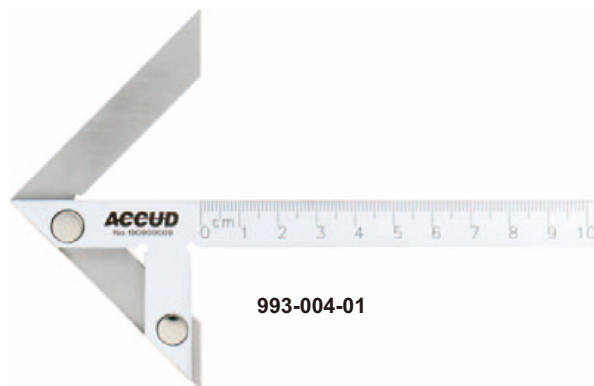
Code	Range	Accuracy	Graduation	H	L
992-008-01	0 - 200mm	±0.1mm	0.1mm	40	250
992-010-01	0 - 250mm	±0.1mm	0.1mm	40	300
992-012-01	0 - 300mm	±0.1mm	0.1mm	40	350



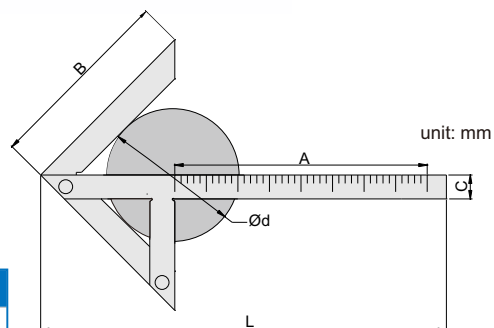
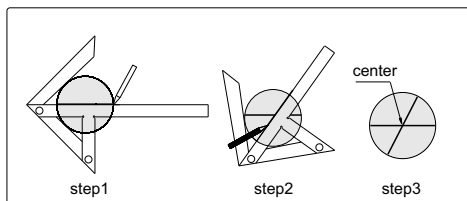
## SERIES 993

## 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

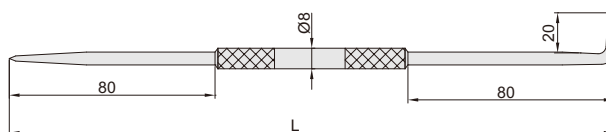
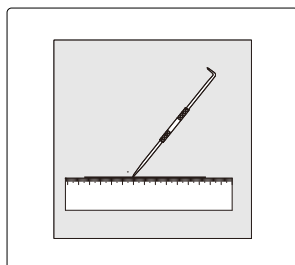
## 995

## SCRIBER

- ♦ Nickel plated



unit: mm



Package



Code	Tips	L
995-009-01	hardened tips	235

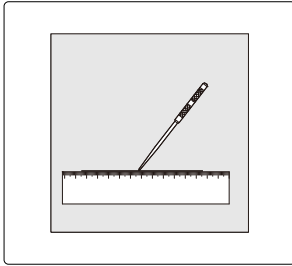




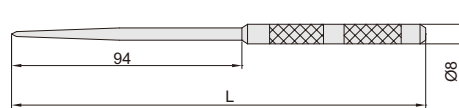
995

SCRIBER

◆ Nickel plated



unit: mm



Package



Code	Tips	L
995-007-01	hardened tips	167

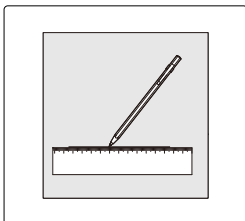
995

SCRIBER

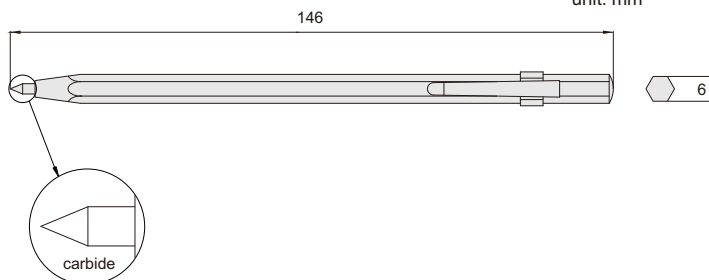
◆ Nickel plated



clip



unit: mm



Package



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

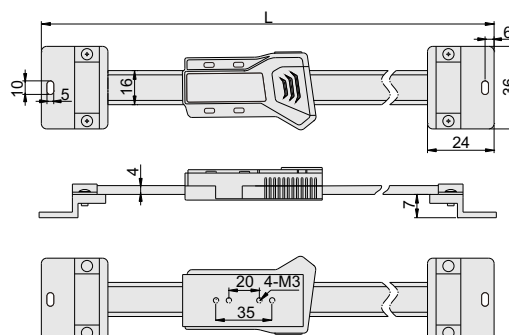
### Type B

- ◆ Resolution: 0.01mm/0.0005"
- ◆ Absolute and incremental measurement
- ◆ Data output
- ◆ Made of stainless steel
- ◆ Supplied with bracket



996-006-11

unit: mm

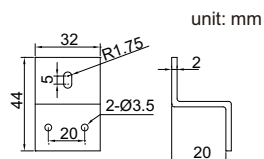


Type A

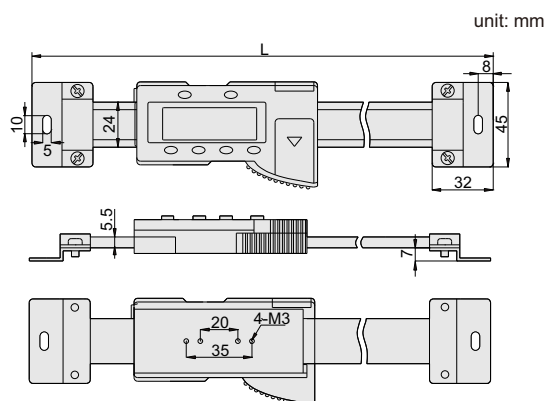


996-020-11

### Bracket(included)

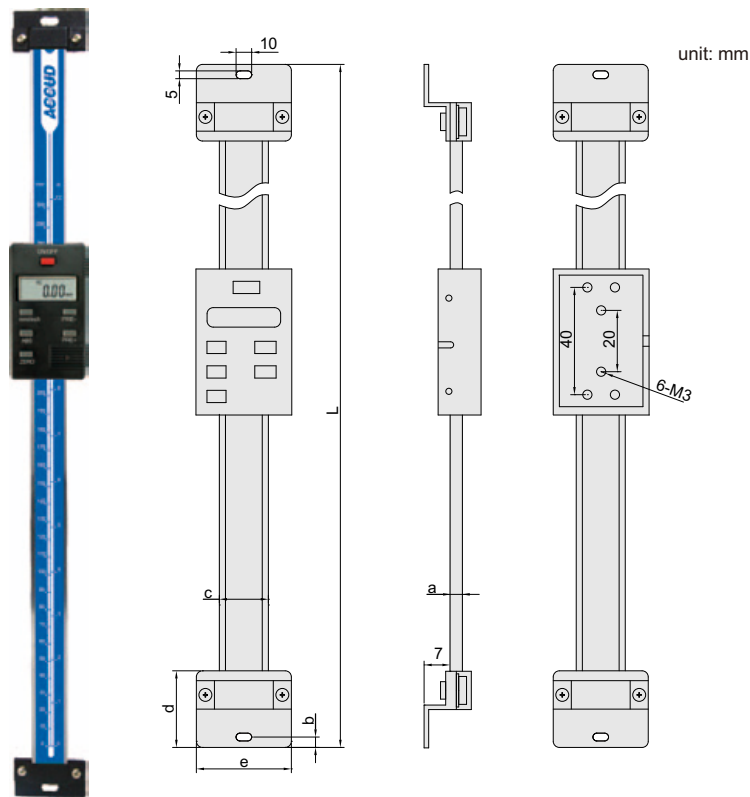


unit: mm



Type B

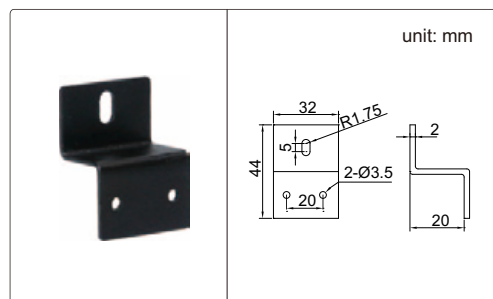
Code	Range	Accuracy	Type	L
996-004-11	100mm	±0.03mm	A	209
996-006-11	150mm	±0.03mm	A	259
996-008-11	200mm	±0.03mm	A	310
996-012-11	300mm	±0.04mm	A	444
996-020-11	500mm	±0.05mm	B	682
996-024-11	600mm	±0.08mm	B	790
996-032-11	800mm	±0.10mm	B	990
996-040-11	1000mm	±0.10mm	B	1240



**997-012-11**

**Bracket(included)**

- ◆ Resolution: 0.01mm/0.0005"
- ◆ Data output
- ◆ Button: on/off, zero, mm/inch, ABS, data preset
- ◆ Made of stainless steel
- ◆ Supplied with bracket



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

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

611-042-00

With manufacturer inspection certificate

PLATE

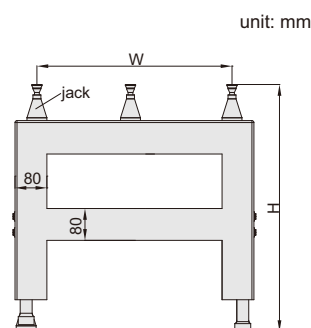
## SERIES 621

## STAND FOR GRANITE SURFACE PLATE

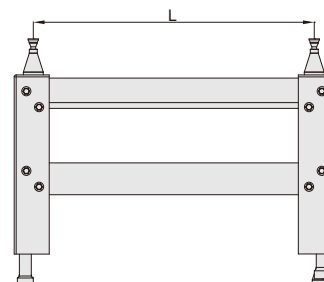
- ◆ For medium size granite surface plates
- ◆ Adjusting range of jacks: 10mm
- ◆ One foot on the bottom is adjustable
- ◆ The height can be made under customer requirement



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

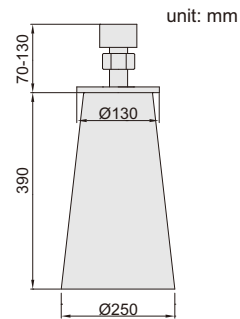


625

## 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

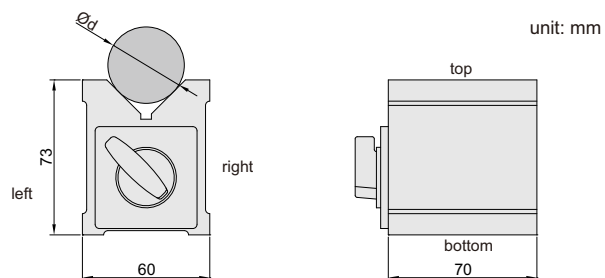
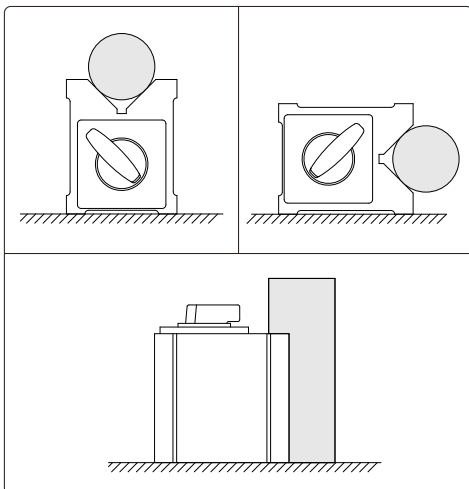
PLATE

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

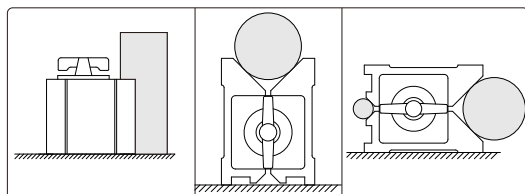
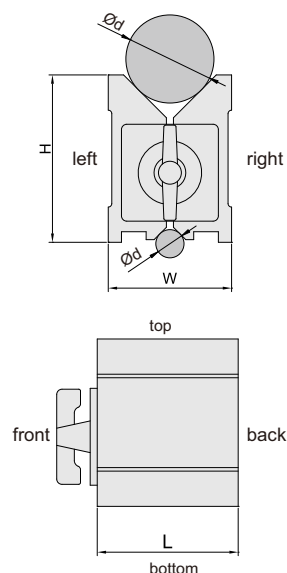
### MAGNETIC V-BLOCK

**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( $\varnothing d$ )	Magnetic force	V-grooves and back side squareness	Top and bottom, left and right parallelism
634-067-01	80x70x95mm	6-67mm	64kgf	10 $\mu$ m	10 $\mu$ m
634-067-02	100x70x95mm	6-67mm	80kgf	10 $\mu$ m	10 $\mu$ m
634-067-03	120x70x95mm	6-67mm	96kgf	10 $\mu$ m	10 $\mu$ m

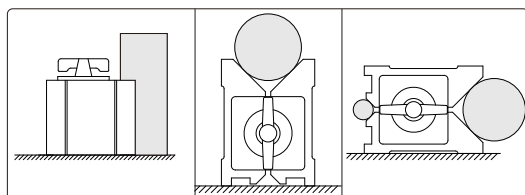
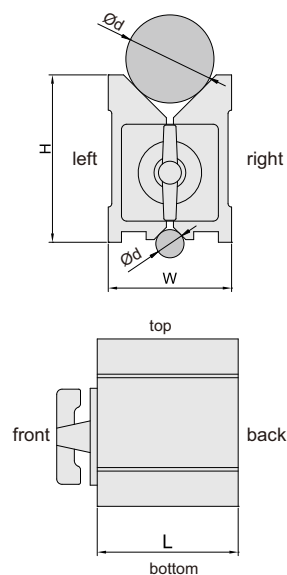
### SERIES 634

### 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( $\varnothing d$ )	Magnetic force	V-grooves and back side squareness	Top and bottom, left and right parallelism
634-067-01H	80x70x95mm	6-67mm	64kgf	5 $\mu$ m	5 $\mu$ m
634-067-02H	100x70x95mm	6-67mm	80kgf	5 $\mu$ m	5 $\mu$ m
634-067-03H	120x70x95mm	6-67mm	96kgf	6 $\mu$ m	6 $\mu$ m

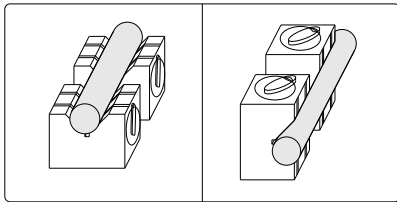


## SERIES 635

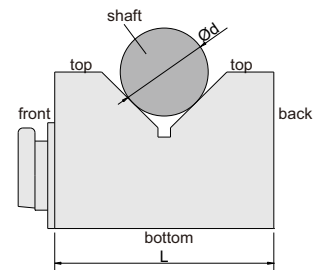
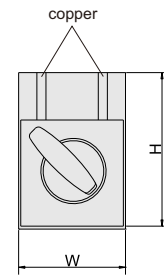
## MAGNETIC V-BLOCK SET

**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



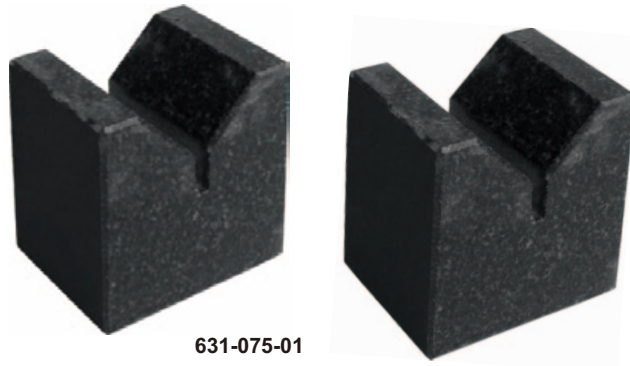
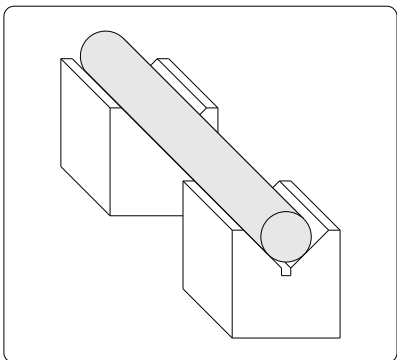
Code	Size(LxWxH)	Range of shafts (Ød)	Magnetic force	Parallelism of V groove to bottom and back sides	Height difference of a matched pair
635-070-01	70x40x50mm	6 - 46mm	8kgf	10µm	10µm
635-150-01	150x50x100mm	6 - 125mm	14kgf	10µm	10µm

## SERIES 631

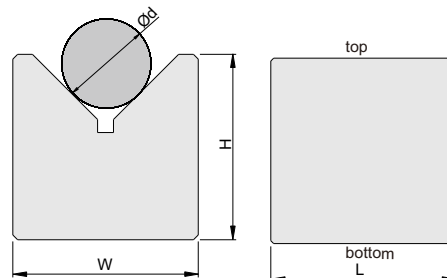
## GRANITE V-BLOCK SET



- ◆ 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

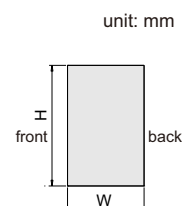
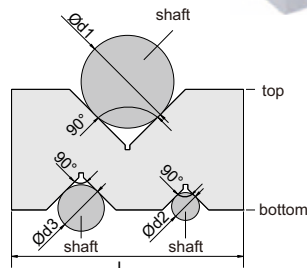
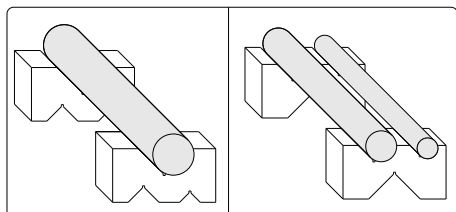
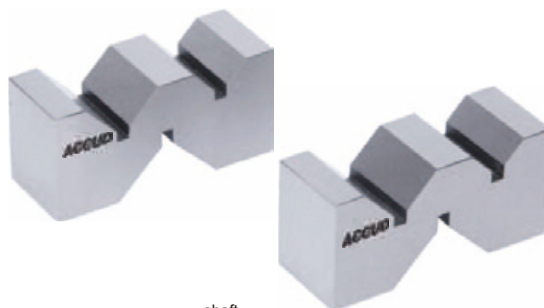
With manufacturer inspection certificate



## SERIES 632

## V-BLOCK SET

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



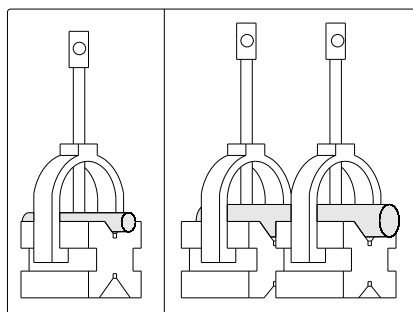
Code	Size (LxWxH)	Range of shafts(Ød1)	Range of shafts(Ød2)	Range of shafts(Ød3)	Parallelism of V grooves to top and bottom sides	Squareness of V grooves to front and back sides	Height difference of a matched pair
632-002-01	50x19x24mm	3 - 32mm	3 - 16mm	3 - 22mm	5µm	5µm	5µm
632-003-01	75x24x35mm	3 - 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

V-BLOCK

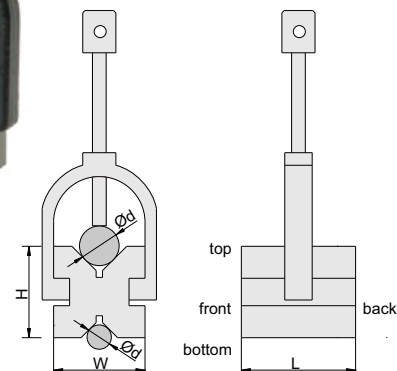
## SERIES 636

## 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

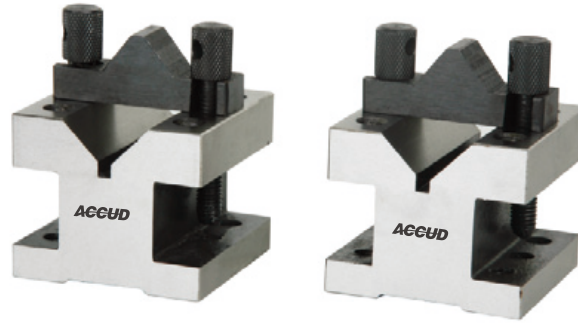


Code	Size(LxWxH)	For shaft range(Ød)	V grooves to top and bottom sides parallelism	V grooves to front and back sides squareness	Height difference of a matched pair
636-045-01	45x41x35mm	5 - 40mm	5µm	5µm	5µm
636-070-01	70x63x44mm	7 - 60mm	5µm	5µm	5µm
636-125-01	125x90x70mm	7 - 80mm	5µm	5µm	5µm

**SERIES 637**

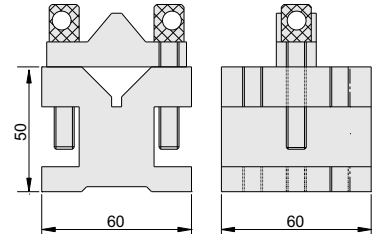
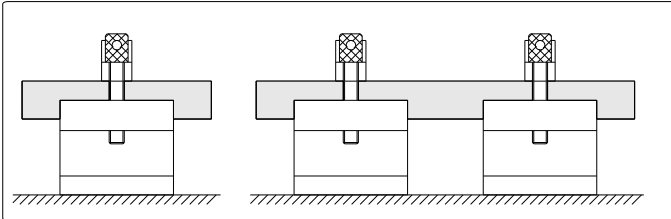
**V-BLOCK SET**

- ◆ Hold cylindrical workpieces for inspection and machining
- ◆ Two V-blocks per set
- ◆ V groove on the top for large shafts



637-035-01

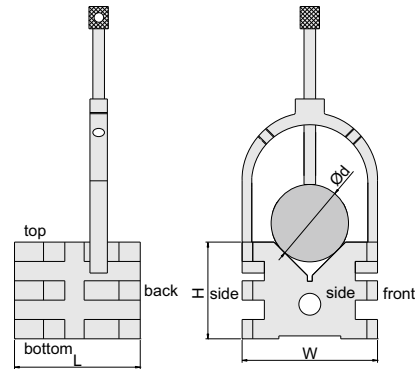
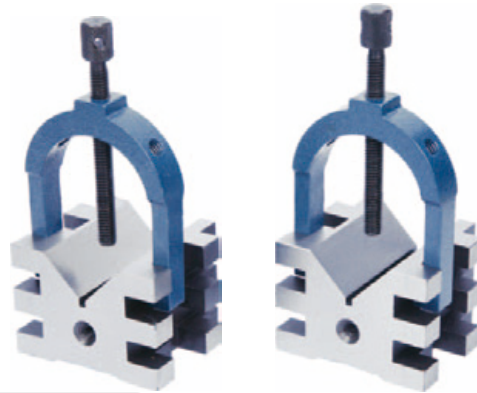
unit: mm



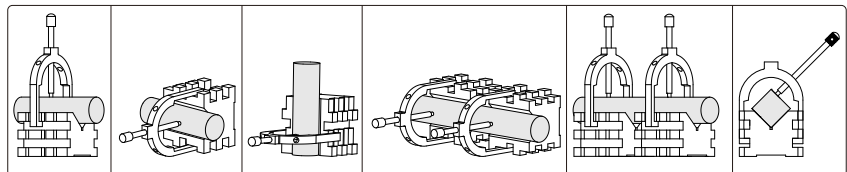
Code	Size(LxWxH)	For shaft range(Ød)	V grooves to top and bottom sides parallelism	V grooves to front and back sides squareness	Height difference of a matched pair
637-035-01	35x35x30mm	3 - 16mm	5µm	5µm	5µm
637-060-01	60x60x50mm	5 - 34mm	5µm	5µm	5µm
637-105-01	105x105x78mm	8 - 66mm	5µm	5µm	5µm

**638**

**V-BLOCK SET**



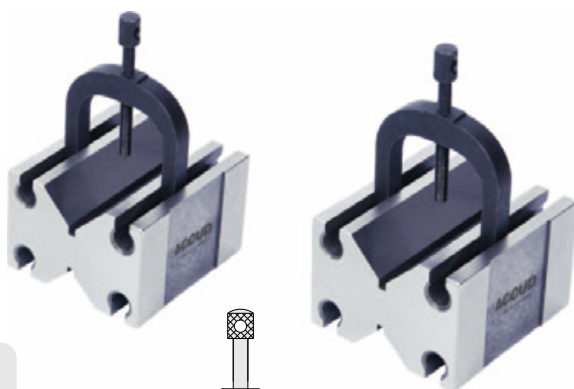
- ◆ Hold cylindrical or rectangular workpieces for inspection and machining
- ◆ Two V-blocks per set
- ◆ Hardened to HRC60±2
- ◆ Applicable for cylinder with diameter (Ød): 5 - 50mm
- ◆ Applicable for rectangular workpieces with thickness: ≤35mm



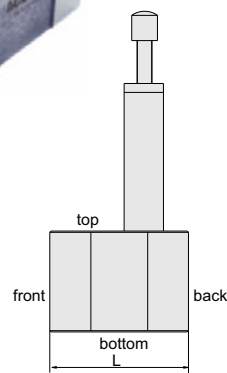
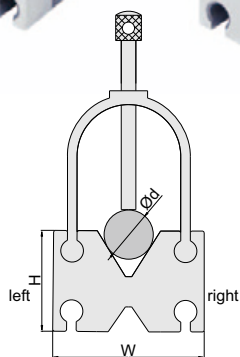
Code	Size (LxWxH)	Parallelism of V groove to top and bottom sides	Squareness of V groove to front and back sides	Height difference of a matched pair
638-070-01	60x70x50mm	8µm	8µm	8µm

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



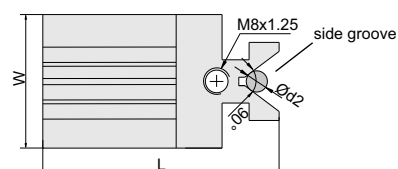
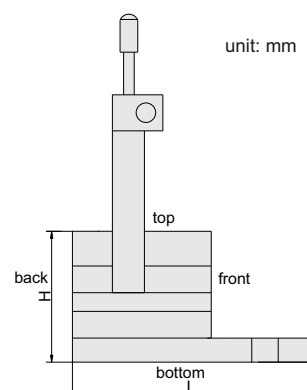
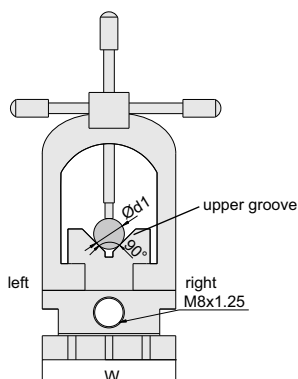
Code	Size (LxWxH)	Range of shafts (Ød)	Parallelism of both V grooves to top, bottom, left, right sides	Squareness of both V grooves to front and back sides	Height difference of a matched pair
640-001-01	65x70x45mm	4 -35mm	5µm	5µm	5µm

V-BLOCK

639

## V-BLOCK

- ◆ Hold cylindrical workpieces for inspection and machining
- ◆ Hardened to HRC60±2



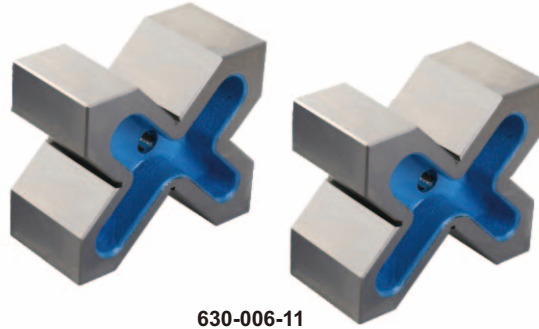
Code	Size (LxWxH)	Range of shafts (Ød1 and Ød2)	Parallelism of upper groove to bottom, left and right sides	Squareness of upper groove to back side	Parallelism of side groove to back side
639-090-01	90x48x48mm	5 -33mm	5µm	5µm	5µm



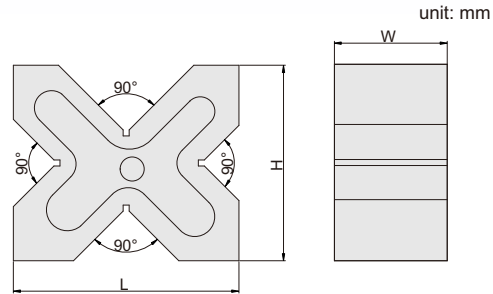
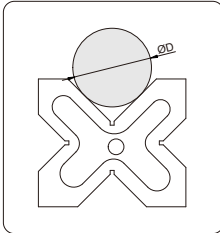
## SERIES 630

## 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

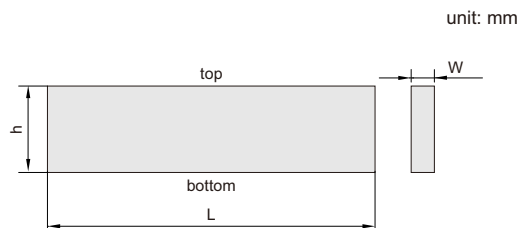
## SERIES 641

## PARALLEL SET

- ◆ Parallelism between top and bottom: 5µm
- ◆ Height difference of a matched pair: 5µm
- ◆ Hardened to HRC55-60
- ◆ Made of alloy tool steel



641-014-01



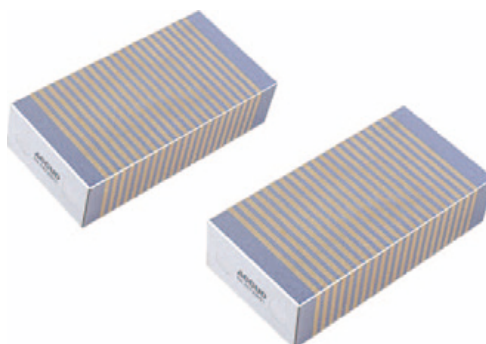
Code	Parallels per set	Length(L)	Thickness(W)	Height(h)
641-808-16	8pairs	160mm	8mm	12, 17, 22, 25, 28, 32, 36, 38mm
641-808-20	8pairs	200mm	8mm	17, 22, 26, 28, 32, 36, 38, 42mm
641-409-16	9pairs	160mm	4mm	10, 14, 18, 22, 26, 30, 34, 38, 42mm
641-310-01	10pairs	150mm	3mm	13, 16, 19, 22, 25, 28, 31, 35, 38, 41mm
641-014-01	14pairs	150mm	10mm	14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 35, 40, 45, 50mm



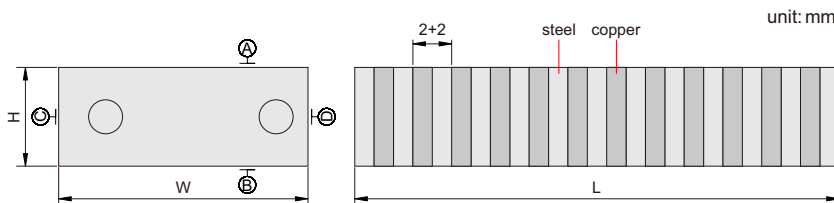
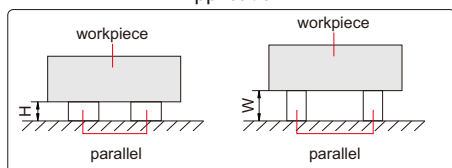
615

## 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

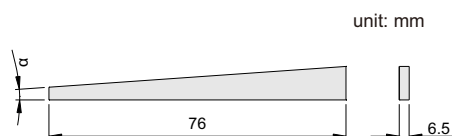
## SERIES 571

## 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°

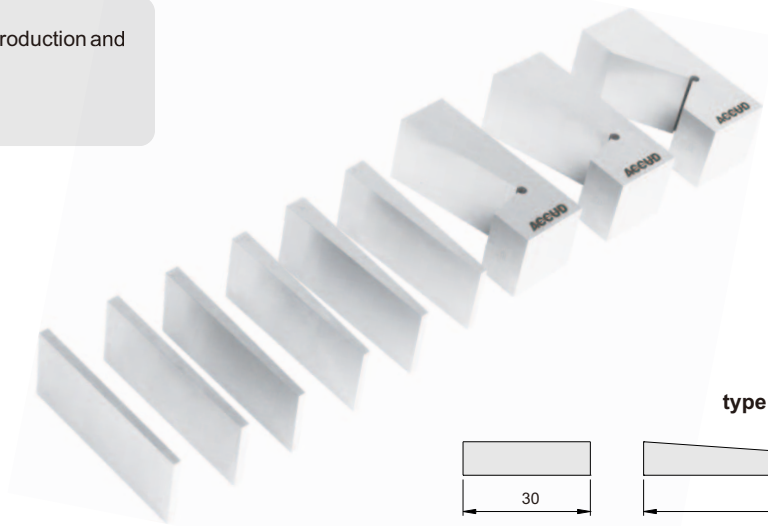




646

## UNIVERSAL ANGLE PLATE SET

- ◆ For angle set-up in tooling, production and inspection
- ◆ Hardness HRC55

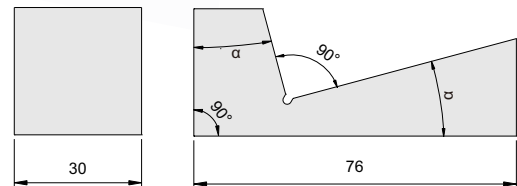


unit: mm

type A



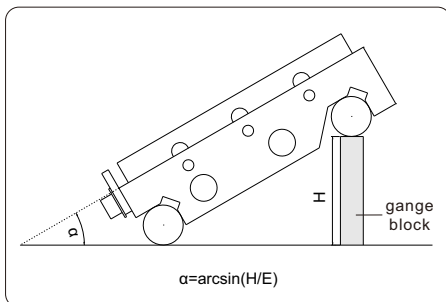
type B



Code	Quantity	Angle $\alpha$	Type	Accuracy
646-009-01	9pcs	$\frac{1}{2}^\circ, 1^\circ, 2^\circ, 3^\circ, 4^\circ, 5^\circ$	type A	$\pm 1'$
		$10^\circ, 15^\circ, 30^\circ$	type B	

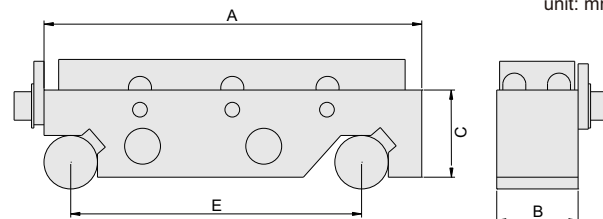
## SERIES 651

## SINE BAR



651-005-01

unit: mm



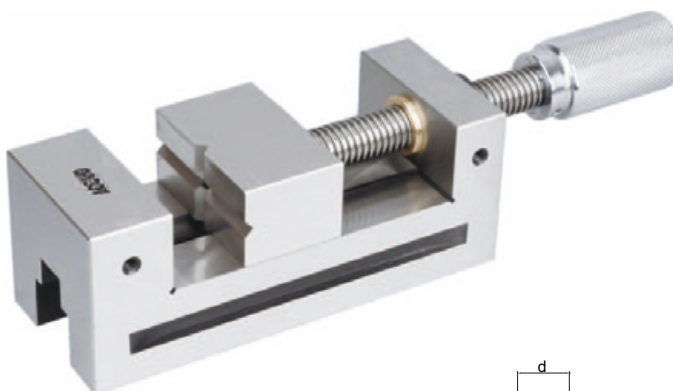
Code	Roller distance (E)	Table size(AxB)	Accuracy of $\alpha$ at $30^\circ$	C
651-005-01	100mm	130x25mm	$\pm 8''$	25
651-005-02	100mm	130x83mm	$\pm 16''$	30
651-010-01	200mm	250x40mm	$\pm 8''$	40
651-010-02	200mm	250x85mm	$\pm 16''$	40



## SERIES 652

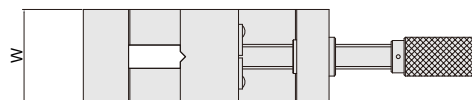
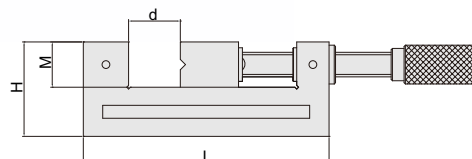
## PRECISION VISE

- ◆ 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

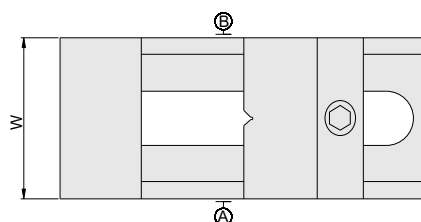
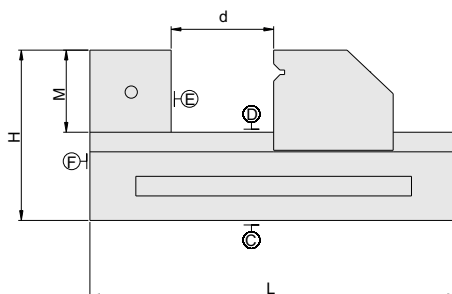
## PRECISION VISE

- ◆ 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



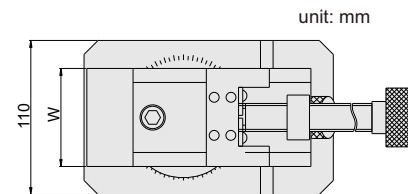
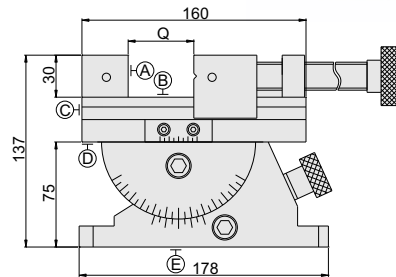
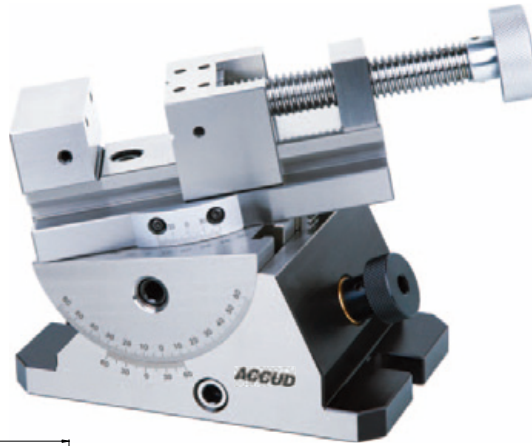
Code	Jaw opening(d)	Jaw width(W)	L	H	M
653-003-01	80mm	50mm	150	53	25
653-005-01	100mm	73mm	190	70	35



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

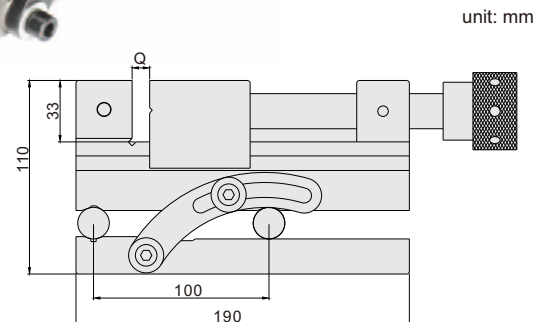
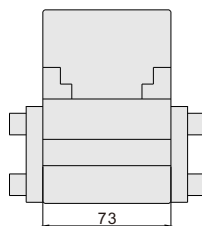


Code	Jaw opening(Q)	Jaw width(W)
656-080-01	0-80mm	70mm

657

## PRECISION SINE VISE

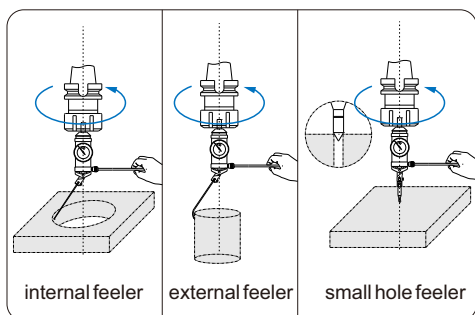
- ◆ Parallelism: 3μm/100mm
- ◆ Squareness: 5μm/100mm
- ◆ Accuracy of angle: ±20"
- ◆ Made of SKS tool steel, subzero treatment
- ◆ Hardness HRC58-60



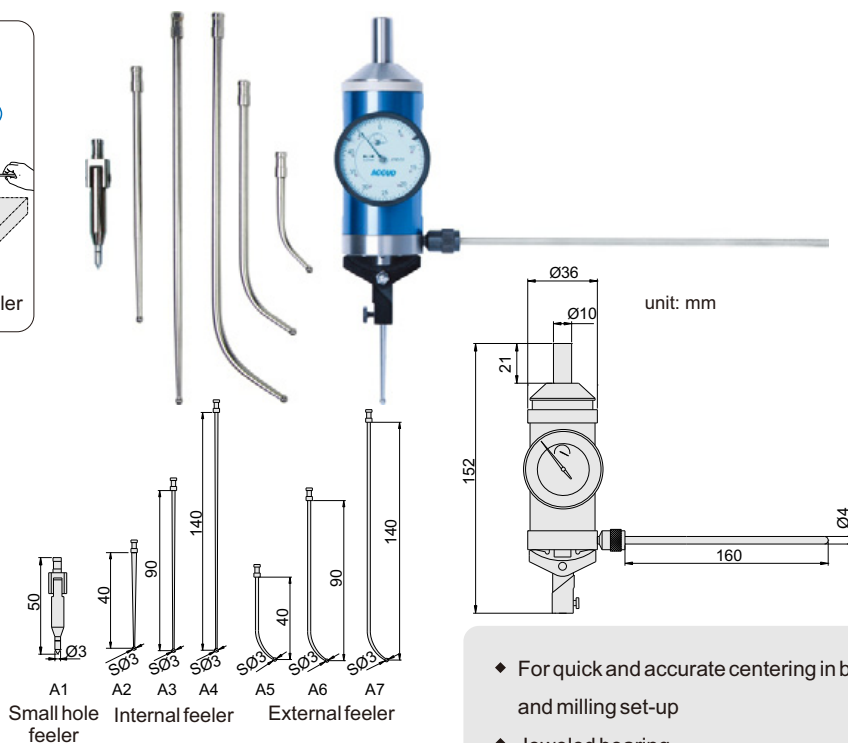
Code	Jaw opening (Q)	Jaw width	Adjustable angle
657-090-01	0-90mm	73mm	0-45°

297

## CENTERING INDICATOR



Feeler	Measuring diameter	Accuracy
A1	Ø0-2.8mm	0.03
A2	Ø0-60mm	0.03
A3	Ø0-160mm	0.03
A4	Ø0-250mm	0.03
A5	Ø3.2-80mm	0.03
A6	Ø3.2-180mm	0.03
A7	Ø3.2-280mm	0.03



- ◆ For quick and accurate centering in boring and milling set-up
- ◆ Jeweled bearing
- ◆ Supplied with 7 type feelers

Code

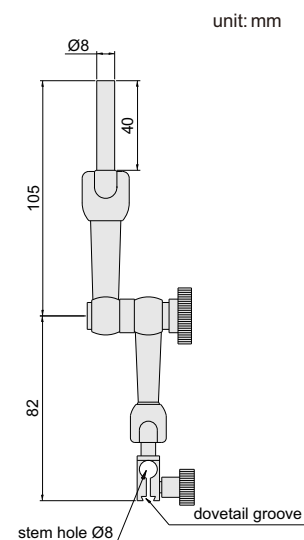
297-003-11

685

## DIAL TEST INDICATOR CENTERING HOLDER

- ◆ Center cylinders or holes on machine tools
- ◆ Can be used with dial test indicators

Application

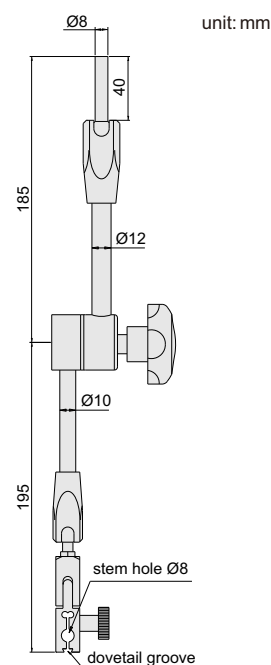


Code

685-040-01

- ◆ Center cylinders or holes on machine tools
- ◆ Can be used with dial test indicators or dial indicators

Application



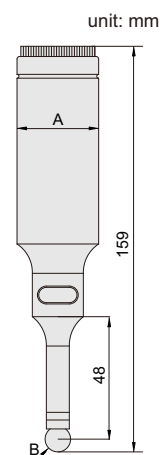
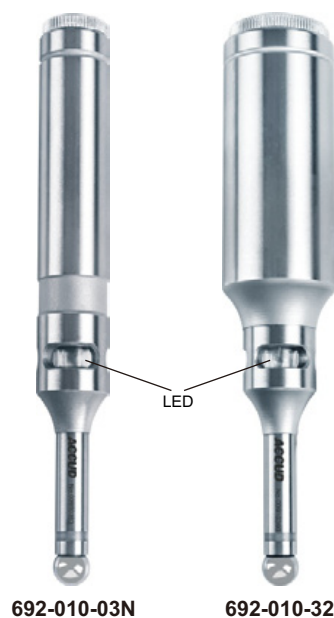
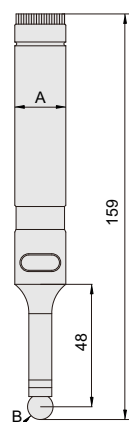
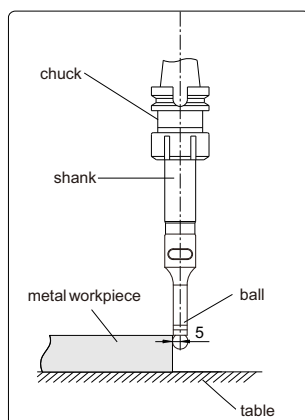
## Code

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



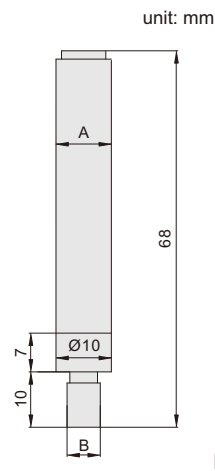
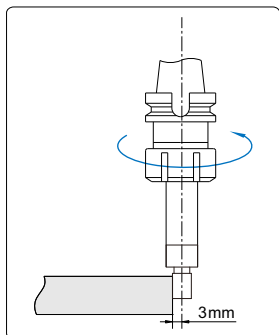
Code	Shank(A)	Contact point (B)	Accuracy
692-010-03N	Ø20mm	SØ10mm	5µm
692-010-32	Ø32mm	SØ10mm	5µm

## SERIES 693

## NON-MAGNETIC EDGE FINDER



- ◆ Non-magnetic
- ◆ TIN coating, hardness HV2300, extremely wear resistance
- ◆ Suitable for machine speed 400~600rpm



Package

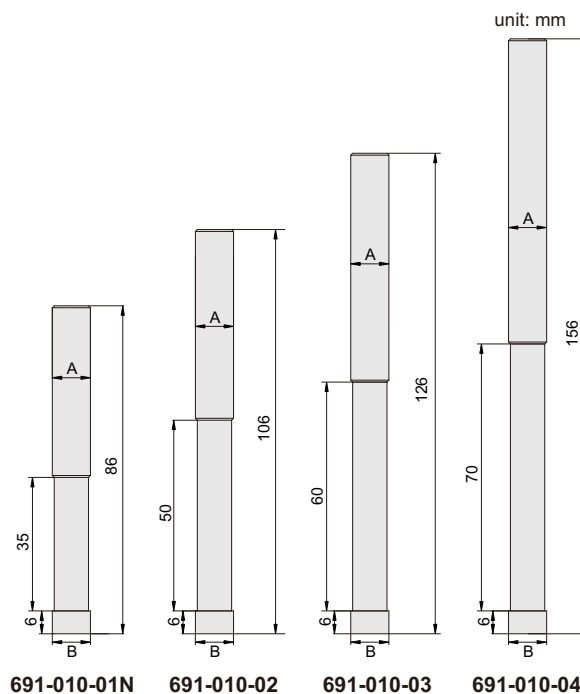
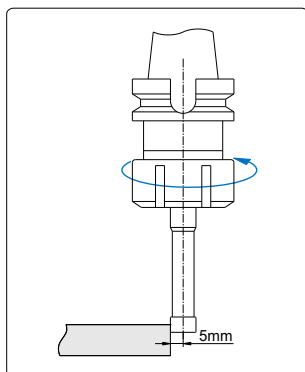


Code	Shank(A)	Contact surface(B)	Accuracy	Titanium plated
693-010-01N	Ø10mm	Ø6mm	5µm	without
693-010-31	Ø10mm	Ø6mm	5µm	with

## SERIES 691

## CERAMIC EDGE FINDER

- ◆ Ceramic contact point, non magnetic
- ◆ Hardened shank
- ◆ Suitable for machine speed: 400-600rpm



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

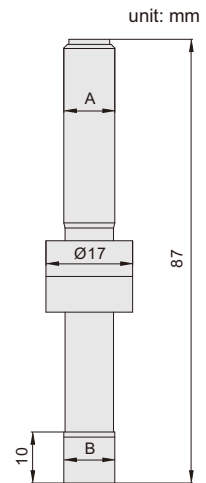
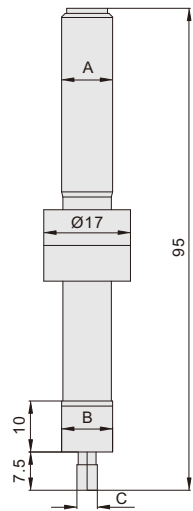
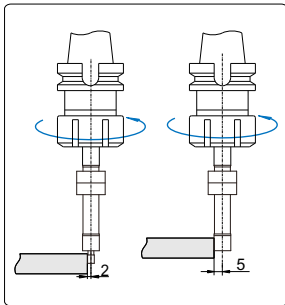


## SERIES 691

## CERAMIC EDGE FINDER



- ◆ Non-magnetic
- ◆ CrN coating, hardness HV2000, extremely wear resistance
- ◆ Suitable for machine speed 400~600rpm

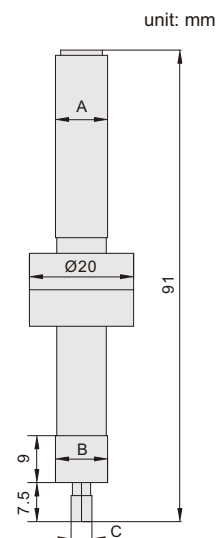
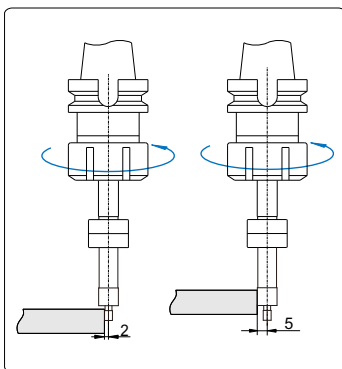


Code	Shank(A)	Contact point(B)	Contact point(C)	Accuracy
691-017-01	Ø10mm	Ø10mm	Ø4mm	5µm
691-017-11	Ø10mm	Ø10mm	-	5µm

## 694

## EDGE FINDER

- ◆ Hardened shank and contact point
- ◆ Suitable for machine speed 400~600rpm



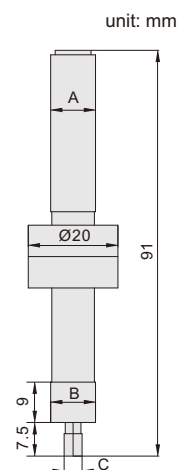
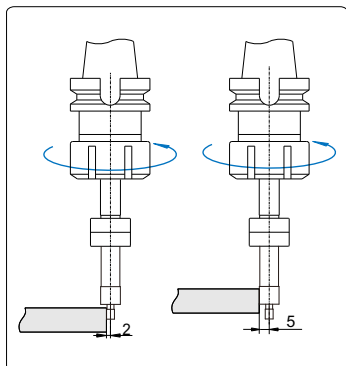
Code	Shank(A)	Contact point(B)	Contact point(C)	Accuracy
694-020-01N	Ø10mm	Ø10mm	Ø4mm	5µm

## 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

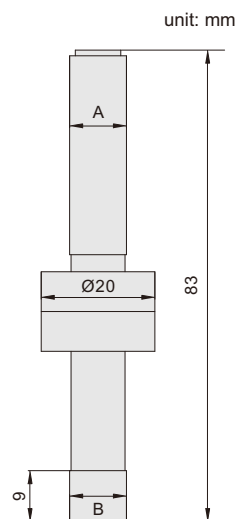
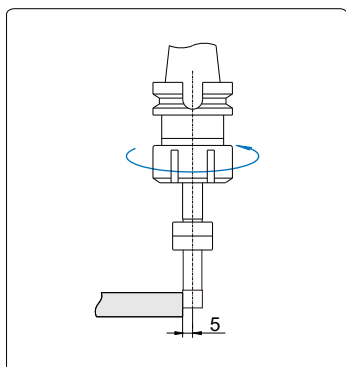


Code	Shank(A)	Contact point(B)	Contact point(C)	Accuracy
694-020-02	Ø10mm	Ø10mm	Ø4mm	5µm
694-020-03	Ø10mm	Ø10mm	Ø4mm	5µm

## 694

## EDGE FINDER

- ◆ Hardened shank and contact point
- ◆ Suitable for machine speed 400~600rpm



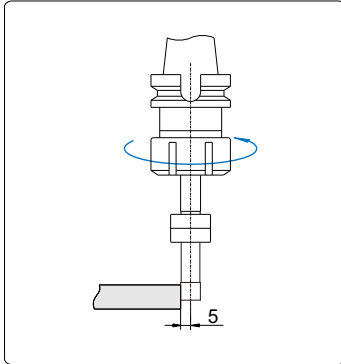
Code	Shank(A)	Contact point(B)	Accuracy
694-020-11	Ø10mm	Ø10mm	5µm

## SERIES 694

## NON-MAGNETIC EDGE FINDER



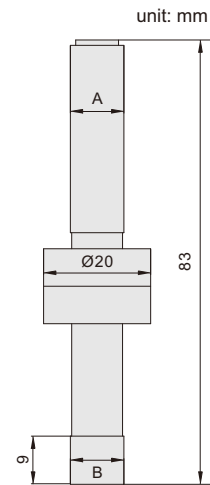
- ◆ Non-magnetic
- ◆ TiAlN coating, hardness HV3500;  
TIN coating, hardness HV2300,  
extremely wear resistance
- ◆ Suitable for machine speed 400~600rpm



694-020-12



694-020-13



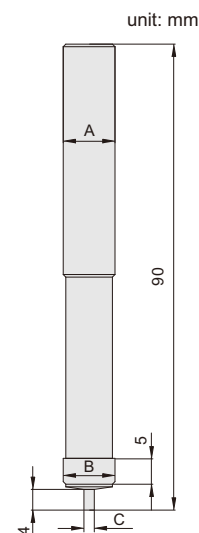
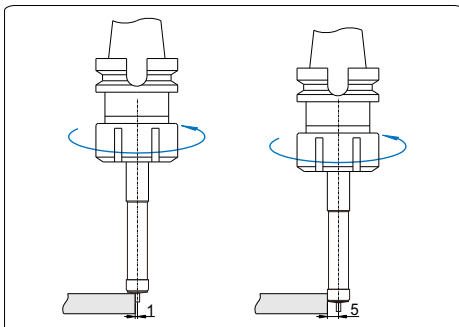
Code	Shank(A)	Contact point(B)	Accuracy
694-020-12	Ø10mm	Ø10mm	5µm
694-020-13	Ø10mm	Ø10mm	5µm

## 689

## NON-MAGNETIC EDGE FINDER



- ◆ Non-magnetic
- ◆ TIN coating, hardness HV2300,  
extremely wear resistance
- ◆ Suitable for machine speed 400~600rpm



Package



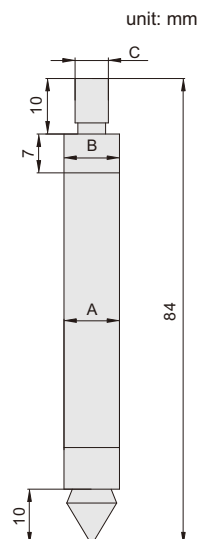
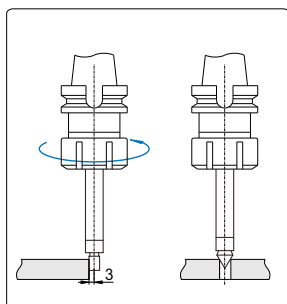
Code	Shank(A)	Contact point(B)	Contact point(C)	Accuracy
689-010-02	Ø10mm	Ø10mm	Ø2mm	5µm

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



Package



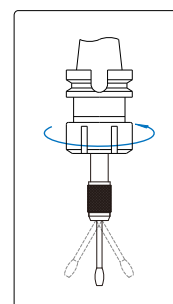
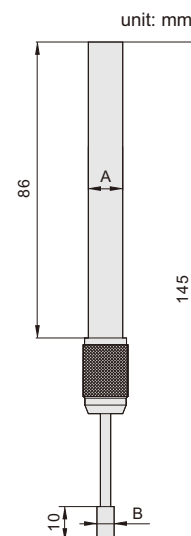
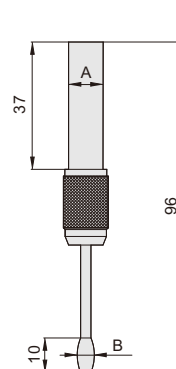
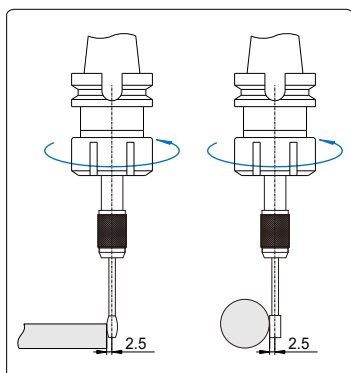
Code	Shank(A)	Contact point(B)	Contact point(C)	Accuracy
690-010-01	Ø10mm	Ø10mm	Ø6mm	5µm

## SERIES 688

## EDGE FINDER (WITH ROTARY HEAD)



- ◆ Non-magnetic
- ◆ TIN coating, hardness HV2300, extremely wear resistance
- ◆ Suitable for machine speed 500~2000rpm



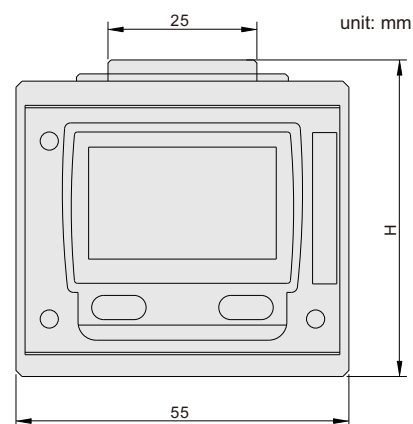
Code	Shank(A)	Contact point(B)	Accuracy	Application
688-010-01	Ø10mm	Ø5mm	5µm	flat surface
688-010-12	Ø10mm	Ø5mm	5µm	arc surface

697

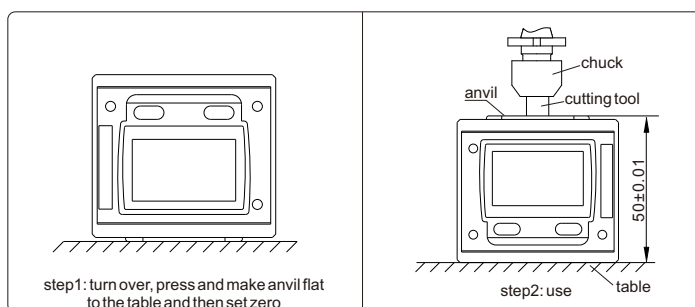
## DIGITAL ZERO SETTER



- ◆ IP65 protection level
- ◆ Magnetic base
- ◆ With backlight, will turn on automatically when close to zero ( $\pm 0.002\text{mm}$ )
- ◆ Turn off automatically



## Application

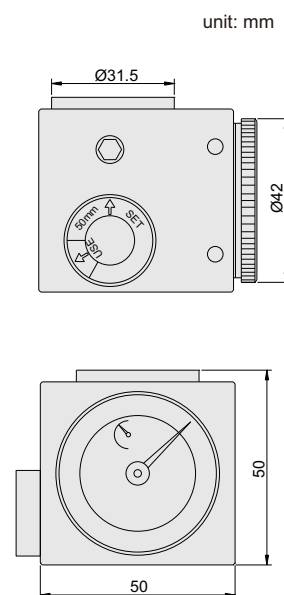
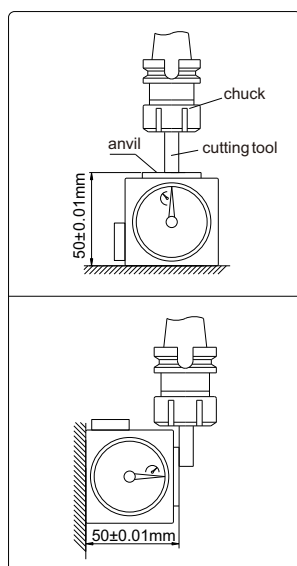


Code	Accuracy
697-050-01	$\pm 10\mu\text{m}$

695

## ZERO SET

- ◆ Magnetic base

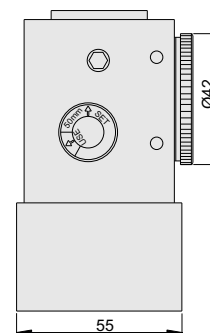
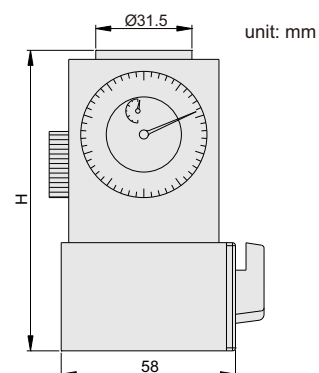
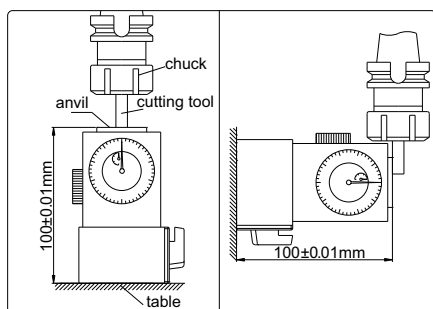


Code	Accuracy
695-050-01	$\pm 10\mu\text{m}$

696

## ZERO SET

- ♦ Magnetic base with on/off switch



Code	Height (H)	Accuracy	Force
696-100-01	100mm	±10µm	9N

## SERIES 280

## 2-PIECE MEASURING TOOLS SET



280-000-02

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)

Package





**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****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
<b>280-200-03</b>	digital indicator, range 12.7mm/0.5" (code <b>212-010-13</b> ) flex arm locking pliers, adjustable jaw opening from 0 to 25mm
<b>280-201-03</b>	10mm dial indicator (code <b>222-010-11</b> ) flex arm locking pliers, adjustable jaw opening from 0 to 25mm
<b>280-202-03</b>	1" inch dial indicator (code <b>225-025-11</b> ) 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

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**



## SERIES ES

## ENDOSCOPE



- ◆ 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 <sup>*</sup>	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

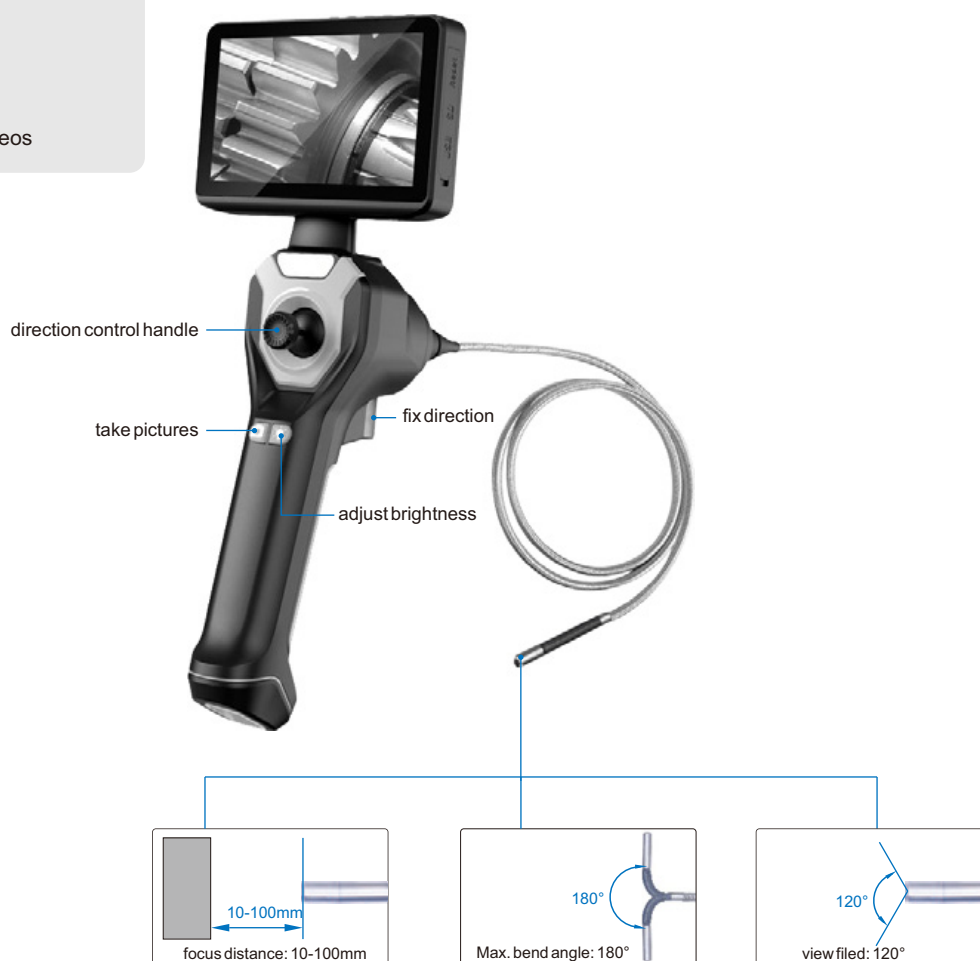
Main unit	1pc
Cable with probe	1pc
SD card 8G	1pc
AC/DC adapter	1pc
Video output cable	1pc
USB cable	1pc

<sup>\*</sup> 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	1MPixel		
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



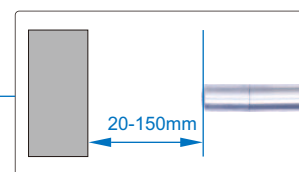
- ◆ The cable with lens can be rotated at 360°
- ◆ With adjustable LED light



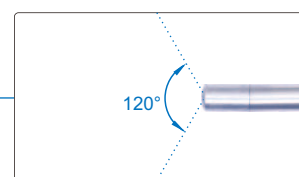
VIDEO

HDMI  
Micro USB  
TF

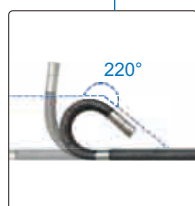
manual joystick to control the cable



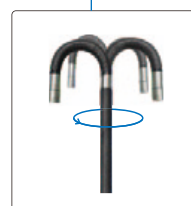
focus distance:20-150mm



angle of view field:120°



Max.bend angle:220°



360° rotation

### 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



- ◆ 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



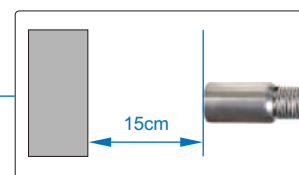
80mm support guide



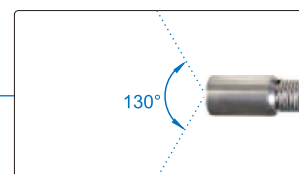
Remote control



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
12VAC/DC adapter	1pc

USB cable	1pc
Remote control	1pc
Support guide	2pcs

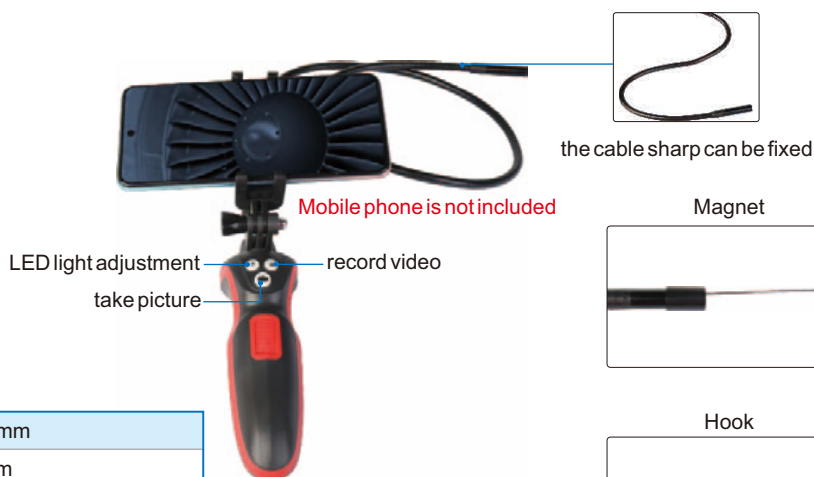


EST0810

## 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	2M Pixel
Picture resolution	1600x1200
Video format	JPEG/MP4
Illumination	6 steps adjustable LED
Power supply	rechargeable battery (for 4 hours working)
Weight	287g

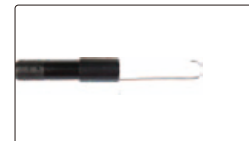
### INCLUDED ACCESSORIES

Main unit	1pc
Cable with probe	1pc
Hook	1pc
Mirror	1pc
Magnet	1pc
USB cable	1pc

Magnet



Hook



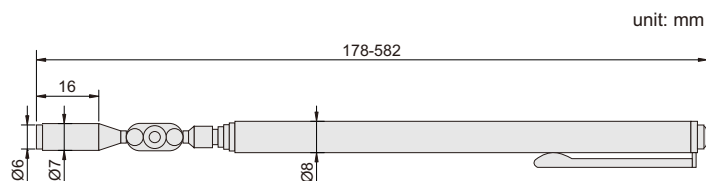
Mirror



790

## TELESCOPING MAGNETIC PICK-UP

- ◆ Pick up steel parts from hidden areas
- ◆ Rotation of magnetic head: 360°
- ◆ Length of handle is adjustable, handle is made of stainless steel

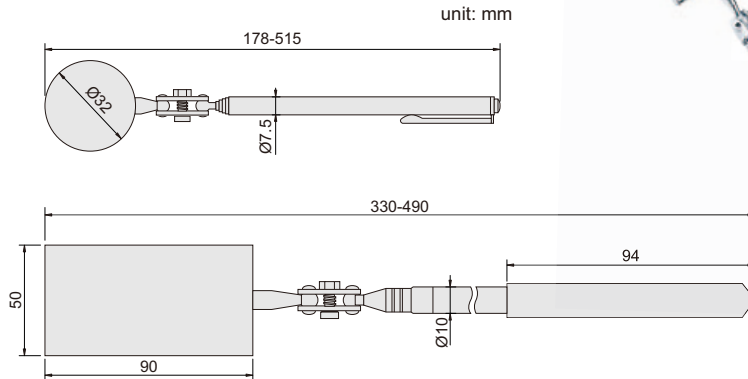


Code	Magnetic force
790-024-11	0.45kgf

## SERIES 795

## TELESCOPING INSPECTION MIRROR

- ◆ Used to check hidden areas
- ◆ The head can be rotated: 360°
- ◆ Length of handle is adjustable
- ◆ Handle is made of stainless steel



795-032-11

795-090-11

Code	Shape of mirror	Size of mirror	Length
795-032-11	circle	Ø32mm	178-515mm
795-090-11	rectangle	50x90mm	330-490mm

## MG305

## MAGNIFICATION GLASSES

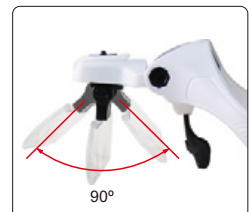


- ◆ Lenses are made of resin
- ◆ Interchangeable lenses
- ◆ Powered supply: 3 pcs AAA batteries

Adjustable holder angle



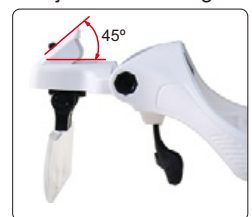
Adjustable lens position



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

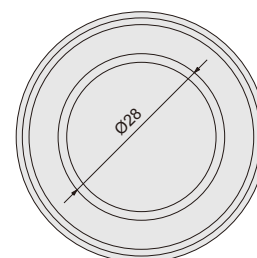
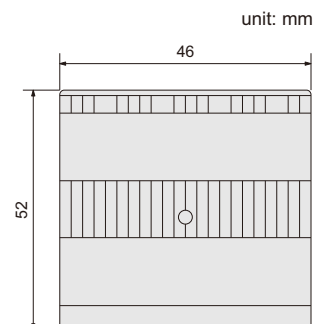
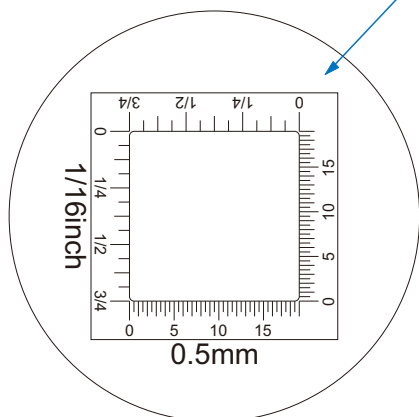


### MG30X

### MEASURING MAGNIFIER (WITH ILLUMINATION)



- ◆ Base with scale
- ◆ With 3 white LED and 3 UV LED
- ◆ Magnification: 30X



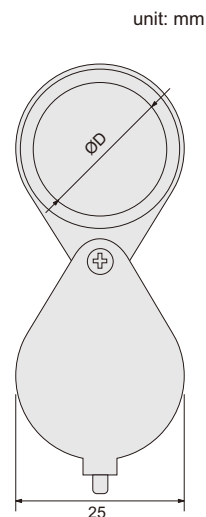
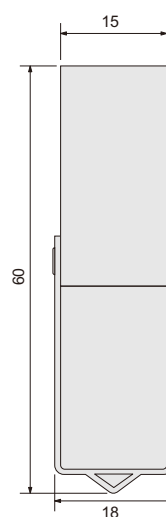
### MG10

### FOLDING MAGNIFIER

- ◆ Glass lens

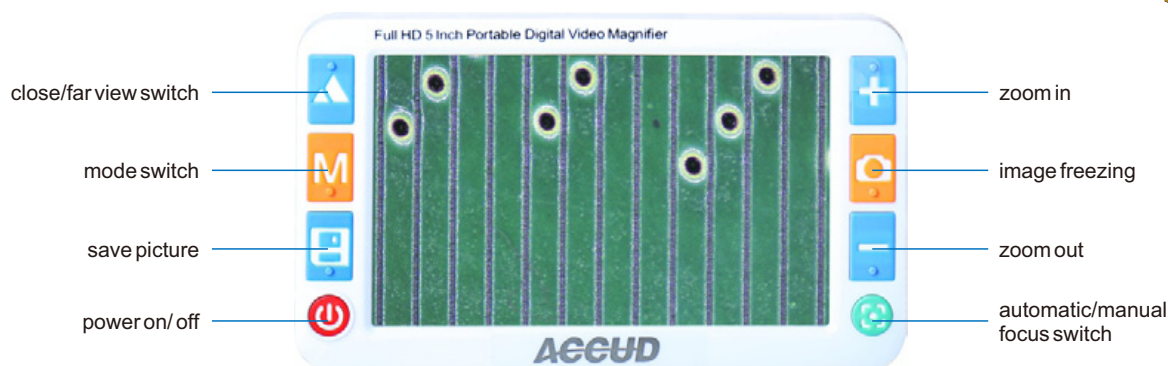


folding



Magnification	10X
Lens diameter(ØD)	Ø21





- ◆ Two cameras, for close and far view
- ◆ Double lens, autofocus
- ◆ 26 color modes can be switched
- ◆ With folding bracket
- ◆ With voice instructions when press the button
- ◆ With LED light
- ◆ Automatic power off after 3 minutes

#### SPECIFICATION

Screen size	5 inch
Screen resolution	800x480
Magnification	2X-32X
Close view pixel	8M
Far view pixel	8M
Focus	manual/automatic
Color mode(26 modes)	color mode, color enhancement mode, negative mode, monochrome mode, black on white, white on black, blue on white, white on blue, yellow on black, black on yellow, yellow on blue, blue on yellow, green on white, white on green, orange on white, white on orange, red on black, black on red, orange on black, black on orange, yellow on green, green on yellow, red on white, white on red, yellow on white, white on yellow
Line	horizontal and vertical red lines
Function	image freezing, image moving, photo review and high definition storage
Output	TV and HDMI
Storage	supports up to 32G TF card
Recharging port	Type-C
Power supply	rechargeable lithium battery, 2500mAH (for 4 hours working)
Dimension (LxWxH)	145x30x85mm
Weight	275g

#### INCLUDED ACCESSORIES

Main unit	1pc
HDMI cable	1pc
Video output cable	1pc
USB recharging cable	1pc
AC/DC adapter	1pc



### 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



VIDEO



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

Optional Stand



Universal Stand (MS36B)

### 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



VIDEO



It can connected to smart phone , Ipad or computer via WIFI



Optional Stand



Universal Stand (MS36B)

Magnification, View Field and Focus Relationship

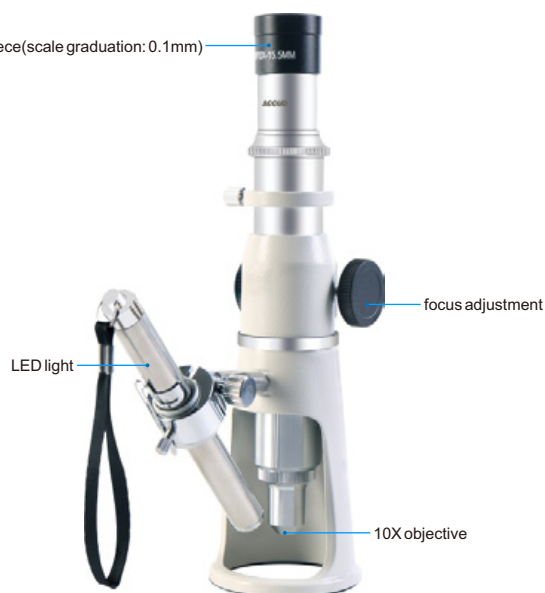
Magnification	Focus	View field
50X	21mm	9.5x7.1mm
100X	13mm	4.8x3.6mm
150X	16mm	3.2x2.4mm
200X	19mm	2.4x1.8mm



## SPECIFICATION

Total magnification	100X
Eyepiece	10X
Objective(achromatic)	10X
Working distance	7mm
Focus range	30mm
Viewing field	Ø1.8mm
Graduation	0.01mm
Illumination	LED light
Diameter of base	Ø63mm
Height	210mm
Weight	650g

10X eyepiece(scale graduation: 0.1mm)



## INCLUDED ACCESSORIES

Main unit	1pc
Pen light	1pc
Battery (AAA)	2pcs

## DVM3DMS

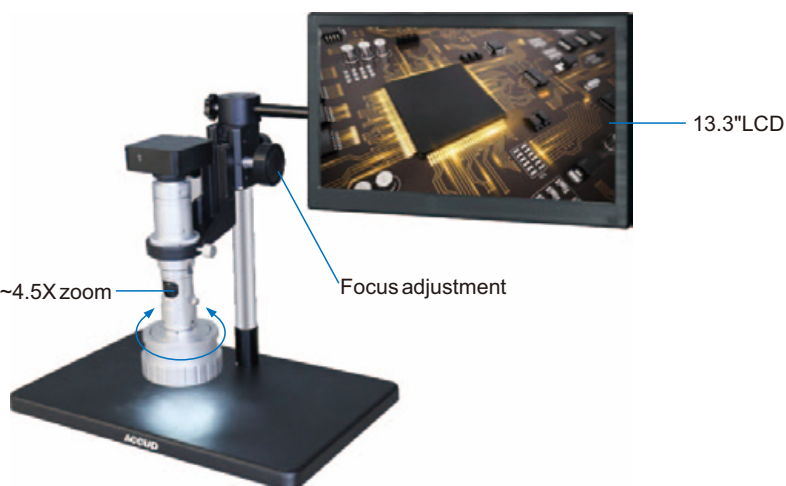
3D MANUAL ROTATION MICROSCOPE  
(WITH DISPLAY)

- ◆ With adjustable LED light
- ◆ Automatic exposure, white balance
- ◆ With measuring functions

## SPECIFICATION

Lens magnification	0.7X~4.5X
Total magnification	18X~120X
View field	2.4x1.5mm~16x9mm
Focus distance	20mm
View angle	45°
Sensor	1/2.8"CMOS
Pixel	2M
Resolution	1920x1080
Frame rate	60fps
Output	HDMI
Power supply	100-220V
Dimension (LxWxH)	570x300x430mm
Weight	10kg

0.7X~4.5X zoom



13.3"LCD

Focus adjustment

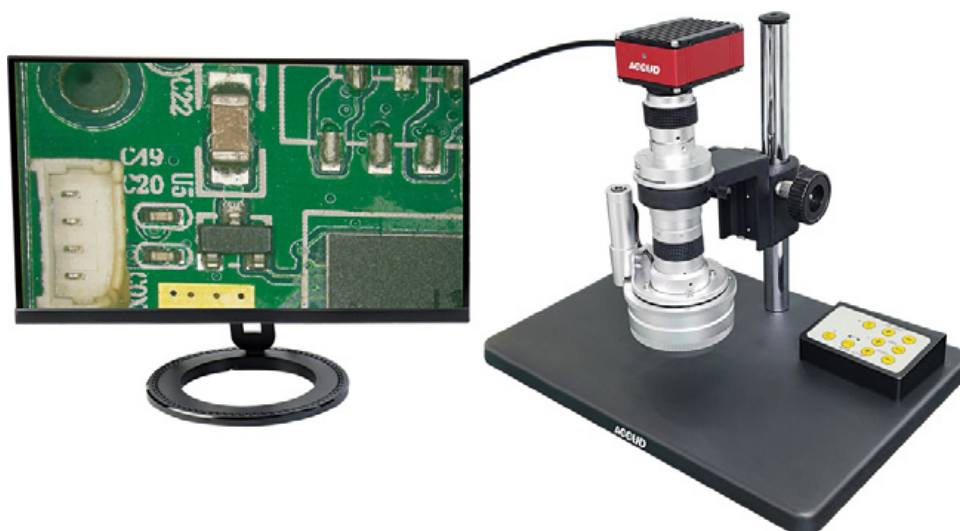
## INCLUDED ACCESSORIES

Main unit	1pc
X-Y metal stage	1pc
32G USB flash disk	1pc
Mouse	1pc
Power adapter	1pc

## SERIES DVM3D

## 3D MOTORIZED ROTATION MICROSCOPE

- ◆ 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	

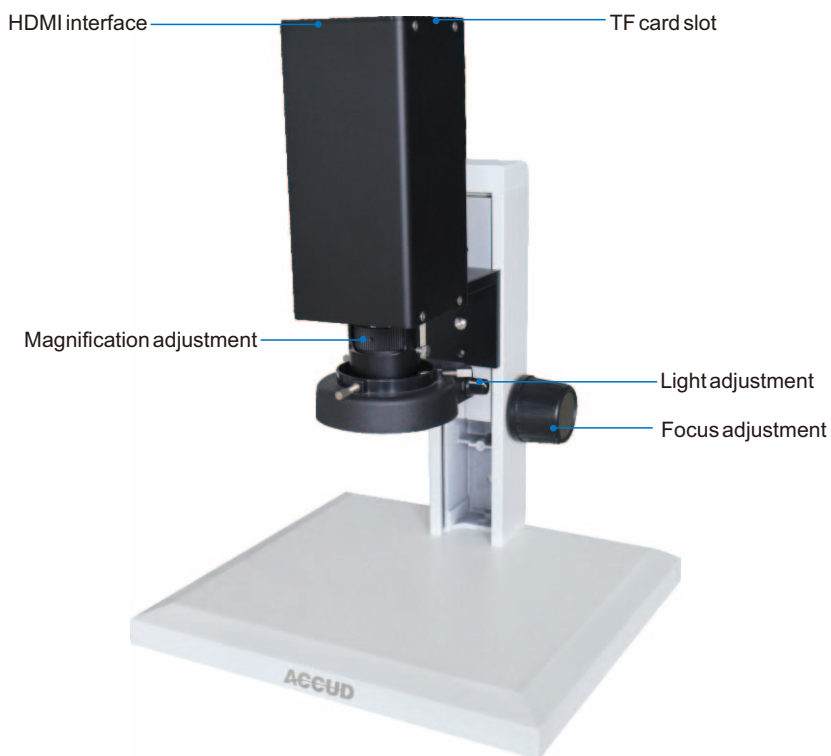
### INCLUDED ACCESSORIES

Main unit	1pc
Stand	1pc
Controller	1pc
AC/DC adapter	1pc
USB flash disk	1pc

### OPTIONAL ACCESSORIES

X-Y stage(range: 76x65mm)	DVM-STAGE
---------------------------	-----------

- ◆ 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



VIDEO



### 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>	<b>DVM2000-05-O</b>
<b>2X Objective</b>	<b>DVM2000-20-O</b>
<b>3D mirror</b>	<b>DVM2000-3D</b>



- ◆ 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

Objective		0.7X ~ 4.5X
Total magnification		14X ~ 100X
Max.view field		16.2mmx9.2mm
Working distance		88mm
	Pixel	1.2M
Camera	Resolution	1366x768
	Frame rate	60fps
Illumination		top/side LED adjustable light
LCD display		10.6 inch HD LCD display, 1080P
Base size		260mmx320mm(LxW)
Weight		5.7kg

#### INCLUDED ACCESSORIES

Main unit	1pc
Stand	1pc
Glass rule	1pc
AC/DC adapter	1pc
SD card	1pc



## SERIES DVM4000

## AUTO FOCUS VIDEO MICROSCOPE

- ◆ 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

## 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 (view 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



## MM1000A

## METALLURGICAL MICROSCOPE

- ◆ 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

Eyepiece(wide field)	10X(view field: Ø22mm)			
Objective(plan achromatic)	10X	20X	50X	100X(dry type)
Numerical aperture	0.25	0.40	0.70	0.85
Working distance	5mm	8.8mm	3.68mm	0.4mm
Stage	double layer			
	size: 242×200mm			
	travel: 30×30mm			
Pupil distance	53-75mm(adjustable)			
Diopter adjustment	±5 diopter(one eyepiece)			
Illumination	6V/30W halogen lamp, brightness is adjustable with polarizer and analyzer, built-in green, yellow, blue filters and frosted glass			
Weight	11kg			

## INCLUDED ACCESSORIES

Main unit	1pc
Anti-dust cover	1pc
Filter	1set
Camera adapter(1X)	1pc

## OPTIONAL ACCESSORIES

10X dividing eyepiece(0.1mm/div.)	MM-EP10D
Digital camera	1300KPA
5X Objective	MM-OB5

40X Objective	MM-OB40
60X Objective	MM-OB60
80X Objective	MM-OB80

- ◆ Large screen of the read out
- ◆ With manufacturer inspection certificate



**PP3015**

**OPTIONAL ACCESSORIES**



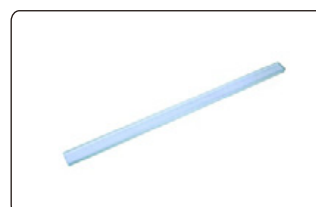
20X, 50X, 100X  
lens with half-reflection mirror (glass diameter 100mm, graduation 2°)



rotary table



5X magnifier



**Series 552** glass scale



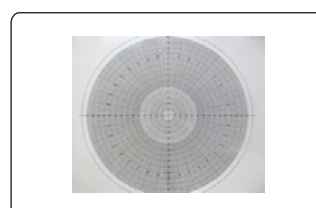
holder with clamp



swivel center support



V-block with clamp









Overlay chart



## SERIES PP

## PROFILE PROJECTOR

## 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



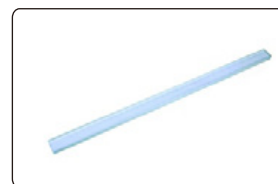
**OPTIONAL ACCESSORIES**



20X, 50X, 100X lens



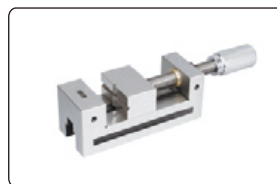
Rotary table



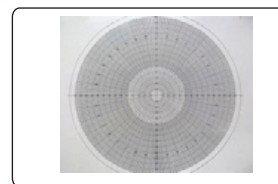
Series 552 glass scale



Series 636 V-block



Series 652 Vise









Overlay chart



## PP3020W

## HORIZONTAL PROFILE PROJECTOR

## SPECIFICATION

X-Y stage travel	200×100mm
Metal stage size	400×150mm
Screen diameter	Ø300mm
Linear scale resolution	1μm
Accuracy	$(4+L/25)\mu\text{m}$ 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



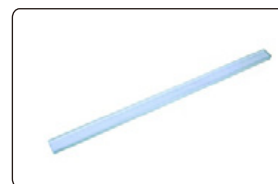
**OPTIONAL ACCESSORIES**



20X, 50X, 100X lens



Rotary table



Series 552 glass scale



Series 636 V-block









Series 652 Vise



## PP4025W

## HORIZONTAL PROFILE PROJECTOR

## SPECIFICATION

X-Y stage travel	250×150mm
Metal stage size	450×200mm
Screen diameter	Ø400mm
Linear scale resolution	0.5μm
Accuracy	$(4+L/25)\mu\text{m}$ L is the measuring length in mm
Focus travel range	100mm
Focus	104mm(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)	646×1215×1210mm
Weight	240kg

## INCLUDED ACCESSORIES

Main unit	1pc
10X lens	1pc
Overlay chart clip	4pcs
Foot-switch	1pc
Anti-dust cover	1pc

## OPTIONAL ACCESSORIES

20X lens	PP4025W-LENS20X
50X lens	PP4025W-LENS50X
100X lens	PP4025W-LENS100X
Rotary table	PP4025W-TABLE
Vise	Series 652
V-block	Series 636
Glass scale	Series 552

**PP6020**

## PROFILE PROJECTOR



**ACCUD**



**VISION**

- ◆ With manufacturer inspection certificate



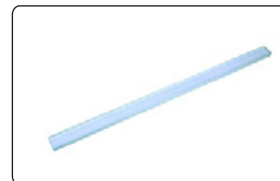
### OPTIONAL ACCESSORIES



5X, 20X, 50X, 100X lens



Rotary table









Series 552 glass scale



## PP6020

## PROFILE PROJECTOR

## 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





◆ With double telecentric lens


**QVM1010**
**SPECIFICATION**

Code				QVM1010	QVM2020	QVM3020
Measurement	Measuring range	High precision (X*Y axis)		26x18mm	126x117mm	226x117mm
		Wide field of view (X*Y axis)		Ø100mm	200x200mm	300x200mm
	Lens field of view(mm)	High precision		26x18		
		Wide field of view		Ø100		
	Repeatability(μm)	High precision		±0.5		
		Wide field of view		±1		
	Accuracy*(μm)	High precision	Connectionless	±2		
			Connected	/	±(2+L/50)	
		Wide field of view	Connectionless	±4		
			Connected	/	±(4+L/50)	
Optical system	Camera			1" 20MP black-white CMOS camera x2		
	Lens			Dual-magnification double-sided telecentric lens		
	Surface light			Elevated quadrant white annular light source + green interstitial light source		
	Contour light			Green parallel bottom light source		
	Coaxial light			Built-in coaxial light source(optional)		
Max. working stage load				5kg		
Power supply				100-240V		
Working environment				Temperature: 0-40°; Humidity: 30-80%(no condensation); Vibration: <0.002g 15Hz		
Minimum display unit(μm)				0.1		
Dimension(L×W×H)				625x309x650mm	625x402x650mm	625x510x650mm
Weight				33kg	45kg	50kg

\* Working temperature is 20±1°C

**INCLUDED ACCESSORIES**

Main unit	1pc
Computer with measuring software	1pc
Calibration block	1pc
AC/DC adapter	1pc

## SERIES MTM

## TOOLMAKER VISION MACHINE



- ◆ 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

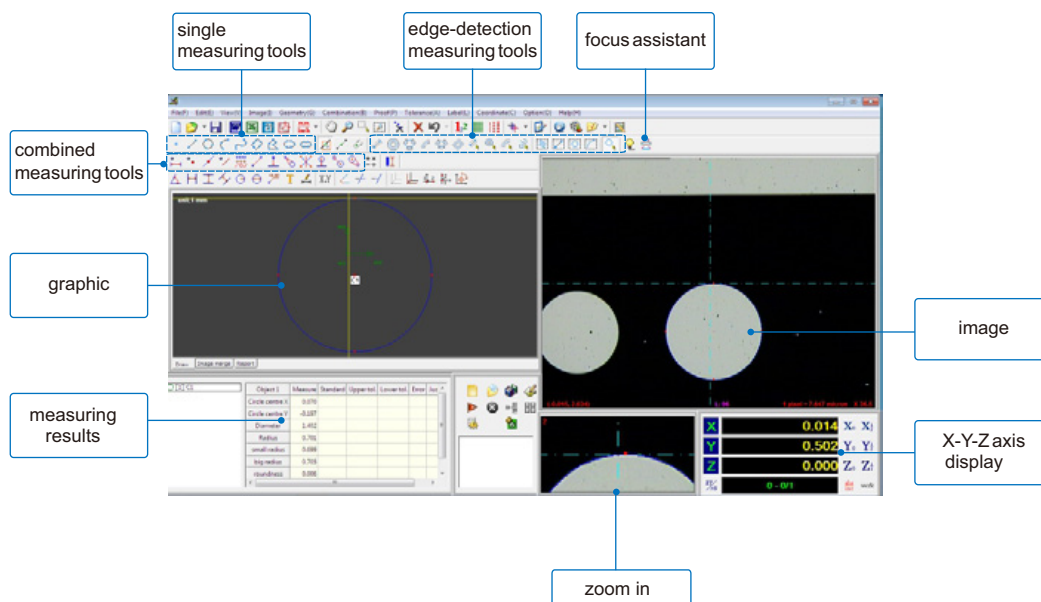
**INCLUDED ACCESSORIES**

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)**





### SERIES VM

### AUTOMATIC VISION MACHINE

#### 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

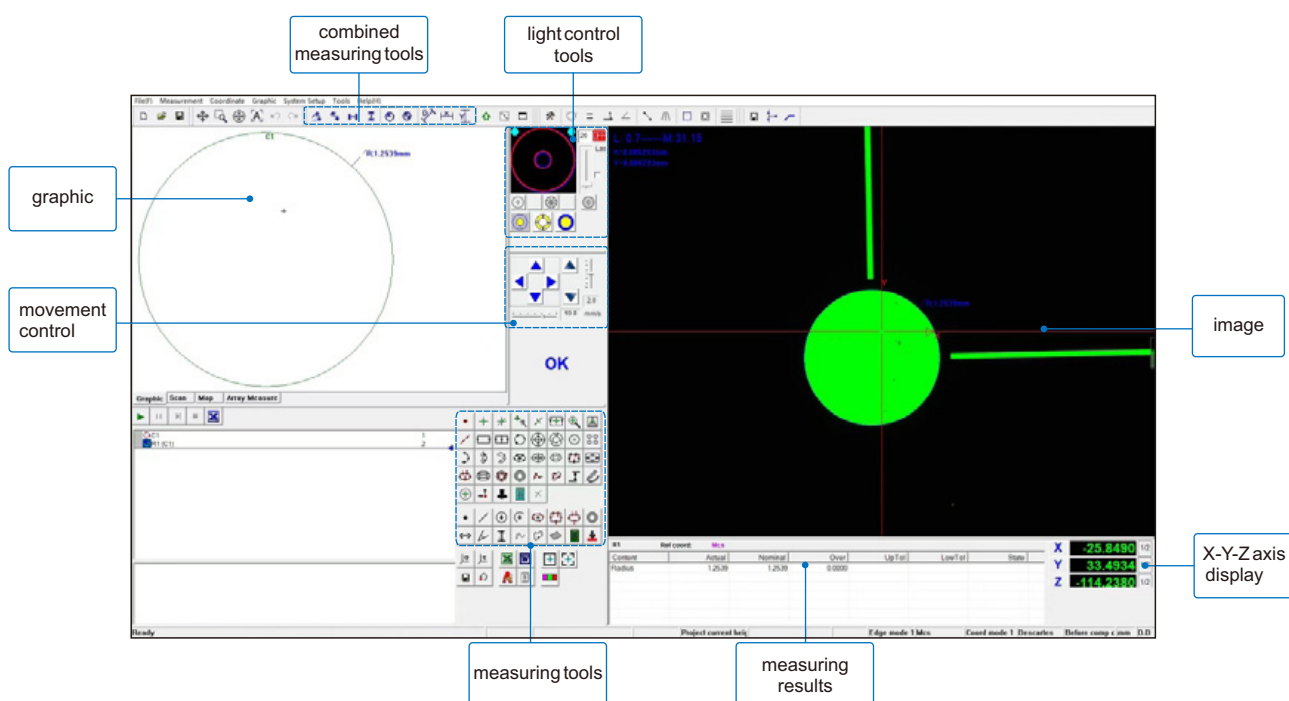
#### INCLUDED ACCESSORIES

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



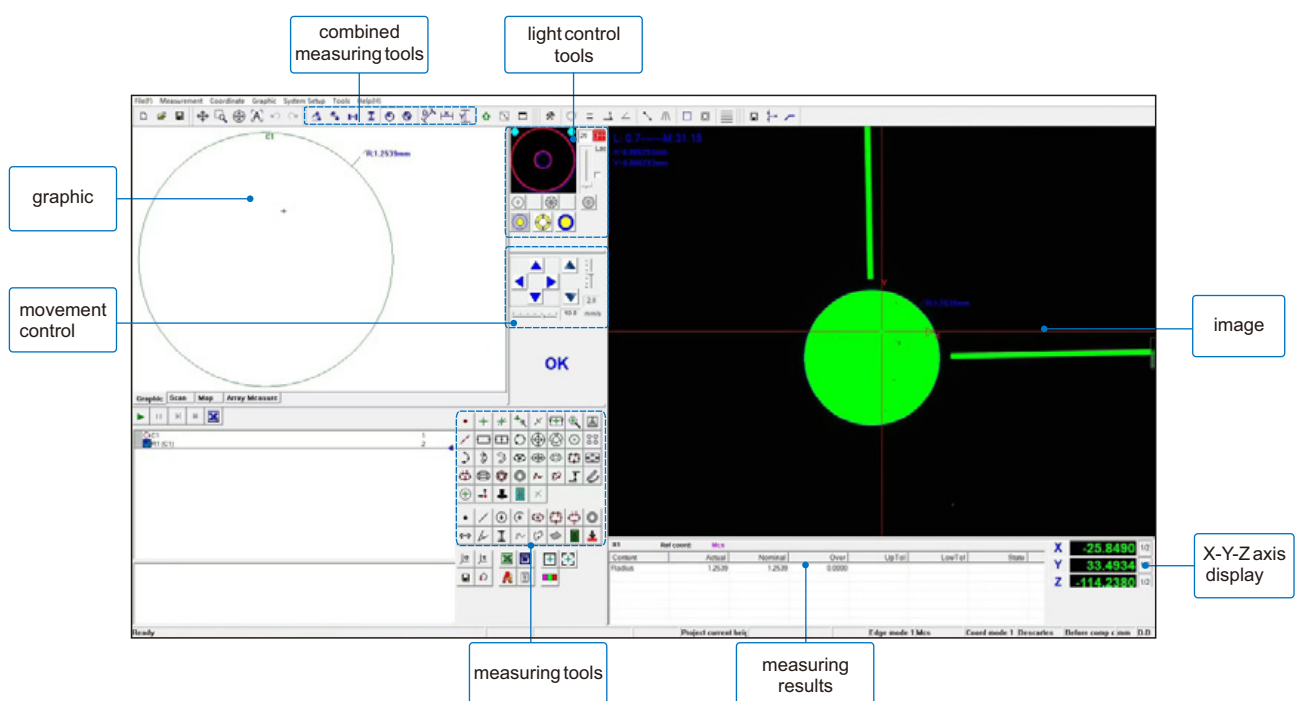




- ◆ The stage is fixed, X/Y/Z Axis can move automatically by programming
- ◆ The light can be changed automatically by programming
- ◆ Automatic focus
- ◆ Granite stage and column with good stability
- ◆ With manufacturer inspection certificate



**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

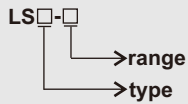
Code	WE6800-2	WE6800-3
Axis	2	3
RS232 output	Yes	No
Functions	set zero, numerical analysis, pre-sets value, absolute coordinate/relative coordinate, filters numerical value, metric units/imperial units conversion, diameter/semi-diameter conversion, shrinkage rate, find mechanical original point (RI), 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



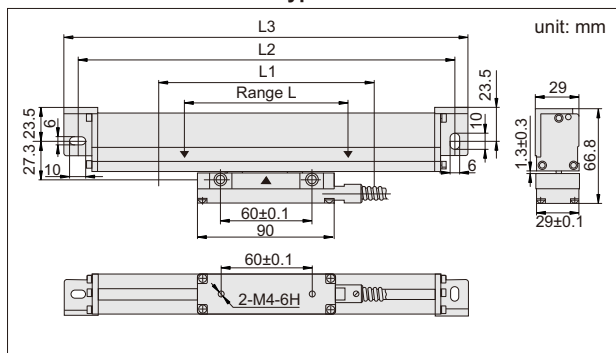
◆ Code explanation:



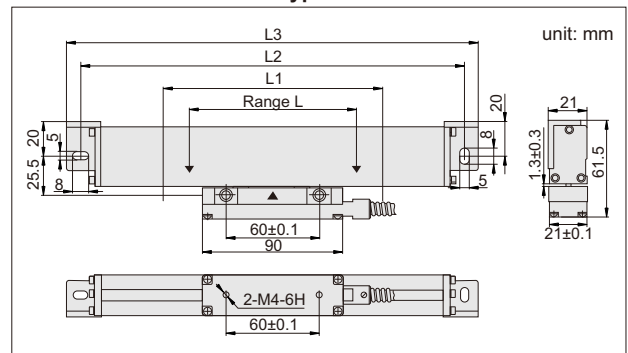
Example:

Code	Type	Range
LSA1-50	A1	50mm
LSB5-1000	B5	1000mm

**Type A1**



**Type B5**



### SPECIFICATION

Code	Series LSA1		Series LSB5	
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

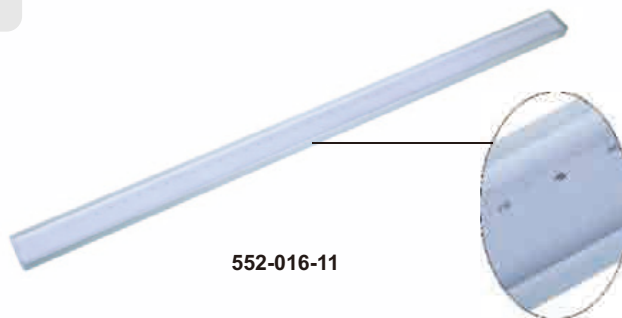
**OPTIONAL ACCESSORIES****INCLUDED ACCESSORIES**

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



- ◆ Supplied with spindle vacuum clamping
- ◆ Check, preset and measure cutting tools
- ◆ CCD camera system with telecentric lens
- ◆ Touch screen, shortcut icons for easy operation
- ◆ Granite base, more stable
- ◆ Measuring lines, arcs, angles and other elements quickly
- ◆ Measuring images can be saved
- ◆ Measuring modes: absolute, relative and incremental measurement
- ◆ Measuring reports can be printed
- ◆ Supporting system scanning for direct retrieval and communication with tools machine
- ◆ Automatic cutting tools recognition by scanner



Automatic Center Inspection



Automatic Radius Inspection



Automatic Angle Inspection



Automatic Circle Inspection



## TP450

## TOOL PRESETTER

## SPECIFICATION

Max. tool diameter (X axis)		400mm
Max. tool height (Z axis)		500mm
Repeatability	X axis	2 $\mu$ m
	Z axis	2 $\mu$ m
Resolution of X/Z axis		1 $\mu$ m
Radial runout of spindle		$\leq 2\mu\text{m}$ at 100mm, $\leq 5\mu\text{m}$ at 300mm
Camera		color CCD, 1.3M pixel
Magnification		26X
View field		6.5x6.5mm
Illumination		LED transmitted light source
Spindle		ISO/SK/BT50
Output		USB
Air pressure		0.4~0.6MPa
Environment requirement		temperature: 10~45°C, relative humidity: 30%~75%
Power supply		110/220V
Dimension (LxWxH)		860x590x1060mm
Weight		120kg

## INCLUDED ACCESSORIES

Main unit	1pc
Tablet computer	1pc
ISO/SK/BT50 spindle	1pc
Anti-dust cover	1pc
Printer	1pc

## OPTIONAL ACCESSORIES

ISO/SK/BT50 to ISO/SK/BT30 converter	TP450-BT50-30
ISO/SK/BT50 to ISO/SK/BT40 converter	TP450-BT50-40
ISO/SK/BT50 to HSK32 A/C/E, HSK40 B/D/F converter	TP450-BT50-HSK32
ISO/SK/BT50 to HSK40 A/C/E, HSK50 B/D/F converter	TP450-BT50-HSK40
ISO/SK/BT50 to HSK50 A/C/E, HSK63 B/D/F converter	TP450-BT50-HSK50
ISO/SK/BT50 to HSK63 A/C/E, HSK80 B/D/F converter	TP450-BT50-HSK63
Standard rod	TP450-ROD
Scanner	TP450-SCAN
Tool table	TP450-TABLE
Ring LED light	TP450-LED





VIDEO



Certificate

- ◆ Manual loading control
- ◆ Economic type
- ◆ With manufacturer inspection certificate



Small flat anvil



Large flat anvil



V-type anvil



HARDNESS

## SPECIFICATION

Load force	10kgf (98N)
Total load force	60kgf (588N), 100kgf (980N), 150kgf (1471N)
Stage elevation	manual
Loading control	manual
Graduation	0.5HR
Max. test height	155mm
Max. throat	130mm
Dimension	460×180×620mm
Weight	65kg

## 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
Screw driver	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

**HR150A****DIGITAL ROCKWELL HARDNESS TESTER**

**ACCUD**



**HARDNESS**

- ◆ Manual 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)

### 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)

### 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 150-250HBW5/750	1pc
Anti-dust cover	1pc

#### OPTIONAL ACCESSORIES

Brinell indentation measuring system	HB-MS
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handle

- ◆ Measure Brinell hardness of large or heavy workpieces
- ◆ 1580kg testing force and Ø7.26mm ball indenter, equal to 3000kg testing force and Ø10mm ball indenter



Hammer impact to apply test force

## SPECIFICATION

Measuring range	100~350HBW (with Ø7.26mm indenter, included) 350~650HBW (with Ø4mm indenter, optional)
Test force	1580kg
Accuracy	±5%HBW
Repeatability	±5%HBW
Measuring microscope	20X, graduation 0.01mm
Dimension	200x50x100mm
Weight	0.8kg

## INCLUDED ACCESSORIES

Main unit	1pc
Ø7.26mm indenter	1pc
Hardness test block	1pc
Measuring microscope	1pc
Pin	250 pcs
Pin removal tool	1pc

## OPTIONAL ACCESSORIES

Ø4mm indenter	HB-P1-IND
Pin (250 pcs)	HB-P1-PIN

## HB-MS

## BRINELL INDENTATION MEASURING SYSTEM

- ◆ Measure the indentation automatically
- ◆ Measuring result saved to Excel
- ◆ Low and high limits setting with judgement
- ◆ Can be calibrated with standard hardness blocks



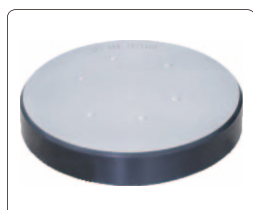
VIDEO

Application



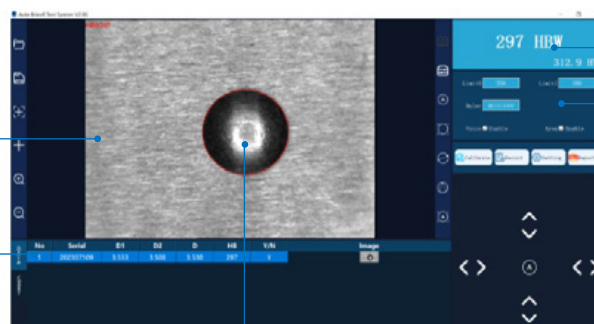
Software (included)

standard blocks



picture

result list



result and scale

tolerance

indentation

### SPECIFICATION

Applicable brinell indenter		Ø10mm, Ø5mm, Ø2.5mm, Ø1mm
Hardness range		16~650HB
Range of indentation diameter		Ø0.6-6mm
Test force		30, 31.5, 62.5, 100, 125, 187.5, 250, 500, 750, 1000, 1500, 3000kgf
Hardness resolution		1HB
Diameter measuring resolution		0.001mm
Diameter measuring accuracy	Ø10mm ball indenter	±0.4%(indentation diameter)
	Ø5mm ball indenter	±0.8% (indentation diameter)
	Ø2.5mm ball indenter	±1.2% (indentation diameter)
Camera	sensor	CMOS
	pixel	5M (resolution 2592x1944)
	view filed	9x7mm
Dimension		170x54x54mm
Weight		400g

### INCLUDED ACCESSORIES

Main unit	1pc
Software	1pc
Software dongle	1pc
Standard block:150-250 HBW 10/3000	1pc

### OPTIONAL ACCESSORIES

Standard block:150-250 HBW 5/750	BLK-HB2
Standard block:150-250 HBW 2.5/187.5	BLK-HB3



- ◆ 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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- ◆ 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)



## 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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## HVS10M/50M

## VICKERS HARDNESS TESTER



Accud

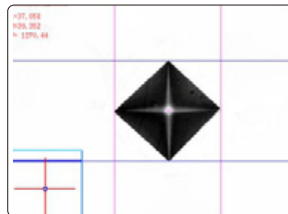
- ◆ Automatic turret
- ◆ Touch screen
- ◆ The hardness scale can be changed to Rockwell and Brinell scales
- ◆ With manufacturer inspection certificate



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

HARDNESS



## HVS1000MS/HVS1000MCNC

AUTOMATIC MICRO-VICKERS  
HARDNESS TESTER

- ◆ 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



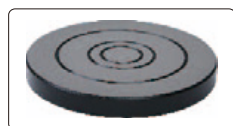
- ◆ For Rockwell, Brinell and Vickers testing
- ◆ Rockwell testing value gets from screen, and the Brinell and Vickers hardness gets from table in the operation manual
- ◆ With manufacturer inspection certificate



VIDEO



Small flat anvil



Large flat anvil



V-type anvil



HARDNESS

## SPECIFICATION

Load force for Rockwell	Preload force:98N, Total force: 588 , 980 , 1471 N
Rockwell resolution	0.1HR
Load force for Brinell	306, 613, 1839N
Load force for Vickers	294N
Stage elevation	manual
Loading control	motorized
Max. test height	175mm(Rockwell), 100mm(Brinell), 115mm(Vickers)
Max. throat	165mm
Dimension	520×240×700mm
Weight	105kg

## INCLUDED ACCESSORIES

Main unit	1pc
Ø1.5875mm ball carbide indenter	1pc
Diamond indenter for Rockwell	1pc
Ø5mm ball indenter for Brinell	1pc
Ø2.5mm ball indenter for Brinell	1pc
Indenter for Vickers	1pc
Small flat anvil for Rockwell	1pc

Large flat anvil for Rockwell	1pc
V-type anvil	1pc
HRC hardness test block	2pcs
HRB hardness test block	1pc
Brinell hardness test block	1pc
Vickers hardness test block	1pc
Dustproof cover	1pc

## OPTIONAL ACCESSORIES

Brinell indentation measuring system	HB-MS
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## RBV150D

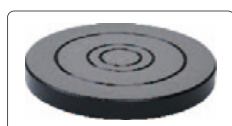
## ROCKWELL/BRINELL/VICKERS HARDNESS TESTER



- ◆ For Rockwell, Brinell and Vickers testing
- ◆ Electronic close-loop load control system
- ◆ Touch screen
- ◆ With built-in printer
- ◆ With manufacturer inspection certificate



Small flat anvil



Large flat anvil



V-type anvil



### SPECIFICATION

Load force for Rockwell	Rockwell	Preload force:10kgf, Total force: 60kgf, 100kgf, 150kgf
	Superficial Rockwell	Preload force:3kgf, Total force: 15kgf, 30kgf, 45kgf
Load force for Brinell		5, 6.25, 10, 15, 62.5, 30, 31.25, 62.5, 100, 125, 187.5, 250kgf
Load force for Vickers		5, 10, 20, 30, 40, 60, 80, 100, 120kgf
Stage elevation		manual
Loading control		motorized
Eyepiece		15X (Brinell and Vickers)
Objective		2.5X, 5X (Brinell), 10X (Vickers)
Max. test height		180mm(Rockwell), 165mm(Brinell), 165mm(Vickers)
Max. throat		160mm
Dimension		550×230×780mm
Weight		80kg

### INCLUDED ACCESSORIES

Main unit	1pc
Ø1.5875mm ball carbide indenter	1pc
Diamond indenter for Rockwell	1pc
Ø5mm ball indenter for Brinell	1pc
Ø2.5mm ball indenter for Brinell	1pc
Indenter for Vickers	1pc
Small flat anvil for Rockwell	1pc

Large flat anvil for Rockwell	1pc
V-type anvil	1pc
HRC hardness test block	3pcs
HRB hardness test block	1pc
Brinell hardness test block	1pc
Vickers hardness test block	1pc
Objective (2.5X, 5X, 10X)	1pc.each

### OPTIONAL ACCESSORIES

Brinell indentation measuring system	HB-MS
--------------------------------------	-------



- ◆ 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



VIDEO



Wireless printer (included)



Support ring (12pcs/set, 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	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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## HL200

## PORTABLE HARDNESS TESTER



- ◆ 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



VIDEO



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



Support ring (12pcs/set, optional)



VIDEO



Certificate



Charge



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 support ring	1pc		

#### OPTIONAL ACCESSORIES

Support 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

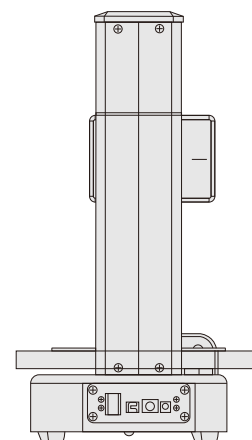
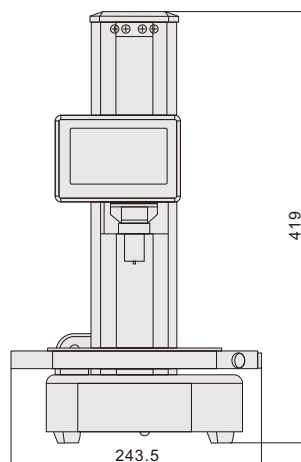
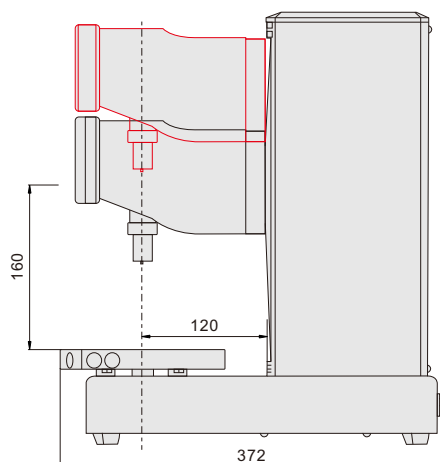
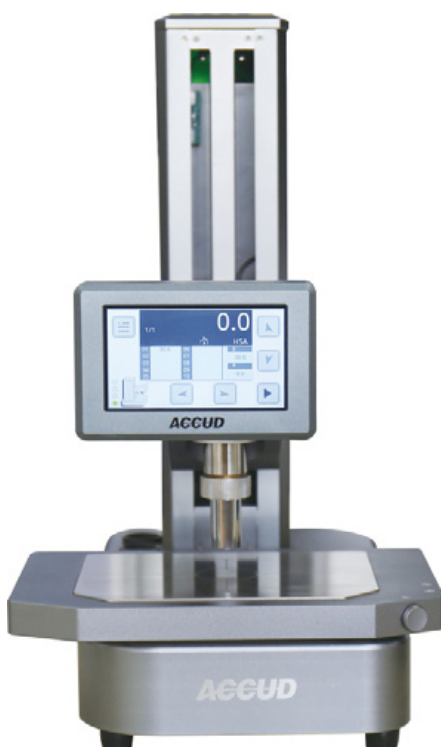


#### INCLUDED ACCESSORIES

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



### SERIES HS

### DIGITAL SHORE HARDNESS TESTER

- ◆ Conforms to ISO868, ISO7619, ASTM D 2240
- ◆ Testing time is adjustable
- ◆ With average calculation function
- ◆ With manufacturer inspection certificate



VIDEO



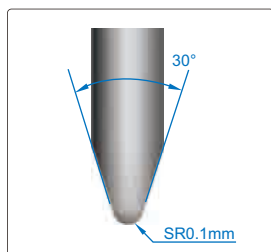
Certificate



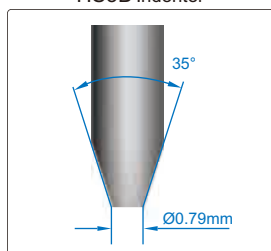
Data output



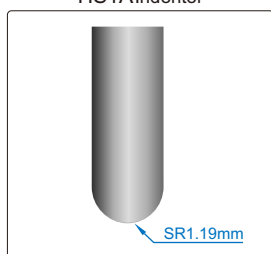
Charge



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		

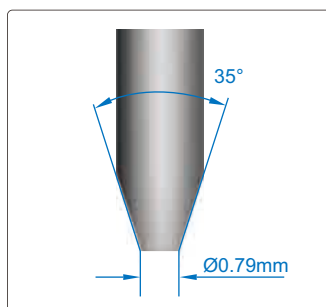
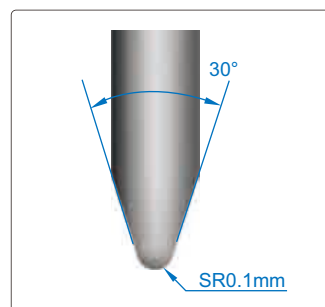
#### INCLUDED ACCESSORIES

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


**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

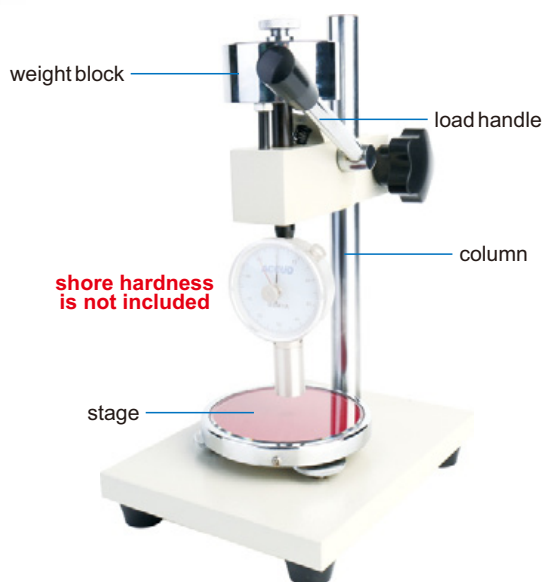
## SPECIFICATION

Code	HS-1A-STD	HS-5D-STD	HS-OO-STD
For hardness tester	HS1A	HS5D	HSOO
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





- ◆ 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 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

- ◆ 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



- ◆ 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**

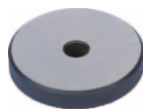
Measuring range	10-60Mpa
Impact energy	2.207J
Accuracy	±1
Sifness of spring	785±30N.m
Working length of spring	61.5±0.3mm
Tensile length of spring	75±0.3mm
Rated value of steel anvil	80±2
Operating temperature	-4°C-40°C
Display	2.08 inch OLED display
Power supply	rechargeable battery
Weight	1.1kg

**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-HB3		150-250HBW 2.5/187.5
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

HARDNESS

ROUGHNESS

## RC30

## SURFACE ROUGHNESS SPECIMEN

- ◆ For checking, identifying and specifying the roughness by symbol
- ◆ Accuracy: -17% ~ +12%



Machining method	Quantity	Roughness (Ra)
Flatlapping	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



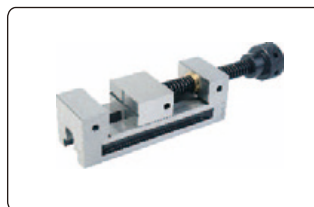
- ◆ Measure the surface profile and roughness with same probe at same time(for **RP100RS**)
- ◆ With high precision and good linearity digital probe(for **RP100RS** and **RP100TS**)
- ◆ Easy to install and replace without calibration
- ◆ Stylus can contact, lift and return automatically
- ◆ CAD file can be exported and imported(for **RP100RS** and **RP100JS**)
- ◆ With manufacturer inspection certificate



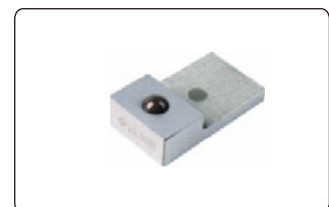
RP100RS



stage



vice



profile calibration block  
(for **RP100RS** and **RP100JS**)



roughness calibration block  
(for **RP100RS** and **RP100TS**)



Φ3\*20mm point stylus



Φ3\*21mm knife stylus

## SERIES RP100XS

## PROFILE AND ROUGHNESS MEASURING MACHINE

### 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

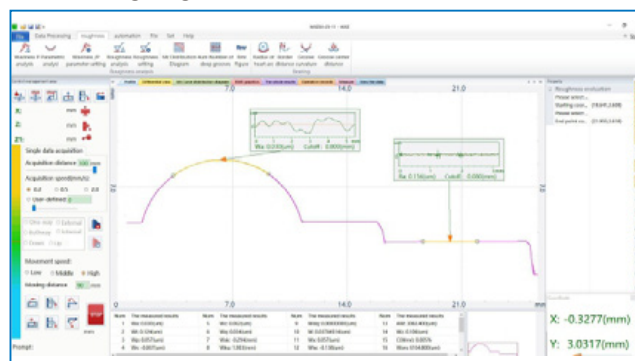
Main unit	1pc
Profile calibration block(for RP100RS and RP100JS)	1pc
Roughness calibration block(for RP100RS and RP100TS)	1pc
Stage	1pc
Vise	1pc
Φ3x21mm R0.025mm knife stylus	2pcs

Φ3x20mm R5μm point stylus	1pc
Φ8x150mm measuring rod	1pc
Computer	1pc
Printer	1pc
Anti-dust cover	1pc

### Measuring profile



### Measuring roughness







VIDEO



Certificate

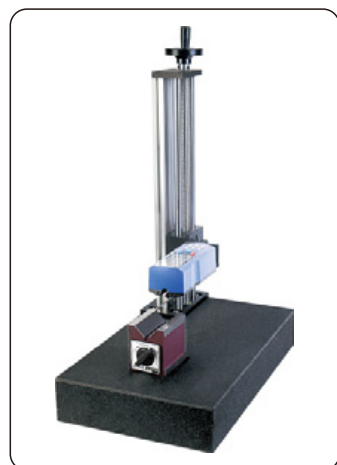


Data output

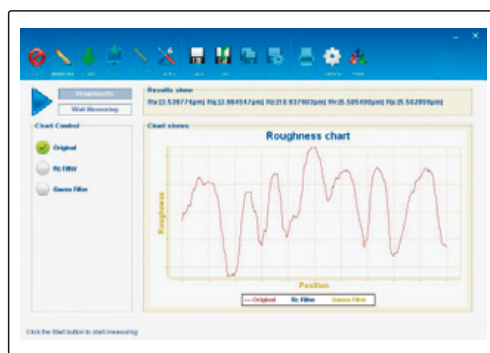


Charge

- ◆ 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

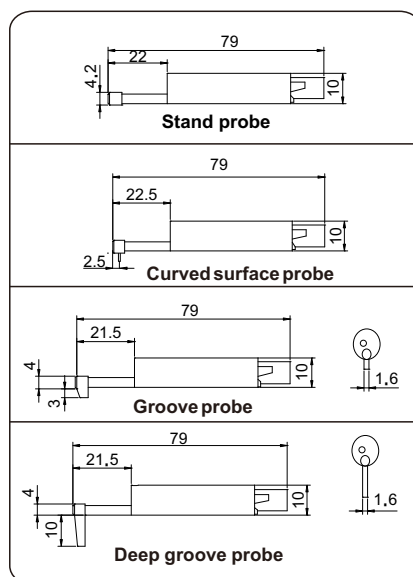


SR200-STD Stand(optional)



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



## SR300

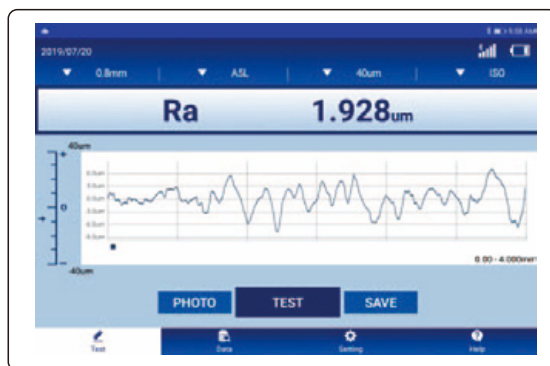
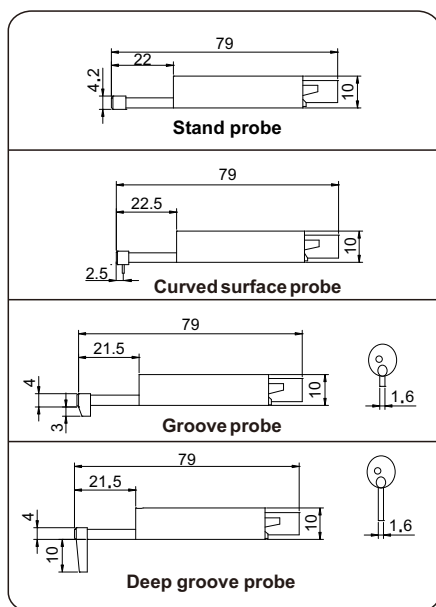
## ROUGHNESS TESTER



- ◆ 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



- ◆ 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



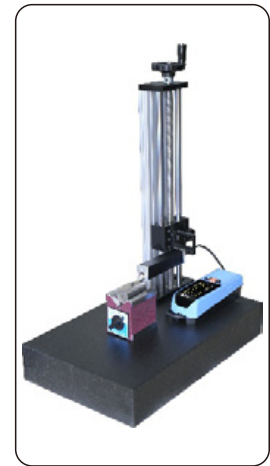
unit: mm

<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>		$\pm 160\mu\text{m}$
<b>Accuracy</b>		$\pm 10\%$
<b>Resolution(Ra)</b>		$0.001\mu\text{m}$
<b>Probe</b>	<b>type</b>	inductive
	<b>stylus radius/angle</b>	$5\mu\text{m}/90^\circ$
	<b>stylus material</b>	diamond
<b>Measuring force</b>		4mN
<b>Measuring unit</b>		$\mu\text{m}/\mu\text{in}$
<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



VIDEO

### 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 rechargeble battery
Dimension(L×W×H)		114×82×33mm
Weight		160g



### INCLUDED ACCESSORIES

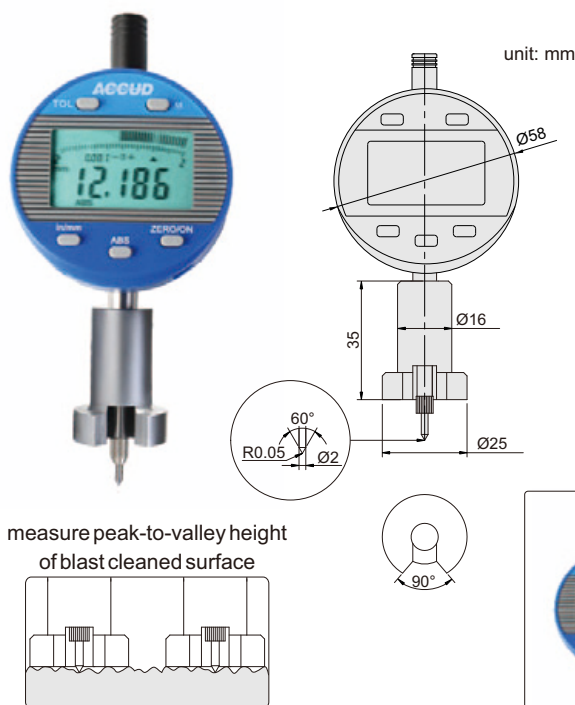
Main unit	1pc
Calibration block	1pc
Calibration support	1pc
USB cable	1pc
AC/DC adapter	1pc

## 489

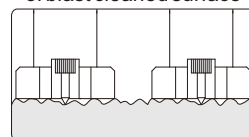
## DIGITAL SURFACE PROFILE GAUGE



- ◆ 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



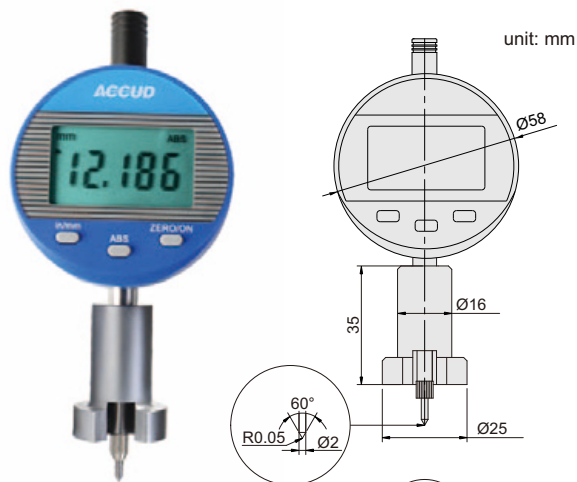
Code	Range	Digital indicator stroke	Digital indicator resolution	Accuracy
489-010-01	0-12.7mm/0-0.5"	12.7mm/0.5"	0.001mm/0.00005"	±0.005mm



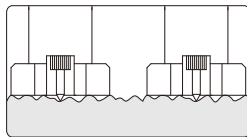
- ◆ Measure peak-to-valley height of blast cleaned surface.  
If the profile is too low, the adhesion of the coating to the surface will be reduced.

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: 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



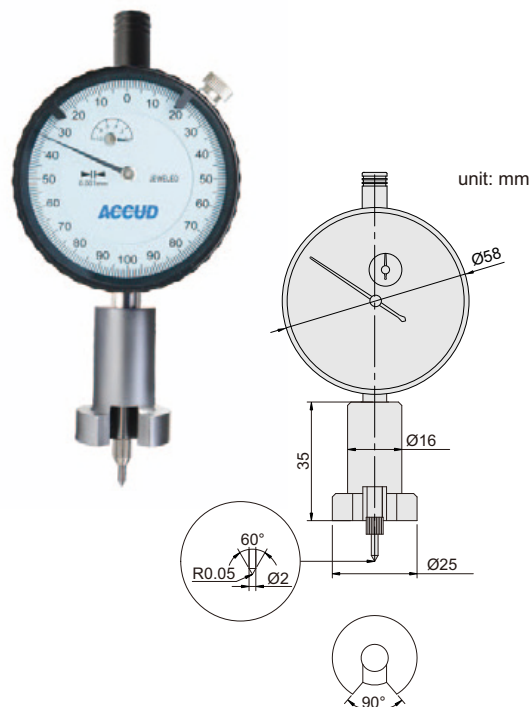
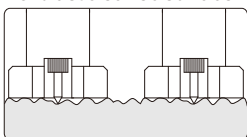
Code	Range	Digital indicator stroke	Digital indicator resolution	Accuracy
489-010-02	0-12.7mm/0-0.5"	12.7mm/0.5"	0.001mm/0.00005"	±0.005mm



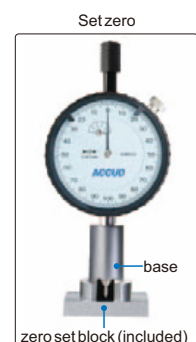
- ◆ Measure peak-to-valley height of blast cleaned surface.  
If the profile is too low, the adhesion of the coating to the surface will be reduced.
- If the profile is too high, it is dangerous that the profile peaks will remain non-coating, rust spots maybe occur.

- ◆ Meet ASTM D 4417-B
- ◆ Zero set block is included, set zero before measurement
- ◆ 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







## RN1000

## ROUNDNESS TESTER

- ◆ 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





- ◆ Used to test the thickness of metal workpiece
- ◆ Can measure the workpiece with thick coating
- ◆ Wide range: up to 2000mm for steel
- ◆ Don't need any couplant
- ◆ The probe with magnetic
- ◆ Automatic power off



Stand block(aluminium)



Stand block(steel)



Application



## SPECIFICATION

Max. range for steel	2000mm
Max.coating thickness or air gap range	up to 6mm (depending on the object characteristics)
Accuracy	0.02mm
Units	mm/inch
Resolution	0.01mm
Type of ultrasonic wave	transverse
Gain range	0-96 dB
Ultrasound velocity adjustment	400-9999m/s
Frequency averaging signal	100-1000Hz
Measurement methods	A-scan/B-scan/Echo/Echo Echo (Dual Echo)/Peak peak/Front
Output	USB
Min. area to be measured	Ø30mm
Working temperature	0-40° C
Standard	ASTM E797/ISO 16809:2017/EN 14127/EN15317/EN12668-1
Power supply	Built-in Li-ion battery
Weight	250g
Dimensions (L x W x H)	153x76x37mm

## INCLUDED ACCESSORIES

Main unit	1pc
MST2000-ST Probe	1pc
Stand block	2pcs
AC/DC adapter	1pc

## SPECIFICATION OF PROBES

Code	Application	Min. area(diameter)	Working temperature
MST2000-ST	general use	30mm	0-40°C
MST2000-SM	small workpiece	13mm	0-40°C
MST2000-GT	high temperature	33mm	0-800°C



## 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

Resolution	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
------------	---------------------

### 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

Resolution	0.01mm(<100mm)
	0.1mm(≥100mm)
Repeatability	0.03mm(<100mm)
	0.1mm(≥100mm)
Accuracy	±0.05mm (<10mm)
	±(0.05+H/100)mm (≥100mm) H is the thickness in mm
Max. coating thickness	1000um
Velocity	1000-9999m/s
Power	2×AA batteries
Dimension	71×150×33mm
Weight	160g

## INCLUDED ACCESSORIES

Main unit	1pc
Transducer PT-10	1pc
AA battery	2pcs
Couplant	1bottle

## OPTIONAL ACCESSORIES

Transducer	ST300-P6
Transducer	ST300-ZT12
Transducer	ST300-GT12
Couplant (high temperature)	ST300-CP

## SPECIFICATION OF TRANSDUCERS

Code	Application	Range	Frequency	Min. pipe dimension diameter×thickness	Working temperature
PT-10	general use	1-300mm	5.0MHz	20×1.2mm	<70°C
ST300-P6	thin workpiece	0.75-35mm	7.0MHz	15×1.2mm	<70°C
ST300-ZT12	casting steel	4-500mm	2.0MHz	30×5mm	<70°C
ST300-GT12	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)
Resolution	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



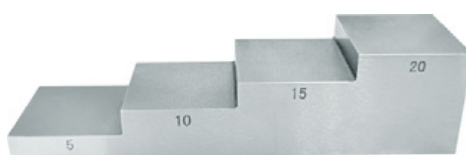
### INCLUDED ACCESSORIES

Main unit	1pc
Transducer	1pc
Battery	1 set
Couplant	1 bottle
Brush	1pc

## SERIES STB

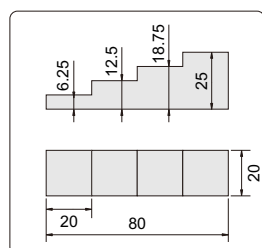
## STANDARD TEST BLOCK FOR ULTRASONIC THICKNESS GAUGE

- ◆ Material of step wedge blocks can be customized
- ◆ Accuracy: ±0.02mm
- ◆ Stainless steel material: 45#

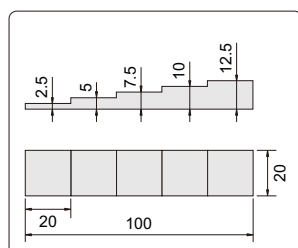


STB-4B

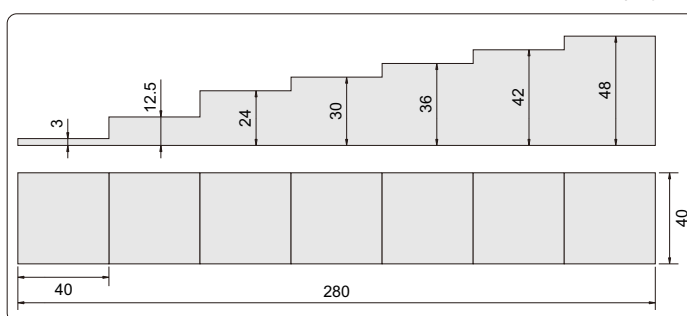
unit:mm



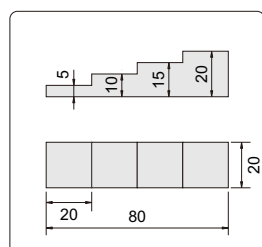
STB-4A



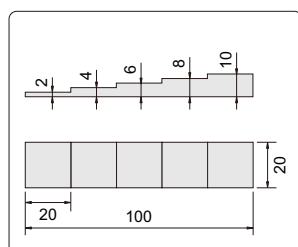
STB-5A



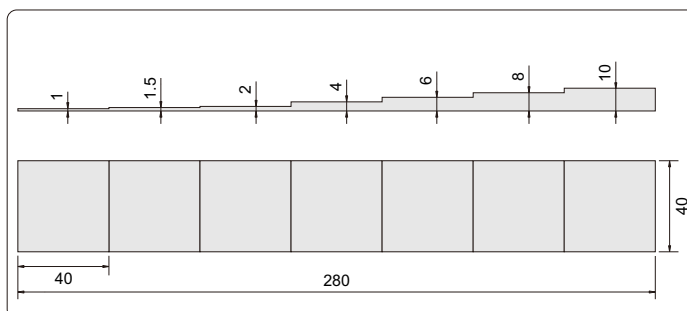
STB-7A



STB-4B



STB-5B



STB-7B

**CF/CN1250****COATING THICKNESS GAUGE**

ACCUD

- ◆ F type probe: measure the thickness of non-magnetic coatings (zinc, copper, enamel, plastic and so on) on magnetic substrates (iron, steel)
- ◆ N type probe: measure the thickness of non-conductive coatings (varnish, enamel, plastic and so on) on conductive substrates (zinc, copper, aluminum)
- ◆ V-type probe to measure the cylinder easier
- ◆ Single and continuous working mode
- ◆ Low and high limits setting with judgement
- ◆ With average calculation function



VIDEO



CF1250

**SPECIFICATION**

Code	CF1250	CN1250
Probe type	F	N
Range	0 ~ 1250μm	
Accuracy	2μm(0 ~ 100μm)	
	2%(100 ~ 1250μm)	
Resolution	0.1μm (0 ~ 999μm)	
	1μm (1000 ~ 1250μm)	
Memory	500	
Power supply	3xAAA batteries	
Dimension(L×W×H)	150×50×29mm	
Weight	170g	

**INCLUDED ACCESSORIES**

Main unit	1pc
Calibration foil	1set
Calibration base	1pc
AAA battery	3pcs

**CFN1500B****COATING THICKNESS GAUGE**

VIDEO



THICKNESS

- ◆ 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 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)
- ◆ Large display screen
- ◆ V-type probe to make the cylinder measurement easier
- ◆ With μm/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



VIDEO

- ◆ 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
- ◆ 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



◆ 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

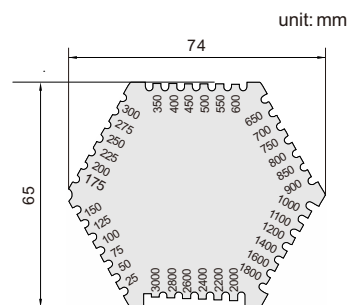
## WET FILM GAUGE

- ◆ Made of stainless steel

package



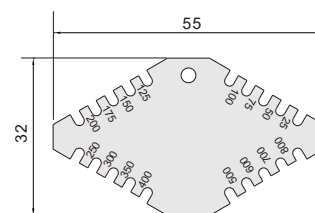
740-300-01



unit: mm



740-800-11

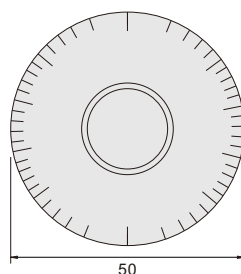


Code	Range	Accuracy	Thickness
740-800-11	25-800μm	±5μm	1.8mm
740-300-01	25-3000μm	25μm-100μm:±5μm 100μm-3000μm:±5%	1mm

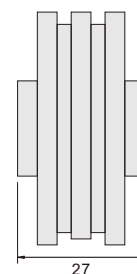
## 750

## ROLLER WET FILM THICKNESS GAUGE

- ◆ Suitable for wet film thickness measurement
- ◆ Made of stainless steel



50



27

unit: mm

Code	Range	Graduation	Accuracy
750-050-11	0-50μm	2μm	±2μm

- ◆ 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

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

Excitation source	50KV/200μA; Ag target, integrated end window, micro X-ray tube and high voltage power supply, matching power≥4W
Detector	Si-PIN, window area 25mm²
Elemental analysis range	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
Alloy analysis mode	automatically identify alloy grade/alloy material qualified test mode
Collimator filter	7 groups
Display	5-inch LCD touch screen
Analysis	3-60 sec (adjustable)
Memory	built-in 64G, storage data, >500000 groups
Data transmission	built-in WIFI, U disk, blue-tooth (support blue-tooth printer)
Data export format	EXCEL, BMP, PDF, CSV
Battery	6800mAh lithium battery, for 8 hours working time
Air pressure compensation	built-in pressure measurement module for system compensation and correction
System	Win-IOT operation system
Work environment	temperature: 0~40°C, relative humidity: 10%~90%
Dimension	250×320×80mm
Weight	1900g

#### INCLUDED ACCESSORIES

Main unit	1pc
Charger	1pc
Battery	2pcs
Test film	1pc
Sample with cup	1pc
Protection support (including calibration silver)	1pc
USB cable	1pc



## HTC-1

## TEMPERATURE METER



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



- ◆ 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

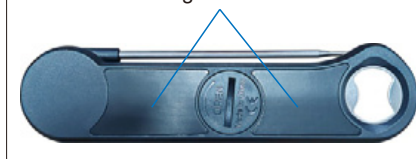
## TEMPERATURE METER FOR FOOD



- ◆ Used to measure the temperature inside of food
- ◆ With magnet on the back
- ◆ Automatic power on/off
- ◆ With calibration function



With magnet on the back



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

THICKNESS

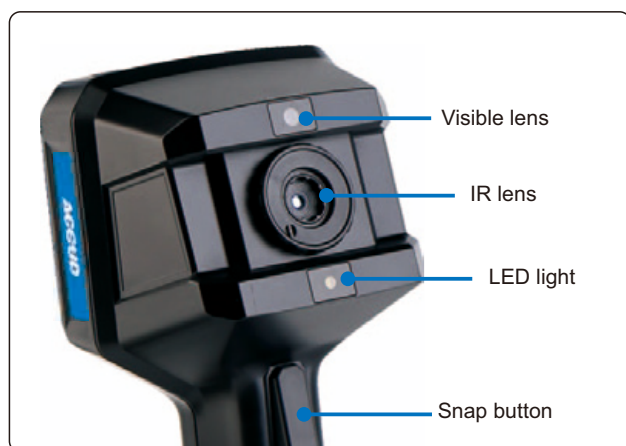


## ITC450

## INFRARED THERMAL IMAGING CAMERA



- ◆ 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



**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	$\pm(0.5\%+4d)$
	600V	1V	$\pm(1\%+5d)$
AC Voltage	200V/600V	100mV/1V	$\pm(1.2\%+10d)$
DC Current	2mA/20mA/200mA	1 $\mu$ A/10 $\mu$ A/100 $\mu$ A	$\pm(1.5\%+3d)$
	10A	100mA	$\pm(2\%+5d)$
Resistance	200 $\Omega$	0.1 $\Omega$	$\pm(1\%+5d)$
	2k $\Omega$ /20k $\Omega$ /200k $\Omega$	1 $\Omega$ /10 $\Omega$ /100 $\Omega$	$\pm(0.8\%+3d)$
	2Mk $\Omega$	1k $\Omega$	$\pm(1\%+15d)$
Diode test	open circuit voltage 2.8V DC		
Continuity check	<50 $\Omega$		
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	$\pm(2.5\%+20d)$
	20A	10mA	$\pm(2.5\%+5d)$
	200A	100mA	$\pm(2.5\%+8d)$
	400A	1A	$\pm(2.5\%+8d)$
	600A	1A	for reference
DC Voltage	600V	1V	$\pm(1.5\%+5d)$
AC Voltage	600V	1V	$\pm(1.5\%+5d)$
Resistance	2000K $\Omega$	10K $\Omega$	$\pm(1.2\%+3d)$
Continuity check	<30 $\Omega$		
Power supply	2×AAA batteries		
Dimension	195×48×30 mm		
Weight	380g		

**INCLUDED ACCESSORIES**

Main unit	1pc
AAA battery	2pcs
Test lead	2pcs

ACCUD



THICKNESS

## 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



- ◆ 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



wheel



clamping sleeve



small cone



cone



cone cavity

**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

**INCLUDED ACCESSORIES**

<b>Main unit</b>	1pc
<b>Accessories (5 types)</b>	1pc.each
<b>AAA battery</b>	2pcs

**THICKNESS**

## 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

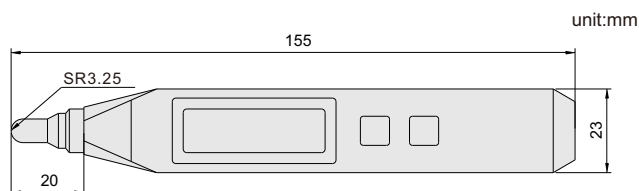
## PEN TYPE VIBRATION TESTER



- ◆ 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°C	
Operation humidity	0-90%	
Dimension	152x23x12mm	
Weight	75g	

### INCLUDED ACCESSORIES

Main unit	1pc
Charger	1pc

## TM100

## LASER DISTANCE METER



- ◆ IP54 protection
- ◆ With a level in the body
- ◆ With distance, area, volume and height measurement function
- ◆ With Max, Min measuring function
- ◆ With back light
- ◆ Power off automatically



VIDEO



### 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, volume and height measurement function
- ◆ With Max, Min measuring function
- ◆ With backlight
- ◆ Power off automatically



VIDEO



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

THICKNESS



## TM1200

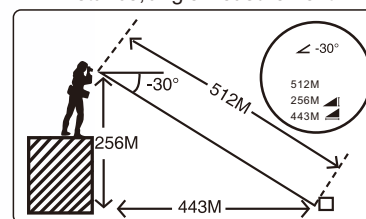
## LASER DISTANCE METER



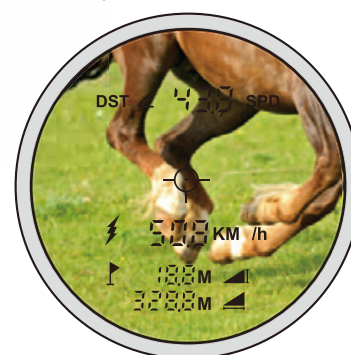
- ◆ IP54 protection
- ◆ Can measure distance, angle and speed
- ◆ Power off automatically



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	3xAAA batteries
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

### INCLUDED ACCESSORIES

Main unit	1pc
Stand	1pc
Battery	2pcs



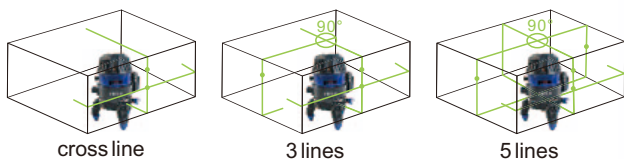
Stand

## LL025/325/525

## LASER LEVEL



- ◆ With auto-level mode



### 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

### INCLUDED ACCESSORIES

Main unit	1pc
Battery	2pcs
AC/DC adapter	1pc

### OPTIONAL ACCESSORIES

Stainless steel stand	LL025-ST
-----------------------	----------

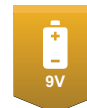
Stand(optional)



THICKNESS

## 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

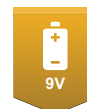


### SPECIFICATION

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

- ◆ Reading mode: auto-read and continuous-read
- ◆ With temperature compensation (automatic/manual)
- ◆ With auto-hold feature
- ◆ Cell constant is adjustable
- ◆ One point calibration with standard
- ◆ Data capacity: 200 sets
- ◆ IP65 dust/waterproof
- ◆ Auto power off level



wristband (included)



standard solution(included)



## SPECIFICATION

Conductivity	Range	0.00µS/cm~200mS/cm
	Resolution	0.01µS/cm minimum
	Electronic unit accuracy	±1.0%FS
	Measurement accuracy	±1.5%FS
	Reference temperature	25°C/77°F
	Calibration point	1
	Standard recognition	84µS/cm, 1413µS/cm, 12.88mS/cm
TDS	Range	0.00mg/L~300g/L
	Resolution	0.01mg/L minimum
	Accuracy	±1.0%FS
Temperature	Range	-5~110°C/23~230°F
	Resolution	0.1°C/0.2°F
	Accuracy	±0.4°C/±0.7°F
Input		electrode with 5-pin aviation connector
Power supply		rechargeable battery
Dimension		80x225x35mm
Weight		400g

## INCLUDED ACCESSORIES

Main unit	1pc
Electrode	1pc
Electrode holder	2pcs
Wristband	1pc
Silicone rubber case	1pc
AC/DC adapter and charging cable	1pc
Standard solution	1bottom

## DO210E

## PORTABLE DISSOLVED OXYGEN METER



- ◆ Support for air-saturated water or zero oxygen calibration
- ◆ With temperature compensation (automatic/manual)
- ◆ With auto-hold feature
- ◆ Cell constant is adjustable
- ◆ One point calibration with standard
- ◆ Data capacity: 200 sets
- ◆ IP65 dust/waterproof
- ◆ Auto power off level



wristband (included)



standard solution(included)



## SPECIFICATION

Dissolved oxygen	Range	0.00~20.00 mg/L
	Resolution	0.01mg/L
	Accuracy	±0.10mg/L
Saturation	Range	0.00~200%
	Resolution	0.1%
	Accuracy	±2.0
Temperature	Range	-5~110°C/23~230°F
	Resolution	0.1°C/0.2°F
	Accuracy	±0.4°C/±0.7°F
Input		electrode with 4-pin aviation connector
Power supply		rechargeable battery
Dimension		80x225x35mm
Weight		400g

## INCLUDED ACCESSORIES

Main unit	1pc
Electrode	1pc
Electrode holder	2pcs
Wristband	1pc
Silicone rubber case	1pc
AC/DC adapter and charging cable	1pc
Standard solution	1bottom

- ◆ Separated type
- ◆ Reading mode: auto-read and continuous-read
- ◆ With temperature compensation (automatic/manual)
- ◆ One or two points calibration with standard
- ◆ Data capacity: 200 sets
- ◆ IP65 dust/waterproof level
- ◆ Auto power off



wristband (included)



KCl powder(included)



standard solution(included)



## SPECIFICATION

PH	Range	-2.00~18pH
	Resolution	0.01pH
	Electronic unit accuracy	±0.01pH
	Measurement accuracy	±0.02pH
	Calibration point	1 or 2
	Standard recognition	NIST pH buffers: 4.01, 7.00, 10.01
Voltage	Range	-1999~1999mV
	Resolution	1mV
	Accuracy	±1.0%FS
Temperature	Range	-5~110°C/23~230°F
	Resolution	0.1°C/0.2°F
	Accuracy	±0.4°C/±0.7°F
Inputs		pH electrode: BNC(Q9) temp. probe: 4-pin aviation connector
Power supply		rechargeable battery
Dimension		80x225x35mm
Weight		400g

## INCLUDED ACCESSORIES

Main unit	1pc
Electrode	1pc
Electrode holder	2pcs
Wristband	1pc
Silicone rubber case	1pc
AC/DC adapter	1pc
Standard solution	3 bottoms
KCl powder	1 bottom

## 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	Ø39×180
Weight	108g



### INCLUDED ACCESSORIES

Main unit	1pc
Battery	2pcs
PH buffer powder	3pcs

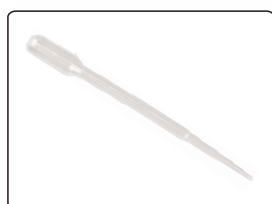
## DRM50

## 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

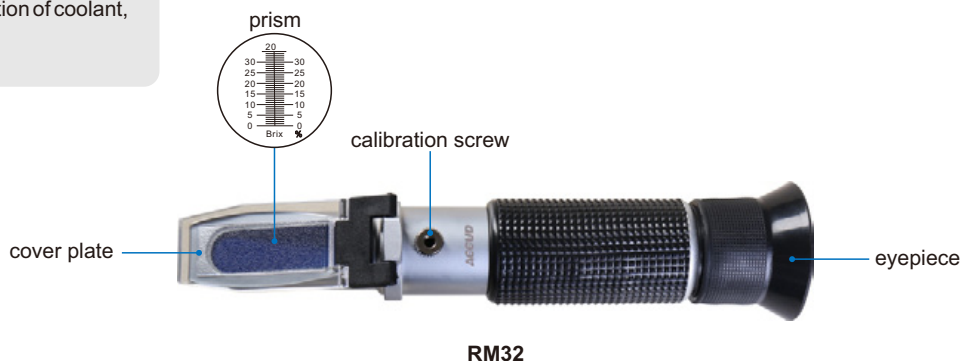
Main unit	1pc
Pipette	1pc
Cable for recharging	1pc



## 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

Range (ethylene)	Glycol	0-50°C
	Propylene Glycol	0-50°C
	Battery fluid	1.10-1.40kg/L
	Cleaning liquid	0-40°C
	Addblue(Urea)	30-35%
Accuracy (ethylene)	Glycol	5°C
	Propylene Glycol	5°C
	Battery fluid	0.01kg/L
	Cleaning liquid	10°C
	Addblue(Urea)	0.2%

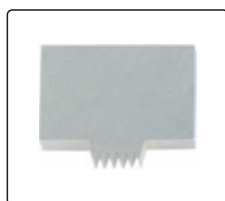
### INCLUDED ACCESSORIES

Main unit	1pc
Pipette	1pc
Screwdriver	1pc

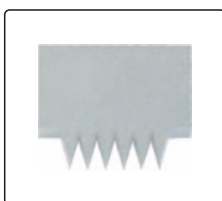
## CAT12

## CROSS CUT ADHESION TESTER

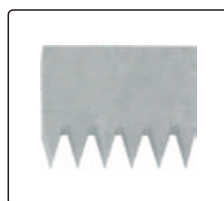
- ◆ Used to test the adhesion of paint on metal, plastic and so on
- ◆ Conforms to ISO 2409, ASTM D3359, BS00E6
- ◆ Blade hardness: 58-62HRC



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

Blade pitch		1mm	2mm	3mm
Applied paint thickness	on hard substrate (like metal)	0-60μm	61-120μm	121-250μm
	on soft substrate (like wood, plaster)	—	0-120μm	121-250μm
Minimum substrate thickness	hard substrate (like metal)	0.25mm	0.25mm	0.25mm
	soft substrate (like wood, plaster)	—	10mm	10mm
Minimum size of test sample		150x100mm		
Dimension		130x25x30mm		
Weight		130g		

### INCLUDED ACCESSORIES

Main unit	1pc
1mm pitch blade	1pc
2mm pitch blade	1pc
3mm pitch blade	1pc
Test tape	1pc
Magnifier	1pc
Small brush	1pc

## LSM25/LSM50

## LASER SCAN MICROMETER

- ◆ 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)	$\pm(0.2d+2)\mu\text{m}$	$\pm(0.3d+2)\mu\text{m}$
Resolution	1 $\mu\text{m}$	
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



VIDEO

### INCLUDED ACCESSORIES

Main unit	1pc
Display	1pc
Power cable	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

### SPECIFICATION

Incidence angle	20°	60°	85°
Measuring range	0~2000GU	0~1000GU	0~160GU
Resolution	0.1GU (range<119.9GU)		
Accuracy	$\pm 1.5\text{GU}$ (range<100GU)		
	$\pm 1.5\%$ (range>100GU)		
Repeatability	$\pm 0.1\text{GU}$ (range<10GU)		
	$\pm 0.2\text{GU}$ (range: 10~100GU)		
	$\pm 0.2\%$ (range>100GU)		
Measuring speed	1s		
Measuring area	10×10mm	15×9mm	36×5mm
Power supply	Rechargeable battery		
Dimension	160×75×90mm		
Weight	350g		



Charge

THICKNESS

### INCLUDED ACCESSORIES

Main unit	1pc
Calibration block	1pc
USB cable and software	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, ASTM D 2457, ASTM D 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: ASTM D1003/1044, GB/T 2410, JJF 1303-2011, CIE 15.2, JIS K7105, JIS K7361, JIS K 7136
- ◆ The instrument can easily achieve ASTM D1003 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**

<b>Illuminating/viewing geometry</b>	8/d
<b>Measuring aperture</b>	Ø8mm
<b>Measuring wave length</b>	400~700nm
<b>Wave length step</b>	10nm
<b>View angle</b>	2°/10°
<b>Light source device</b>	LED light
<b>Memory</b>	10pcs standards
<b>Measuring time</b>	1s
<b>Power supply</b>	rechargeable lithium-ion battery
<b>Lamp Life</b>	5 years, more than 3 million measurements
<b>Charging Time</b>	12 thousand measurements(full electricity)
<b>Output</b>	USB/bluetooth
<b>Dimension</b>	Ø30×100 mm
<b>Weight</b>	88g

**INCLUDED ACCESSORIES**

<b>Main unit</b>	1pc
<b>White calibration block</b>	1pc
<b>Charger</b>	1pc
<b>USB cable and software</b>	1pc

**CM200****COLOR METER**

- ◆ Convenient and fast locating
- ◆ Portable structure design which is more conducive to keep the instrument stable

**SPECIFICATION**

<b>Illuminating/Viewing Geometry</b>	8/d
<b>Measuring Aperture</b>	Φ8mm
<b>Light Source</b>	D65
<b>Light Source Device</b>	LED blue light excitation
<b>Memory</b>	5000pcs standards
<b>Repeatability</b>	<0.08ΔE*ab
<b>Power supply</b>	rechargeable lithium-ion battery
<b>Lamp Life</b>	3 years, more than 1 million measurements
<b>Charging Time</b>	2 hours (first time 8 hours--100% electricity)
<b>Dimension</b>	205×70×100 mm
<b>Weight</b>	500g

**INCLUDED ACCESSORIES**

<b>Main unit</b>	1pc
<b>White calibration block</b>	1pc
<b>Charger</b>	1pc
<b>USB cable and software</b>	1pc

THICKNESS

## CM3010

## SPECTROPHOTO METER



VIDEO



Data output



Charge

- ◆ Concave grating spectrophotometric
- ◆ 3.5-inch TFT color LCD
- ◆ D/8 geometrical optics, conforms with CIE No.15,ISO7724/1,ASTME1164, 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%)
Repeatability	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



## SERIES DTG

## DIAL TENSION GAUGE

- ◆ Used in clockwise and counter-clockwise directions
- ◆ With two pointers, can catch the max. value



DTG5

### SPECIFICATION (Unit: N)

Code	DTG01	DTG03	DTG05	DTG1	DTG3	DTG5	DTG105
Range(N)	0.01-0.1	0.03-0.3	0.05-0.5	0.1-1	0.15-1.5	0.3-3	0.5-5
Graduation(N)	0.002	0.005	0.01	0.02	0.025	0.05	0.1
Accuracy	±2%(full scale)						
Dimension(LxWxH)	90x 47 x 19mm						
Weight	60g						

### SPECIFICATION (Unit: gf)

Code	DTG10G	DTG30G	DTG50G	DTG100G	DTG150G	DTG300G	DTG500G
Range(gf)	1-10	3-30	5-50	10-100	15-150	30-300	50-500
Graduation(gf)	0.2	0.5	1	2	2.5	5	10
Accuracy	±2%(full scale)						
Dimension(LxWxH)	90x 47 x 19mm						
Weight	60g						

## SERIES DFXS

## 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



point



pull clamp



extension rod



flat



v-type



knife-edge

### 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)

FORCE

Accud



## 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



VIDEO



DF200



Stand(Code: **FS1000**, **Optional**)



PR100 printer (**Optional**)



flat



v-type



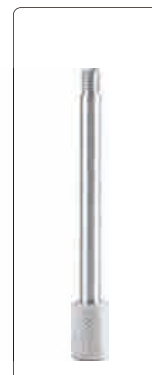
knife-edge



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	$\pm 0.2\% \times \text{FS (full scale)}$						
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

Printer	PR100
Stand	FS1000



- ◆ 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


**VIDEO**

**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	$\pm 0.2\% \times FS$ (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
Printer	PR100

## SERIES DFXE

## DIGITAL FORCE GAUGE



- ◆ 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



VIDEO



DF1000E



Stand(Code: **FS1000**, **Optional**)



**PR100** printer (**Optional**)



flat



v-type



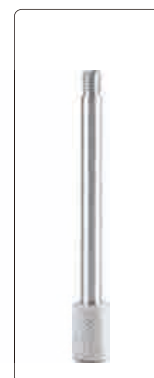
knife-edge



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	$\pm 0.3\% \times \text{FS (full scale)}$				
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

Printer	<b>PR100</b>
Stand	<b>FS1000</b>



- ◆ Push and pull test
- ◆ Peak(max.) or tracking work mode
- ◆ With manufacturer inspection certificate


 Stand(Code: **FS1000**, Optional)

**NK-500**


flat



v-type



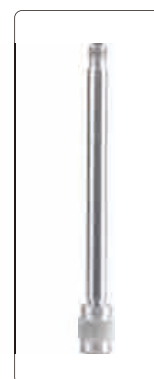
point



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**

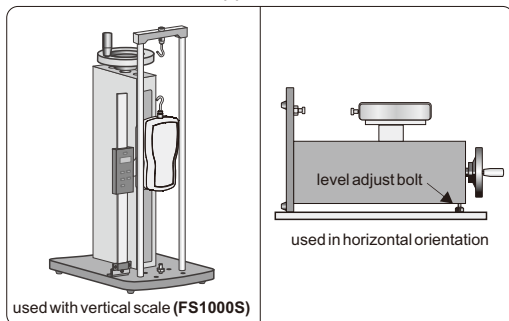
Stand	<b>FS1000</b>
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## SERIES FS

## TEST STAND FOR FORCE GAUGE

- ◆ For force gauges
- ◆ To be used in vertical and horizontal orientation

### Application



Force gauge is not included



FS1000

### SPECIFICATION

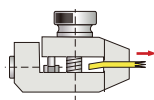
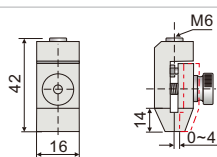
Code	FS1000S	FS1000
Scale	with	without
Load capacity	1000N	
Travel	200mm (3mm vertical movement per revolution of handwheel)	
Dimension	96x250x446mm	
Weight	13kg	

## SERIES DF

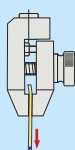
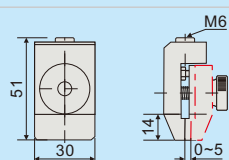
## CLAMPS FOR FORCE GAUGE

unit:mm

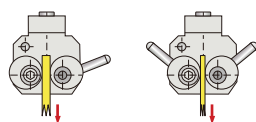
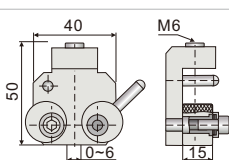
### FLAT CHUCK (Code: DF-FC1)



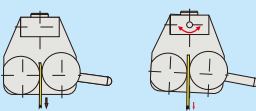
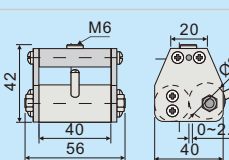
### FLAT CHUCK (Code: DF-FC2)



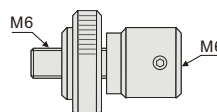
### CAM GRIP (Code: DF-CG1)



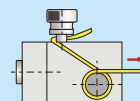
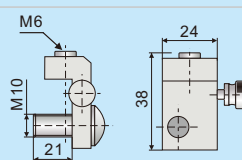
### CAM GRIP (Code: DF-CG2)



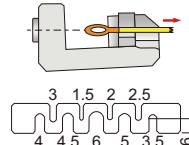
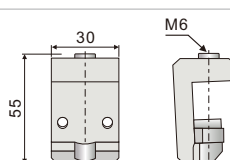
### LOCK THREAD ADAPTER (Code: DF-TA)



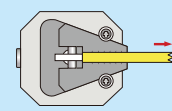
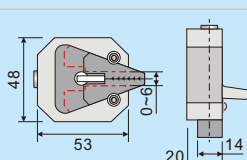
### WIRE GRIP (Code: DF-WG1)



### 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**

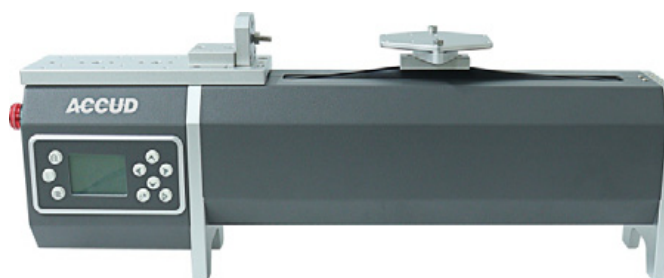
Max. capacity	650N
Max. travel	220mm
Moving speed	30-720mm/min(adjustable)
Resolution of speed	1mm/min
Moving speed accuracy	2%
Displacement resolution	0.01mm
Displacement accuracy	±0.3mm
Output	USB, RS232
Working temperature	10-40°C
Power supply	AC100-240V
Dimension	340×180×630 mm
Weight	15kg

**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

## SERIES DST

## DIGITAL SPRING TESTER

- ◆ 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



VIDEO



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
Footscrew	4pcs

- ◆ 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

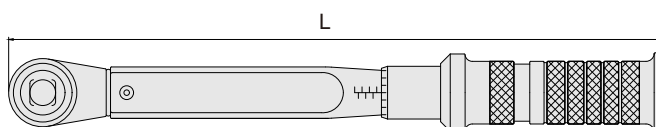
## TORQUE WRENCH



- ◆ 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

## SERIES STWM

## TORQUE WRENCH WITH BIT SET



Accud

- ◆ Accuracy:  $\pm 4\%$ (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

## SERIES TW

## DIGITAL TORQUE WRENCH



- ◆ 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

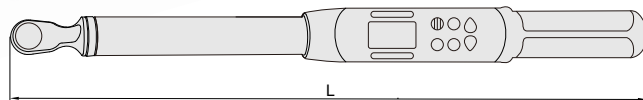


VIDEO



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	$\pm 3\%$	$\pm 3\%$	$\pm 2\%$	$\pm 2\%$	$\pm 2\%$	$\pm 2.5\%$	$\pm 2.5\%$	$\pm 2.5\%$	$\pm 2.5\%$
	Anti-clockwise	$\pm 4\%$	$\pm 4\%$	$\pm 3\%$	$\pm 3\%$	$\pm 3\%$	$\pm 3.5\%$	$\pm 3.5\%$	$\pm 3.5\%$	$\pm 3.5\%$
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	2xAAA batteries									

FORCE



## SERIES TWD

## DIAL TORQUE WRENCH



- ◆ Clockwise and counter-clockwise operation
- ◆ Comforms to DIN ISO 6789, ASME B107.300
- ◆ With manufacturer inspection certificate



TWD70

### SPECIFICATION

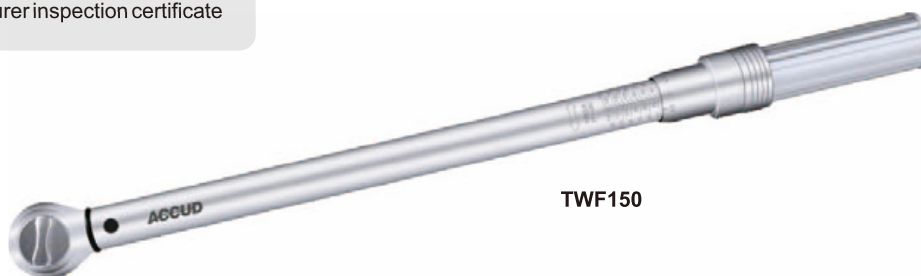
Code	TWD3	TWD9	TWD18	TWD35	TWD70	TWD140	TWD240	TWD350
Range	0.7~3.5N.m 6~30in.lb	1.8~9N.m 15~75in.lb	3.6~18N.m 30~150in.lb	7~35N.m 60~300in.lb	14~70N.m 120~600in.lb	28~140N.m 20~100ft.lb	48~240N.m 35~175ft.lb	70~350N.m 50~250ft.lb
Accuracy	±3%	±3%	±3%	±3%	±3%	±3%	±3%	±3%
Graduation	0.05N.m 0.5in.lb	0.1N.m 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
Square drive	1/4"	1/4"	3/8"	3/8"	3/8"	1/2"	1/2"	1/2"
Length	254mm	254mm	254mm	254mm	378mm	546mm	546mm	546mm
Weight	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
Range	40~200lb.in	50~250lb.in	20~100lb.ft	30~150lb.ft	50~250lb.ft	100~600lb.ft
Graduation	1lb.in	1lb.in	0.5lb.ft	0.5lb.ft	1lb.ft	2.5lb.ft
Accuracy	±3%	±3%	±3%	±3%	±3%	±4%
Size of square drive	1/4"	3/8"	3/8"	1/2"	1/2"	3/4"
Length	11"	12.4"	16.7"	20"	26.7"	41.5"
Weight	1.5lb	1.8lb	2.3lb	2.6lb	2.9lb	13lb



## SERIES TWS

## WINDOWS TORQUE WRENCH



Accud

- ◆ Accuracy:  $\pm 4\%$  (clockwise)
- ◆ According to ISO6789
- ◆ Unit: N.m; Lbf.ft
- ◆ With manufacturer inspection certificate



TWS60



### SPECIFICATION

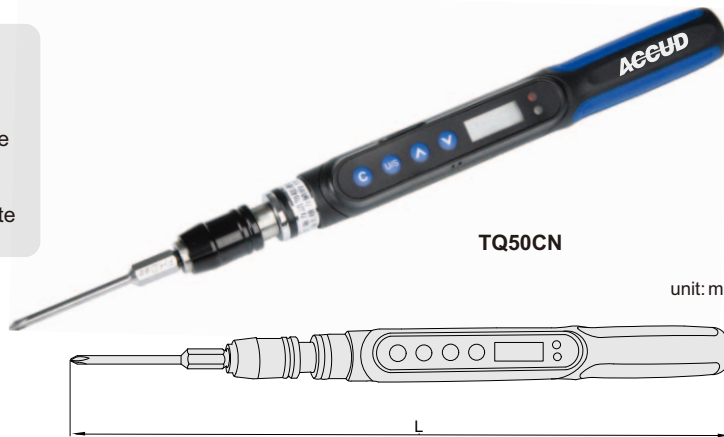
Code	Range (N.m)	Size of square drive	Length	Weight	Code	Range (N.m)	Size of square drive	Length	Weight
TWS12	2.4~12	1/4"	300mm	0.58kg	TWS330	66~330	1/2"	555mm	1.28kg
TWS20	4~20	1/4"	300mm	0.58kg	TWS400	80~400	1/2"	725mm	1.90kg
TWS20B	4~20	3/8"	300mm	0.60kg	TWS400B	80~400	3/4"	825mm	3.05kg
TWS30	6~30	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		

FORCE

## 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		

### INCLUDED ACCESSORIES

Main unit	1pc
AAA battery	2pcs
Wrench	1pc



DT135

### Application

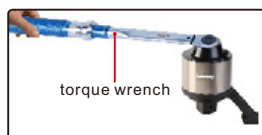


## SERIES TWQ

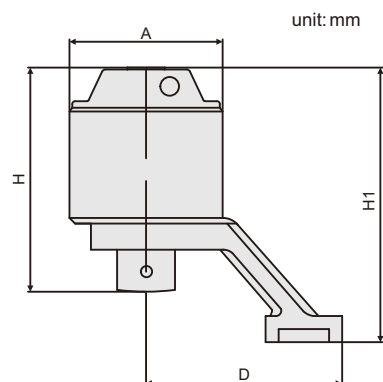
## TORQUE MULTIPLIERS

- ◆ 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

- ◆ 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

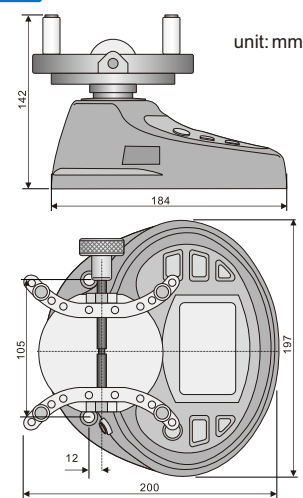
- ◆ Test the open and tighten torque of bottle cap
- Peak, preset and real-time working mode
- ◆ Unit: N.m, N.cm, kgf.cm, lbf.cm, lbf.in
- ◆ Memory: 1000
- ◆ Power off automatically
- ◆ With software, can show the torque graph
- ◆ With manufacturer inspection certificate


**TTM10**

**VIDEO**

**Certificate**

**Data output**

**Charge**

**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

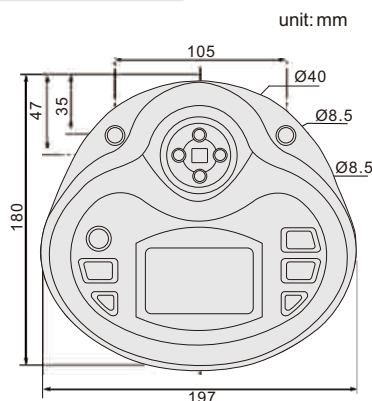


VIDEO



TTB10

run down adapter for torque meter (optional)



Stand (optional)



TTB500

### 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

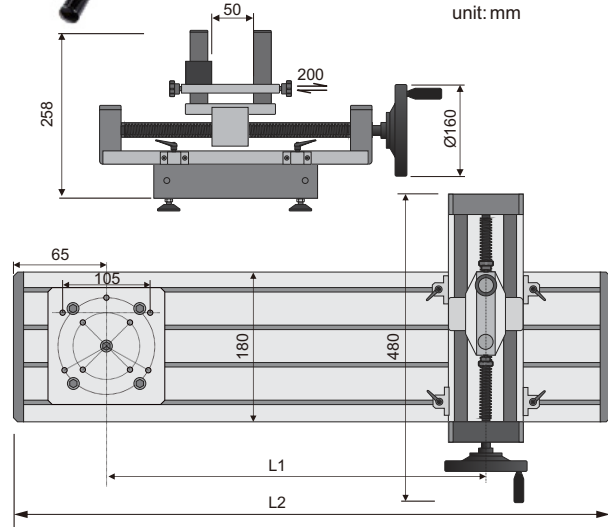
- ◆ For calibrating torque wrench with TTB series torque meter

(Torque meter is not included)



TTB-ST1

unit: mm



### 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



VIDEO

### 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

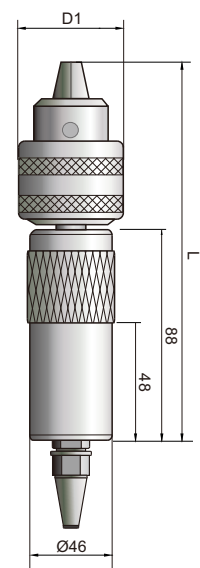
Wireless printer	PR100
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TTS5



unit: mm



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	

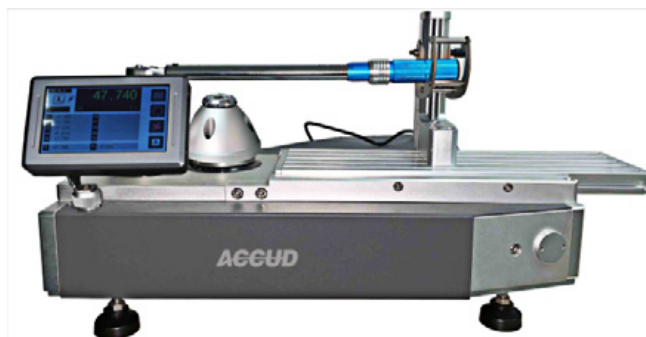
### OPTIONAL ACCESSORIES

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

**WSC3000G****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	9VAD/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	WS03K	WS06K	WS15K	WS30K
Max. capacity	3kg	6kg	15kg	30kg
Min. capacity	1g	1g	5g	10g
Division	0.1g	0.1g	0.5g	1g
Verification interval	1g	1g	5g	10g
Unit	kg, g, lb			
Power supply	9VAD/DC adapter			
Dimension of pan	32x23cm			
Dimension	32x36x11cm			



◆ With manufacturer inspection certificate

**TOLERANCE**

Weight	M1	F2	F1	E2
1-5mg	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



1kg



100g



100mg

**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		

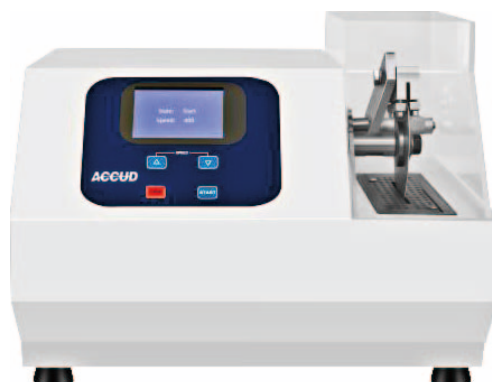
**WEIGHT SET**

Weight	Code	Grade and stainless steel type					Quantity
		M1(304)	F2(304)	F1(304)	F1(non-magnetic)	E2(non-magnetic)	
1mg-100g	WTS-100M1	WTS-100F2	WTS-100F1	WTS-100F1B	WTS-100E2		21pcs
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
1mg-1kg	WTS-1000M1	WTS-1000F2	WTS-1000F1	WTS-1000F1B	WTS-1000E2		25pcs
1mg-2kg	WTS-2000M1	WTS-2000F2	WTS-2000F1	WTS-2000F1B	WTS-2000E2		27pcs
1mg-5kg	WTS-5000M1	WTS-5000F2	WTS-5000F1	WTS-5000F1B	WTS-5000E2		28pcs

Each set includes two pieces 2mg/20mg/200mg/2g/20g/200g/2kg (if it is in the range) and one piece each other sizes

**CUTM600****LOW SPEED PRECISION CUTTING MACHINE**

- ◆ The equipment is equipped with a 4 kinds of fixture, which can make the processed objects position and cut at the best angle
- ◆ Equipped with limit switch, can realize unattended processing, high precision spindle operation
- ◆ Accurately fine-tune the horizontal feed position of the processed objects, and automatically stop running after cutting.

**SPECIFICATION**

Travel of mobile frame	25mm
Positioning accuracy	0.01mm
Spindle rotation speed	0-600r/min
Cutting blade diameter	Ø100x0.4x12.7mm
Max. cutting diameter	Ø30mm
Power	110/220V
Power consumption	50W
Weight	19.4kg
Dimension	392x330x310mm

**INCLUDED ACCESSORIES**

Main unit	1pc
Spanner	1pc
Wrench	1pc
Fixture	1 set
Diamond cutting blade	1pc

**GP203****MANUAL GRINDING POLISHING MACHINE**

- ◆ One machine is multi-purpose, easy to complete the metallographic sample pre-grinding rough grinding, fine grinding, rough polishing and fine polishing
- ◆ Double disc double control, Variable speed regulation and two fixed speed, speed control system optimized for grinding and polishing machine
- ◆ Easy to control the switch knob, simple operation
- ◆ Fine grinding and surface treatment of the work disc, to ensure that the surface of the sample is smooth

**SPECIFICATION**

Polishing disc diameter (mm)	203
Rotation speed (rpm)	variable adjustable speed 50-600
Working disc rotation direction	clockwise and counter clockwise
Control method	double disc double control
Motor power	550Wx2
Input voltage	100-240V
Weight	50kg
Dimension	566x712x270mm

**INCLUDED ACCESSORIES**

Main unit	1pc
Polishing velvet	2pcs
Metallographic sandpaper	2pcs
Water pipe	1 set
Power cable	1pc

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