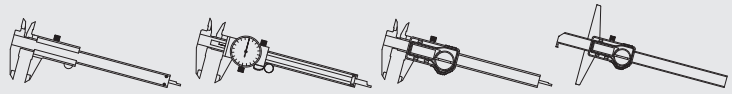


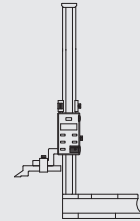
**P1-19**

**OUTPUT INTERFACE  
CALIPER  
DEPTH CALIPER**



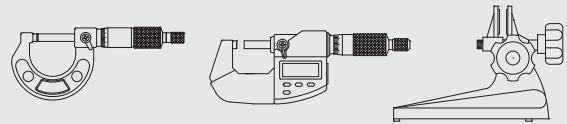
**P20-21**

**HEIGHT GAGES**



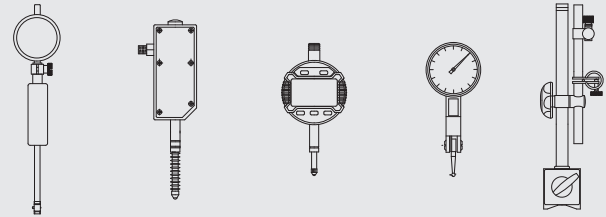
**P22-29**

**MICROMETER  
MICROMETER STAND  
MICROMETER HEAD**



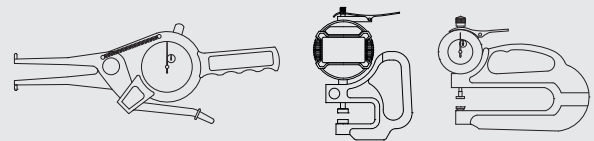
**P30-45**

**BORE GAUGE  
LINEAR SCALE  
DIAL/DIGITAL INDICATOR  
DIAL TEST INDICATOR  
MAGNETIC STAND  
DIAL DEPTH INDICATOR**



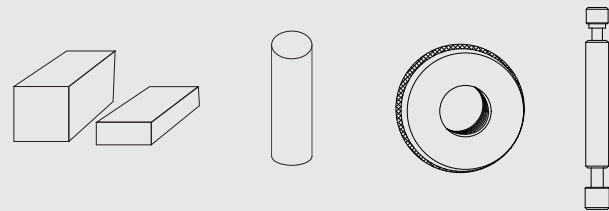
**P46-51**

**SNAP GAUGE  
THICKNESS GAUGE  
COATING THICKNESS GAUGE  
ULTRASONIC THICKNESS GAUGE**



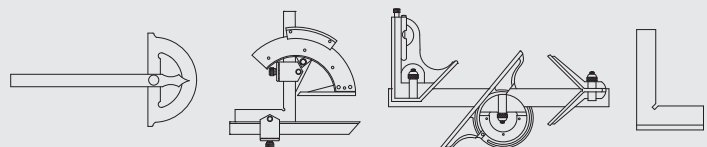
**P52-59**

**GAUGE BLOCK  
PIN GAUGE  
SETTING RING  
PLUG GAUGE**



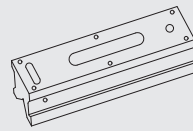
**P60-66**

**PROTRACTOR  
SQUARE**



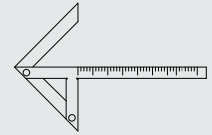
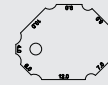
**P67-68**

LEVEL



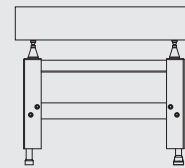
**P69-76**

FEELER GAUGE  
WELDING GAUGE  
MARKING GAUGE  
PITCH GAUGE  
ANGLE GAUGE  
RADIUS GAUGE  
TAPER GAUGE  
STRAIGHT EDGE



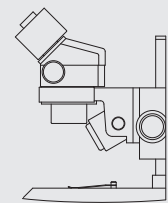
**P77-78**

GRANITE SURFACE PLATE  
V-BLOCK



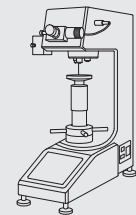
**P79-82**

DIGITAL MICROSCOPE  
STEREO MICROSCOPE  
CAMERA



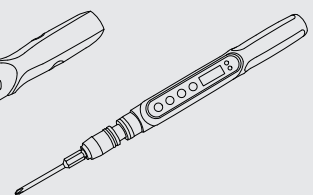
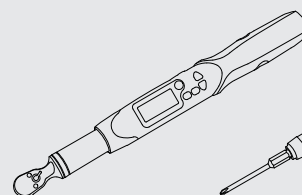
**P83-89**

HARDNESS TESTER



**P90-93**

FORCE GAUGE  
TORQUE WRENCH  
TORQUE SCREWDRIVER



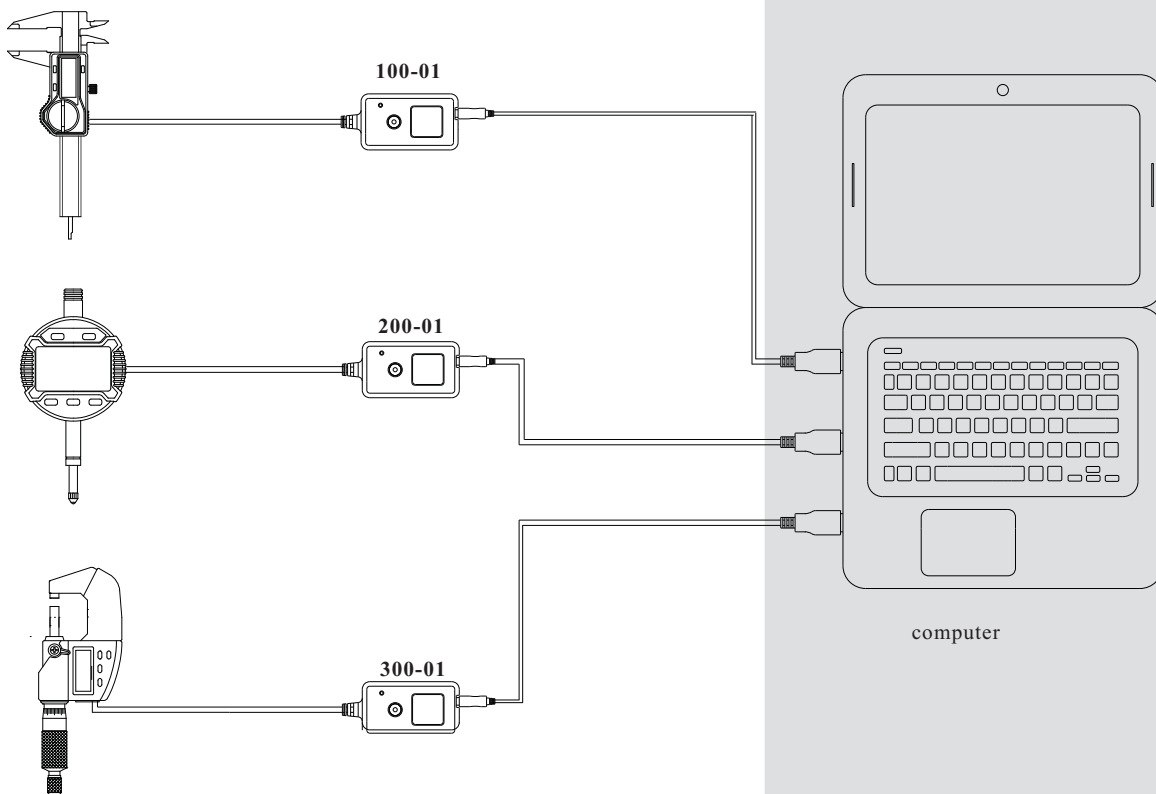
## USB OUTPUT INTERFACE

## 100/200/300/400

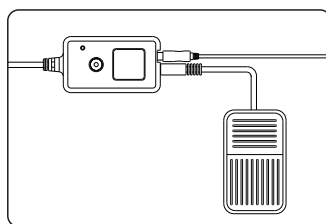


100-01

- ◆ Without any software, the data can be transferred into Excel
- ◆ Push the black button or footswitch to transfer the measuring data



computer



connect footswitch to transfer the date  
(code: 400-01)

Products	Code
for all digital calipers(except 112, 118 and 119 serials)	100-01
for all digital indicator	200-01
311, 313 serial micrometers	300-01

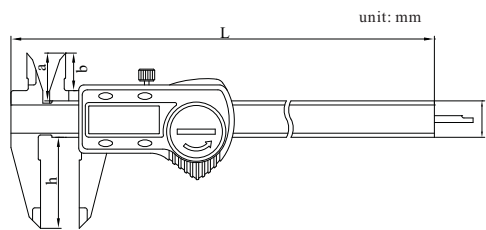
## SERIES 111

- ◆ High hardness, good wear-resistance
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/in, ABS
- ◆ Battery CR2032
- ◆ USB data output
- ◆ Meet DIN862
- ◆ Made of stainless steel
- ◆ Calibration certificate is optional
- ◆ Without thumb roller

## DIGITAL CALIPER (FOUR BUTTONS)



111-006-11

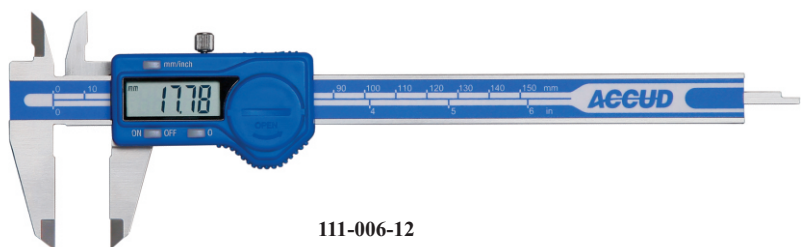


Code	Measuring Range	Accuracy	a	b	c	h	L
111-006-11*	0-150mm/0-6"	±0.03mm	21	16	16	40	236
111-008-11*	0-200mm/0-8"	±0.03mm	24	19	16	50	286
111-012-11*	0-300mm/0-12"	±0.03mm	25	20.5	17	60	400

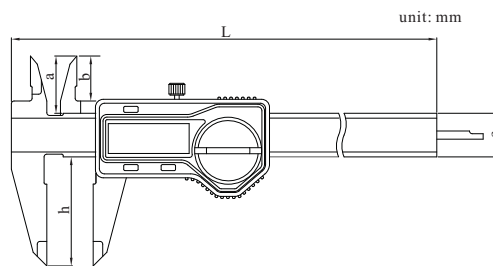
## SERIES 111

- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/inch
- ◆ USB data output
- ◆ Automatic power on/off
- ◆ Meet DIN862
- ◆ Made of stainless steel
- ◆ Calibration certificate is optional
- ◆ With thumb roller

## DIGITAL CALIPER (THREE BUTTONS)



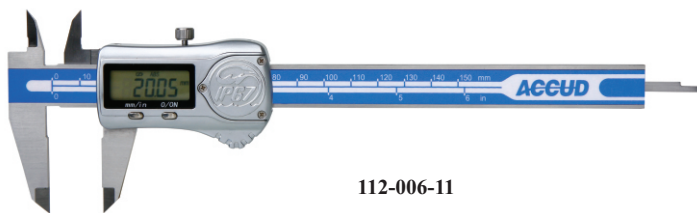
111-006-12



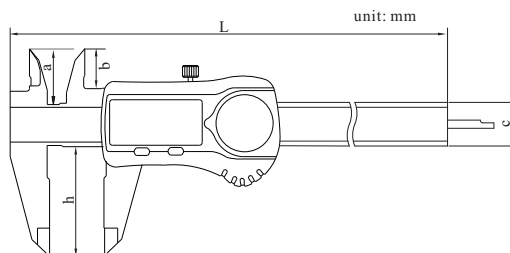
Code	Measuring Range	Accuracy	a	b	c	h	L
111-006-12*	0-150mm/0-6"	±0.03mm	21	16	16	40	236
111-008-12*	0-200mm/0-8"	±0.03mm	24	19	16	50	286
111-012-12*	0-300mm/0-12"	±0.03mm	25	20.5	17	60	400

## IP67 DIGITAL CALIPER

## SERIES 112



112-006-11

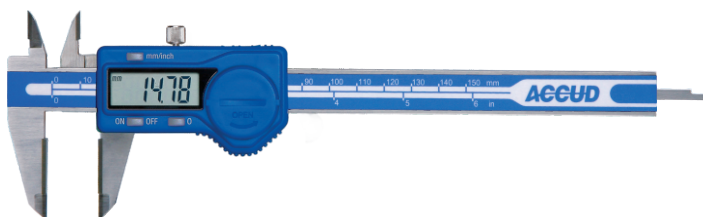


- ◆ IP67 protection class
- ◆ Absolute measuring system
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Automatic power off
- ◆ Buttons: on/off, zero, mm/inch
- ◆ Calibration certificate is optional
- ◆ Without thumb roller

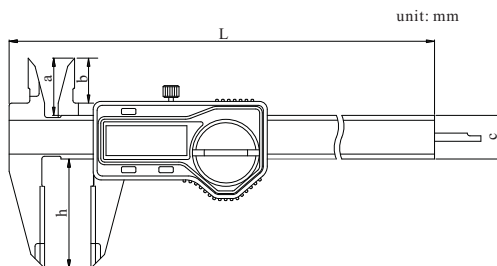
L	h	c	b	a	Accuracy	Measuring Range	Code
236	40	16	16.5	21	±0.03mm	0-150mm/0-6"	112-006-11*
286	50	16	20	24	±0.03mm	0-200mm/0-8"	112-008-11*
400	60	17	20.5	25	±0.03mm	0-300mm/0-12"	112-012-11*

## DIGITAL CALIPER WITH CARBIDE JAWS

## SERIES 116



116-006-11



- ◆ Carbide tipped jaws for inside and outside measurements, good wear-resistance
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/inch
- ◆ USB data output
- ◆ Automatic power on/off
- ◆ Made of stainless steel
- ◆ Calibration certificate is optional
- ◆ With thumb roller

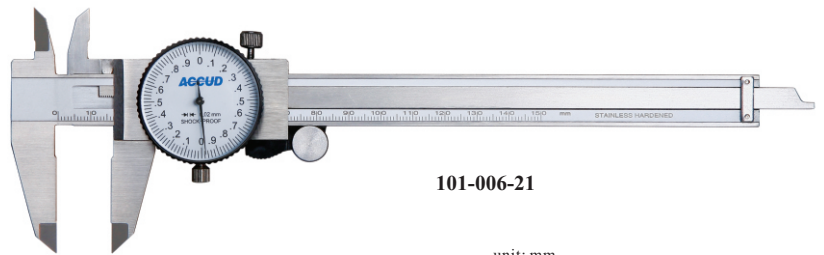
L	h	c	b	a	Accuracy	Measuring Range	Code
236	40	16	16	21	±0.03mm	0-150mm/0-6"	116-006-11*
286	50	16	19	24	±0.03mm	0-200mm/0-8"	116-008-11*
400	60	17	20.5	25	±0.03mm	0-300mm/0-12"	116-012-11*



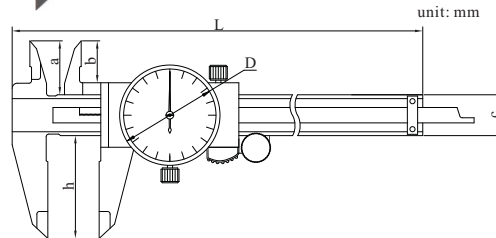
## SERIES 101

- ◆ Shockproof dial indicator
- ◆ Made of stainless steel
- ◆ Calibration certificate is optional

## DIAL CALIPER



101-006-21

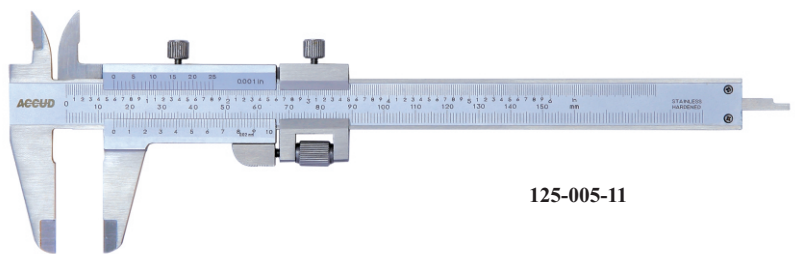


Code	Measuring Range	Graduation	Accuracy	a	b	c	h	D	L
101-006-11*	0-150mm	0.01mm	±0.03mm	21	16.5	16	40	Ø39	233
101-008-11*	0-200mm	0.01mm	±0.03mm	24	19	16	50	Ø39	288
101-012-11*	0-300mm	0.01mm	±0.04mm	30	25	20	64	Ø44	390
101-006-21*	0-150mm	0.02mm	±0.03mm	21	16.5	16	40	Ø39	233
101-008-21*	0-200mm	0.02mm	±0.03mm	24	19	16	50	Ø39	288
101-012-21*	0-300mm	0.02mm	±0.04mm	30	25	20	64	Ø44	390

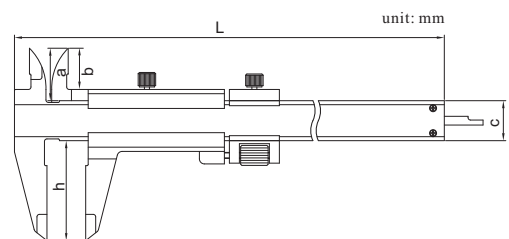
## SERIES 125

- ◆ With fine adjustment
- ◆ Meet DIN862
- ◆ Stain chrome plated reading surface
- ◆ Made of stainless steel

## VERNIER CALIPER



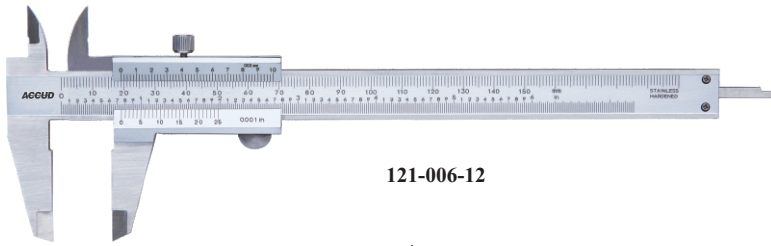
125-005-11



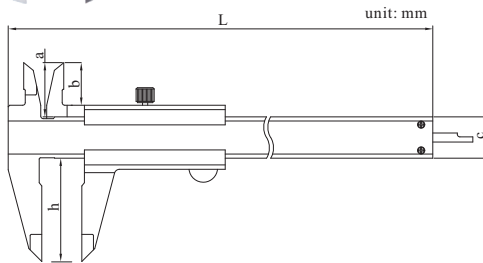
Code	Measuring Range	Graduation	Accuracy	a	b	c	h	L
125-005-11	0-130mm	0.02mm	±0.03mm	20.5	16.5	16	40	230
125-007-11	0-180mm	0.02mm	±0.03mm	23.5	19	16	50	295
125-011-11	0-280mm	0.02mm	±0.04mm	36	20	20	60	410

## VERNIER CALIPER

## SERIES 121



**121-006-12**



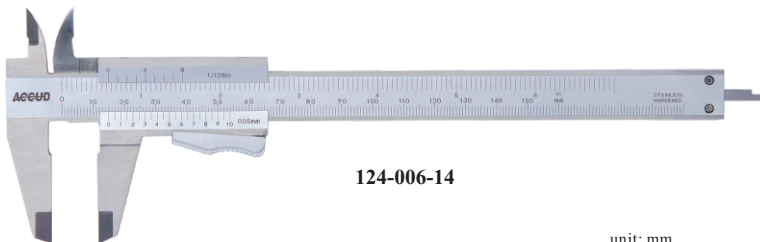
- ◆ Meet DIN862
- ◆ Stain chrome plated reading surface
- ◆ Made of stainless steel



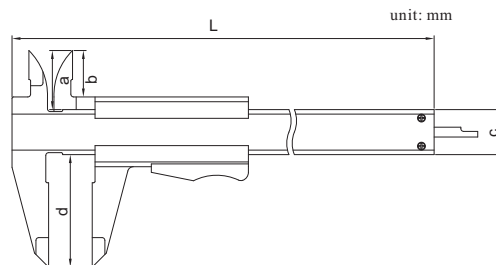
L	h	c	b	a	Accuracy	Graduation	Measuring Range	Code
235	40	16	15.5	20.5	±0.03mm	0.02mm/0.001"	0-150mm	<b>121-006-12</b>
290	50	16	19	23.5	±0.03mm	0.02mm/0.001"	0-200mm	<b>121-008-12</b>
414	64	20	22	27.5	±0.03mm	0.02mm/0.001"	0-300mm	<b>121-012-12</b>
235	40	16	15.5	20.5	±0.03mm	0.05mm/1/128"	0-150mm	<b>121-006-14</b>
290	50	16	19	23.5	±0.03mm	0.05mm/1/128"	0-200mm	<b>121-008-14</b>
414	64	20	22	27.5	±0.03mm	0.05mm/1/128"	0-300mm	<b>121-012-14</b>

## VERNIER CALIPER

## SERIES 124



**124-006-14**



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

L	h	c	b	a	Accuracy	Graduation	Measuring Range	Code
235	40	16	15.5	20.5	±0.03mm	0.02mm/0.001"	0-150mm	<b>124-006-12</b>
290	50	16	19	23.5	±0.03mm	0.02mm/0.001"	0-200mm	<b>124-008-12</b>
414	64	20	22	27.5	±0.03mm	0.02mm/0.001"	0-300mm	<b>124-012-12</b>
235	40	16	15.5	20.5	±0.03mm	0.05mm/1/128"	0-150mm	<b>124-006-14</b>
290	50	16	19	23.5	±0.03mm	0.05mm/1/128"	0-200mm	<b>124-008-14</b>
414	64	20	22	27.5	±0.03mm	0.05mm/1/128"	0-300mm	<b>124-012-14</b>

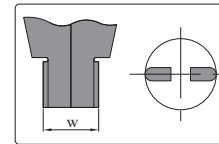
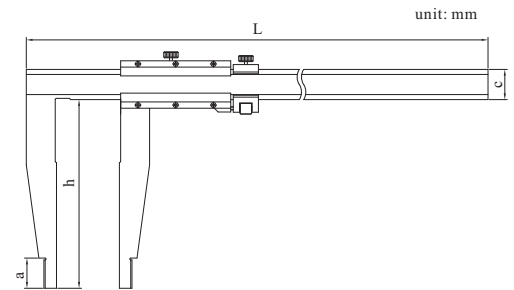
## SERIES 126

## LONG JAW VERNIER CALIPER

- ◆ Resolution: 0.02mm/0.001"
- ◆ With fine adjustment
- ◆ Made of stainless steel
- ◆ Stain chrome reading surface



126-040-11

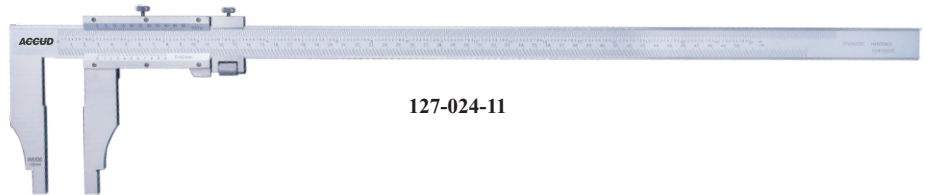


Code	Measuring Range	Accuracy	a	c	h	w	L
126-012-11	0-300mm/0-12"	±0.05mm	18	17	90	10	470
126-012-12	0-300mm/0-12"	±0.05mm	18	24	150	10	470
126-020-11	0-500mm/0-20"	±0.06mm	18	24	150	20	670
126-020-12	0-500mm/0-20"	±0.06mm	18	24	200	20	670
126-024-11	0-600mm/0-24"	±0.06mm	18	24	150	20	770
126-024-12	0-600mm/0-24"	±0.08mm	24	32	250	20	870
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

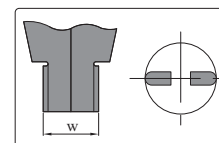
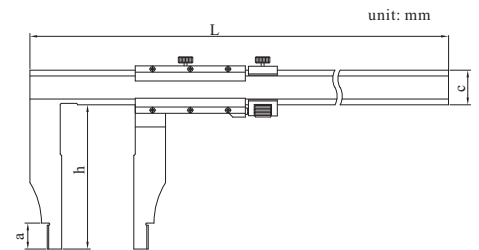
## SERIES 127

## VERNIER CALIPER

- ◆ Resolution: 0.02mm/0.001"
- ◆ With fine adjustment
- ◆ Made of stainless steel
- ◆ Stain chrome reading surface



127-024-11

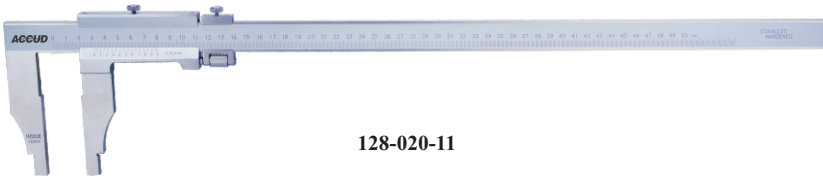


Code	Measuring Range	Accuracy	a	c	h	w	L
127-012-11	0-300mm/0-12"	±0.05mm	10	20	75	10	410
127-024-11	0-600mm/0-24"	±0.05mm	18	24	100	20	770
127-040-11	0-1000mm/0-40"	±0.08mm	24	32	140	20	1216
127-060-11	0-1500mm/0-60"	±0.11mm	24	42	180	20	1830
127-080-11	0-2000mm/0-80"	±0.14mm	24	42	200	20	2320

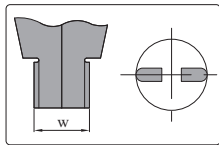
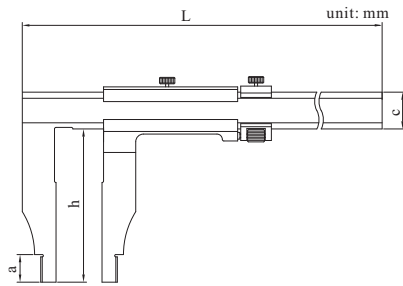


## VERNIER CALIPER

## SERIES 128



128-020-11



- ◆ Resolution: 0.02mm
- ◆ Made of stainless steel
- ◆ With fine adjustment
- ◆ Made of stainless steel
- ◆ Satin chrome plated reading surface



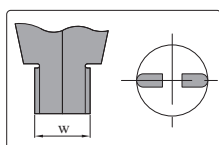
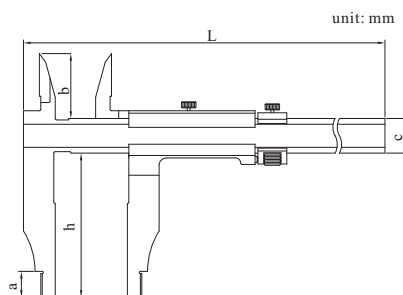
L	w	h	c	a	Accuracy	Measuring Range	Code
670	20	100	24	18	±0.05mm	0-500mm	128-020-11
670	20	150	24	18	±0.06mm	0-500mm	128-020-12
1230	20	150	31	24	±0.08mm	0-1000mm	128-040-11

## VERNIER CALIPER

## SERIES 129



129-020-12



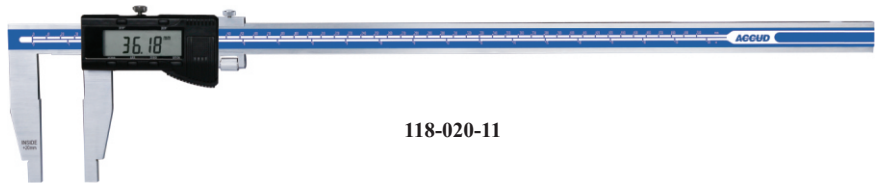
- ◆ Resolution: 0.02mm
- ◆ Made of stainless steel
- ◆ With fine adjustment
- ◆ Made of stainless steel
- ◆ Satin chrome plated reading surface

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

## SERIES 118

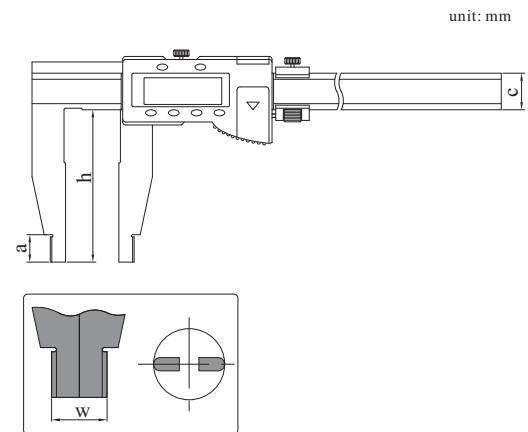
## DIGITAL CALIPER

- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/inch, ABS, data preset
- ◆ USB data output
- ◆ Made of stainless steel



118-020-11

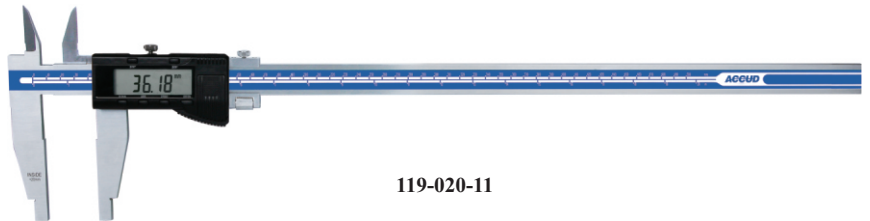
Code	Measuring Range	Accuracy	a	c	h	w
118-012-11	0-300mm/0-12"	±0.04mm	18	24	100	10
118-012-12	0-300mm/0-12"	±0.04mm	18	24	150	10
118-012-13	0-300mm/0-12"	±0.04mm	18	24	200	10
118-020-11	0-500mm/0-20"	±0.04mm	18	24	100	20
118-020-12	0-500mm/0-20"	±0.05mm	24	24	150	20
118-020-13	0-500mm/0-20"	±0.05mm	24	24	200	20
118-020-14	0-500mm/0-20"	±0.05mm	24	32	300	20
118-024-11	0-600mm/0-24"	±0.04mm	24	24	100	20
118-024-12	0-600mm/0-24"	±0.05mm	18	24	150	20
118-024-13	0-600mm/0-24"	±0.05mm	24	24	200	20
118-040-11	0-1000mm/0-40"	±0.07mm	24	32	150	20
118-040-12	0-1000mm/0-40"	±0.07mm	24	32	200	20
118-040-13	0-1000mm/0-40"	±0.07mm	24	32	300	20



## SERIES 119

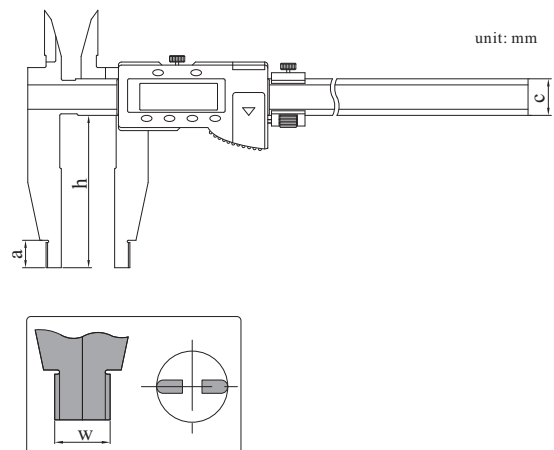
## DIGITAL CALIPER

- ◆ Resolution: 0.01mm/0.0005"
- ◆ Buttons: on/off, zero, mm/inch, ABS, data preset
- ◆ USB data output
- ◆ Made of stainless steel



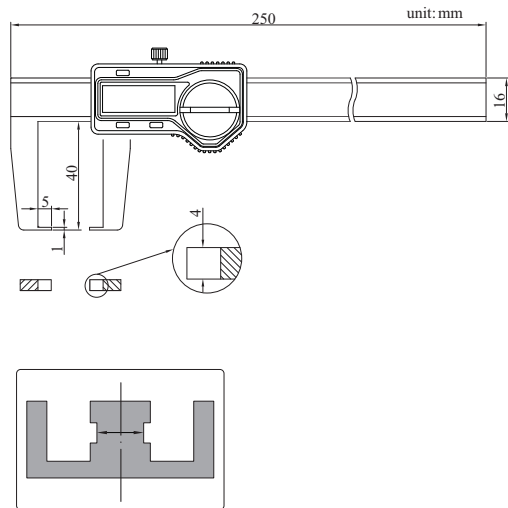
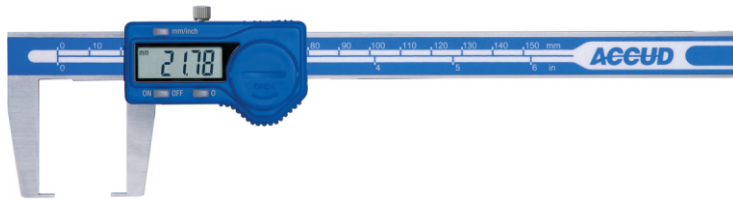
119-020-11

Code	Measuring Range	Accuracy	a	c	h	w
119-012-11	0-300mm/0-12"	±0.04mm	10	24	60	10
119-012-12	0-300mm/0-12"	±0.04mm	10	24	90	10
119-020-11	0-500mm/0-20"	±0.05mm	18	24	100	20
119-020-12	0-500mm/0-20"	±0.05mm	18	24	125	20
119-024-11	0-600mm/0-24"	±0.05mm	18	24	100	20
119-024-12	0-600mm/0-24"	±0.05mm	18	24	125	20
119-040-11	0-1000mm/0-40"	±0.07mm	24	32	150	20
119-040-12	0-1000mm/0-40"	±0.07mm	24	32	200	20



## DIGITAL OUTSIDE NECK CALIPER

**133**



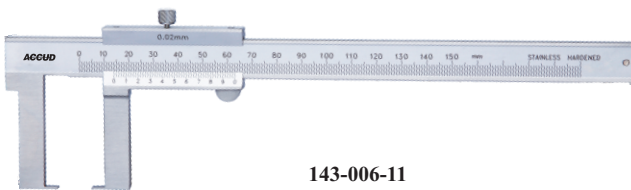
- ◆ Measure wall thickness and recesses
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Automatic power on/off
- ◆ Buttons: on/off, zero, mm/inch
- ◆ Data output
- ◆ Made of stainless steel



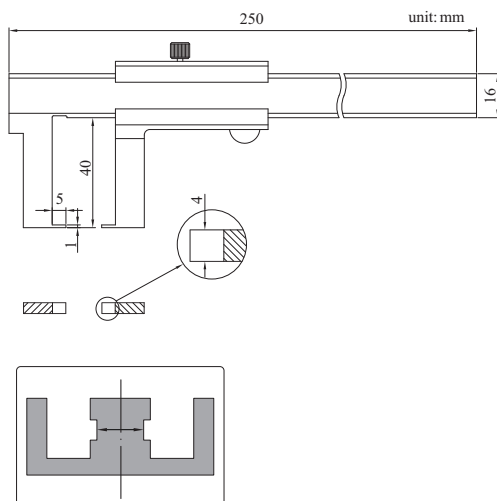
Accuracy	Measuring Range	Code
±0.04mm	0-150mm/0-6"	133-006-11

## OUTSIDE NECK VERNIER CALIPER

**SERIES 143**



**143-006-11**



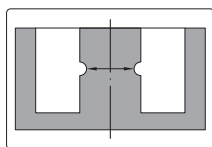
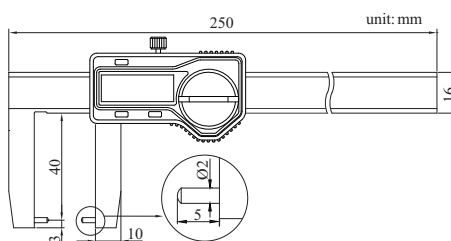
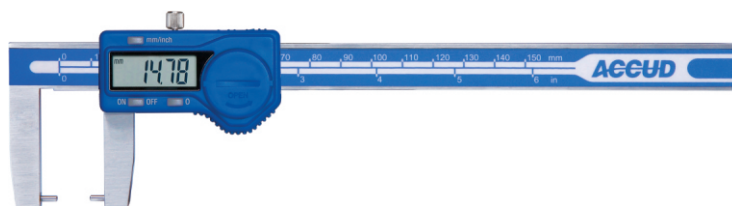
- ◆ Measure wall thickness and recesses
- ◆ Made of stainless steel
- ◆ Satin chrome plated reading surface

Accuracy	Graduation	Measuring Range	Code
±0.04mm	0.02mm	0-150mm	143-006-11
±0.05mm	0.05mm	0-150mm	143-006-13

## 134

## DIGITAL OUTSIDE POINT CALIPER

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

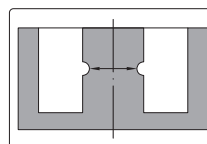
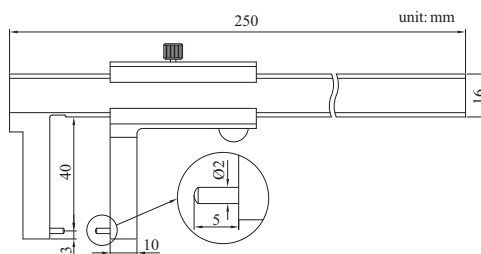
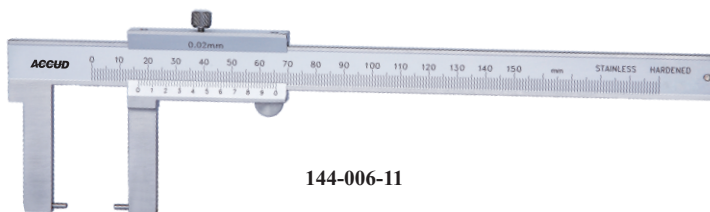


Code	Measuring Range	Accuracy
134-006-11	0-150mm/0-6"	±0.04mm

## SERIES 144

## OUTSIDE POINT VERNIER CALIPER

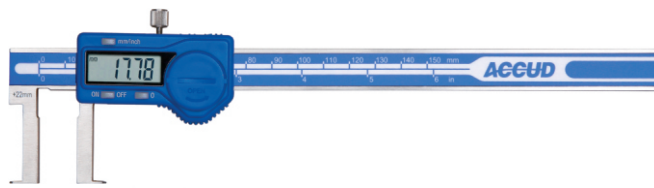
- ◆ Measure inside bores and recesses
- ◆ Made of stainless steel
- ◆ Satin chrome plated reading surface



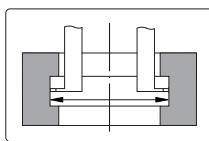
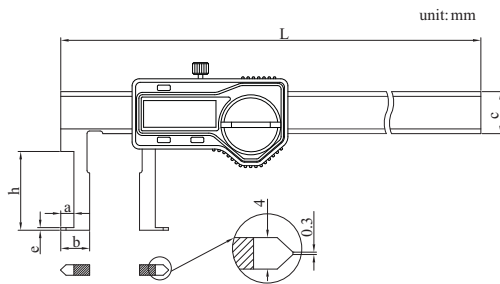
Code	Measuring Range	Graduation	Accuracy
144-006-11	0-150mm	0.02mm	±0.04mm
144-006-13	0-150mm	0.05mm	±0.05mm

## DIGITAL INSIDE NECK CALIPER

## SERIES 135



135-006-11



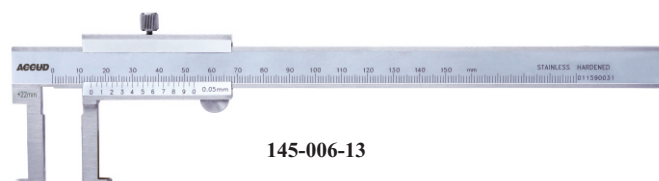
L	h	e	c	b	a	Accuracy	Measuring Range	Code
250	30	1	16	11	5	±0.04mm	22-150mm	135-006-11
310	40	1	16	12.5	5	±0.04mm	25-200mm	135-008-11
410	50	1.5	17	15	5	±0.05mm	30-300mm	135-012-11

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

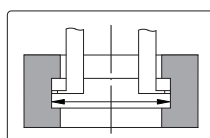
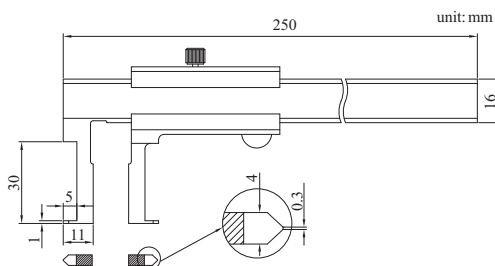


## INSIDE NECK VERNIER CALIPER

## SERIES 145



145-006-13



Accuracy	Graduation	Measuring Range	Code
±0.04mm	0.02mm	22-150mm	145-006-11
±0.05mm	0.05mm	22-150mm	145-006-13

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

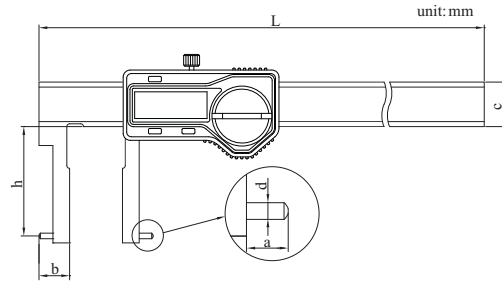
## SERIES 136

## DIGITAL INSIDE POINT CALIPER

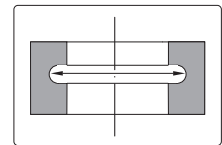
- ◆ Measure the groove
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Automatic power on/off
- ◆ Buttons: on/off, zero, mm/inch
- ◆ Data output
- ◆ Made of stainless steel



136-006-11



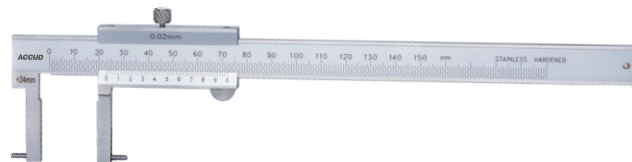
Code	Measuring Range	Accuracy	a	b	c	d	h	L
136-006-11	24-150mm	±0.04mm	5	12	16	Ø2	30	250
136-008-11	25-200mm	±0.04mm	5	12.5	16	Ø2	40	310
136-012-11	50-300mm	±0.06mm	8	25	17	Ø3	80	410



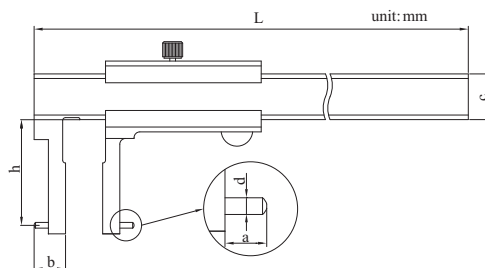
## SERIES 146

## INSIDE POINT VERNIER CALIPER

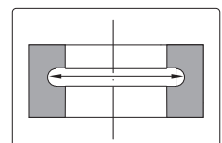
- ◆ Measure the groove
- ◆ Graduation: 0.02mm
- ◆ Made of stainless steel
- ◆ Satin chrome plated reading surface



146-006-11

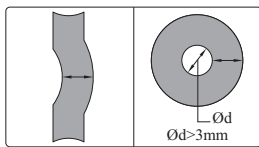
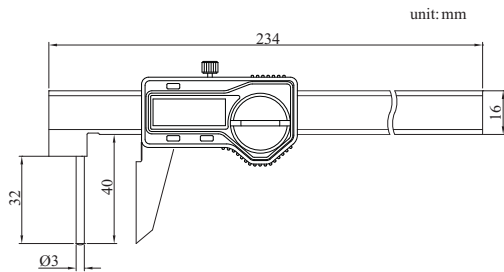
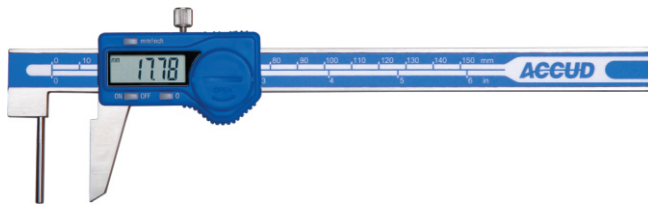


Code	Measuring Range	Graduation	Accuracy	a	b	c	d	h	L
146-006-11	24-150mm	0.02mm	±0.04mm	5	12	16	Ø2	30	250
146-012-11	50-300mm	0.02mm	±0.06mm	8	25	17	Ø3	80	410
146-006-13	24-150mm	0.05mm	±0.05mm	5	12	16	Ø2	30	250
146-012-13	50-300mm	0.05mm	±0.08mm	8	25	17	Ø3	80	410



## DIGITAL TUBE CALIPER

### 137

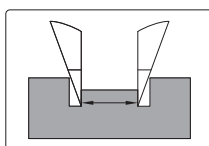
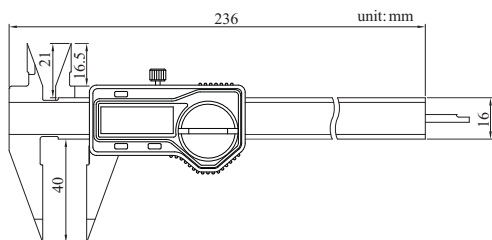
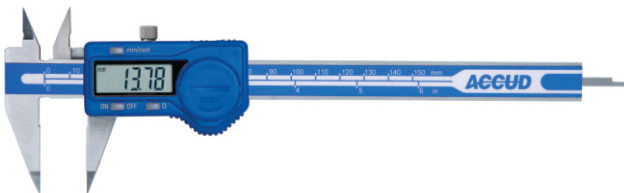


- ◆ Measure the wall thickness
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Automatic power on/off
- ◆ Buttons: on/off, zero, mm/inch
- ◆ Data output
- ◆ Made of stainless steel

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

## DIGITAL POINT CALIPER

### 138



- ◆ Measure the small hole or grooves
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Automatic power on/off
- ◆ Buttons: on/off, zero, mm/inch
- ◆ Data output
- ◆ Made of stainless steel

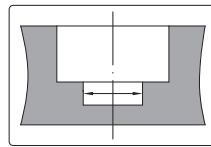
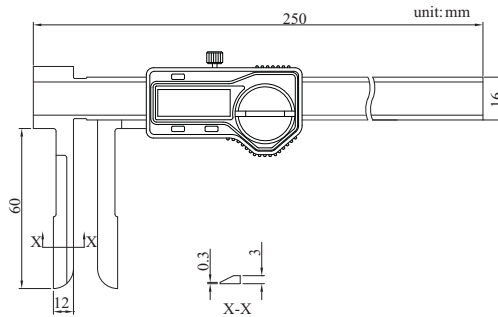
Accuracy	Measuring Range	Code
±0.03mm	0-150mm/0-6"	138-006-11



## 139

## DIGITAL KNIFE-EDGE CALIPER

- ◆ Measure the deep hole or groove
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Automatic power on/off
- ◆ Buttons: on/off, zero, mm/inch
- ◆ Data output
- ◆ Made of stainless steel

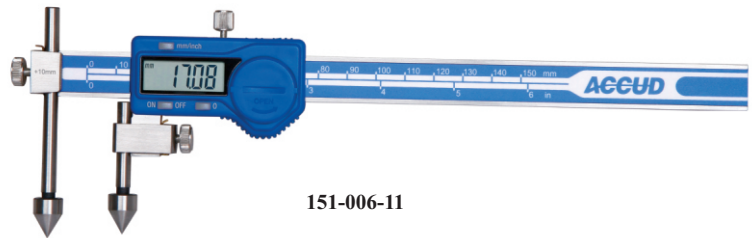


Code	Measuring Range	Accuracy
139-006-11	15-150mm	±0.05mm

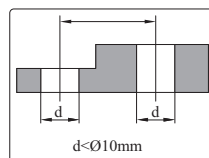
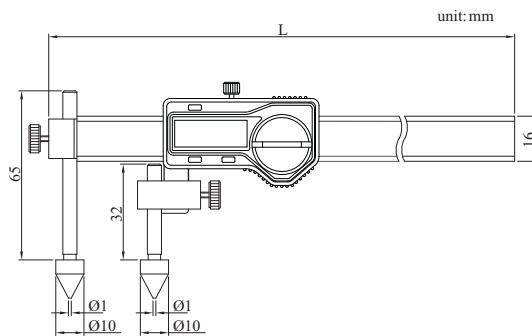
## SERIES 151

## DIGITAL OFFSET CENTRELINE CALIPER

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



151-006-11

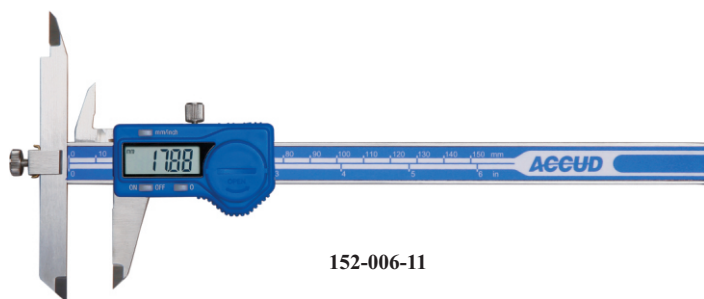


Code	Measuring Range	Accuracy	L
151-006-11	10-150mm	±0.05mm	236
151-008-11	10-200mm	±0.07mm	246
151-012-11	10-300mm	±0.09mm	296

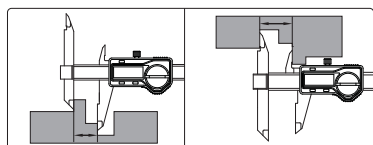
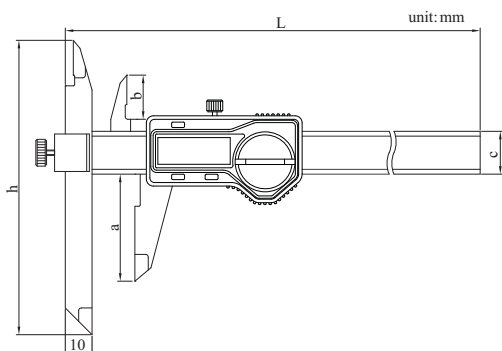


## DIGITAL OFFSET CALIPER

SERIES 52



152-006-11



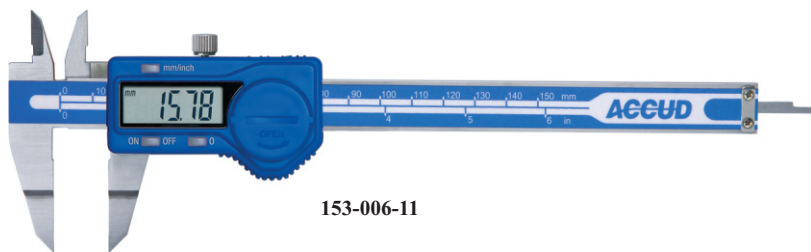
L	h	c	b	a	Accuracy	Measuring Range	Code
239	110	16	16.5	40	±0.04mm	0-150mm/0-6"	152-006-11
289	120	16	19.5	50	±0.04mm	0-200mm/0-8"	152-008-11
389	130	17	20.5	60	±0.05mm	0-300mm/0-12"	152-012-11

- ◆ 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/inch
- ◆ Data output
- ◆ Made of stainless steel

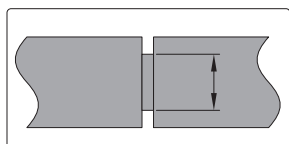
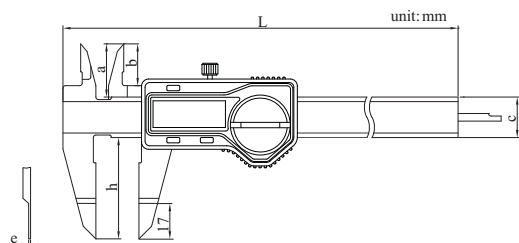


## DIGITAL BLADE CALIPER

SERIES 153



153-006-11



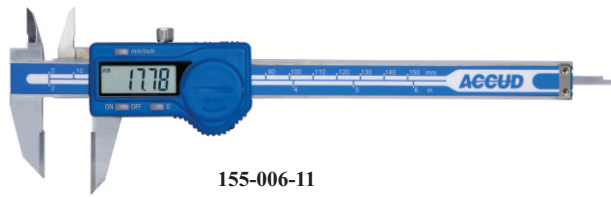
L	e	h	c	b	a	Accuracy	Measuring Range	Code
235	0.75	40	16	16.5	21	±0.03mm	0-150mm/0-6"	153-006-11
297	0.75	50	16	20	24	±0.03mm	0-200mm/0-8"	153-008-11
390	1.00	60	16	21.5	26	±0.04mm	0-300mm/0-12"	153-012-11

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

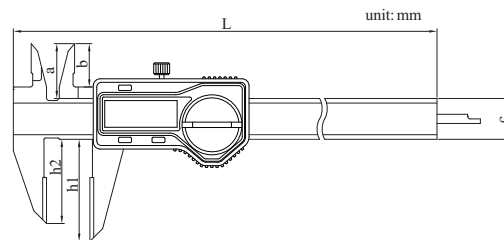
## SERIES 155

## DIGITAL SCRIBING CALIPER

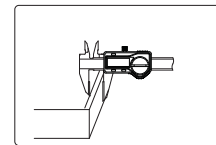
- ◆ Carbide-tipped jaws facilitate fine scribing on workpiece
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Automatic power on/off
- ◆ Buttons: on/off, zero, mm/inch
- ◆ Data output
- ◆ Made of stainless steel



155-006-11



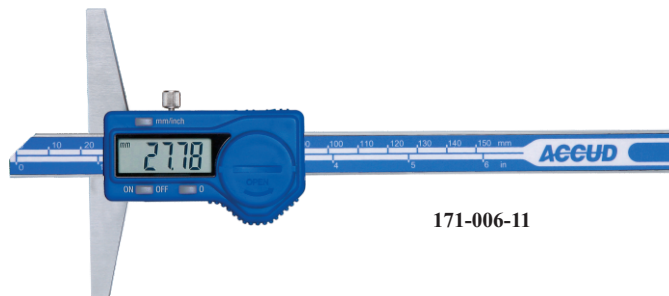
Code	Measuring Range	Accuracy	a	b	c	h1	h2	L
155-006-11	0-150mm/0-6"	±0.03mm	21	16.5	16	40	33	236
155-008-11	0-200mm/0-8"	±0.03mm	24	19.5	16	50	43	286
155-012-11	0-300mm/0-12"	±0.04mm	25	20.5	17	60	53	386



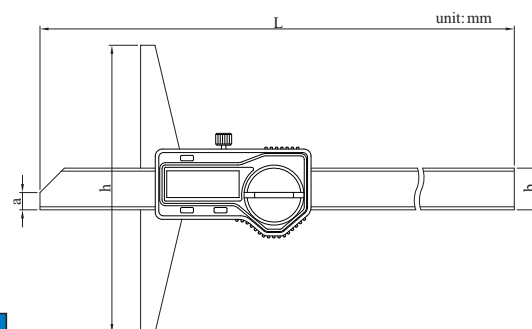
## SERIES 171

## DIGITAL DEPTH CALIPER

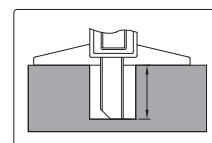
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Automatic power on/off
- ◆ Buttons: on/off, zero, mm/inch
- ◆ Data output
- ◆ Made of stainless steel



171-006-11

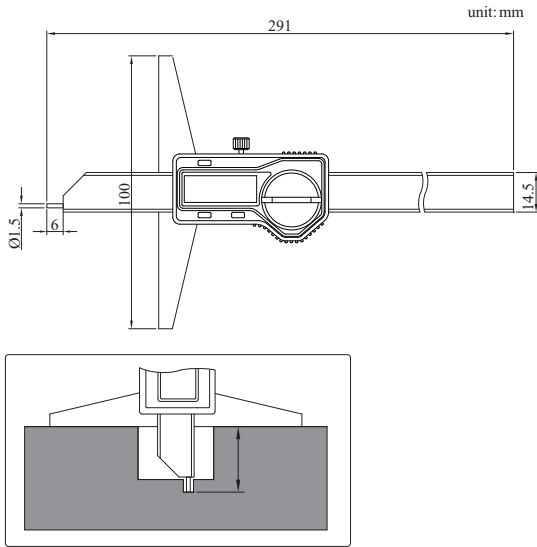
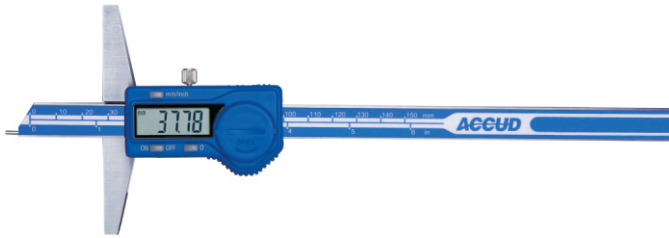


Code	Measuring Range	Accuracy	a	b	h	L
171-006-11	0-150mm/0-6"	±0.03mm	6	14.5	100	230
171-008-11	0-200mm/0-8"	±0.03mm	6	14.5	100	280
171-012-11	0-300mm/0-12"	±0.04mm	6	14.5	150	380
171-020-11	0-500mm/0-20"	±0.05mm	7	15	150	585



## DIGITAL PIN DEPTH CALIPER

172

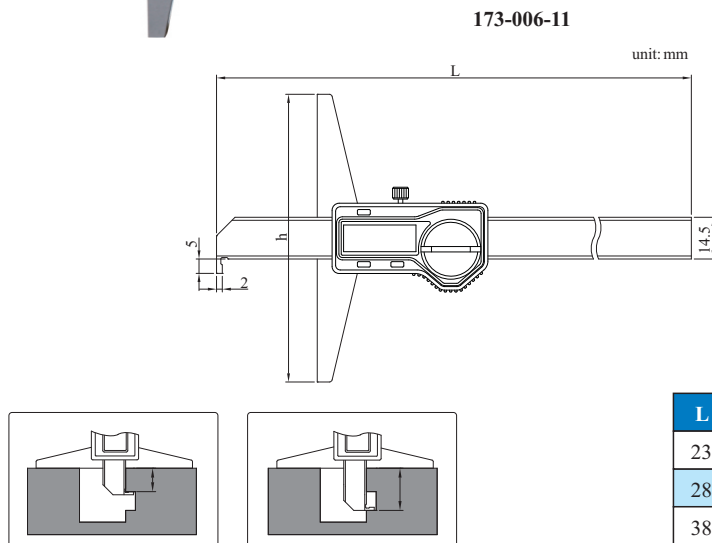
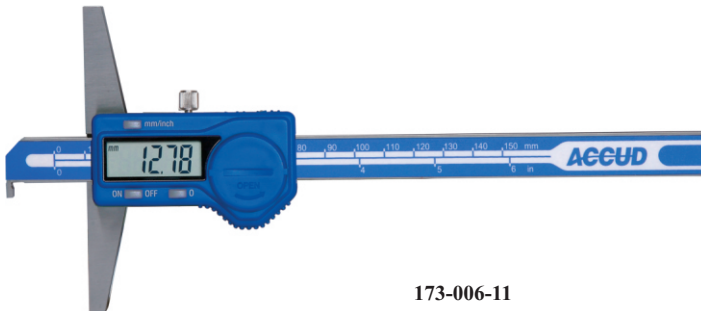


- ◆ Measure depth of small holes or grooves
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Automatic power on/off
- ◆ Buttons: on/off, zero, mm/inch
- ◆ Data output
- ◆ Made of stainless steel

Accuracy	Measuring Range	Code
±0.03mm	0-200mm/0-8"	172-008-11

## DIGITAL HOOK DEPTH CALIPER

SERIES 173



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

L	h	Accuracy	Measuring Range	Code
230	100	±0.04mm	0-150mm/0-6"	173-006-11
280	100	±0.04mm	0-200mm/0-8"	173-008-11
380	150	±0.05mm	0-300mm/0-12"	173-012-11

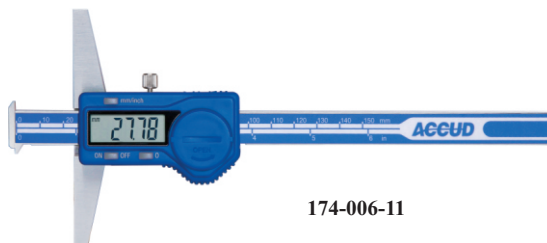


## SERIES 174

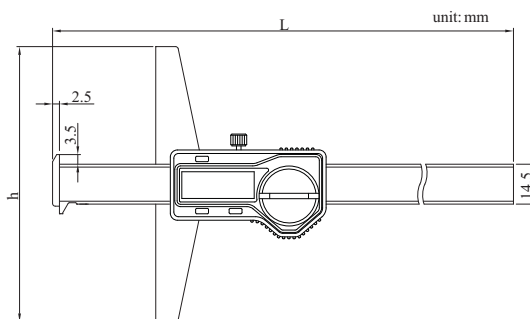
- ◆ Measure the depth of grooves
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Automatic power on/off
- ◆ Buttons: on/off, zero, mm/inch
- ◆ Data output
- ◆ Made of stainless steel



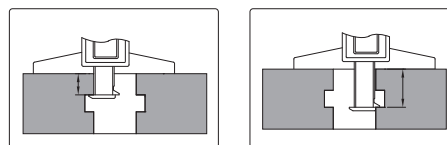
## DIGITAL DOUBLE HOOK DEPTH CALIPER



174-006-11



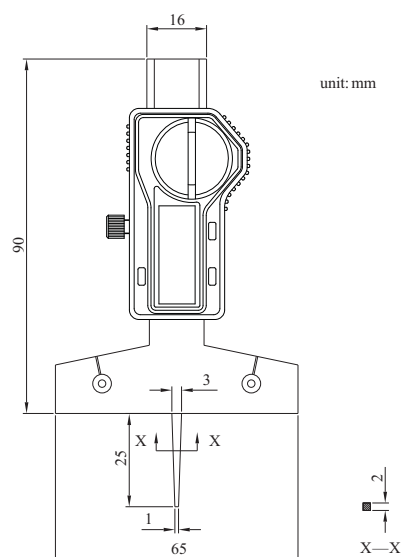
Code	Measuring Range	Accuracy	h	L
174-006-11	0-150mm/0-6"	±0.03mm	100	233
174-008-11	0-200mm/0-8"	±0.03mm	100	283
174-012-11	0-300mm/0-12"	±0.04mm	150	383



## 176

- ◆ Measure the depth of grooves, small holes and tire thread
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Automatic power on/off
- ◆ Buttons: on/off, zero, mm/inch
- ◆ Data output
- ◆ Made of stainless steel

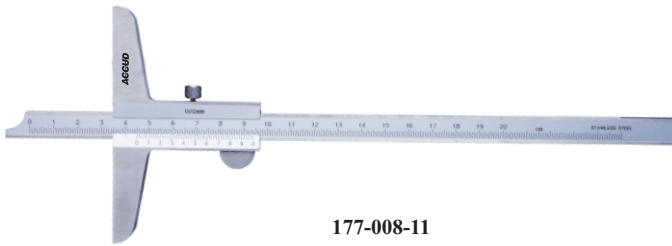
## DIGITAL DEPTH CALIPER



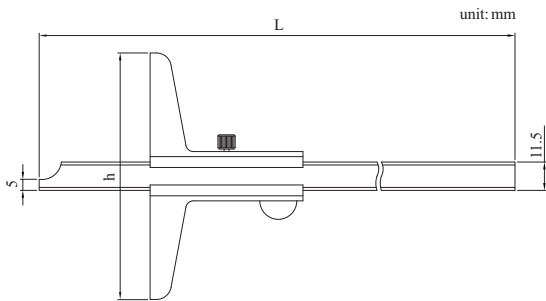
Code	Measuring Range	Accuracy
176-001-11	0-25mm/0-1"	±0.03mm

## VERNIER DEPTH CALIPER

## SERIES 177



177-008-11



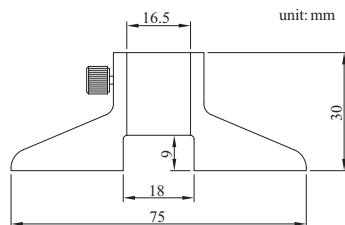
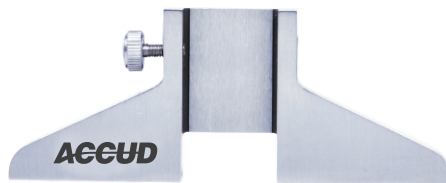
- ◆ Graduation: 0.02mm
- ◆ Made of stainless steel
- ◆ Satin chrome plated reading surface



L	h	Accuracy	Measuring Range	Code
245	100	±0.03mm	0-150mm/0-6"	177-006-11
282	100	±0.03mm	0-200mm/0-8"	177-008-11
382	100	±0.04mm	0-300mm/0-12"	177-012-11
585	150	±0.05mm	0-500mm/0-12"	177-020-11

## DEPTH ACCESSORY FOR CALIPER

## 179



- ◆ 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

Code

179-000-00

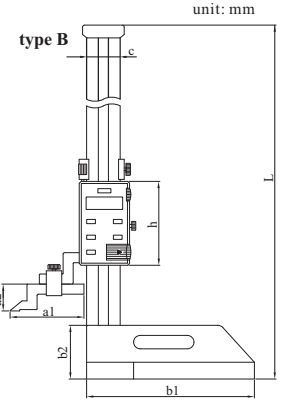
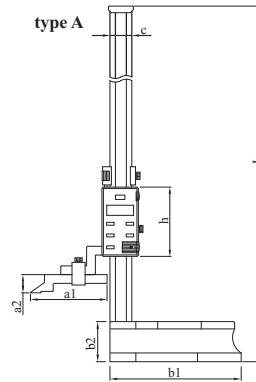
## SERIES 181

## 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
- ◆ With clamps (Ø8mm holder)



181-024-11



Code	Measuring 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
181-024-11	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

clamps



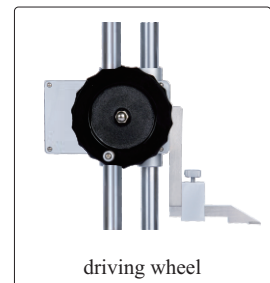
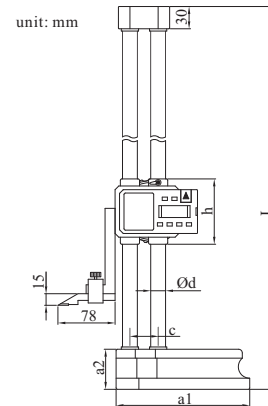
## SERIES 182

## DIGITAL HEIGHT GAGE

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



182-012-11



driving wheel

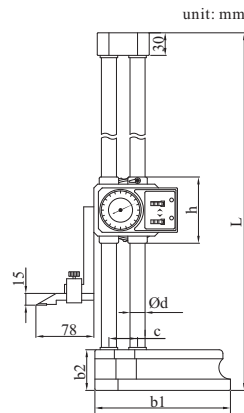
Code	Measuring Range	Accuracy	a1	a2	c	Ød	h	L
182-012-11	0-300mm/0-12"	±0.04mm	135	43	33	15	84	475
182-024-11	0-600mm/0-24"	±0.05mm	180	54	38	20	88	810

## DIAL HEIGHT GAGE

### SERIES 185



185-012-11

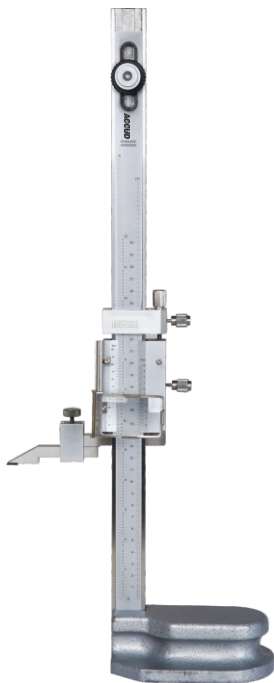


- ◆ Indicator graduation: 0.01 mm
- ◆ Carbide tipped scriber
- ◆ Made of stainless steel (except the base)
- ◆ With driving wheel
- ◆ Optional accessory: 267 serial clamps

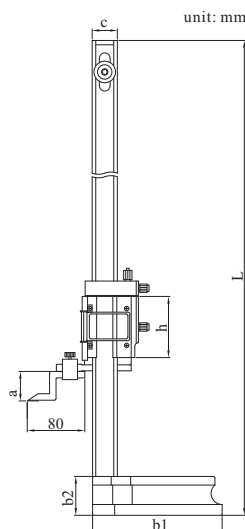
L	h	Ød	c	b2	b1	Accuracy	Measuring Range	Code
475	84	15	33	43	135	±0.04mm	0-300mm	185-012-11
810	88	20	38	54	180	±0.05mm	0-600mm	185-024-11

## VERNIER HEIGHT GAGE

### SERIES 186



186-012-11



- ◆ 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 serial clamps

L	h	c	b2	b1	a	Accuracy	Measuring Range	Code
545	75	28	43	135	30	±0.04mm	0-300mm/0-12"	186-012-11
870	85	35	54	180	41	±0.05mm	0-600mm/0-24"	186-024-11



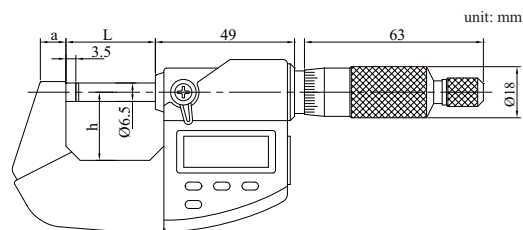
## SERIES 311

## IP54 DIGITAL OUTSIDE MICROMETER

- ◆ Resolution: 0.001mm/0.00005"
- ◆ IP54 dust/waterproof
- ◆ Button function: origin, mm/in, on/zero/abs, hold/data
- ◆ Automatic power off
- ◆ Carbide measuring faces
- ◆ Ratchet stop
- ◆ Setting standards are included (except 311-001-01)



311-001-01



Code	Measuring Range	Accuracy	a	h	L
311-001-01*	0-25mm/0-1"	±2μm	9	24	31.5
311-002-01*	25-50mm/1-2"	±2μm	8	32	57.5
311-003-01	50-75mm/2-3"	±3μm	8	44.5	82.5
311-004-01	75-100mm/3-4"	±3μm	8	57	107.5

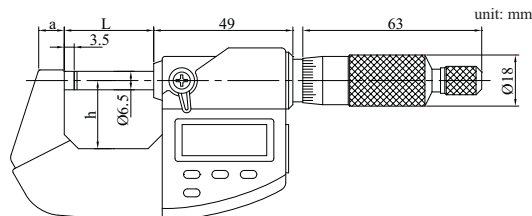
## SERIES 313

## IP65 DIGITAL OUTSIDE MICROMETER

- ◆ Absolute system
- ◆ Resolution: 0.001mm/0.00005"
- ◆ IP65 protection class
- ◆ Button function: origin, mm/inch, on/zero/abs, hold/data
- ◆ Automatic power off
- ◆ Carbide measuring faces
- ◆ Ratchet stop
- ◆ Setting standards are included (except 313-001-01)



313-001-01



Code	Measuring Range	Accuracy	a	h	L
313-001-01*	0-25mm/0-1"	±2μm	9	24	31.5
313-002-01*	25-50mm/1-2"	±2μm	8	32	57.5
313-003-01	50-75mm/2-3"	±3μm	8	44.5	82.5
313-004-01	75-100mm/3-4"	±3μm	8	57	107.5



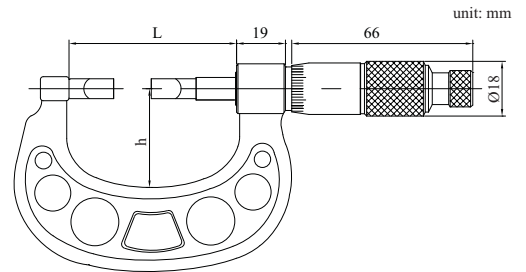
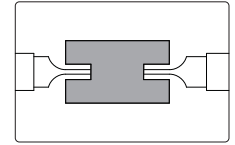
## SERIES 326

## BLADE MICROMETER

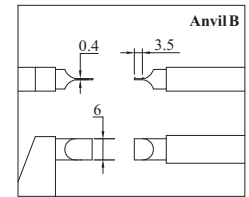
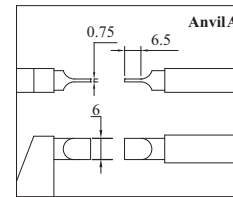
- ◆ Measure the small groove diameter
- ◆ Graduation: 0.01mm
- ◆ Non-rotating spindle
- ◆ Ratchet stop
- ◆ Setting standards are included (except 0-25mm)



326-001-01



Code	Measuring Range	Anvil	Accuracy	h	L
326-001-01	0-25mm	A	4μm	32	57
326-002-01	25-50mm	A	4μm	44.5	82
326-003-01	50-75mm	A	5μm	57	107
326-004-01	75-100mm	A	5μm	69.5	132.6
326-005-01	100-125mm	A	6μm	82	158
326-006-01	125-150mm	A	6μm	94.5	183.4
326-007-01	150-175mm	A	7μm	107	208.8
326-001-02	0-25mm	B	4μm	32	57
326-002-02	25-50mm	B	4μm	44.5	82



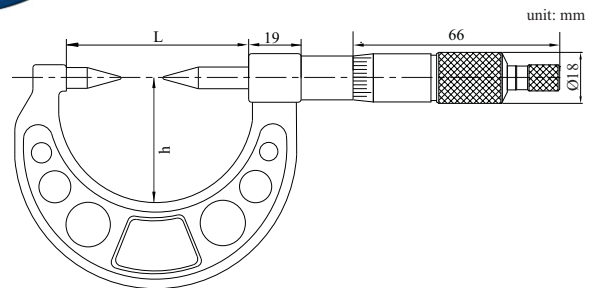
## SERIES 327

## POINT MICROMETER

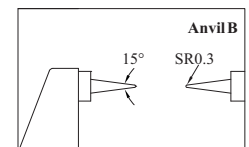
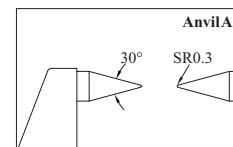
- ◆ Measure the thickness of drills, small grooves and keyways
- ◆ Graduation: 0.01mm
- ◆ Ratchet stop
- ◆ Carbide measuring faces
- ◆ Setting standards are included (except 0-25mm)



327-001-01



Code	Measuring Range	Anvil	Accuracy	h	L
327-001-01	0-25mm	A	4μm	32	57
327-002-01	25-50mm	A	4μm	44.5	82
327-003-01	50-75mm	A	5μm	57	107
327-004-01	75-100mm	A	5μm	69.5	132.6
327-001-02	0-25mm	B	4μm	32	57
327-002-02	25-50mm	B	4μm	44.5	82
327-003-02	50-75mm	B	5μm	57	107
327-004-02	75-100mm	B	5μm	69.5	132.6



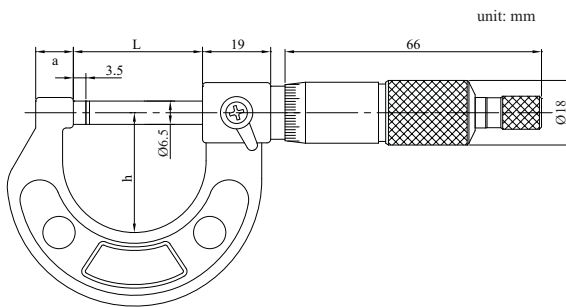
## OUTSIDE MICROMETER

## SERIES 321



321-001-01

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



L	h	a	Accuracy	Measuring Range	Code
36	33.4	10.5	4μm	0-25mm	321-001-01*
57	38	14	4μm	25-50mm	321-002-01*
82	49	15	5μm	50-75mm	321-003-01
107	60	15	5μm	75-100mm	321-004-01
133	73	16.5	6μm	100-125mm	321-005-01
158	85	16.5	6μm	125-150mm	321-006-01
183	104	19.4	7μm	150-175mm	321-007-01
209	117	19.4	7μm	175-200mm	321-008-01
234	130	19.4	8μm	200-225mm	321-009-01
260	142	19.4	8μm	225-250mm	321-010-01
285	155	19.4	9μm	250-275mm	321-011-01
310	168	19.4	9μm	275-300mm	321-012-01



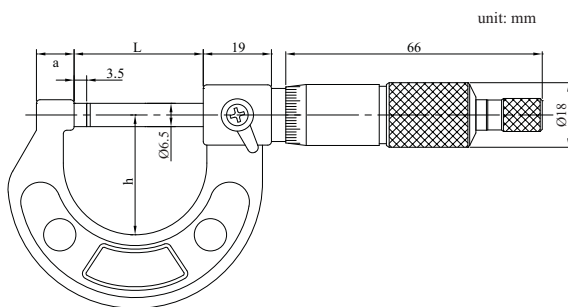
## MICRO GRADUATION OUTSIDE MICROMETER

## SERIES 322



322-001-01

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



L	h	a	Accuracy	Measuring Range	Code
36	33.4	10.5	4μm	0-25mm	322-001-01
57	38	14	4μm	25-50mm	322-002-01
82	49	15	5μm	50-75mm	322-003-01
107	60	15	5μm	75-100mm	322-004-01

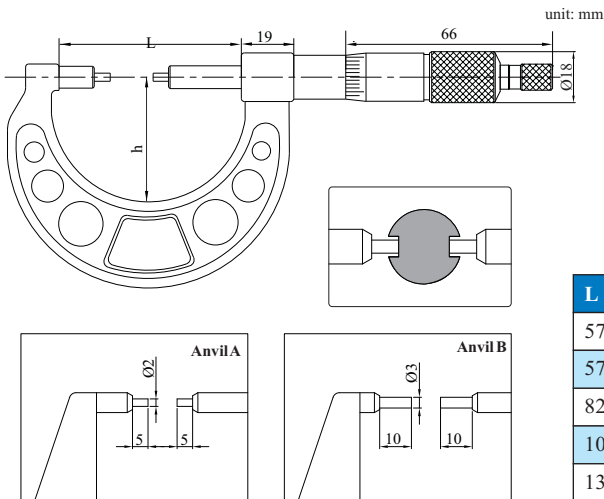
## SPLINE MICROMETER

## SERIES 328



328-001-01

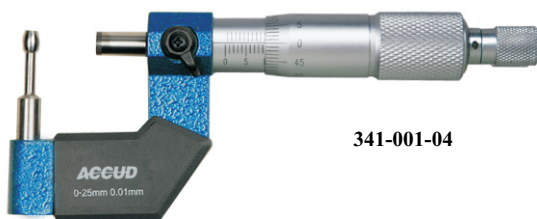
- ◆ Measure grooves and sharped parts
- ◆ Graduation: 0.01mm
- ◆ Carbide measuring faces
- ◆ Ratchet stop
- ◆ Setting standards are included (except 0-25mm)



L	h	Accuracy	Anvil	Measuring Range	Code
57	32	4μm	A	0-25mm	328-001-02
57	32	4μm	B	0-25mm	328-001-01
82	44.5	4μm	B	25-50mm	328-002-01
107	57	5μm	B	50-75mm	328-003-01
132.6	69.5	5μm	B	75-100mm	328-004-01

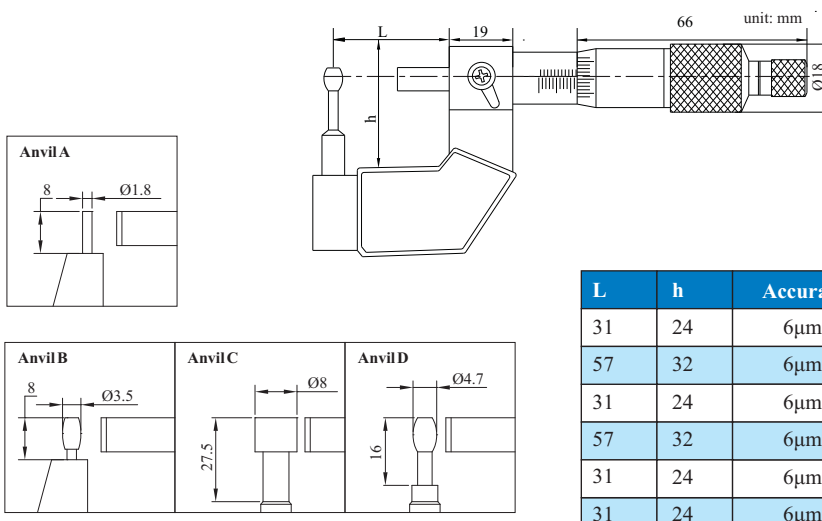
## TUBE MICROMETER

## SERIES 341



341-001-04

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



L	h	Accuracy	Anvil	Measuring Range	Code
31	24	6μm	A	0-25mm	341-001-01
57	32	6μm	A	25-50mm	341-002-01
31	24	6μm	B	0-25mm	341-001-02
57	32	6μm	B	25-50mm	341-002-02
31	24	6μm	C	0-25mm	341-001-03
31	24	6μm	D	0-25mm	341-001-04



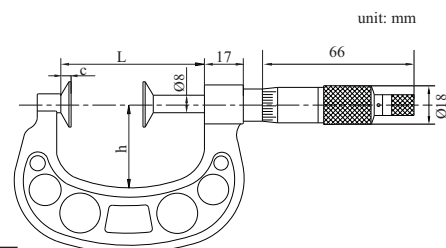
## SERIES 342

## DISK MICROMETER

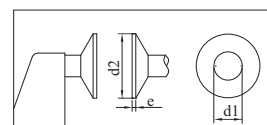
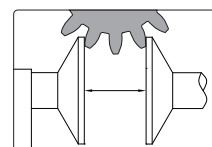
- ◆ Disc-shaped measuring face, for measuring the root-tangent length of spur and helical gears
- ◆ Graduation: 0.01mm
- ◆ Ratchet stop
- ◆ Setting standards are included (except 342-001-01)



342-001-01



unit: mm

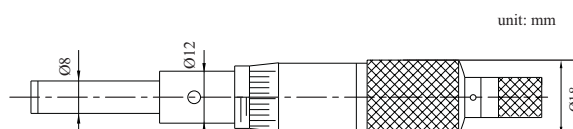


Code	Measuring Range	Accuracy	L	d1	d2	e	h	c
342-001-01	0-25mm	4μm	34	Ø8	Ø20	0.7	24	3.3
342-002-01	25-50mm	4μm	59	Ø8	Ø20	0.7	32	3.3
342-003-01	50-75mm	5μm	85	Ø8	Ø20	0.7	45	3.3
342-004-01	75-100mm	5μm	110	Ø8	Ø20	0.7	57	3.3
342-005-01	100-125mm	6μm	138	Ø12	Ø30	0.9	70	4.3
342-006-01	125-150mm	6μm	163	Ø12	Ø30	0.9	82	4.3
342-007-01	150-175mm	7μm	188	Ø12	Ø30	0.9	95	4.3
342-008-01	175-200mm	7μm	214	Ø12	Ø30	0.9	107	4.3

## 371

## MICROMETER HEAD

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

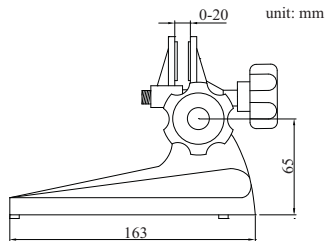


unit: mm

Code	Measuring Range	Accuracy
371-001-01	0-25mm	3μm

## MICROMETER STAND

### 381



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

Code

381-000-00

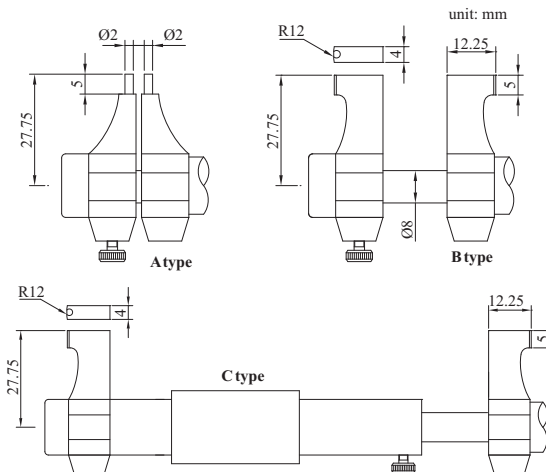
## INSIDE MICROMETER

### SERIES 351



351-001-01

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



Accuracy	Setting Ring	Anvil	Measuring Range	Code
5μm	included(5mm)	A	5-30mm	351-001-01
6μm	included(25mm)	B	25-50mm	351-002-01
7μm	optional	B	50-75mm	351-003-01
8μm	optional	C	75-100mm	351-004-01
9μm	optional	C	100-125mm	351-005-01
9μm	optional	C	125-150mm	351-006-01



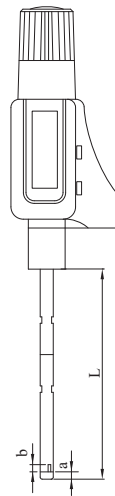
## SERIES 361

## DIGITAL THREE POINTS INSIDE MICROMETER

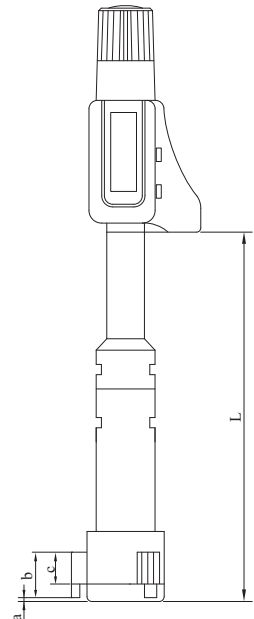
- ◆ Resolution: 0.001mm/0.00005"
- ◆ IP54 dust/waterproof
- ◆ Button function: origin, mm/in, on/zero/abs, hold/data
- ◆ Automatic power off
- ◆ Data output
- ◆ Ratchet stop
- ◆ Carbide measuring faces(over 12mm serials)
- ◆ Setting rings and extension rod are included



361-003-01

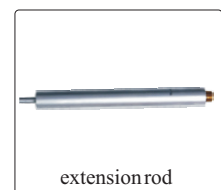
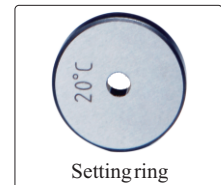


Range 6-12mm



Range 12-100mm

Code	Measuring Range	Accuracy	Setting Ring	Extension rod	a	b	c	L
361-001-01	6-8mm/0.24-0.31"	4μm	Ø6mm	100mm	1.5	2.5	/	54.5
361-002-01	8-10mm/0.31-0.4"	4μm	Ø8mm	100mm	1.5	2.5	/	54.5
361-003-01	10-12mm/0.4-0.47"	4μm	Ø10mm	100mm	1.5	2.5	/	54.5
361-004-01	12-16mm/0.47-0.63"	4μm	Ø16mm	150mm	0.5	6	4.5	80
361-005-01	16-20mm/0.63-0.8"	4μm	Ø16mm	150mm	0.5	6	4.5	80
361-006-01	20-25mm/0.8-1"	4μm	Ø25mm	150mm	0.5	8	6	90
361-007-01	25-30mm/1-1.2"	4μm	Ø25mm	150mm	0.5	8	6	90
361-008-01	30-40mm/1.2-1.6"	4μm	Ø40mm	150mm	0.5	14	12	97
361-009-01	40-50mm/1.6-8"	5μm	Ø40mm	150mm	0.5	14	12	97
361-010-01	50-63mm/2-2.5"	5μm	Ø62mm	150mm	0.5	17.5	14.5	114
361-011-01	62-75mm/2.5-3"	5μm	Ø62mm	150mm	0.5	17.5	14.5	114
361-012-01	75-88mm/3-3.5"	5μm	Ø87mm	150mm	0.5	17.5	14.5	114
361-013-01	87-100mm/3.5-4"	5μm	Ø87mm	150mm	0.5	17.5	14.5	114



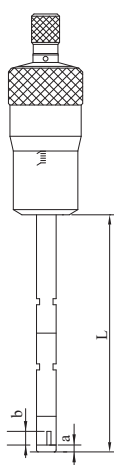
## THREE POINTS INSIDE MICROMETER

## SERIES 362

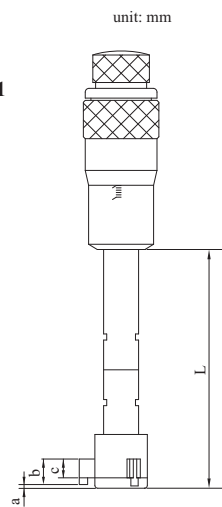
- ◆ 6-12mm graduation: 0.001mm
- Steel measuring faces
- 12-100mm graduation: 0.005mm
- Carbide measuring faces
- ◆ Ratchet stop
- ◆ Setting rings and extension rod are included



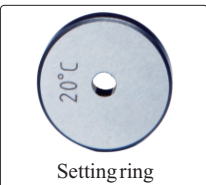
362-004-01



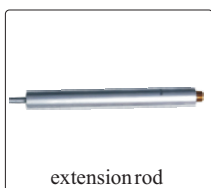
Range 6-12mm



Range 12-100mm



Setting ring



extension rod

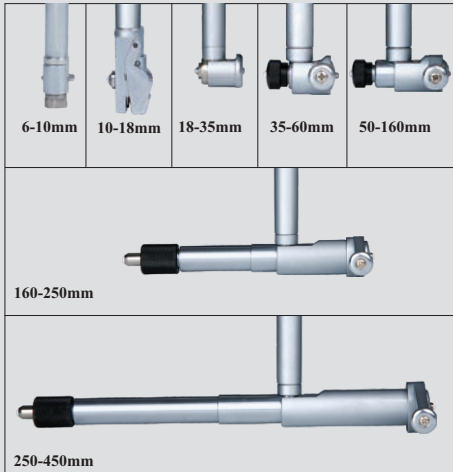
L	c	b	a	Extension Rod	Setting Ring	Accuracy	Measuring Range	Code
54.5	/	2.5	1.5	100mm	Ø6mm	4µm	6-8mm	362-001-01
54.5	/	2.5	1.5	100mm	Ø8mm	4µm	8-10mm	362-002-01
54.5	/	2.5	1.5	100mm	Ø10mm	4µm	10-12mm	362-003-01
80	4.5	6	0.5	150mm	Ø16mm	4µm	12-16mm	362-004-01
80	4.5	6	0.5	150mm	Ø16mm	4µm	16-20mm	362-005-01
90	6	8	0.5	150mm	Ø25mm	4µm	20-25mm	362-006-01
90	6	8	0.5	150mm	Ø25mm	4µm	25-30mm	362-007-01
97	12	14	0.5	150mm	Ø40mm	4µm	30-40mm	362-008-01
97	12	14	0.5	150mm	Ø40mm	5µm	40-50mm	362-009-01
114	14.5	17.5	0.5	150mm	Ø62mm	5µm	50-63mm	362-010-01
114	14.5	17.5	0.5	150mm	Ø62mm	5µm	62-75mm	362-011-01
114	14.5	17.5	0.5	150mm	Ø87mm	5µm	75-88mm	362-012-01
114	14.5	17.5	0.5	150mm	Ø87mm	5µm	87-100mm	362-013-01



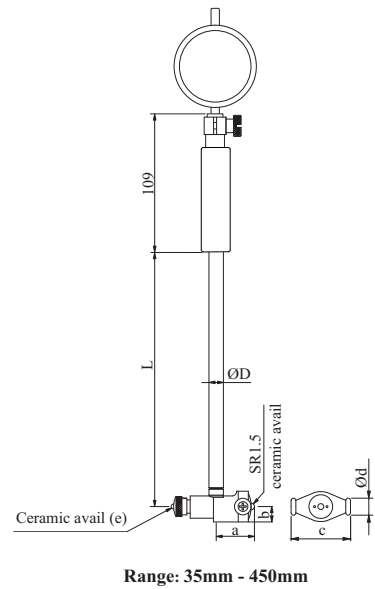
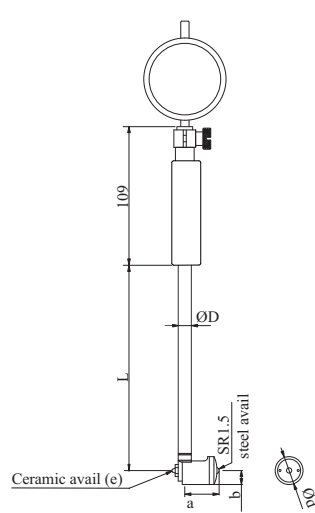
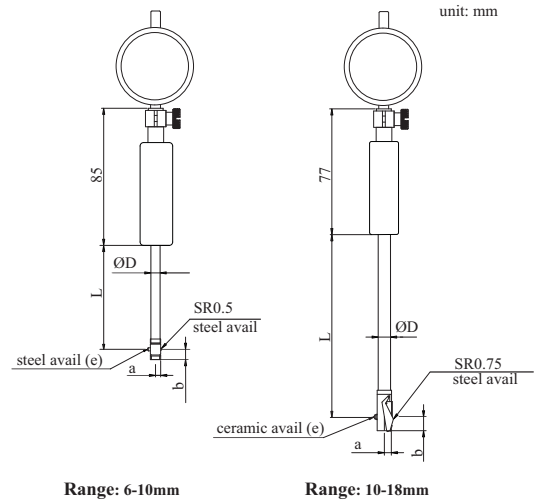
## SERIES 251

## DIAL BORE GAUGE

- ◆ Wooden handle isolate heat conduction
- ◆ Optional accessory: serials 531 setting rings



251-035-11



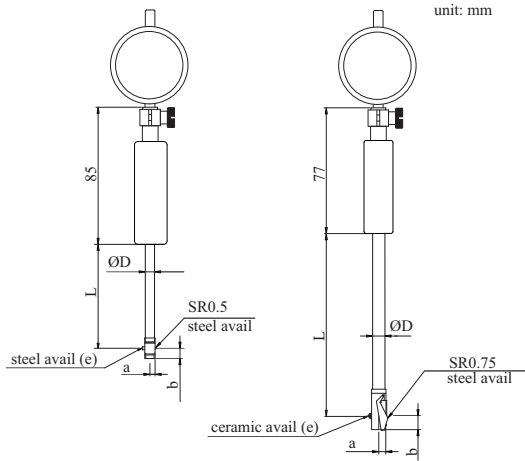
Code	Range	Dial indicator	Accuracy	Repeatability	a	b	c	Ød	ØD	e	L
251-010-11	6-10mm	Range: 3mm graduation: 0.01mm	±0.015mm	3µm	3.6	5.7	/	/	4.5	SR1	48
251-018-11	10-18mm		±0.015mm	3µm	5.6	7.8	/	/	6	SR1	105
251-035-11	18-35mm	Range: 10mm graduation: 0.01mm	±0.015mm	3µm	12.2	6.4	/	12.7	9	SR1	141
251-060-11	35-60mm		±0.018mm	3µm	12.2	6.4	27	13	12.8	SR2	141
251-100-11	50-100mm		±0.018mm	3µm	26	9	27	13	12.8	SR2	141
251-160-11	50-160mm		±0.018mm	3µm	26	9	35	13	12.8	SR2	141
251-160-12	100-160mm		±0.018mm	3µm	26	9	35	13	12.8	SR2	141
251-250-11	160-250mm		±0.018mm	3µm	56.5	13	74.5	15	12.8	SR2	241
251-450-11	250-450mm		±0.018mm	3µm	86.5	15	101.5	15	14.5	SR2.5	241



## DIGITAL BORE GAUGE

## SERIES 241

- ◆ Wooden handle isolate heat conduction
- ◆ With Min. value tracking function, get the diameter automatically
- ◆ Optional accessory: series 531 setting rings

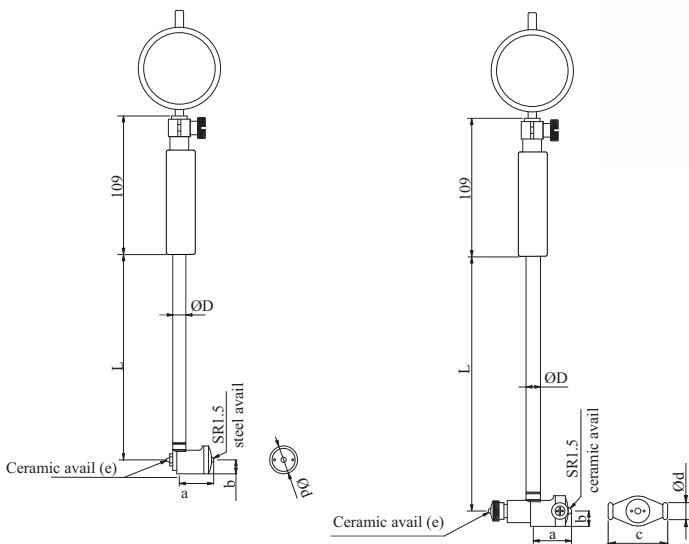


Range: 6-10mm

Range: 10-18mm

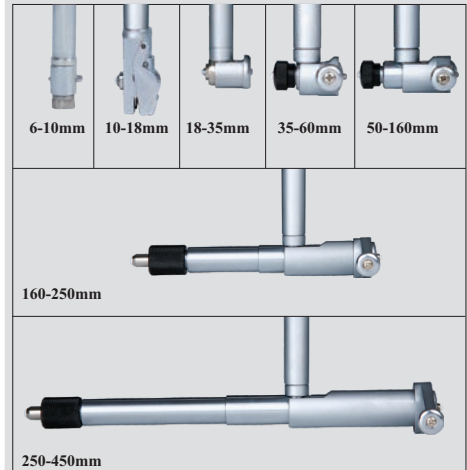


241-035-11



Range: 18-35mm

Range: 35mm - 450mm



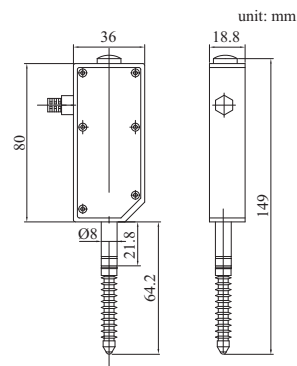
L	e	ØD	Ød	c	b	a	Repeatability	Accuracy	Digital indicator	Range	Code
48	SR1	4.5	/	/	5.7	3.6	3µm	±0.012mm	Range: 12.7mm graduation: 0.002mm	6-10mm	241-010-11
105	SR1	6	/	/	7.8	5.6	3µm	±0.012mm		10-18mm	241-018-11
141	SR1	9	12.7	/	6.4	12.2	3µm	±0.015mm		18-35mm	241-035-11
141	SR2	12.8	13	27	6.4	12.2	3µm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



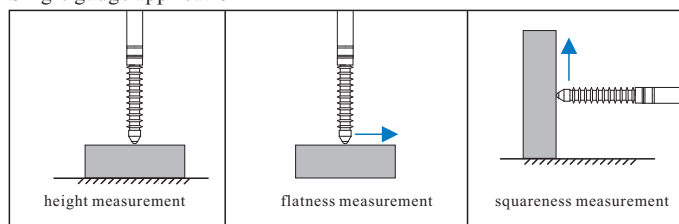
## SERIES 201

## LINEAR GAGES

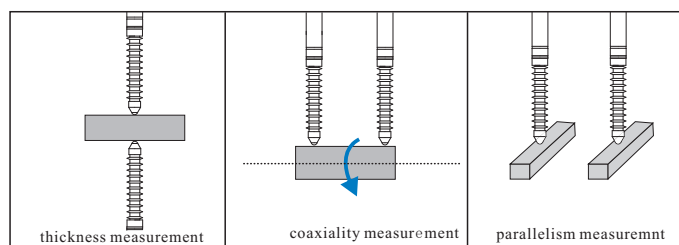
- ◆ Suitable for measuring the height, thickness, squareness, coaxiality and so on.
- ◆ IP65 protection class
- ◆ High frequency: 100times/s, can measure high speed workpiece
- ◆ Output signal: 90° phase difference wave
- ◆ Standard cable length: 2m
- ◆ Long working life due to the special bearing



### Single gauge application



### Multi-gauges application



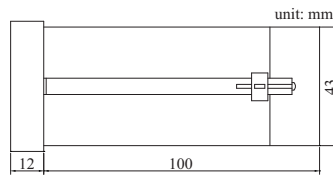
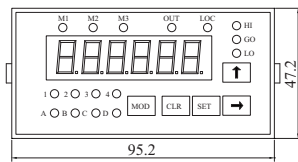
Code	Resolution	Interface	Range	Measuring Force	Stem	Accuracy	Hysteresis
201-010-11	0.01mm	Pin4	0-12.7mm	1.5N	Ø8mm	20µm	10µm
201-010-12	0.01mm	RS232	0-12.7mm	1.5N	Ø8mm	20µm	10µm
201-010-01	0.001mm	Pin4	0-12.7mm	1.5N	Ø8mm	5µm	2µm
201-010-02	0.001mm	RS232	0-12.7mm	1.5N	Ø8mm	5µm	2µm

## DISPLAY UNIT FOR LINEAR GAGES

206



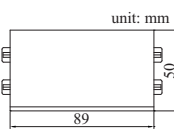
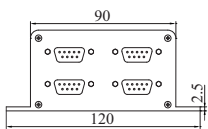
- ◆ Tolerance set with judgement
- ◆ With external control
- ◆ With output I/O
- ◆ Power: DC9-24V



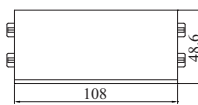
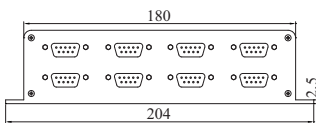
Gage Input	Interface	Code
1	Pin4	206-010-01

## COUNTER FOR LINEAR GAGES

SERIES 208

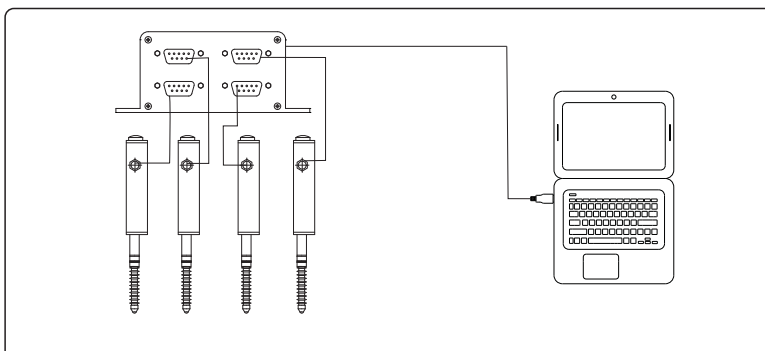


208-004-01



208-008-01

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



Interface	Gages Input	Code
RS232/485	4	208-004-01
RS232/485	8	208-008-01



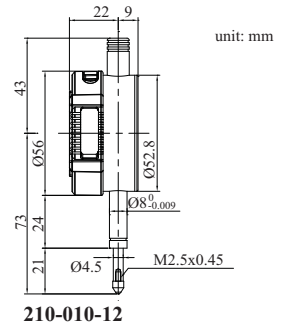
## SERIES 210

## DIGITAL INDICATOR

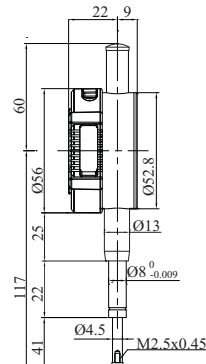
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Button: tolerance set, data preset, inch/mm conversion, measuring direction set, max./min./range measurement, absolute/incremental measurement
- ◆ Data output



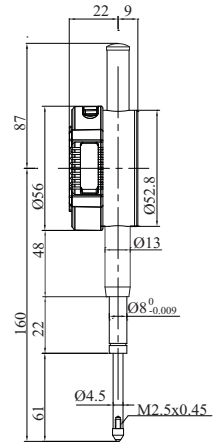
210-010-12



210-010-12



210-025-12



210-050-12

Code	Measuring Range	Back	Accuracy	Hysteresis
210-010-11*	12.7mm/0.5"	lug	20μm	20μm
210-025-11*	25.4mm/1"	lug	20μm	20μm
210-050-11*	50.8mm/2"	lug	30μm	30μm
210-010-12*	12.7mm/0.5"	flat	20μm	20μm
210-025-12*	25.4mm/1"	flat	20μm	20μm
210-050-12*	50.8mm/2"	flat	30μm	30μm

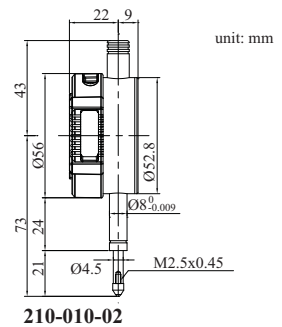
## SERIES 210

## DIGITAL INDICATOR

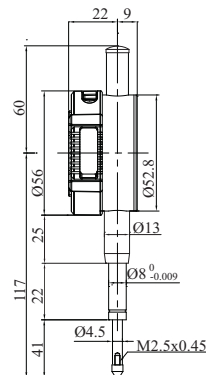
- ◆ Resolution: 0.001mm/0.00005"
- ◆ Button: tolerance set, data preset, inch/mm conversion, measuring direction set, max./min./range measurement, absolute/incremental measurement
- ◆ Data output



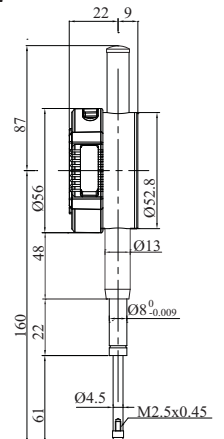
210-010-02



210-010-02



210-025-02



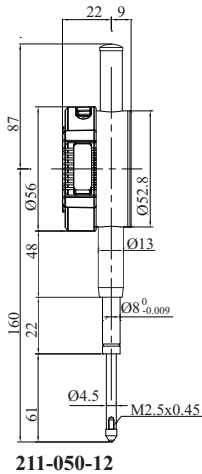
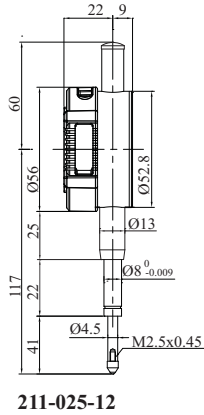
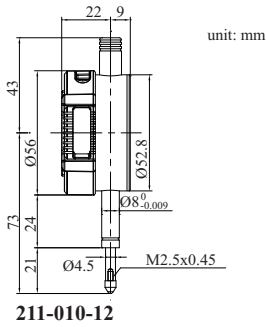
210-050-02

Code	Measuring Range	Back	Accuracy	Hysteresis
210-010-01*	12.7mm/0.5"	lug	5μm	2μm
210-025-01*	25.4mm/1"	lug	5μm	3μm
210-050-01*	50.8mm/2"	lug	6μm	3μm
210-010-02*	12.7mm/0.5"	flat	5μm	2μm
210-025-02*	25.4mm/1"	flat	5μm	3μm
210-050-02*	50.8mm/2"	flat	6μm	3μm

## DIGITAL INDICATOR

## SERIES 211

- ◆ With analog reading
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Button: tolerance set, data preset, inch/mm conversion, measuring direction set, max./min./range measurement, absolute/incremental measurement
- ◆ Data output

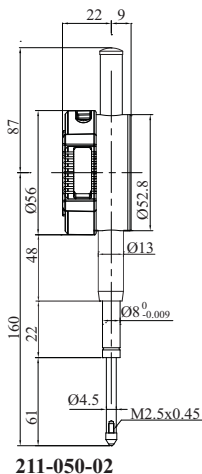
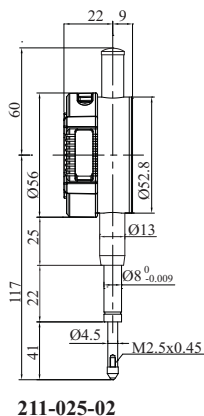
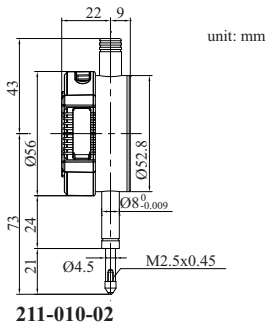


Hysteresis	Accuracy	Back	Measuring Range	Code
20µm	20µm	lug	12.7mm/0.5"	<b>211-010-11*</b>
20µm	20µm	lug	25.4mm/1"	<b>211-025-11*</b>
30µm	30µm	lug	50.8mm/2"	<b>211-050-11*</b>
20µm	20µm	flat	12.7mm/0.5"	<b>211-010-12*</b>
20µm	20µm	flat	25.4mm/1"	<b>211-025-12*</b>
30µm	30µm	flat	50.8mm/2"	<b>211-050-12*</b>

## DIGITAL INDICATOR

## SERIES 211

- ◆ With analog reading
- ◆ Resolution: 0.001mm/0.00005"
- ◆ Button: tolerance set, data preset, inch/mm conversion, measuring direction set, max./min./range measurement, absolute/incremental measurement
- ◆ Data output



Hysteresis	Accuracy	Back	Measuring Range	Code
2µm	5µm	lug	12.7mm/0.5"	<b>211-010-01*</b>
3µm	5µm	lug	25.4mm/1"	<b>211-025-01*</b>
3µm	6µm	lug	50.8mm/2"	<b>211-050-01*</b>
2µm	5µm	flat	12.7mm/0.5"	<b>211-010-02*</b>
3µm	5µm	flat	25.4mm/1"	<b>211-025-02*</b>
3µm	6µm	flat	50.8mm/2"	<b>211-050-02*</b>



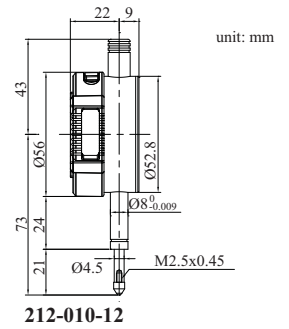
## SERIES 211

## DIGITAL INDICATOR

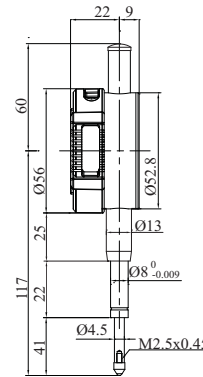
- ◆ Resolution: 0.01mm/0.0005"
- ◆ Button: on/off, zero, inch/mm conversion, measuring direction set, data preset absolute/incremental measurement
- ◆ Data output



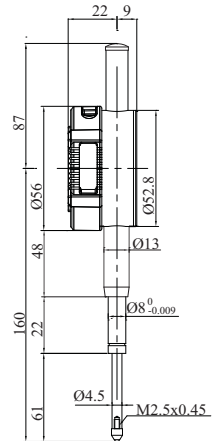
212-010-12



212-010-12



212-025-12



212-050-12

Code	Measuring Range	Back	Accuracy	Hysteresis
212-010-11*	12.7mm/0.5"	lug	20μm	20μm
212-025-11*	25.4mm/1"	lug	20μm	20μm
212-050-11*	50.8mm/2"	lug	30μm	30μm
212-010-12*	12.7mm/0.5"	flat	20μm	20μm
212-025-12*	25.4mm/1"	flat	20μm	20μm
212-050-12*	50.8mm/2"	flat	30μm	30μm

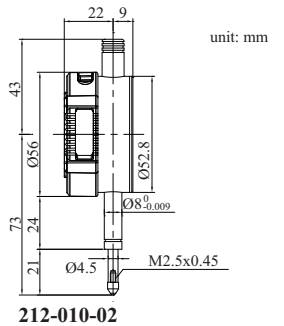
## SERIES 211

## DIGITAL INDICATOR

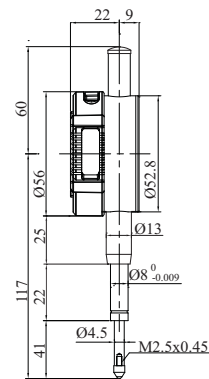
- ◆ Resolution: 0.001mm/0.00005"
- ◆ Button: on/off, zero, inch/mm conversion, measuring direction set, data preset absolute/incremental measurement
- ◆ Data output



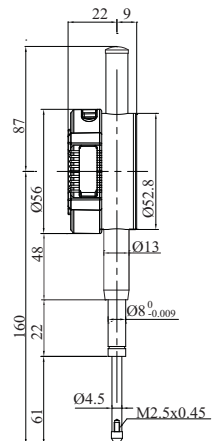
212-010-02



212-010-02



212-025-02



212-050-02

Code	Measuring Range	Back	Accuracy	Hysteresis
212-010-01*	12.7mm/0.5"	lug	5μm	2μm
212-025-01*	25.4mm/1"	lug	5μm	3μm
212-050-01*	50.8mm/2"	lug	6μm	3μm
212-010-02*	12.7mm/0.5"	flat	5μm	2μm
212-025-02*	25.4mm/1"	flat	5μm	3μm
212-050-02*	50.8mm/2"	flat	6μm	3μm

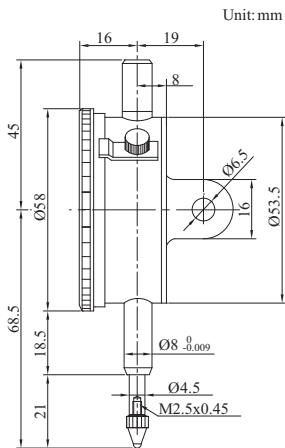
## DIAL INDICATOR

## SERIES 222



222-010-11

- ◆ Graduation: 0.01mm
- ◆ With limit hands
- ◆ Jeweled bearing
- ◆ Rang per revolution: 1mm



Hysteresis	Scale	Accuracy	Back	Measuring Range	Code
3μm	0-100	14μm	lug	3mm	222-003-11
3μm	0-100	16μm	lug	5mm	222-005-11
3μm	0-100	20μm	lug	10mm	222-010-11
3μm	0-100	14μm	flat	3mm	222-003-12
3μm	0-100	16μm	flat	5mm	222-005-12
3μm	0-100	20μm	flat	10mm	222-010-12

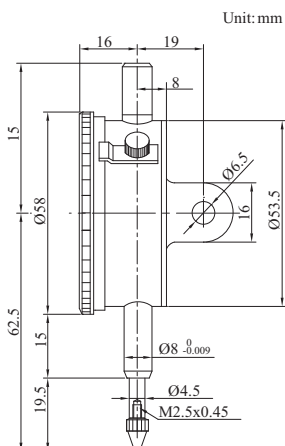
## DIAL INDICATOR

## SERIES 222



222-001-01

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



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



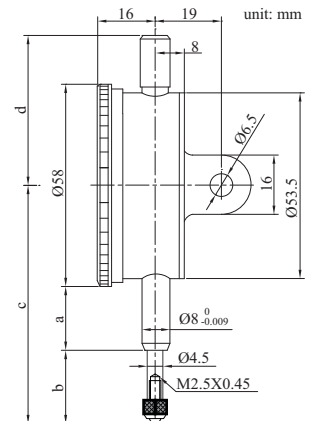
## SERIES 221

## DIAL INDICATOR

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



221-001-01



Code	Measuring Range	Back	Scale	Accuracy	Hysteresis	a	b	c	d
221-001-01	1mm	lug	0-100-0	5 $\mu$ m	2 $\mu$ m	15	19.5	62.5	45
221-003-01	3mm	lug	0-100-0	10 $\mu$ m	4 $\mu$ m	10	21.5	59.5	41.5
221-005-01	5mm	lug	0-100-0	10 $\mu$ m	4 $\mu$ m	10	21.5	59.5	41.5
221-001-02	1mm	flat	0-100-0	5 $\mu$ m	2 $\mu$ m	15	19.5	62.5	45
221-003-02	3mm	flat	0-100-0	10 $\mu$ m	4 $\mu$ m	10	21.5	59.5	41.5
221-005-02	5mm	flat	0-100-0	10 $\mu$ m	4 $\mu$ m	10	21.5	59.5	41.5

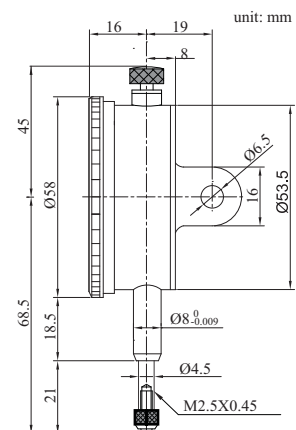
## SERIES 226

## SHOCKPROOF DIAL INDICATOR

- ◆ Shockproof
- ◆ Graduation: 0.01mm
- ◆ With limit hands
- ◆ Jeweled bearing
- ◆ Rang per revolution: 1mm



226-010-11

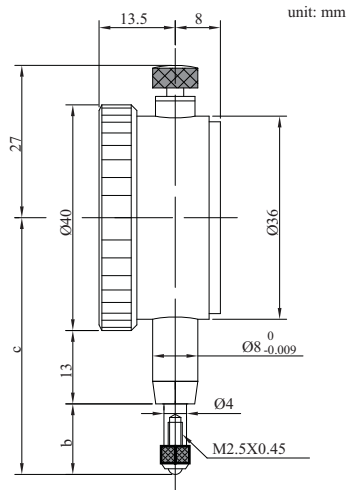


Code	Measuring Range	Back	Accuracy	Hysteresis	Scale
226-003-11	3mm	lug	14 $\mu$ m	3 $\mu$ m	0-100
226-005-11	5mm	lug	16 $\mu$ m	3 $\mu$ m	0-100
226-010-11	10mm	lug	20 $\mu$ m	3 $\mu$ m	0-100
226-003-12	3mm	flat	14 $\mu$ m	3 $\mu$ m	0-100
226-005-12	5mm	flat	16 $\mu$ m	3 $\mu$ m	0-100
226-010-12	10mm	flat	20 $\mu$ m	3 $\mu$ m	0-100



## DIAL INDICATOR

## SERIES 228



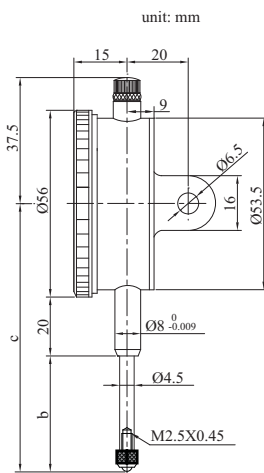
228-005-12

- ◆ Bezel: Ø40mm
- ◆ Graduation: 0.01mm
- ◆ With limit hands
- ◆ Jeweled bearing
- ◆ Rang per revolution: 1mm

b	c	Scale	Hysteresis	Accuracy	Back	Measuring Range	Code
11mm	44mm	0-100	3µm	14µm	lug	3mm	228-003-11
12.5mm	45.5mm	0-100	3µm	16µm	lug	5mm	228-005-11
11mm	44mm	0-100	3µm	14µm	flat	3mm	228-003-12
12.5mm	45.5mm	0-100	3µm	16µm	flat	5mm	228-005-12

## DIAL INDICATOR

## SERIES 229



229-030-12

- ◆ Graduation: 0.01mm
- ◆ With limit hands
- ◆ Rang per revolution: 1mm

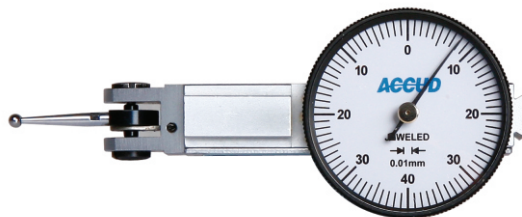
b	c	Scale	Hysteresis	Accuracy	Back	Measuring Range	Code
83mm	35mm	0-100	5µm	25µm	lug	20mm	229-020-11
88mm	40mm	0-100	7µm	35µm	lug	30mm	229-030-11
83mm	35mm	0-100	5µm	25µm	flat	20mm	229-020-12
88mm	40mm	0-100	7µm	35µm	flat	30mm	229-030-12



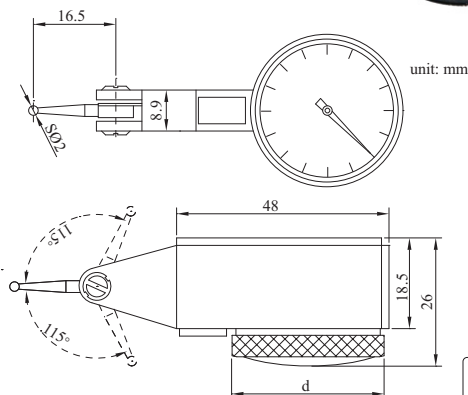
## SERIES 261

- ◆ Graduation: 0.01mm
- ◆ Jeweled bearing
- ◆ Carbide stylus
- ◆ Double scale spacing
- ◆ Anti-magnetic copper body
- ◆ With two clamps: Ø4mm and Ø8mm
- ◆ Optional accessory: styli

## DIAL TEST INDICATOR

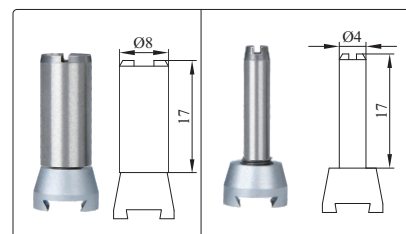


261-008-11



unit: mm

Clamp



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

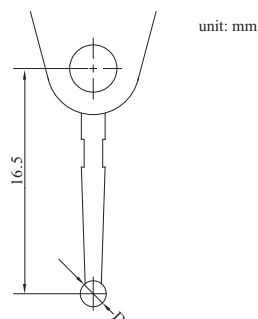
## SERIES 260

- ◆ For serials 261

## STYLI FOR DIAL TEST INDICATOR



260-002-02



unit: mm

Code	Tip Material	D(mm)
260-001-01	steel	SØ1
260-002-02	carbide	SØ2
260-003-02	carbide	SØ3

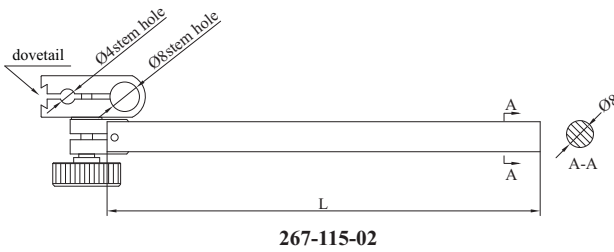
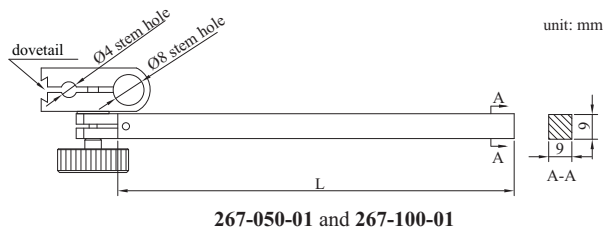
## HOLDER FOR INDICATOR

### SERIES 267

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



267-115-02

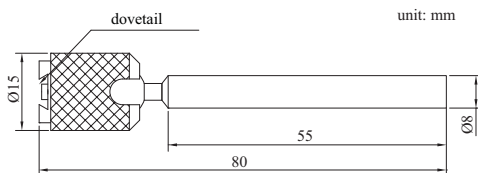


Size(L)	Section Size	Code
50mm	9x9mm	267-050-01
100mm	9x9mm	267-100-01
115mm	Ø8mm	267-115-02

## UNIVERSAL HOLDER FOR DIAL TEST INDICATOR

### 268

- ◆ Set the indicator at any direction



Size(L)	Section Size	Code
55mm	Ø8mm	268-055-01



## SERIES 281

## MAGNETIC STAND

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

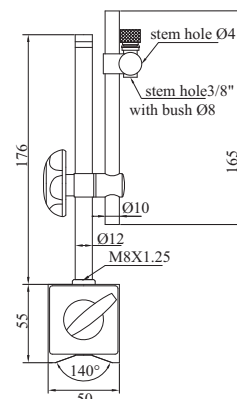


281-060-02

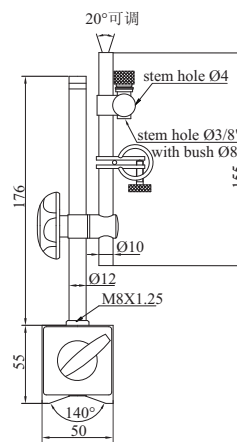


281-060-01

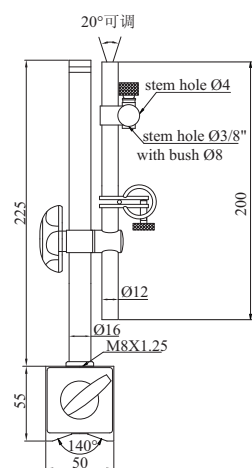
unit: mm



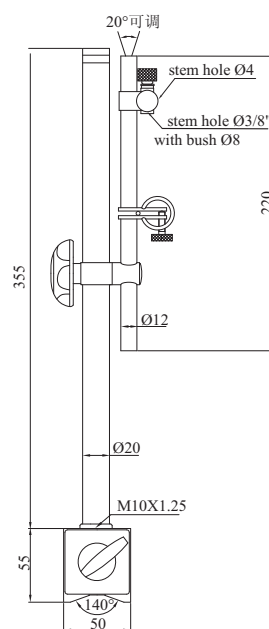
281-060-02



281-060-01



281-080-01



281-100-01

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

## UNIVERSAL MAGNETIC STAND

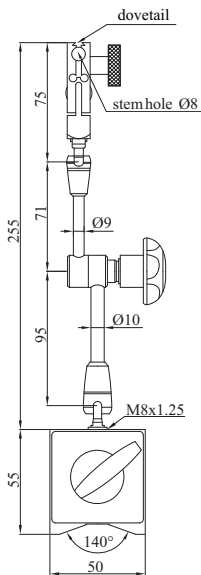
## SERIES 282



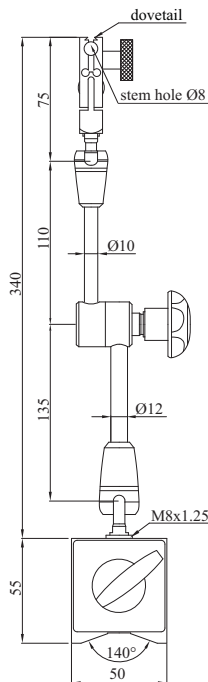
282-080-01

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

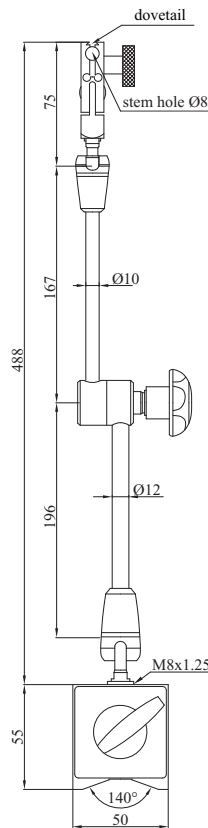
unit: mm



282-080-01



282-080-02



282-100-01

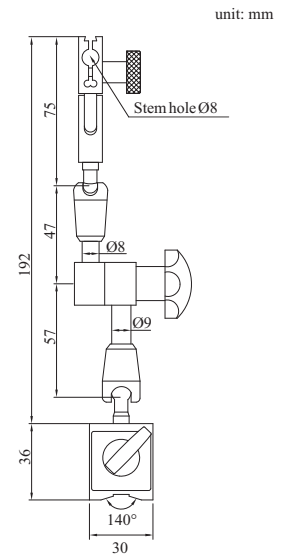
Magnetic Force	Code
80kgf	282-080-01
80kgf	282-080-02
100kgf	282-100-01



## 286

## MINI MAGNETIC STAND

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

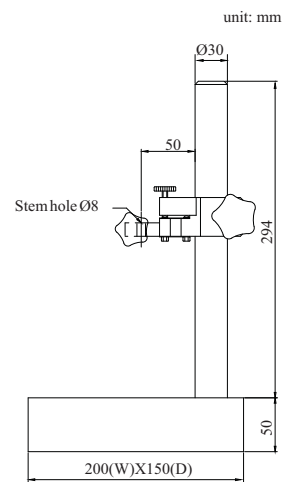


Code	Magnetic Force	Stem Hole
286-040-01	40kgf	Ø8mm

## 289

## INDICATOR STAND WITH GRANITE BASE

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



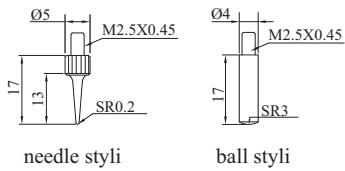
Code	Stem Hole	Base Flatness
289-008-01	Ø8mm	3.2µm

## DIAL DEPTH INDICATOR

## SERIES 291

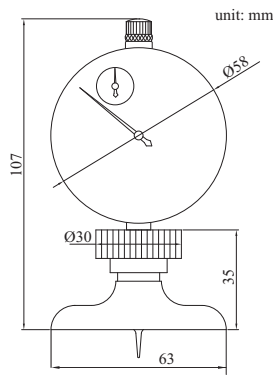


291-010-12

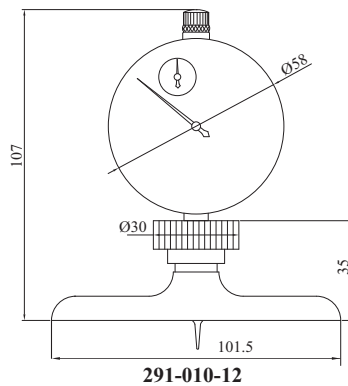


needle styli

ball styli



291-010-11



291-010-12

- ◆ Graduation: 0.01mm
- ◆ Indicator travel: 10mm
- ◆ Accuracy:  $\pm 0.017$ mm
- ◆ Stainless steel base
- ◆ With needle and ball styli

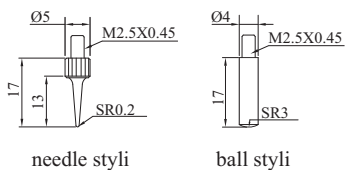
Base	Measuring Range	Code
63x17mm	0-10mm	291-010-11
101.5x17mm	0-10mm	291-010-12

## DIAL DEPTH INDICATOR

## SERIES 292

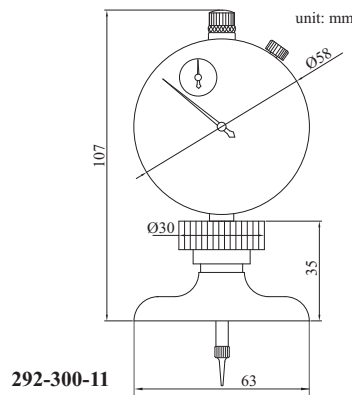


292-300-12

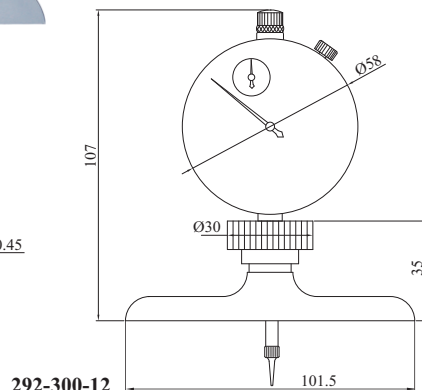


needle styli

ball styli



292-300-11



292-300-12

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

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



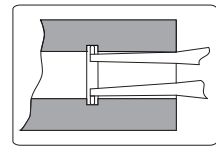
## SERIES 411

## INTERNAL SNAP GAUGE

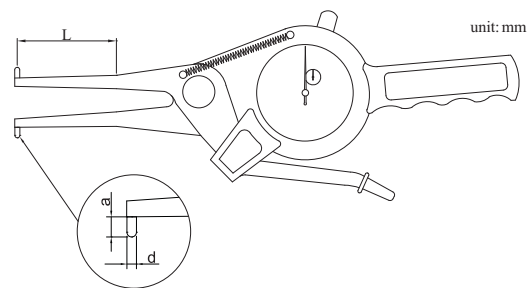
- ◆ Measure the thickness of internal dimension
- ◆ Graduation: 0.01mm



411-035-11



Code	Measuring Range	Accuracy	a	d	L
411-035-11	15-35mm	±0.04mm	3	Ø3	50
411-055-11	35-55mm	±0.04mm	6	Ø3	80
411-075-11	55-75mm	±0.04mm	8	Ø3	90
411-095-11	75-95mm	±0.04mm	8	Ø3	100
411-115-11	95-115mm	±0.04mm	10	Ø3.2	120
411-135-11	115-135mm	±0.04mm	10	Ø3.2	120



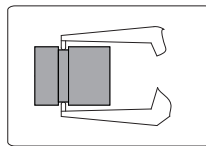
## SERIES 421

## EXTERNAL SNAP GAUGE

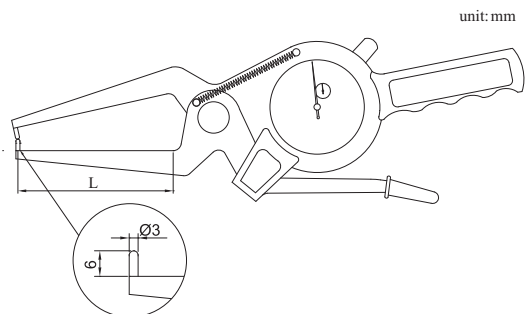
- ◆ Measure the thickness of external dimension
- ◆ Graduation: 0.01mm



421-020-11



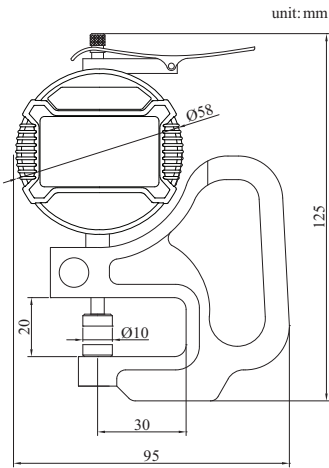
Code	Measuring Range	Accuracy	L
421-020-11	0-20mm	±0.04mm	60
421-040-11	20-40mm	±0.04mm	60
421-060-11	40-60mm	±0.04mm	55
421-080-11	60-80mm	±0.04mm	55
421-100-11	80-100mm	±0.04mm	55





## THICKNESS GAUGE

## SERIES 441

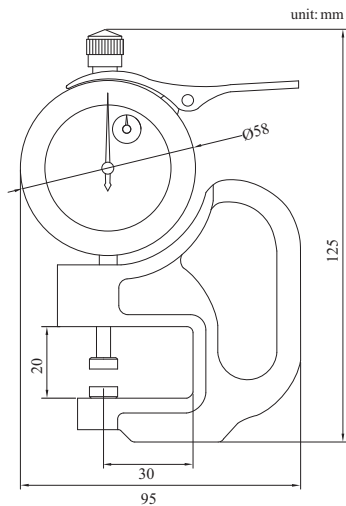


- ◆ Ceramic avail
- ◆ Buttons: on/off, zero, mm/inch
- ◆ Automatic power off
- ◆ Data output

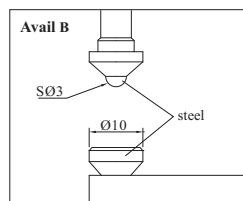
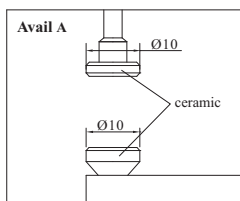
Accuracy	Resolution	Measuring Range	Code
±0.005mm	0.001mm/0.00005"	0-10mm/0-0.4"	441-010-01
±0.02mm	0.01mm/0.0005"	0-10mm/0-0.4"	441-010-11

## THICKNESS GAUGE

## SERIES 443



- ◆ Graduation: 0.01mm



443-010-11

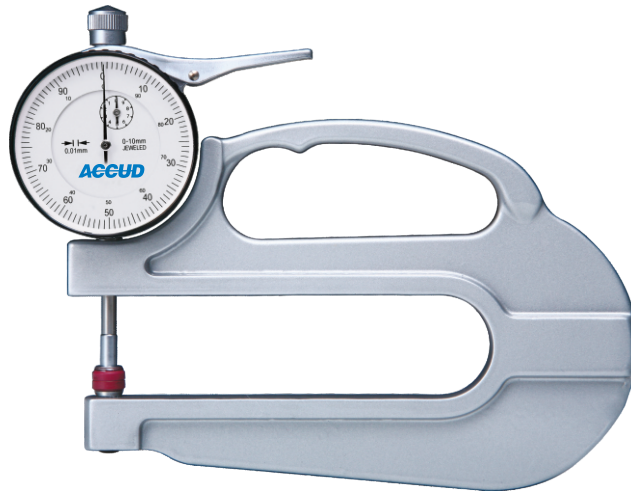
Avail	Accuracy	Measuring Range	Code
A	±0.02mm	0-10mm	443-010-11
B	±0.02mm	0-10mm	443-010-12



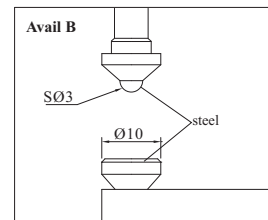
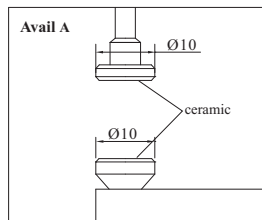
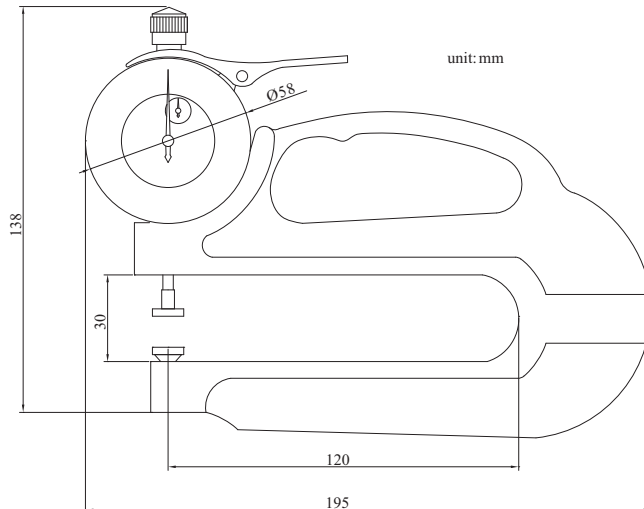
## SERIES 444

## THICKNESS GAUGE

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



444-010-11



Code	Measuring Range	Accuracy	Avail
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

## COATING THICKNESS GAGE

### CF1250



- ◆ Measure the thickness of non-magnetic coatings (zinc, copper, enamel, plastic and so on) on magnetic substrates (iron, steel)
- ◆ Fixed ferrous probe
- ◆ V-type probe to make the cylinder measurement easier
- ◆ Single and continuous working mode
- ◆ With indicator when the measurement is outside limits
- ◆ With average calculation function

#### SPECIFICATION

<b>CF1250</b>	<b>Code</b>
0~1250μm	<b>Measuring Range</b>
2μm(0~100μm)	<b>Accuracy</b>
2%(100~1250μm)	
0.1μm (0~999μm)	<b>Resolution</b>
1μm (1000~1250μm)	
500	<b>Memory</b>
rechargeable battery	<b>Power</b>
150×50×29mm	<b>Dimension(L×W×H)</b>
170g	<b>Weight</b>

#### INCLUDED ACCESSORIES

1pc	<b>Main unit</b>
1pc	<b>Calibration foil</b>
1pc	<b>Calibration base</b>
1pc	<b>USB cable and software</b>
1pc	<b>Charge</b>

#### OPTIONAL ACCESSORIES

<b>PR100</b>	<b>Wireless printer</b>
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## CN1500/CF1500/CFN1500

## COATING THICKNESS GAGE

- ◆ 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
- ◆ With signal indicator when the measurement is outside limits
- ◆ With average calculation
- ◆ With comparison measurement function
- ◆ With temperature compensation



CN1500

### SPECIFICATION

Code	CF1500	CN1500	CFN1500
Probe type	F	N	F and N
Measuring Range	0~1500μm		
Accuracy	2μm (0~100μm)		
	2%(100~1500μm)		
Resolution	0.1μm (0~999μm)		
	1μm (1000~1250μm)		
Memory	500		
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	1set
Battery	3pcs

## ULTRASONIC THICKNESS GAGE

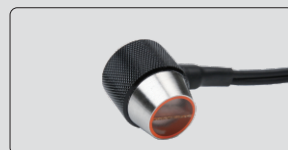
### ST200



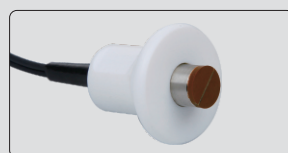
- ◆ Measure the thickness of tank, pipe and big workpiece
- ◆ LCD with backlight



Transducer PT-06 (optional)



Transducer ZT-12 (optional)



Transducer GT-12 (optional)

#### INCLUDED ACCESSORIES

1pc	Main unit
1pc	PT-08 transducer
3pcs	AAA battery
1bottle	Couplant
1pc	USB cable

#### OPTIONAL ACCESSORIES

PT-06, ZT-12, GT-12	Transducer
---------------------	------------

#### SPECIFICATION

ST200	Code
0.01mm(<100mm)	Graduation
0.1mm(≥100mm)	
0.03mm(<100mm)	Repeatability
0.1mm(≥100mm)	
±0.04mm (<10mm) ±(0.04+L/1000)mm (10~100mm) ±L/333mm (≥100mm) L is the thickness in mm	Accuracy
1000-9999m/s	Velocity
3×AAA batteries	Power
64×116×27mm	Dimension
220g	Weight

#### SPECIFICATION OF TRANSDUCER

Working Temperature	Min. pipe dimension diameter×thickness	Frequency	Measuring Range	Application	Code
<60°C	20×1.2mm	5.0MHz	0.8-300mm	general use	PT-08
<60°C	15×1.2mm	7.5MHz	0.75-40mm	thin workpiece	PT-06
<60°C	30×4mm	2.0MHz	2-400mm	casting steel	ZT-12
<310°C	25×3mm	5.0MHz	3-100mm	high temperature	GT-12



## SERIES 511

## CERAMIC GAUGE BLOCK SET

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

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

Example:

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



511-087-00

Code	Blocks per set	Block allocation		
		Size(mm)	Step(mm)	Quantity
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
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
511-056-0X	56	0.5		1
		1.001-1.009	0.001	9
		1.01-1.09	0.01	9
		1.1-1.9	0.1	9
		1-24	1	24
		25-100	25	4

Code	Blocks per set	Block allocation		
		Size(mm)	Step(mm)	Quantity
511-047-0X	47	1.005		1
		1.01-1.09	0.01	9
		1.1-1.9	0.1	9
		1-24	1	24
		25-100	25	4
511-047-1X	47	1.005		1
		1.01-1.19	0.01	19
		1.2-1.9	0.1	8
		1-9	1	9
511-046-0X	46	1.001-1.009	0.001	9
		1.01-1.09	0.01	9
		1.1-1.9	0.1	9
		1-9	1	9
		10-100	10	10
511-034-0X	34	1.0005		1
		1.001-1.009	0.001	9
		1.01-1.09	0.01	9
		1.1-1.9	0.1	9
511-032-0X	32	1.005		1
		1.01-1.09		9
		1.1-1.9	0.01	9
		1-9	0.1	9
		10-30	1	3
511-008-0X	8	125-175	25	3
		200-250	50	2
		300-500	100	3

## STEEL GAUGE BLOCK SET

## SERIES 512



512-087-02

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

512-□□□-□X

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

Example:

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

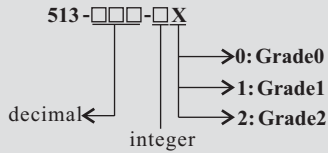
Block allocation			Blocks per set	Code
Size(mm)	Step(mm)	Quantity		
0.5		1	56	512-056-0X
1.001-1.009	0.001	9		
1.01-1.09	0.01	9		
1.1-1.9	0.1			
1-24	1	24		
25-100	25	4		
1.005		1	47	512-047-0X
1.01-1.09	0.01	9		
1.1-1.9	0.1	9		
1-24	1	24		
25-100	25	4		
1.005		1	47	512-047-1X
1.01-1.19	0.01	19		
1.2-1.9	0.1	8		
1-9	1	9		
10-100	10	10		
1.001-1.009	0.001	9	46	512-046-0X
1.01-1.09	0.01	9		
1.1-1.9	0.1	9		
1-9	1	9		
10-100	10	10		
1.0005		1	34	512-034-0X
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	32	512-032-0X
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	8	512-008-0X
60		1		
125-175	25	3		
200-250	50	2		
300-500	100	3		

Block allocation			Blocks per set	Code
Size(mm)	Step(mm)	Quantity		
1.0005		1	122	512-122-0X
1.001-1.009	0.001	9		
1.01-1.49	0.01	49		
1.6-1.9	0.1	4		
0.5-24.5	0.5	49		
30-100	10	8		
25-75	50	2		
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		
1.005		1	103	512-103-0X
1.01-1.49	0.01	49		
0.5-24.5	0.5	49		
25-100	25	4		
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		
1.001-1.009	0.001	9	87	512-087-0X
1.01-1.49	0.01	49		
0.5-9.5	0.5	19		
10-100	10	10		
0.5		1	83	512-083-0X
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	76	512-076-0X
10-100	10	10		
1.005		1		
1.01-1.49	0.01	49		
0.5-9.5	0.5	19	76	512-076-0X
10-40	10	4		
50-100	25	3		



## SERIES 513

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



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

## STEEL INDIVIDUAL GAUGE BLOCK(<10mm)



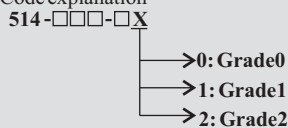
513-700-70

Supplied below size, unit:mm

0.25	0.46	0.67	0.88	1	1.11	1.32	1.8	2.09	2.3	2.6
0.26	0.47	0.68	0.89	1.0005	1.12	1.33	1.9	2.1	2.31	2.7
0.27	0.48	0.69	0.9	1.001	1.13	1.34	2	2.11	2.32	2.8
0.28	0.49	0.7	0.91	1.002	1.14	1.35	2.0005	2.12	2.33	2.9
0.29	0.5	0.71	0.92	1.003	1.15	1.36	2.001	2.13	2.34	3
0.3	0.51	0.72	0.93	1.004	1.16	1.37	2.002	2.14	2.35	3.5
0.31	0.52	0.73	0.94	1.005	1.17	1.38	2.003	2.15	2.36	4
0.32	0.53	0.74	0.95	1.006	1.18	1.39	2.004	2.16	2.37	4.5
0.33	0.54	0.75	0.96	1.007	1.19	1.4	2.005	2.17	2.38	5
0.34	0.55	0.76	0.97	1.008	1.2	1.41	2.006	2.18	2.39	5.1
0.35	0.56	0.77	0.98	1.009	1.21	1.42	2.007	2.19	2.4	5.5
0.36	0.57	0.78	0.99	1.01	1.22	1.43	2.008	2.2	2.41	6
0.37	0.58	0.79	0.991	1.02	1.23	1.44	2.009	2.21	2.42	6.5
0.38	0.59	0.8	0.992	1.03	1.24	1.45	2.01	2.22	2.43	7
0.39	0.6	0.81	0.993	1.04	1.25	1.46	2.02	2.23	2.44	7.5
0.4	0.61	0.82	0.994	1.05	1.26	1.47	2.03	2.24	2.45	7.7
0.41	0.62	0.83	0.995	1.06	1.27	1.48	2.04	2.25	2.46	8
0.42	0.63	0.84	0.996	1.07	1.28	1.49	2.05	2.26	2.47	8.5
0.43	0.64	0.85	0.997	1.08	1.29	1.5	2.06	2.27	2.48	9
0.44	0.65	0.86	0.998	1.09	1.3	1.6	2.07	2.28	2.49	9.5
0.45	0.66	0.87	0.999	1.1	1.31	1.7	2.08	2.29	2.5	

## SERIES 514

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



Code	Size(mm)	Code	Size(mm)
514-100-0X	10	514-155-0X	15.5
514-103-0X	10.3	514-160-0X	16
514-105-0X	10.5	514-165-0X	16.5
514-110-0X	11	514-170-0X	17
514-115-0X	11.5	514-175-0X	17.5
514-120-0X	12	514-176-0X	17.6
514-125-0X	12.5	514-180-0X	18
514-129-0X	12.9	514-185-0X	18.5
514-130-0X	13	514-190-0X	19
514-135-0X	13.5	514-195-0X	19.5
514-140-0X	14	514-200-0X	20
514-145-0X	14.5	514-202-0X	20.2
514-150-0X	15	514-205-0X	20.5

## STEEL INDIVIDUAL GAUGE BLOCK(≥10mm)



514-004-1X

Code	Size(mm)	Code	Size(mm)	Code	Size(mm)	Code	Size(mm)
514-210-0X	21	514-413-0X	41.3	514-010-1X	250		
514-215-0X	21.5	514-450-0X	45	514-012-1X	300		
514-220-0X	22	514-500-0X	50	514-016-1X	400		
514-225-0X	22.5	514-600-0X	60	514-020-1X	500		
514-228-0X	22.8	514-700-0X	70	514-024-1X	600		
514-230-0X	23	514-750-0X	75	514-028-1X	700		
514-235-0X	23.5	514-800-0X	80	514-030-1X	750		
514-240-0X	24	514-900-0X	90	514-032-1X	800		
514-245-0X	24.5	514-004-1X	100	514-036-1X	900		
514-250-0X	25	514-005-1X	125	514-040-1X	1000		
514-300-0X	30	514-006-1X	150				
514-350-0X	35	514-007-1X	175				
514-400-0X	40	514-008-1X	200				



## CERAMIC INDIVIDUAL GAUGE BLOCK(<10mm)

### SERIES 515

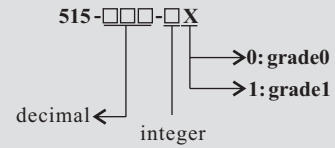


515-700-70

Supplied below size, unit:mm

5.1	1.49	1.37	1.25	1.13	1.01	0.5
5.5	1.5	1.38	1.26	1.14	1.02	1
6	1.6	1.39	1.27	1.15	1.03	1.0005
6.5	1.7	1.4	1.28	1.16	1.04	1.001
7	1.8	1.41	1.29	1.17	1.05	1.002
7.5	1.9	1.42	1.3	1.18	1.06	1.003
7.7	2	1.43	1.31	1.19	1.07	1.004
8	2.5	1.44	1.32	1.2	1.08	1.005
8.5	3.5	1.45	1.33	1.21	1.09	1.006
9	4	1.46	1.34	1.22	1.1	1.007
9.5	4.5	1.47	1.35	1.23	1.11	1.008
10	5	1.48	1.36	1.24	1.12	1.009

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



Example:

Size(mm)	Grade	Code
0.5	0	515-500-00
0.5	1	515-500-01
1	0	515-000-10
1.0005	1	515-0005-11
1.4	1	515-400-11
1.48	1	515-480-11

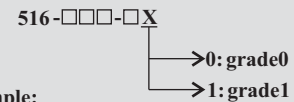
## CERAMIC INDIVIDUAL GAUGE BLOCK(≥10mm)

### SERIES 516



516-800-01

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



Example:

Size(mm)	Grade	Code
20	0	516-200-00
20	1	516-200-01

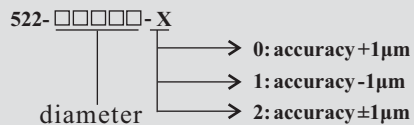
Size(mm)	Code	Size(mm)	Code	Size(mm)	Code	Size(mm)	Code	Size(mm)	Code
60	516-600-0X	22.8	516-228-0X	18.5	516-185-0X	14	516-140-0X	10	516-100-0X
70	516-700-0X	23	516-230-0X	19	516-190-0X	14.5	516-145-0X	10.3	516-103-0X
75	516-750-0X	23.5	516-235-0X	19.5	516-195-0X	15	516-150-0X	10.5	516-105-0X
80	516-800-0X	24	516-240-0X	20	516-200-0X	15.5	516-155-0X	11	516-110-0X
90	516-900-0X	24.5	516-245-0X	20.2	516-202-0X	16	516-160-0X	11.5	516-115-0X
100	516-004-1X	25	516-250-0X	20.5	516-205-0X	16.5	516-165-0X	12	516-120-0X
125	516-005-1X	30	516-300-0X	21	516-210-0X	17	516-170-0X	12.5	516-125-0X
150	516-006-1X	40	516-400-0X	21.5	516-215-0X	17.5	516-175-0X	12.9	516-129-0X
		41.3	516-413-0X	22	516-220-0X	17.6	516-176-0X	13	516-130-0X
		50	516-500-0X	22.5	516-225-0X	18	516-180-0X	13.5	516-135-0X



## SERIES 522

## PIN GAUGE

- ◆ Supplied diameter from 0.10 to 30mm
- ◆ Accuracy:  $\pm 1\mu\text{m}$ ,  $+1\mu\text{m}$  or  $-1\mu\text{m}$
- ◆ Made of alloy steel
- ◆ Hardness HRC62-65
- ◆ Optional accessory: wooden box  
(Code: 523-000-00)
- ◆ Code explanation:



Example:

Code	Size(mm)	Accuracy
522-00125-0	0.125	$+1\mu\text{m}$
522-09125-1	9.125	$-1\mu\text{m}$
522-19125-2	19.125	$\pm 1\mu\text{m}$



522-06933-1



## SERIES 521

## PIN GAUGE SET

- ◆ Made of alloy steel
- ◆ Hardness HRC62-65
- ◆ Accuracy:  $\pm 1\mu\text{m}$



524-500-41

Code	Diameter(mm)	Step	Quantity
521-020-31	0.20-0.50	0.01mm	31
521-050-51	0.50-1.00	0.01mm	51
521-100-51	1.00-1.50	0.01mm	51
521-150-51	1.50-2.00	0.01mm	51
521-200-51	2.00-2.50	0.01mm	51
521-250-51	2.50-3.00	0.01mm	51
521-300-51	3.00-3.50	0.01mm	51
521-350-51	3.50-4.00	0.01mm	51
521-400-51	4.00-4.50	0.01mm	51
521-450-51	4.50-5.00	0.01mm	51
521-500-01	5.00-5.50	0.01mm	51

Code	Diameter(mm)	Step	Quantity
521-550-51	5.50-6.00	0.01mm	51
521-600-51	6.00-6.50	0.01mm	51
521-650-51	6.50-7.00	0.01mm	51
521-700-51	7.00-7.50	0.01mm	51
521-750-51	7.50-8.00	0.01mm	51
521-800-51	8.00-8.50	0.01mm	51
521-850-51	8.50-9.00	0.01mm	51
521-900-51	9.00-9.50	0.01mm	51
521-950-51	9.50-10.00	0.01mm	51
521-500-41	1.0-5.0	0.1mm	41
521-500-51	5.0-10.0	0.1mm	51

## THREAD RING GAUGE

## 532/533/534/535



532-020-01



533-020-11

- ◆ Grade 6g
- ◆ Meet ISO1502
- ◆ Hardness HRC60-62
- ◆ Other sizes are available upon request

### STANDARD THREAD

Size(mm)	Code(GO)	Code(NOGO)
M2x0.4	532-002-01	533-002-01
M2.2x0.45	532-002-21	533-002-21
M2.5x0.45	532-002-51	533-002-51
M3x0.5	532-003-01	533-003-01
M3.5x0.6	532-003-51	533-003-51
M4x0.7	532-004-01	533-004-01
M5x0.8	532-005-01	533-005-01
M6x1	532-006-01	533-006-01
M8x1.25	532-008-01	533-008-01

Size(mm)	Code(GO)	Code(NOGO)
M10x1.5	532-010-01	533-010-01
M12x1.75	532-012-01	533-012-01
M14x2	532-014-01	533-014-01
M16x2	532-016-01	533-016-01
M18x2.5	532-018-01	533-018-01
M20x2.5	532-020-01	533-020-01
M22x2.5	532-022-01	533-022-01
M24x3	532-024-01	533-024-01

Size(mm)	Code(GO)	Code(NOGO)
M27x3	532-027-01	533-027-01
M30x3.5	532-030-01	533-030-01
M33x3.5	532-033-01	533-033-01
M36x4	532-036-01	533-036-01
M42x4.5	532-042-01	533-042-01
M48x5	532-048-01	533-048-01
M52x5	532-052-01	533-052-01
M60x5.5	532-060-01	533-060-01

### FINE THREAD

Size(mm)	Code(GO)	Code(NOGO)
M2x0.25	534-002-01	535-002-01
M2.2x0.25	534-002-21	535-002-21
M2.5x0.35	534-002-51	535-002-51
M3x0.35	534-003-01	535-003-01
M3.5x0.35	534-003-51	535-003-51
M4x0.5	534-004-01	535-004-01
M5x0.5	534-005-01	535-005-01
M6x0.5	534-006-01	535-006-01
M6x0.75	534-006-02	535-006-02
M7x0.5	534-007-01	535-007-01
M7x0.75	534-007-02	535-007-02
M8x0.5	534-008-01	535-008-01
M8x0.75	534-008-02	535-008-02
M8x1	534-008-03	535-008-03
M9x0.5	534-009-01	535-009-01
M9x0.75	534-009-02	535-009-02
M9x1	534-009-03	535-009-03
M10x0.5	534-010-01	535-010-01
M10x0.75	534-010-02	535-010-02
M10x1	534-010-03	535-010-03
M10x1.25	534-010-04	535-010-04
M11x0.75	534-011-02	535-011-02
M11x1	534-011-03	535-011-03
M12x0.5	534-012-01	535-012-01
M12x0.75	534-012-02	535-012-02
M12x1	534-012-03	535-012-03
M12x1.25	534-012-04	535-012-04
M12x1.5	534-012-05	535-012-05
M14x0.5	534-014-01	535-014-01
M14x0.75	534-014-02	535-014-02
M14x1	534-014-03	535-014-03
M14x1.25	534-014-04	535-014-04
M14x1.5	534-014-05	535-014-05
M16x0.5	534-016-01	535-016-01
M16x0.75	534-016-02	535-016-02
M16x1	534-016-03	535-016-03
M16x1.5	534-016-04	535-016-04

Size(mm)	Code(GO)	Code(NOGO)
M18x0.5	534-018-01	535-018-01
M18x0.75	534-018-02	535-018-02
M18x1	534-018-03	535-018-03
M18x1.5	534-018-04	535-018-04
M18x2	534-018-05	535-018-05
M20x0.5	534-020-01	535-020-01
M20x0.75	534-020-02	535-020-02
M20x1	534-020-03	535-020-03
M20x1.5	534-020-04	535-020-04
M20x2	534-020-05	535-020-05
M22x0.5	534-022-01	535-022-01
M22x0.75	534-022-02	535-022-02
M22x1	534-022-03	535-022-03
M22x1.5	534-022-04	535-022-04
M22x2	534-022-05	535-022-05
M24x0.75	534-024-01	535-024-01
M24x1	534-024-02	535-024-02
M24x1.5	534-024-03	535-024-03
M24x2	534-024-04	535-024-04
M27x0.75	534-027-01	535-027-01
M27x1	534-027-02	535-027-02
M27x1.5	534-027-03	535-027-03
M27x2	534-027-04	535-027-04
M30x0.75	534-030-01	535-030-01
M30x1	534-030-02	535-030-02
M30x1.5	534-030-03	535-030-03
M30x2	534-030-04	535-030-04
M30x3	534-030-05	535-030-05
M33x0.75	534-033-01	535-033-01
M33x1	534-033-02	535-033-02
M33x1.5	534-033-03	535-033-03
M33x2	534-033-04	535-033-04
M33x3	534-033-05	535-033-05
M36x1	534-036-01	535-036-01
M36x1.5	534-036-02	535-036-02
M36x2	534-036-03	535-036-03
M36x3	534-036-04	535-036-04

Size(mm)	Code(GO)	Code(NOGO)
M39x1	534-039-01	535-039-01
M39x1.5	534-039-02	535-039-02
M39x2	534-039-03	535-039-03
M39x3	534-039-04	535-039-04
M42x1	534-042-01	535-042-01
M42x1.5	534-042-02	535-042-02
M42x2	534-042-03	535-042-03
M42x3	534-042-04	535-042-04
M42x4	534-042-05	535-042-05
M45x1	534-045-01	535-045-01
M45x1.5	534-045-02	535-045-02
M45x2	534-045-03	535-045-03
M45x3	534-045-04	535-045-04
M45x4	534-045-05	535-045-05
M48x1	534-048-01	535-048-01
M48x1.5	534-048-02	535-048-02
M48x2	534-048-03	535-048-03
M48x3	534-048-04	535-048-04
M48x4	534-048-05	535-048-05
M52x1	534-052-01	535-052-01
M52x1.5	534-052-02	535-052-02
M52x2	534-052-03	535-052-03
M52x3	534-052-04	535-052-04
M52x4	534-052-05	535-052-05
M56x1	534-056-01	535-056-01
M56x1.5	534-056-02	535-056-02
M56x2	534-056-03	535-056-03
M56x3	534-056-04	535-056-04
M56x4	534-056-05	535-056-05
M60x1	534-060-01	535-060-01
M60x1.5	534-060-02	535-060-02
M60x2	534-060-03	535-060-03
M60x3	534-060-04	535-060-04
M60x4	534-060-05	535-060-05



## SERIES 531

## SETTING RING

- ◆ For inside micrometer and bore gage setting
- ◆ Deviation (difference between the order size and the size marked on the setting ring when supplied):
  - Ø3-100: ±3.0µm    Ø100-300: ±5.0µm
- ◆ Accuracy:
  - Ø3-100: ±1.0µm    Ø100-250: ±2.0µm
  - Ø250-300: ±2.5µm
- ◆ Range: Ø3-300mm



531-040-01

Code	Size(mm)	Code	Size(mm)	Code	Size(mm)	Code	Size(mm)
531-003-01	Ø3	531-017-01	Ø17	531-031-01	Ø31	531-045-01	Ø45
531-004-01	Ø4	531-018-01	Ø18	531-032-01	Ø32	531-046-01	Ø46
531-005-01	Ø5	531-019-01	Ø19	531-033-01	Ø33	531-047-01	Ø47
531-006-01	Ø6	531-020-01	Ø20	531-034-01	Ø34	531-048-01	Ø48
531-007-01	Ø7	531-021-01	Ø21	531-035-01	Ø35	531-049-01	Ø49
531-008-01	Ø8	531-022-01	Ø22	531-036-01	Ø36	531-050-01	Ø50
531-009-01	Ø9	531-023-01	Ø23	531-037-01	Ø37	531-055-01	Ø55
531-010-01	Ø10	531-024-01	Ø24	531-038-01	Ø38	531-060-01	Ø60
531-011-01	Ø11	531-025-01	Ø25	531-039-01	Ø39	531-062-01	Ø62
531-012-01	Ø12	531-026-01	Ø26	531-040-01	Ø40	531-065-01	Ø65
531-013-01	Ø13	531-027-01	Ø27	531-041-01	Ø41	531-070-01	Ø70
531-014-01	Ø14	531-028-01	Ø28	531-042-01	Ø42	531-075-01	Ø75
531-015-01	Ø15	531-029-01	Ø29	531-043-01	Ø43	531-080-01	Ø80
531-016-01	Ø16	531-030-01	Ø30	531-044-01	Ø44	531-085-01	Ø85

## SERIES 541

## PLAIN PLUG GAUGE

- ◆ Grade H7
- ◆ Hardness HRC 60±2

Code	Size(mm)	Code	Size(mm)
541-002-07	2	541-024-07	24
541-003-07	3	541-027-07	27
541-004-07	4	541-030-07	30
541-005-07	5	541-032-07	32
541-006-07	6	541-035-07	35
541-008-07	8	541-040-07	40
541-010-07	10	541-042-07	42
541-012-07	12	541-045-07	45
541-014-07	14	541-050-07	50
541-015-07	15	541-055-07	55
541-018-07	18	541-060-07	60
541-020-07	20		



541-010-07

## THREAD PLUG GAUGE

## SERIES 543



542-010-01

- ◆ Grade 6H
- ◆ Meet ISO1502
- ◆ Hardness HRC60-62
- ◆ Other sizes are available upon request

Code	Size(mm)	Code	Size(mm)	Code	Size(mm)	Code	Size(mm)
542-002-01	M2x0.4	542-007-01	M7x1	542-018-01	M18x2.5	542-039-01	M39x4
542-002-21	M2.2x0.45	542-008-01	M8x1.25	542-020-01	M20x2.5	542-042-01	M42x4.5
542-002-51	M2.5x0.45	542-009-01	M9x1.25	542-022-01	M22x2.5	542-045-01	M45x4.5
542-003-01	M3x0.5	542-010-01	M10x1.5	542-024-01	M24x3	542-048-01	M48x5
542-003-02	M3.5x0.6	542-011-01	M11x1.5	542-027-01	M27x3	542-052-01	M52x5
542-004-01	M4x0.7	542-012-01	M12x1.75	542-030-01	M30x3.5	542-056-01	M56x5.5
542-005-01	M5x0.8	542-014-01	M14x2	542-033-01	M33x3.5	542-060-01	M60x5.5
542-006-01	M6x1	542-016-01	M16x2	542-036-01	M36x4		

## FINE THREAD PLUG GAUGE

## SERIES 543



543-020-01

- ◆ Grade 6H
- ◆ Meet ISO1502
- ◆ Hardness HRC60-62, good wear resistance

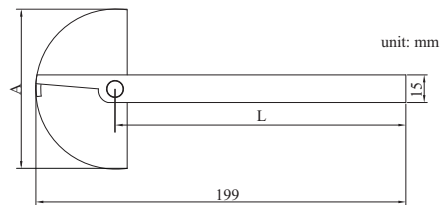
Size(mm)	Code	Size(mm)	Code	Size(mm)	Code	Size(mm)	Code	Size(mm)	Code
M2x0.25	543-002-01	M11x0.75	543-011-02	M20x0.75	543-020-02	M33x0.75	543-033-01	M45x4	543-045-05
M2.2x0.25	543-002-21	M11x1	543-011-03	M20x1	543-020-03	M33x1	543-033-02	M48x1	543-048-01
M2.5x0.35	543-002-31	M12x0.5	543-012-01	M20x1.5	543-020-04	M33x1.5	543-033-03	M48x1.5	543-048-02
M3x0.35	543-003-01	M12x0.75	543-012-02	M20x2	543-020-05	M33x2	543-033-04	M48x2	543-048-03
M3.5x0.35	543-003-02	M12x1	543-012-03	M22x0.5	543-022-01	M33x3	543-033-05	M48x3	543-048-04
M4x0.5	543-004-01	M12x1.25	543-012-04	M22x0.75	543-022-02	M36x1	543-036-01	M48x4	543-048-05
M5x0.5	543-005-01	M12x1.5	543-012-05	M22x1	543-022-03	M36x1.5	543-036-02	M52x1	543-052-01
M6x0.5	543-006-01	M14x0.5	543-014-01	M22x1.5	543-022-04	M36x2	543-036-03	M52x1.5	543-052-02
M6x0.75	543-006-02	M14x0.75	543-014-02	M22x2	543-022-05	M36x3	543-036-04	M52x2	543-052-03
M7x0.5	543-007-01	M14x1	543-014-03	M24x0.75	543-024-01	M39x1	543-039-01	M52x3	543-052-04
M7x0.75	543-007-02	M14x1.25	543-014-04	M24x1	543-024-02	M39x1.5	543-039-02	M52x4	543-052-05
M8x0.5	543-008-01	M14x1.5	543-014-05	M24x1.5	543-024-03	M39x2	543-039-03	M56x1	543-056-01
M8x0.75	543-008-02	M16x0.5	543-016-01	M24x2	543-024-04	M39x3	543-039-04	M56x1.5	543-056-02
M8x1	543-008-03	M16x0.75	543-016-02	M27x0.75	543-027-01	M42x1	543-042-01	M56x2	543-056-03
M9x0.5	543-009-01	M16x1	543-016-03	M27x1	543-027-02	M42x1.5	543-042-02	M56x3	543-056-04
M9x0.75	543-009-02	M16x1.5	543-016-04	M27x1.5	543-027-03	M42x2	543-042-03	M56x4	543-056-05
M9x1	543-009-03	M18x0.5	543-018-01	M27x2	543-027-04	M42x3	543-042-04	M60x1	543-060-01
M10x0.5	543-010-01	M18x0.75	543-018-02	M30x0.75	543-030-01	M42x4	543-042-05	M60x1.5	543-060-02
M10x0.75	543-010-02	M18x1	543-018-03	M30x1	543-030-02	M45x1	543-045-01	M60x2	543-060-03
M10x1	543-010-03	M18x1.5	543-018-04	M30x1.5	543-030-03	M45x1.5	543-045-02	M60x3	543-060-04
M10x1.25	543-010-04	M18x2	543-018-05	M30x2	543-030-04	M45x2	543-045-03	M60x4	543-060-05
M11x0.5	543-011-01	M20x0.5	543-020-01	M30x3	543-030-05	M45x3	543-045-04		



## 811

## PROTRACTOR

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



Code	Size(AxL)	Range	Accuracy
811-180-01	85x150mm	0 - 180°	±0.3°

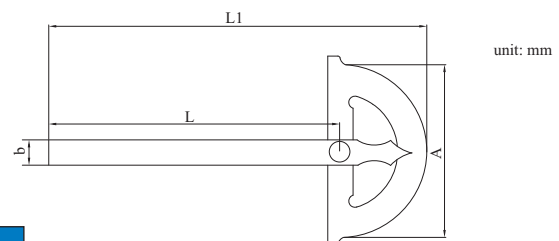
## SERIES 812

## PROTRACTOR

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



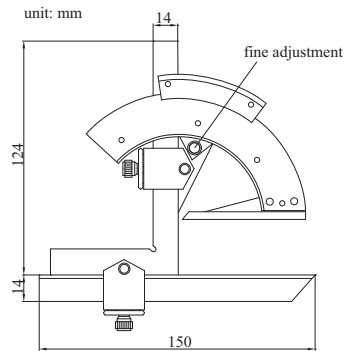
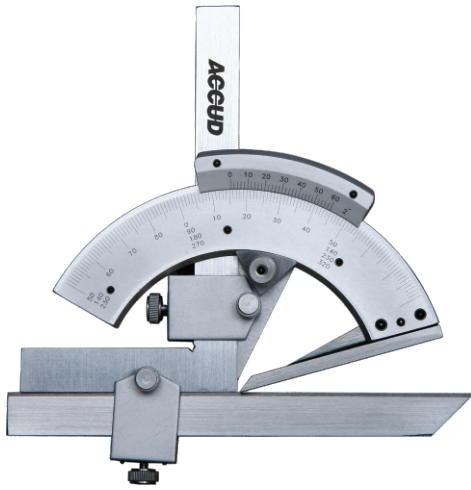
812-003-01



Code	Size(AxL1)	Range	Accuracy	b	L
812-003-01	80x120mm	0 - 180°	±0.3°	11	168
812-005-01	120x150mm	0 - 180°	±0.3°	14	220
812-006-01	150x200mm	0 - 180°	±0.3°	16	285
812-008-01	200x300mm	0 - 180°	±0.3°	20	413
812-012-01	300x500mm	0 - 180°	±0.3°	30	675

## UNIVERSAL PROTRACTOR

### 814

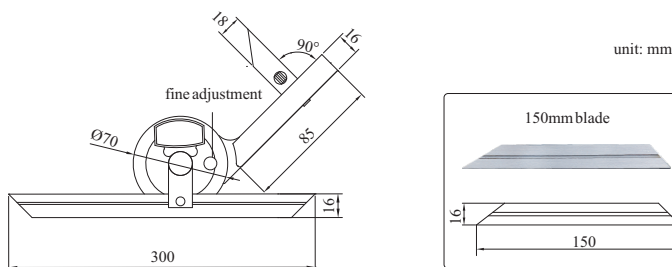


- ◆ Graduation : 2'
- ◆ Made of stainless steel
- ◆ Satin chrome plated scale

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

## UNIVERSAL PROTRACTOR

### 815



- ◆ Parallax-free reading
- ◆ With one blade: 150mm
- ◆ Made of stainless steel
- ◆ Optional accessory: clamp for height gages

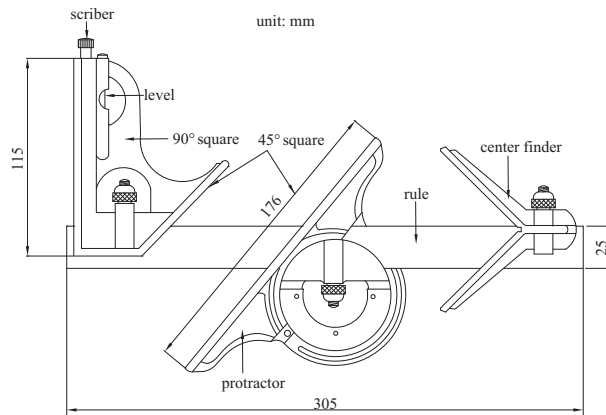
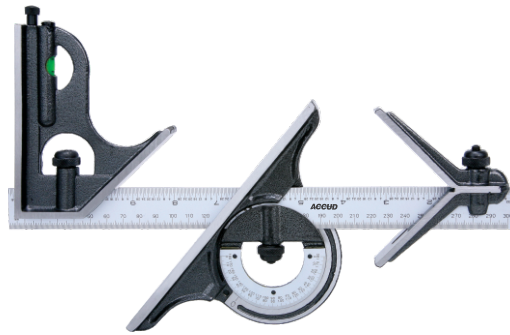
Graduation	Accuracy	Range	Code
5'	±5'	0-360°	815-360-01



## 817

## COMBINATION SQUARE SET

- ◆ Protractor:  
Used to set an angle or angle measurement,  
measuring range: 0-180°, accuracy: ±7'
- ◆ Square:  
Used as 90° square or 45° square  
accuracy of 90° square: ±8',  
accuracy of 45° square: ±10'
- ◆ Rule:  
Used as rule, measuring range: 300mm/12"
- ◆ Center finder:  
Used to find the cylinder center,  
accuracy: ±0.15mm



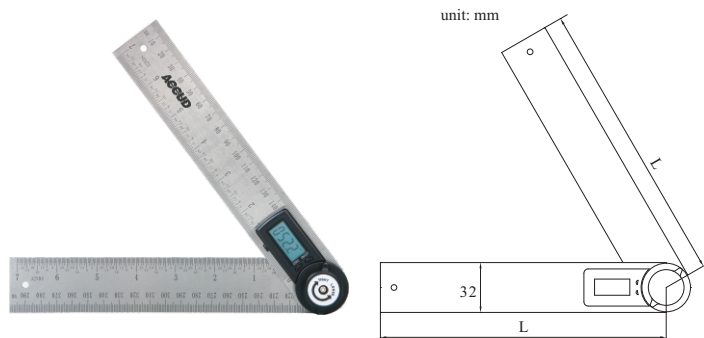
Code

817-180-01

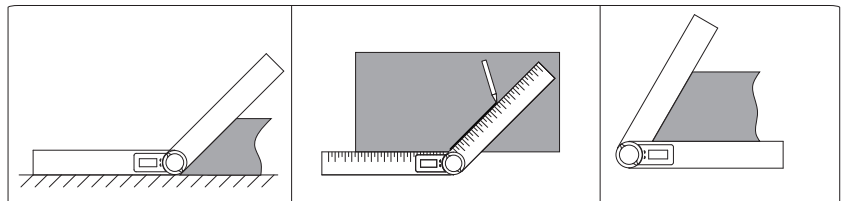
## SERIES 821

## DIGITAL PROTRACTOR

- ◆ Buttons: on/off, zero
- ◆ With locking attachment
- ◆ Graduation: 1mm and 1/32"
- ◆ Auto power off



821-008-01

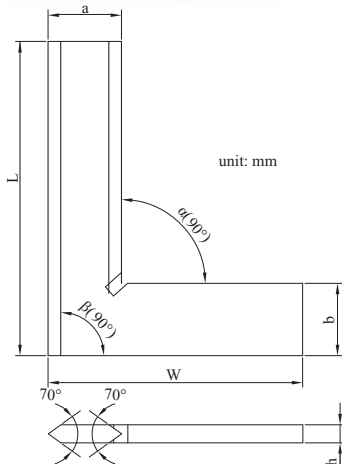


Code	Size(L)	Range	Resolution	Accuracy
821-008-01	200mm	0-360°	0.1°	±0.3°
821-012-01	300mm	0-360°	0.1°	±0.3°



## 90° BEVELED EDGE SQUARE

### SERIES 832



- ◆ DIN875 grade 00 or grade 0
- ◆ Two beveled measuring faces
- ◆ Made of hardened stainless steel
- ◆ Satin chrome plating

Grade 00

h	b	a	Squareness( $\beta$ )	Squareness( $\alpha$ )	Size(LxW)	Code
4	13	13	2.5 $\mu$ m	2.4 $\mu$ m	50x40mm	832-002-00
4	15	15	2.8 $\mu$ m	2.6 $\mu$ m	75x50mm	832-003-00
5	20	20	3.0 $\mu$ m	2.8 $\mu$ m	100x70mm	832-004-00
6	30	30	3.5 $\mu$ m	3.2 $\mu$ m	150x100mm	832-006-00
7	34	34	4.0 $\mu$ m	3.7 $\mu$ m	200x130mm	832-008-00
7	35	35	4.5 $\mu$ m	4.2 $\mu$ m	250x165mm	832-010-00
8	40	40	5.0 $\mu$ m	4.6 $\mu$ m	300x200mm	832-012-00

Grade 0

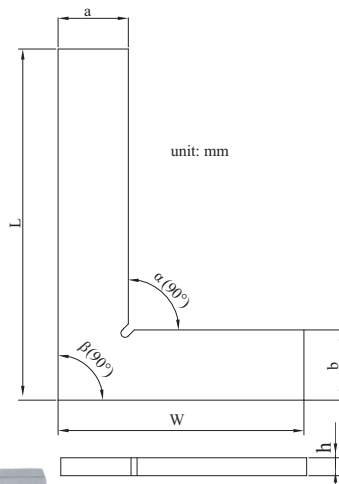
h	b	a	Squareness( $\beta$ )	Squareness( $\alpha$ )	Size(LxW)	Code
4	13	13	6 $\mu$ m	6 $\mu$ m	50x40mm	832-002-10
4	15	15	7 $\mu$ m	6 $\mu$ m	75x50mm	832-003-10
5	20	20	7 $\mu$ m	7 $\mu$ m	100x70mm	832-004-10
6	30	30	8 $\mu$ m	7 $\mu$ m	150x100mm	832-006-10
7	34	34	9 $\mu$ m	8 $\mu$ m	200x130mm	832-008-10
7	35	35	10 $\mu$ m	9 $\mu$ m	250x165mm	832-010-10
8	40	40	11 $\mu$ m	10 $\mu$ m	300x200mm	832-012-10

## 90° FLAT EDGE SQUARE

### SERIES 841



841-004-10



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

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

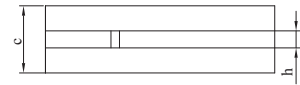
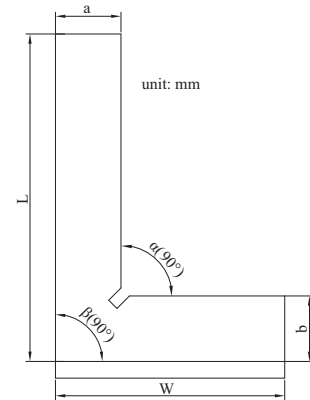
## SERIES 842

## 90° FLAT EDGE SQUARE WITH WIDE BASE

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



842-004-10

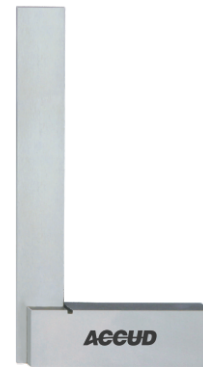


Code	Size(LxW)	Squareness( $\alpha$ )	Squareness( $\beta$ )	a	b	c	h
842-002-10	50x40mm	6 $\mu$ m	6 $\mu$ m	13	13	13	4
842-003-10	75x50mm	6 $\mu$ m	6 $\mu$ m	15	15	15	4
842-004-10	100x70mm	7 $\mu$ m	7 $\mu$ m	20	20	20	5
842-006-10	150x100mm	7 $\mu$ m	7 $\mu$ m	30	30	30	6
842-008-10	200x130mm	8 $\mu$ m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

## SERIES 845

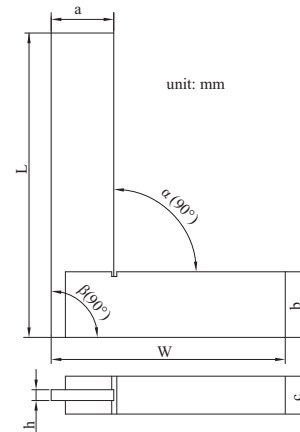
## 90° FLAT EDGE SQUARE WITH BASE

- ◆ DIN875 grade 2
- ◆ Made of carbon steel



845-004-02

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



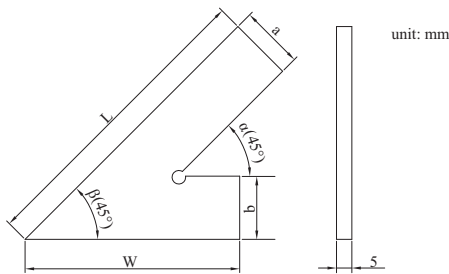
## 45° SQUARE

## SERIES 846

◆ Made of hardened stainless steel



846-005-02



b	a	Squareness( $\beta$ )	Squareness( $\alpha$ )	Size(LxW)	Code
20	20	30 $\mu$ m	27 $\mu$ m	100x70mm	846-004-02
20	20	32 $\mu$ m	29 $\mu$ m	120x80mm	846-005-02
20	20	35 $\mu$ m	32 $\mu$ m	150x100mm	846-006-02
25	25	40 $\mu$ m	36 $\mu$ m	200x130mm	846-008-02

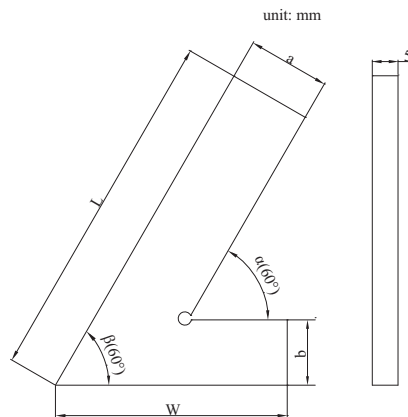
## 60° SQUARE

## SERIES 847

◆ Made of hardened stainless steel



847-004-02



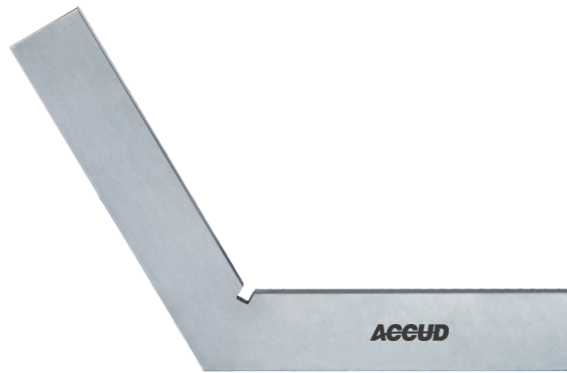
b	a	Squareness( $\beta$ )	Squareness( $\alpha$ )	Size(LxW)	Code
20	20	30 $\mu$ m	28 $\mu$ m	100x70mm	847-004-02
20	20	32 $\mu$ m	30 $\mu$ m	120x80mm	847-005-02
20	20	35 $\mu$ m	32 $\mu$ m	150x100mm	847-006-02
25	25	40 $\mu$ m	37 $\mu$ m	200x130mm	847-008-02



## SERIES 848

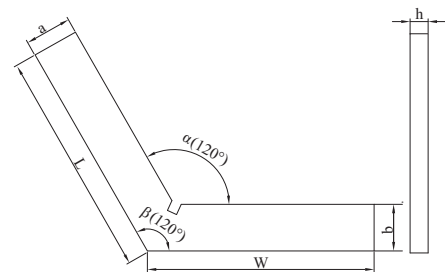
## 120° SQUARE

◆ Made of hardened stainless steel



848-004-02

unit: mm



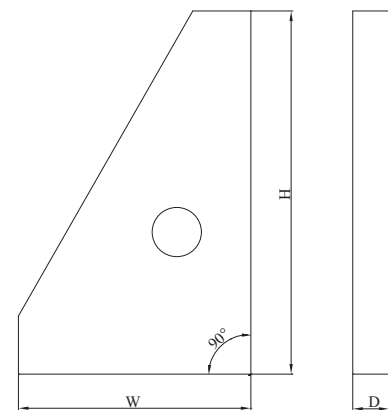
Code	Size(LxW)	Squareness( $\alpha$ )	Squareness( $\beta$ )	a	b	h
848-002-02	50x50mm	24 $\mu$ m	25 $\mu$ m	15	15	13
848-003-02	75x75mm	26 $\mu$ m	28 $\mu$ m	20	20	15
848-004-02	100x100mm	29 $\mu$ m	30 $\mu$ m	20	20	20
848-006-02	150x150mm	34 $\mu$ m	35 $\mu$ m	25	25	30
848-008-02	200x200mm	38 $\mu$ m	40 $\mu$ m	30	30	30

## SERIES 851

## GRANITE SQUARE



851-010-01



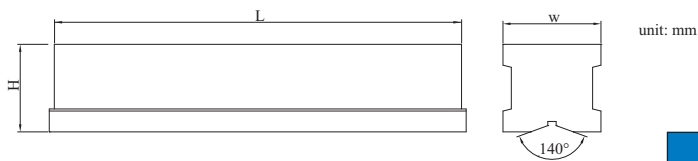
Code	Size(HxW)	Squareness	D
851-010-01	250x160mm	2.5 $\mu$ m	25mm
851-016-01	400x250mm	3.5 $\mu$ m	40mm
851-024-01	630x400mm	4.5 $\mu$ m	63mm

## BLOCK LEVEL

## SERIALS 713



713-006-02



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

W	H	Size(L)	Code
45	40	150mm	713-006-02
47	42	200mm	713-008-02
50	45	300mm	713-012-02

## FRAME LEVEL

## SERIALS 711



711-006-02

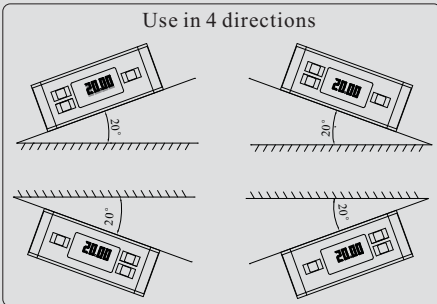
- ◆ For use in setting machined surfaces precisely horizontal and vertical
- ◆ Sensibility: 0.02mm/m per division
- ◆ With 2 vee and 2 flat reference faces



Size	Code
150x150mm	711-006-02
200x200mm	711-008-02
300x300mm	711-012-02

## 722

- ◆ Use as level or protractor
- ◆ Sensitivity: 0.1°
- ◆ Accuracy : ±0.1°(vertical and horizontal), ±0.2°(other direction)
- ◆ Magnetic base, with groove
- ◆ Aluminum frame provides with high rigidity and low weight
- ◆ Absolute horizontation reference can save in memory for ever

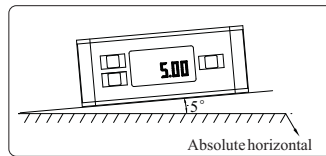


Code	Measuring Range	Dimension(LxWxH)
722-360-01	0-360°(90°x4)	150x60x33

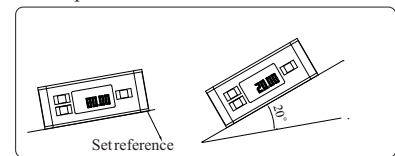
## DIGITAL LEVEL



use as level



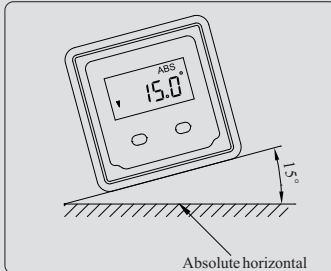
use as protractor



## 721

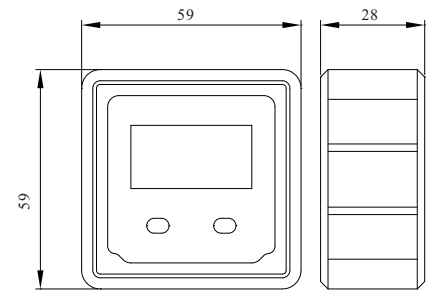
- ◆ Use as level or protractor
- ◆ Absolute horizontal reference can save in memory for ever
- ◆ Button: on/off, zero, hold
- ◆ Automatic power off

use as level



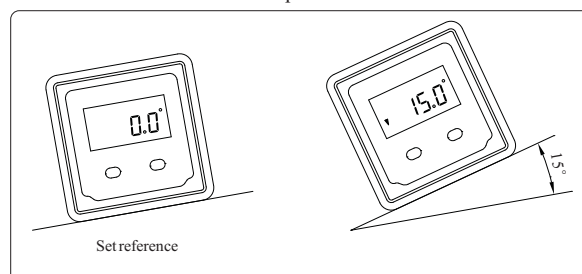
Code	Measuring Range	Resolution
721-180-01	0-180°	0.1°

## DIGITAL LEVEL



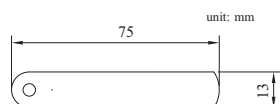
unit: mm

use as protractor



## FEELER

### 911

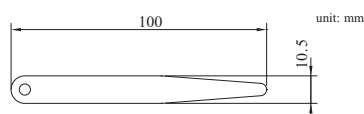


- ◆ Meets DIN2275
- ◆ Accuracy:  $\pm(3+T/80)\mu\text{m}$ , T is the thickness of leave, unit:  $\mu\text{m}$

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

## FEELER

### 912



- ◆ Meets DIN2275
- ◆ Accuracy:  $\pm(3+T/80)\mu\text{m}$ , T is the thickness of leave, unit:  $\mu\text{m}$

Leaves Thickness (mm)	Quantity	Measuring Range	Code
0.03, 0.04, 0.05, 0.06, 0.07, 0.08, 0.09, 0.10, 0.15, 0.20, 0.30, 0.40, 0.50	13	0.03 - 0.50mm	<b>912-050-13</b>
0.05, 0.10, 0.15, 0.20, 0.25, 0.30, 0.40, 0.50, 0.60, 0.70, 0.80, 0.90, 1.00	13	0.05 - 1.00mm	<b>912-100-13</b>
0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.08, 0.09, 0.10, 0.15, 0.20, 0.25, 0.30, 0.40, 0.50, 0.75, 1.00	17	0.02 - 1.00mm	<b>912-100-17</b>
0.05, 0.10, 0.15, 0.20, 0.25, 0.30, 0.35, 0.40, 0.45, 0.50, 0.55, 0.60, 0.65, 0.70, 0.75, 0.80, 0.85, 0.90, 0.95, 1.00	20	0.05 - 1.00mm	<b>912-100-20</b>
0.05, 0.06, 0.07, 0.08, 0.09, 0.10, 0.11, 0.12, 0.13, 0.14, 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	28	0.05 - 1.00mm	<b>912-100-28</b>
0.03, 0.04, 0.05, 0.06, 0.07, 0.08, 0.09, 0.10, 0.13, 0.15, 0.18, 0.20, 0.23, 0.25, 0.28, 0.30, 0.33, 0.35, 0.38, 0.40, 0.45, 0.50, 0.55, 0.60, 0.63, 0.65, 0.70, 0.75, 0.80, 0.85, 0.90, 1.00	32	0.03 - 1.00mm	<b>912-100-32</b>



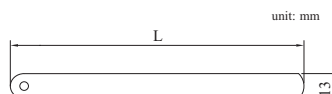
## 913/914/915

## FEELER

- ◆ Meets DIN2275
- ◆ Accuracy:  $\pm(3+T/80)\mu\text{m}$ , T is the thickness of leave, unit:  $\mu\text{m}$



913-100-20



Code	Measuring 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
913-100-20	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

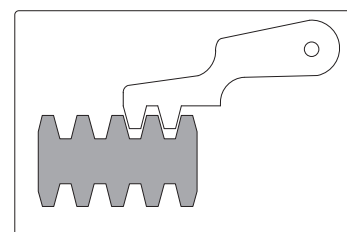
## SERIES 921

## PITCH GAUGE

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



921-020-12

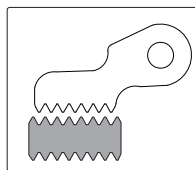


Code	Measuring Range	Thread	Quantity	Leaves Pitch(mm)
921-020-12	2-20mm	Tr30°	12	2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 16, 20mm
921-012-16	1-12TPI	ACME29°	16	1, 1-1/3, 1-1/2, 1-3/4, 2, 2-1/2, 3, 3-1/2, 4, 5, 6, 7, 8, 9, 10, 12TPI



## PITCH GAUGE

## SERIES 922/923/924



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

### METRIC 60° SCREW

922-007-22

Leaves Pitch	Quantity	Measuring Range	Code
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	22	0.4 - 7.0mm	922-007-22
0.25, 0.3, 0.35, 0.4, 0.5, 0.7, 0.75, 0.8, 0.9, 1, 1.25, 1.5, 1.75, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7mm	24	0.25 - 7.0mm	922-007-24
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	24	0.25 - 6.0mm	922-006-24

### UNIFIED 60° SCREW

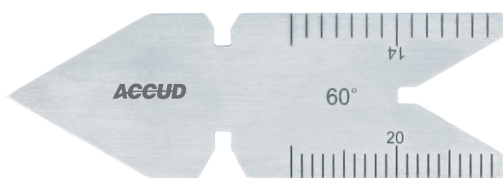
Leaves Pitch	Quantity	Measuring Range	Code
4, 4-1/2, 5, 5-1/2, 6, 7, 8, 9, 10, 11, 11-1/2, 12, 13, 14, 15, 16, 18, 20, 22, 24, 26, 27, 28, 30, 32, 34, 36, 38, 40, 42TPI	30	4 - 42TPI	923-042-30

### WHITWORTH 55° SCREW

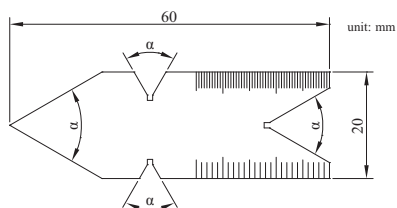
Leaves Pitch	Quantity	Measuring Range	Code
4, 4-1/2, 5, 5-1/2, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 22, 24, 26, 27, 28, 30, 32, 34, 36, 38, 40, 42TPI	30	4 - 42TPI	924-042-30
4, 4-1/2, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16, 18, 19, 20, 22, 24, 25, 26, 28, 30, 32, 36, 40, 48, 60, 62TPI	28	4 - 62TPI	924-062-28

## ANGLE GAUGE

## SERIES 926



926-060-02



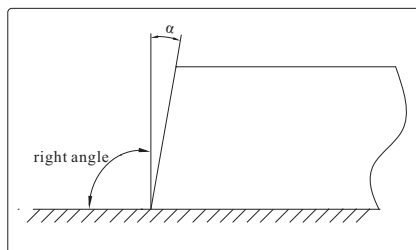
- ◆ Check the screw angle and pitch
- ◆ Accuracy:  $\pm 30'$

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

## 931

## ANGLE GAUGE

- ◆ Check the coangle
- ◆ Accuracy:  $\pm 30'$

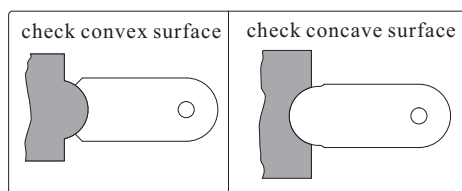
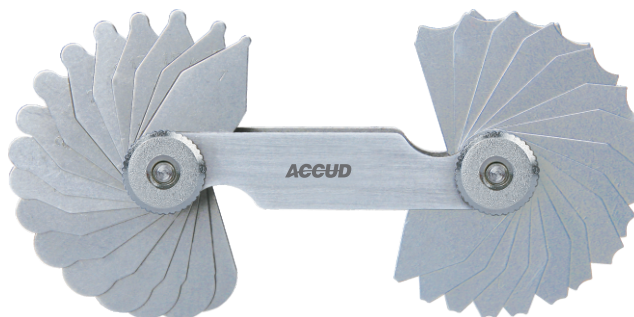


Code	Measuring Range	Quantity	Leaves angle( $\alpha$ )
931-045-20	1° - 45°	20	1°, 2°, 3°, 4°, 5°, 6°, 7°, 8°, 9°, 10°, 12°, 14°, 16°, 18°, 20°, 25°, 30°, 35°, 40°, 45°

## 941

## RADIUS GAUGE

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

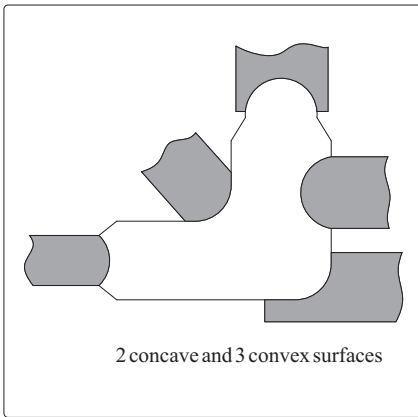


941-007-34

Code	Measuring Range	Leaves Quantity	Accuracy	Leaves Radius (mm)
941-007-34	1 - 7mm	17	$\pm 0.03\text{mm}$	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	16	$\pm 0.035\text{mm}$	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	15	$\pm 0.042\text{mm}$	15.5, 16, 16.5, 17, 17.5, 18, 18.5, 19, 19.5, 20, 21, 22, 23, 24, 25

## RADIUS GAUGE SET

942

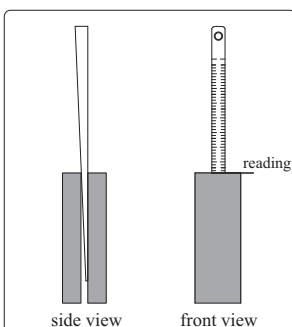
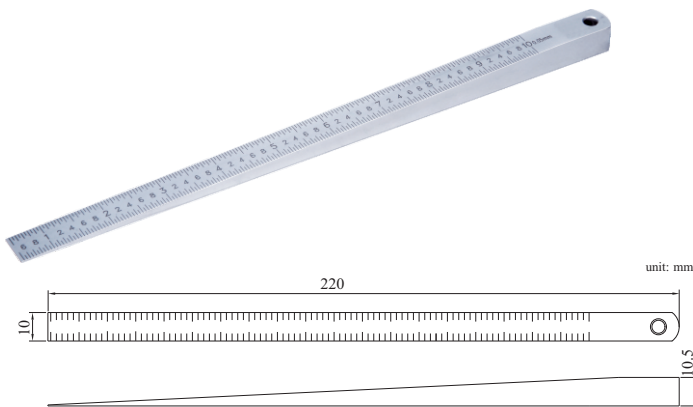


- ◆ Each piece has 2 concave and 3 convex surfaces
- ◆ With handle
- ◆  $\pm 0.05\text{mm}$

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

## TAPER GAUGE

961



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

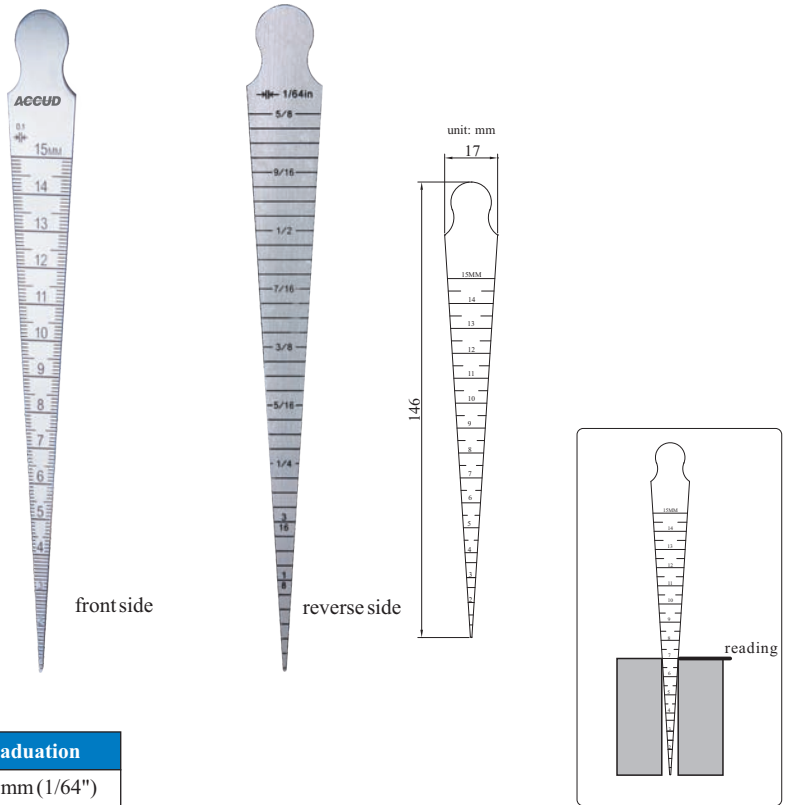
Accuracy	Graduation	Measuring Range	Code
$\pm 0.07\text{mm}$	0.05mm	0.5 - 10mm	961-010-05



## 962

## TAPER GAUGE

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

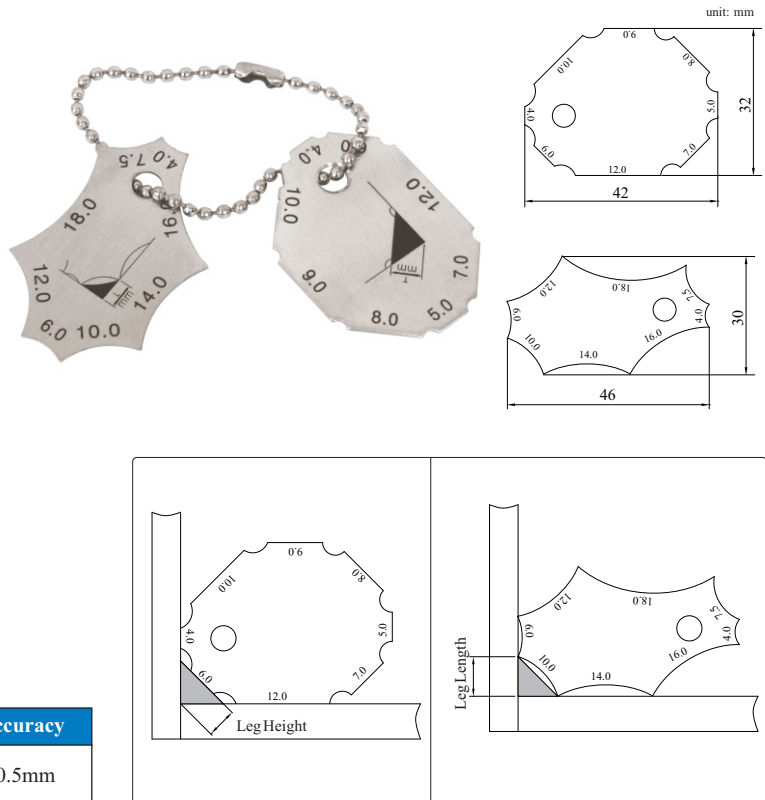


Code	Measuring Range	Accuracy	Graduation
962-015-05	0.8 - 15mm (1/32" - 5/8")	±0.1mm	0.1mm (1/64")

## 972

## WELDING GAUGE

- ◆ Double printing in front and reverse side
- ◆ Made of the stainless steel



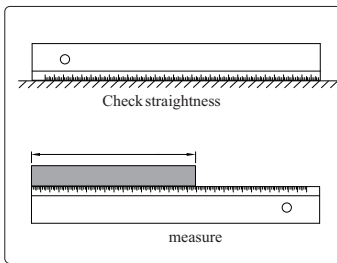
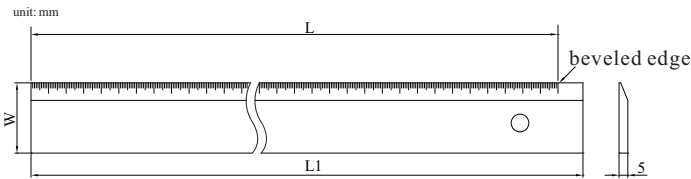
Code	Leg Height (mm)	Leg Length (mm)	Accuracy
972-012-01	4, 5, 6, 7, 8, 9, 10, 12	4, 6, 7.5, 10, 12, 14, 16, 18	±0.5mm

## STRAIGHT EDGE RULE

### 991



991-012-01



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

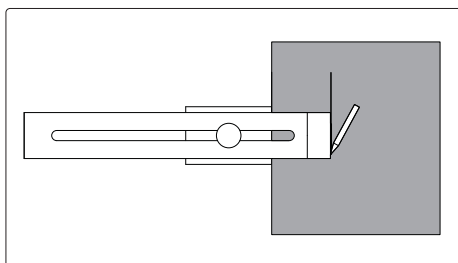
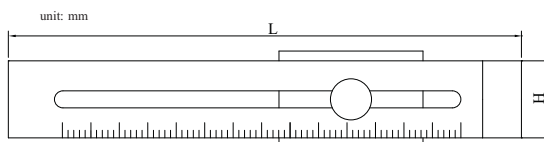
L1	W	Straightness	Measuring Range(L)	Code
320mm	40mm	0.02mm	300mm	991-012-01
520mm	40mm	0.03mm	500mm	991-020-01
1020mm	50mm	0.04mm	1000mm	991-040-01

## MARKING GAUGE

### 992



992-010-01



- ◆ Made of stainless steel
- ◆ Stain chrome finish

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



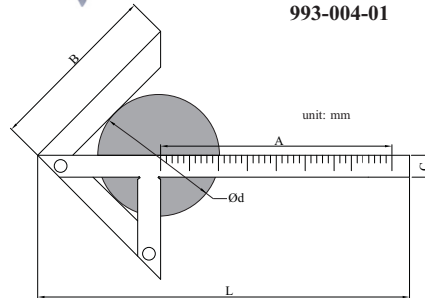
## SERIES 993

## CENTER MARKING GAUGE

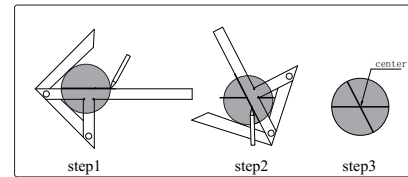
- ◆ Find the center of round plates and shafts
- ◆ Made of stainless steel
- ◆ Stain chrome plated



993-004-01



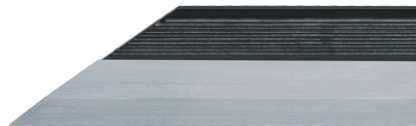
Code	Size (AxB)	Diameter(Ød)	Accuracy	C	L
993-004-01	100X70mm	4-90mm	±0.15mm	12	153
993-006-01	150x130mm	4-190mm	±0.15mm	15	245
993-008-01	200x150mm	6-220mm	±0.15mm	15	310



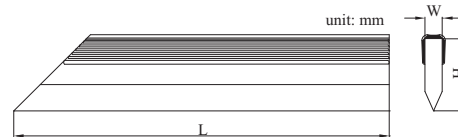
## SERIALS 994

## STRAIGHT EDGE

- ◆ Beveled edge to check the flatness
- ◆ DIN874
- ◆ Made of stainless steel
- ◆ Stain chrome plating



994-002-01



Code	Size (L)	Straightness	W	H
994-002-01	50mm	2.2µm	5	20
994-003-01	75mm	2.3µm	5	25
994-004-01	100mm	2.4µm	5	25
994-005-01	125mm	2.5µm	5	25
994-006-01	150mm	2.6µm	6	30
994-008-01	200mm	2.8µm	6	30
994-010-01	250mm	3.0µm	8	40
994-012-01	300mm	3.2µm	8	40
994-016-01	400mm	3.6µm	10	50
994-020-01	500mm	4.0µm	10	50

## GRANITE SURFACE PLATE

## SERIES 611



611-032-00

- ◆ Made of fine-grained granite
- ◆ With calibration certificate
- ◆ Can order customized size
- ◆ Optional accessory: stand

Grade 00

Wight(Kg)	Flatness	Size(LxWxH)	Code
11	2.7μm	300x200x60mm	611-032-00
18	2.9μm	400x250x60mm	611-042-00
29	3.1μm	400x400x60mm	611-044-00
33	3.2μm	500x315x70mm	611-053-00
60	3.5μm	630x400x80mm	611-064-00
119	3.8μm	630x630x100mm	611-066-00
120	3.9μm	800x500x100mm	611-085-00
265	4.4μm	1000x630x140mm	611-106-00
450	4.8μm	1000x1000x150mm	611-101-00

Grade 0

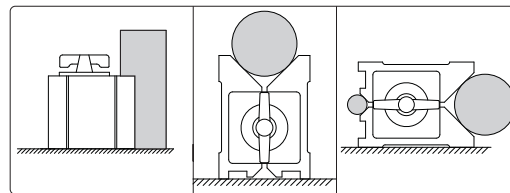
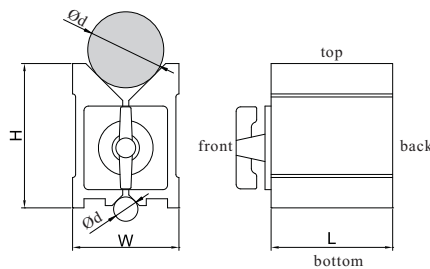
Wight(Kg)	Flatness	Size(LxWxH)	Code
11	5.4μm	300x200x60mm	611-032-10
18	5.9μm	400x250x60mm	611-042-10
29	6.3μm	400x400x60mm	611-044-10
33	6.4μm	500x315x70mm	611-053-10
60	7.0μm	630x400x80mm	611-064-10
119	7.6μm	630x630x100mm	611-066-10
120	7.8μm	800x500x100mm	611-085-10
265	8.7μm	1000x630x140mm	611-106-10
450	9.7μm	1000x1000x150mm	611-101-10

## MAGNETIC V-BLOCK

## SERIES 621



634-067-01



- ◆ Hold cylindrical workpiece for inspection and machining
- ◆ Top groove for large shafts
- ◆ Bottom grooves for small shafts

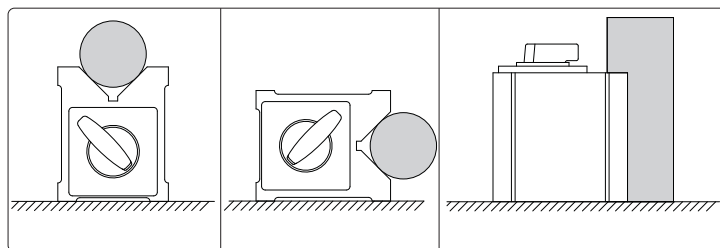
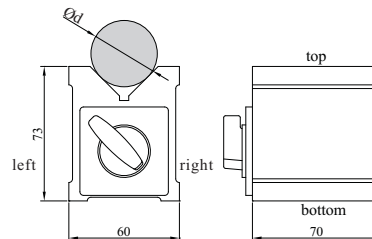
Parallelism Between Top Side And Bottom Side	Squareness Between V-grooves And Back Side	Magnetic Force	For Shaft Range (Ød)	Size(LxWxH)	Code
10μm	10μm	64kgf	6-67mm	80x70x95mm	634-067-01
10μm	10μm	80kgf	6-67mm	100x70x95mm	634-067-02
10μm	10μm	96kgf	6-67mm	120x70x95mm	634-067-03



## SERIES 633

## MAGNETIC V-BLOCK

- ◆ Hold cylindrical workpiece for inspection and machining



Code	For Shaft Range(Ød)	Magnetic Force	Parallelism Between Top And Bottom, Left and Right	Squareness Between V-grooves And Back Side
633-044-01	6 - 44mm	56kgf	10µm	10µm

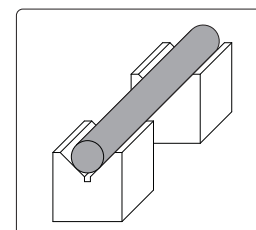
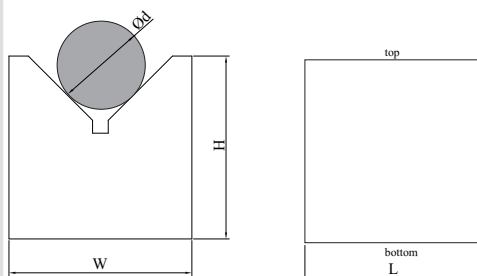
## SERIES 631

## 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	70x70x50mm	6 - 75mm	5µm	5µm
631-099-01	100x70x50mm	6 - 99mm	5µm	5µm



## DIGITAL MICROSCOPE



### DM200



DM200



Stand(optional, code: MS36)

-  Magnification: 10X-200X
-  Pixel: 2M
-  Interface: USB2.0
-  Snap pictures and record videos
-  8 pcs adjustable LED lights
-  With measuring software and calibration rule

Magnification, View filed and Focus relationship

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

## DIGITAL HIGH MAGNIFICATION MICROSCOPE

### DM600



DM600



Stand(optional, code: MS36)

-  Magnification: 450X-600X
-  Pixel: 2M
-  Interface: USB2.0
-  Snap pictures and record videos
-  8 pcs adjustable LED lights
-  With measuring software and calibration rule

Magnification, View filed and Focus relationship

Focus	View Filed	Magnification
1.4mm	1.05x0.79mm	450X
5.5mm	0.95x0.71mm	500X
8.6mm	0.86x0.64mm	550X
11.5mm	0.79x0.59mm	600X



## SERIES ZS1045

## ZOOM STEREO MICROSCOPE



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

## STEREO MICROSCOPE

### SM20/30/40



SM40

### SPECIFICATION

SM20	SM30	SM40	Code
10X/20X	10X/30X	20X/40X	<b>Total modification</b>
1X/2X	1X/3X	2X/4X	<b>Eyepiece modification</b>
10X (view field: Ø20mm)			<b>Eyepiece</b>
55 ~ 75mm			<b>Pupil distance</b>
±5 diopter (only one eyepiece can be adjusted)			<b>Diopter adjustment</b>
57mm			<b>Working distance</b>
68mm			<b>Max. workpiece height</b>
selectable incident and transmitted light			<b>Illumination</b>
120×200×300mm			<b>Dimension(L×W×H)</b>
3kg			<b>Weight</b>

### OPTIONAL ACCESSORIES

SM-05-E	5X eyepiece (view field: Ø20mm)
SM-15-E	15X eyepiece (view field: Ø15mm)
SM-20-E	20X eyepiece (view field: Ø10mm)
1300KPA	Camera

### INCLUDED ACCESSORIES

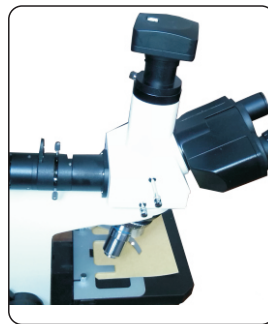
1pc	<b>Main unit</b>
1pc	<b>10X eyepiece</b>
1pc	<b>Eyepiece patch</b>
1pc	<b>Ø95mm frosted glass plate</b>
1pc	<b>Ø95mm black/white plastic plate</b>
1pc	<b>Dustproof cover</b>



## 1300KPA

## CAMERA

- ◆ Easy to connect computer by USB
- ◆ Supplied with measuring software



Connect with microscope



Connect with Vickers hardness tester

### SPECIFICATION

Code	1300KPA
Camera sensor	1/3" CMOS
Pixel	1.3 Mega
Interface	USB
demision (L×W×H)	65×48×43(mm)
Weight	400g

### INCLUDED ACCESSORIES

Main unit	1pc
USB cable	1pc
Software	1pc

### OPTIONAL ACCESSORIES

C-mount	1300KPA-CM
Calibration rule (graduation: 0.1mm)	RU01
Ø30mm eyepiece adaptor	AD30
Ø30.5mm eyepiece adaptor	AD305

## DIGITAL ROCKWELL HARDNESS TESTER

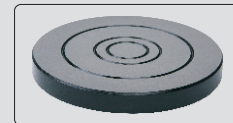
### HR150B



- ◆ The hardness scale can be changed to HV and HB
- ◆ With USB interface, for transferring data



Small flat anvil



Large flat anvil



V-type anvil



PR100 printer(optional)

#### SPECIFICATION

HR150B	Code
10kgf	Load force
60, 100, 150kgf	Total load force
manual	Stage elevation
manual	Loading control
0.1HR	Resolution
170mm	Max. test height
150mm	Max. throat
466×250×618mm	Dimension
65kg	Weight

#### INCLUDED ACCESSORIES

1pc	Main unit
1pc	Ø1.5875mm ball carbide indenter
5pcs	Ø1.5875mm spare ball
1pc	Diamond indenter
2pcs	Flat anvil
1pc	V-type anvil
3pcs	Rockwell test block
1pc	Dustproof cover

#### OPTIONAL ACCESSORIES

PR100	Wireless printer
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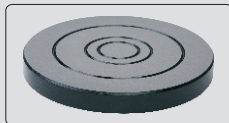
## HR150D

## DIGITAL ROCKWELL HARDNESS TESTER

- ◆ The hardness scale can be changed to HV and HB
- ◆ With USB interface, for transferring data



Small flat anvil



Large flat anvil



V-type anvil



PR100 printer(optional)



### SPECIFICATION

Code	HR150D
Load force	10kgf
Total load force	60, 100, 150kgf
Stage elevation	manual
Loading control	auto
Loading time	1-99s
Resolution	0.1HR
Max. test height	255mm
Max. throat	160mm
Dimension	487×265×726mm
Weight	73kg

### INCLUDED ACCESSORIES

Main unit	1pc
Ø1.5875mm ball carbide indenter	1pc
Ø1.5875mm spare ball	5pcs
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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## MIRCO-VICKES HARDNESS TESTER

## HVS1000M



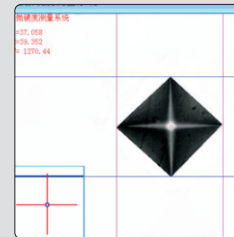
- ◆ For measuring the hardness of the thin, small workpiece or coating
- ◆ Automatical Turretion
- ◆ The hardness scale can be changed to Rockwell scales



Camera interface(optional)



Camera(optional)



Measuring software(optional)

### INCLUDED ACCESSORIES

1pc	Main unit
1pc each	10X, 40X objective
1pc	Indenter
1pc	Test block
1pc	Slice holder
1pc	Vice
1pc	Cylinder holder
1pc	Level
1pc	Dustproof cover

### OPTIONAL ACCESSORIES

1300KPA	Camera
HVS-AD	Camera interface
HVS-SW	Measuring software

### SPECIFICATION

<b>HVS1000M</b>	<b>Code</b>
0.01, 0.025, 0.05, 0.1, 0.2, 0.3, 0.5, 1kgf	<b>Test load</b>
HV0.01, HV0.025, HV0.05, HV0.1, HV0.2, HV0.3, HV0.5, HV1	<b>Unit</b>
manual	<b>Stage elevation</b>
automatic (loading/dwell/unloading)	<b>Loading control</b>
5~60s (step: 5s)	<b>Loading time</b>
10X(observation), 40X(measurement)	<b>Objective</b>
15X	<b>Eyepiece</b>
150X(observation), 600X(measurement)	<b>Total magnification</b>
80mm	<b>Max. test height</b>
95mm	<b>Max. throat</b>
size: 100×100mm	<b>X-Y stage</b>
travel range: 25×25mm	
graduation: 0.01mm	
405×290×480mm	<b>Dimension</b>
25kg	<b>Weight</b>



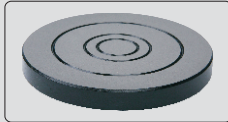
## RBV150

## ROCKWELL/BRINELL/VICKERS HARDNESS TESTER

- ◆ For Rockwell, Brinell and Vickers hardness testing
- ◆ Rockwell testing value is got from screen, and the Brinell and Vickers hardness is got from table in the operation manual



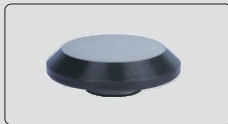
Small flat anvil



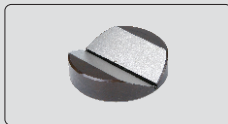
Large flat anvil



Small V-type anvil



Medium flat anvil



Small V-type anvil



### SPECIFICATION

Code	RBV150
Load force for Rockwell	Preload force : 98N, Total load force : 588, 980, 1471 N
Rockwell resolution	0.5HR
Load force for Brinell	306, 613, 1839N
Load force for Vickers	294N
Stage elevation	manual
Loading control	manual
Max. test height	180mm
Max. throat	200mm
Dimension	546×300×767mm
Weight	90kg

### 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 for Rockwell	1pc
Medium flat anvil for Brinell and Vickers	1pc
Medium V-type anvil for Brinell and Vickers	1pc
HRC hardness test block	1pc
HRB hardness test block	1pc
Brinell hardness test block	1pc
Vickers hardness test block	1pc
Dustproof cover	1pc



## PORTABLE HARDNESS TESTER

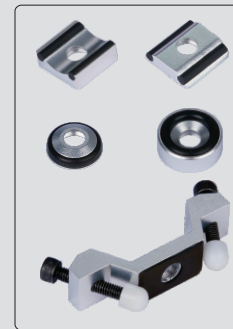
## HL 100



- ◆ 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



Wireless printer (included)



Support Ring (12pcs/set, optional)

### SPECIFICATION

<b>HL100</b>	<b>Code</b>
1HLD, 1HV, 1HB, 0.1HRC, 0.1HRB, 1HS, 1MPa	<b>Resolution</b>
±6HLD/0.6HRC(HLD=800)	<b>Accuracy</b>
>5kg (directly)	<b>Min. workpiece weight</b>
>2kg (on solid support)	
>0.1kg (coupled on large plate)	
>5mm	<b>Min. workpiece thickness</b>
>22mm	<b>Min. workpiece diameter</b>
Ra<1.6μm	<b>Max. workpiece surface roughness</b>
3 xAAA batteies	<b>Power</b>
150×80×24mm	<b>Dimension</b>
<b>INCLUDED ACCESSORIES</b>	
1pc	<b>Main unit</b>
1pc	<b>Wireless printer</b>
1pc	<b>Test block</b>
1pc	<b>Small support ring</b>
1pc	<b>Brush</b>
1pc	<b>Charger for printer</b>
<b>OPTIONAL ACCESSORIES</b>	
<b>HL-SP</b>	<b>Support ring (12pcs/set)</b>



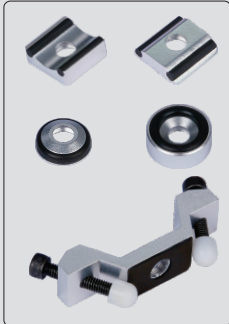
## HL200

## 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



Wireless printer (included)



Support ring (12pcs/set, optional)



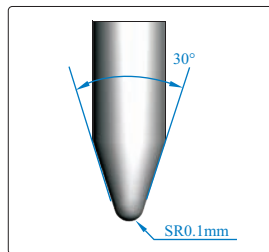
### SPECIFICATION

Code	HL200
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	Ra < 1.6µm
Power	Rechargeable battery
Dimension	135×83×24mm
<b>INCLUDED ACCESSORIES</b>	
Main unit	1pc
Wireless printer	1pc
Test block	1pc
Small support ring and brush	1pc each
USB cable and software	1pc
Charger	2pcs
<b>OPTIONAL ACCESSORIES</b>	
Support ring (12pcs/set)	HL-SP

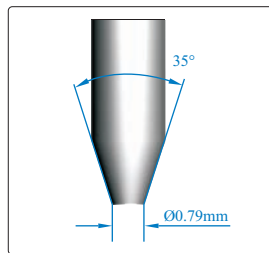


## DIGITAL SHORE HARDNESS TESTER

## SERIES HS



HS5D indenter



HS1A indenter



HS1A

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



Standard block (included)



Stand (optional)

### SPECIFICATION

HS1A	HS5D	Code
Shore A	Shore D	Scale
soft plastic, rubber, leather, etc.	hard plastic, hard rubber, etc.	For material
20~90HA	20~90HD	Measuring range
1HA	1HD	Resolution
±0.5HA	±0.5HD	Accuracy
2.5mm		Indenter protrusion
rechargeable battery		Power
180g		Weight
<b>INCLUDED ACCESSORIES</b>		
1pc		Main unit
1pc		Standard block
1pc		Software
<b>OPTIONAL ACCESSORIES</b>		
PR100		Printer
HS-1A-ST		Stand for HS1A
HS-5D-ST		Stand for HS5D



## SERIES DFXXE

## 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



Stand(Code: FS1000, Optional)



### SPECIFICATION

Code	DF10E	DF50E	DF100E	DF500E	DF1000E
Measuring Range	10N	50N	100N	500N	1000N
Resolution	0.01N	0.01N	0.1N	0.1N	1N
Accuracy	±0.3% x FS (full scale)				
Power	rechargeable battery				
Dimension	150x72x33mm				
Weight	450g				

### INCLUDED ACCESSORY

Main unit	1pc
Charger	1pc
Software	1pc
Push/pull clamps	6pcs

### OPTIONAL ACCESSORIES

Wireless printer	PR100
Stand	FS1000



## DIGITAL FORCE GAUGE

## SERIES DF



- ◆ 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
- ◆ Set tolerance with judgement



Stand(Code: **FS1000**, Optional)

### SPECIFICATION

DF1000	DF500	DF200	DF100	DF50	DF20	DF10	Code
1000N	500N	200N	100N	50N	20N	10N	<b>Measuring range</b>
0.1N	0.01N	0.05N	0.05N	0.005N	0.005N	0.001N	<b>Resolution</b>
±0.2% x FS (full scale)							<b>Accuracy</b>
rechargeable battery							<b>Power</b>
153x73x34mm							<b>Dimension</b>
700g							<b>Weight</b>
<b>INCLUDED ACCESSORY</b>							
1pc							<b>Main unit</b>
1pc							<b>Charger</b>
1pc							<b>Software</b>
6pcs							<b>Push/pull clamps</b>
<b>OPTIONAL ACCESSORIES</b>							
<b>PR100</b>							<b>Wireless printer</b>
<b>FS1000</b>							<b>Stand</b>



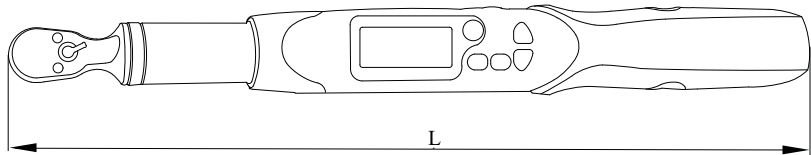
## SERIES TW

## DIGITAL TORQUE WRENCH

- ◆ Clockwise or anti-clockwise operation
- ◆ Units: N.m, in.lb, ft.lb, kg.cm
- ◆ Peak or real-time working mode
- ◆ Automatic power off
- ◆ With calibration certificate



TW30



### SPECIFICATION

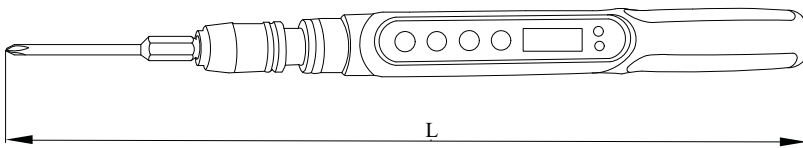
Code	TW12	TW20	TW30	TW135	TW200
Torque range	2.4~12N.m	4~20N.m	6~30N.m	27~135N.m	40~200N.m
Resolution	0.01N.m	0.01N.m	0.1N.m	0.1N.m	1N.m
Accuracy (clockwise operation)	±3%	±3%	±2%	±2%	±2%
Accuracy (anti-clockwise operation)	±4%	±4%	±3%	±3%	±3%
Size	1/4"	1/4"	1/4"	3/8"	1/2"
Length(L)	260mm	260mm	390mm	415mm	530mm
Weight	430g	430g	830g	950g	1400g
Power	1xAAA 1.5V battery			2xAAA 1.5V batteries	



## DIGITAL SCREWDRIVER

## SERIES TQ

- ◆ Both in clockwise and anti-clockwise direction
- ◆ Peak and track working mode
- ◆ With audible and visible alarm when the value is closed to setting target
- ◆ Supplied with calibration certificate



### SPECIFICATION

TQ400CN	TQ200CN	TQ50CN	Code
80~400cN.m	40~200cN.m	10~50cN.m	<b>Range</b>
±2.5%	±2.5%	±3%	<b>Clockwise operation Accuracy</b>
±3.5%	±3.5%	±4%	<b>Anti-clockwise operation Accuracy</b>
0.1cN.m	0.1cN.m	0.1cN.m	<b>Resolution</b>
1/4"	1/4"	1/4"	<b>Size of shank</b>
268mm	268mm	258mm	<b>Length (L)</b>
200g	200g	200g	<b>Weight</b>
1xAAA battery			<b>Power</b>



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