

**KAR**

**2019  
2020**



# MEASURING INSTRUMENTS

CATALOGUE NO. CAN2019



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The products with this mark are supplied with manufacturer inspection certificate. Some of them are traceable to NIST.



**Sample for Electronic Caliper 817000 ( Part No. 1108-150)**

INSIZE Inspection Certificate							
Product name		Digital Caliper		Traceable to		USA NIST No.8212/29484-10 Germany DKD No.Dk-15190-01-00	
Code No.		1108-150		Inspector		<i>David</i>	
Measuring range		0-150mm / 0-6"		Judgement		Passed	
Resolution		0.01mm / 0.0005"					
Serial No.		0910120004					
Standard temperature		20°C / 68°F					
Unit: inch				Unit: mm			
Measuring Length	Permissible Error	Error		Measuring Length	Permissible Error	Error	
		External	Internal			External	Internal
0.4 DIA	+0.0005 -0.0010	/	0.0005	Φ10	+0.01 -0.02	/	0.01
2	±0.0010	-0.0005	/	50	±0.02	-0.01	/
4		-0.0005	/	100		-0.01	/
6		-0.0010	/	150		-0.02	/
8		/	/	200		/	/
10	±0.0015	/	/	250	±0.03	/	/
12		/	/	300		/	/

**Sample for Outside Micrometer 816564 ( Part No. 3203-1A)**

INSIZE Inspection Certificate							
Product name		Outside Micrometer		Traceable to		USA NIST No.8212/29484-10	
Code No.		3203-1A		Inspector		<i>Paulo</i>	
Measuring range		0-1"		Judgement		Passed	
Graduation		0.0001"					
Serial No.		0910120004					
Standard temperature		68°F					
Based on		ASME B89.1.13-2013					
Traceable to		USA NIST No.8212/29484-10					
Inspector		<i>Paulo</i>					
Measuring Length	Permissible Error	Error		Measuring Length	Permissible Error	Error	
		External	Internal			External	Internal
0.000	0.0000			0.000	0.0000		
0.210	0.0001			0.210	0.0001		
0.420	-0.0001			0.420	-0.0001		
0.605	0.00015			0.605	0.00015		
0.815	0.0001			0.815	0.0001		
1.000	0.0001			1.000	0.0001		

INSIZE provides one year manufacturer warranty for all products.

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DIGITAL FORCE GAGE



DIGITAL TORQUE TESTER  
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TORQUE WRENCH



### ELECTRONIC COOLANT PROOF CALIPERS

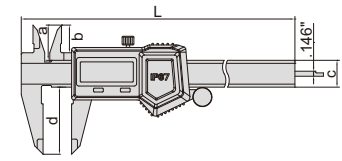


- IP67 dust/coolant proof
- Resolution .0005"/0.01mm
- Button function: zero, on/off, inch/mm, ABS/REL, hold
- Battery CR2032
- Made of stainless steel



1118-150B

Part No.	EDP No.	Range	Accuracy	L	a	b	c	d
1118-150B	816018	0-6"/0-150mm	±.0012"	9.291"	.827"	.630"	.630"	1.575"
1118-200B	280014	0-8"/0-200mm	±.0012"	11.260"	.945"	.748"	.630"	1.969"
1118-300B	280015	0-12"/0-300mm	±.0012"	15.748"	.984"	.807"	.669"	2.362"



### ELECTRONIC CALIPERS

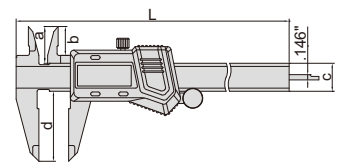


- Zinc alloy housing for electronic unit
- Resolution .0005"/0.01mm
- Buttons: zero, on/off, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel



1114-150A

Part No.	EDP No.	Range	Accuracy	L	a	b	c	d
1114-150A	816012	0-6"/0-150mm	±.0012"	9.291"	.827"	.630"	.630"	1.575"
1114-200A	816014	0-8"/0-200mm	±.0012"	11.260"	.945"	.748"	.630"	1.969"
1114-300A	816016	0-12"/0-300mm	±.0012"	15.748"	.984"	.807"	.669"	2.362"



### ELECTRONIC CALIPERS (FRACTION READING)



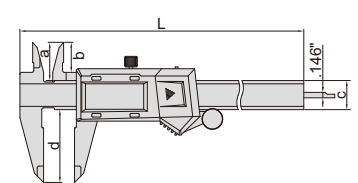
- Resolution: 0.01mm, .0005", 1/128"
- Buttons: unit (mm/in/fraction), ABS, on/off, zero
- Absolute and incremental measurement
- Battery CR2032, automatic power off
- Made of stainless steel



1102-150



Part No.	EDP No.	Range	Accuracy	L	a	b	c	d
1102-150	280003	0-6"/0-150mm	±.0012"	9.213"	.787"	.591"	.630"	1.575"
1102-200	280004	0-8"/0-200mm	±.0012"	11.260"	.945"	.748"	.630"	1.969"
1102-300	280005	0-12"/0-300mm	±.0012"	15.354"	1.024"	.846"	.630"	2.362"



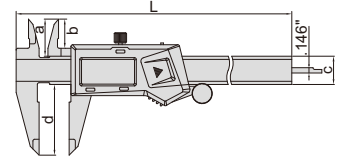
## ELECTRONIC CALIPERS (STANDARD MODEL)



- Resolution .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (part no. 7306-20, 7302-SPC5A/SPC5B, 7305-SPC2A, 7305-A01/A02)



1108-150



Part No.	EDP No.	Range	Accuracy	L	a	b	c	d
1108-150	817000	0-6"/0-150mm	±.0008"	9.291"	.827"	.630"	.630"	1.575"
1108-200	817001	0-8"/0-200mm	±.0012"	11.260"	.945"	.748"	.630"	1.969"
1108-300	817002	0-12"/0-300mm	±.0012"	15.748"	.984"	.807"	.630"	2.362"

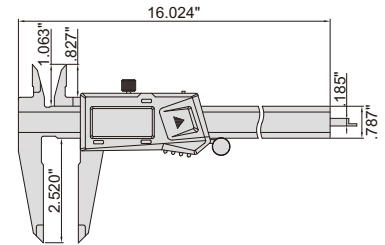
## HEAVY DUTY 12" ELECTRONIC CALIPERS



- Resolution .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (part no. 7306-20, 7302-SPC5A/SPC5B, 7305-SPC2A, 7305-A01/A02)



1196-300



Part No.	EDP No.	Range	Accuracy
1196-300	877124	0-12"/0-300mm	±.0012"

## ELECTRONIC CALIPER WITH ROUND DEPTH BAR



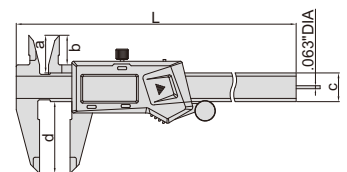
- Resolution .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (part no. 7306-20, 7302-SPC5A/SPC5B, 7305-SPC2A, 7305-A01/A02)



1119-150



round depth bar .063" DIA



Part No.	EDP No.	Range	Accuracy	L	a	b	c	d
1119-150	877109	0-6"/0-150mm	±.0012"	9.291"	.827"	.630"	.630"	1.575"

## ELECTRONIC CALIPERS WITH CARBIDE TIPPED JAWS

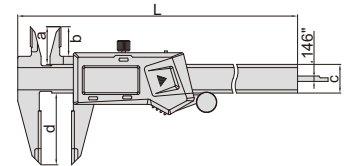
**NIST**  
CERTIFICATION

**SPC**

- Carbide tipped jaws for inside and outside measurements
- Resolution .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (part no. **7306-20**, **7302-SPC5A/SPC5B**, **7305-SPC2A**, **7305-A01/A02**)



1110-150A



Part No.	EDP No.	Range	Accuracy	L	a	b	c	d
1110-150A	280021	0-6"/0-150mm	±.0012"	9.291"	.827"	.630"	.630"	1.575"
1110-200A	280022	0-8"/0-200mm	±.0012"	11.260"	.945"	.748"	.630"	1.969"
1110-300A	280023	0-12"/0-300mm	±.0012"	15.748"	.984"	.807"	.630"	2.362"

## ELECTRONIC LEFT HAND CALIPERS

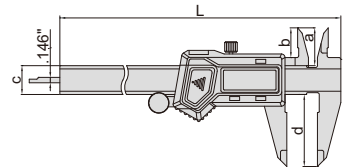
**NIST**  
CERTIFICATION

**SPC**

- Designed for left handed users
- Resolution .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, data output
- Made of stainless steel
- Optional accessory: data output cable (part no. **7306-20**, **7302-SPC5A/SPC5B**, **7305-SPC2A**, **7305-A01/A02**)



1130-150



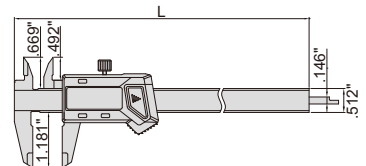
Part No.	EDP No.	Range	Accuracy	L	a	b	c	d
1130-150	816615	0-6"/0-150mm	±.0012"	9.291"	.827"	.630"	.630"	1.575"
1130-200	816616	0-8"/0-200mm	±.0012"	11.260"	.945"	.748"	.630"	1.969"
1130-300	816617	0-12"/0-300mm	±.0012"	15.748"	.984"	.807"	.630"	2.362"

## MINI ELECTRONIC CALIPERS

- Resolution .0005"/0.01mm
- Buttons: zero, inch/mm, on/off
- Automatic power off, move the digital unit to turn on power
- Battery LR44
- Made of stainless steel



1111-100A



Part No.	EDP No.	Range	Accuracy	L
1111-75A	280019	0-3"/0-75mm	±.0008"	5.669"
1111-100A	280020	0-4"/0-100mm	±.0008"	6.693"

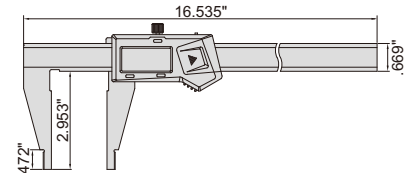
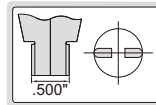
### ELECTRONIC CALIPER



- Resolution .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (part no. 7306-20, 7302-SPC5A/SPC5B, 7305-SPC2A, 7305-A01/A02)



1522-127



Part No.	EDP No.	Range	Accuracy
1522-127	816686	0-12"/0-300mm	±.0016"

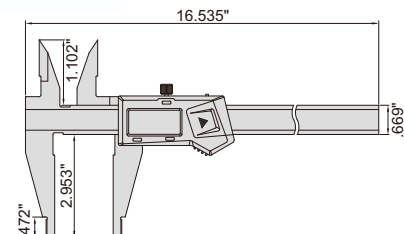
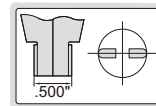
### ELECTRONIC CALIPER



- Resolution .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (part no. 7306-20, 7302-SPC5A/SPC5B, 7305-SPC2A, 7305-A01/A02)



1523-127



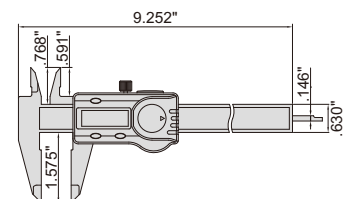
Part No.	EDP No.	Range	Accuracy
1523-127	816687	0-12"/0-300mm	±.0016"

### ELECTRONIC PLASTIC CALIPER

- Made of hard plastic, non-magnetic and non electric conductive
- Prevent workpieces from scratching by calipers
- Resolution .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Battery CR2032, automatic power off



1139-150



Part No.	EDP No.	Range	Accuracy
1139-150	280024	0-6"/0-150mm	±.004"

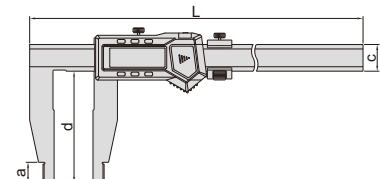
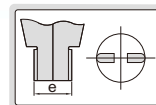
### ELECTRONIC CALIPERS



- Resolution .0005"/0.01mm
- Button function: on/off, zero, inch/mm, ABS, data preset
- Battery CR2032, data output
- Made of stainless steel
- Optional accessory: data output cable (part no. 7306-20, 7302-SPC5A/SPC5B, 7305-SPC2A, 7305-A01/A02)



1131-24

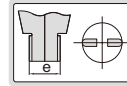
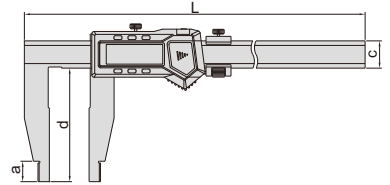


Part No.	EDP No.	Range	Accuracy	a	c	d	e	L
1131-24	876221	0-24"/0-600mm	±.0020"	.709"	.945"	3.937"	.800"	30.315"
1131-40	876222	0-40"/0-1000mm	±.0031"	.945"	1.220"	5.906"	.800"	48.031"
1131-60	816618	0-60"/0-1500mm	±.0043"	.945"	1.654"	5.906"	.800"	70.079"
1131-80	280063	0-80"/0-2000mm	±.0055"	.945"	1.654"	5.906"	.800"	90.157"



**ELECTRONIC CALIPER**

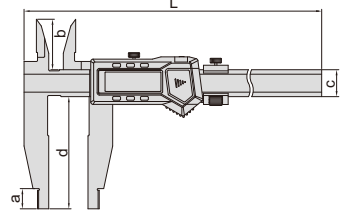
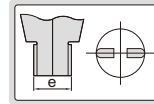

- Resolution: 0.01mm/0.0005"
- Button function: on/off, zero, mm/inch, ABS, data preset
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (part no. 7306-20, 7302-SPC5A/SPC5B, 7305-SPC2A, 7305-A01/A02)


**1106-1002**


Part No.	EDP No.	Range	Accuracy	a	c	d	e	L
1106-1002	280051	0-1000mm/0-40"	±0.08mm	24	31	150	20	1220

**ELECTRONIC CALIPERS**

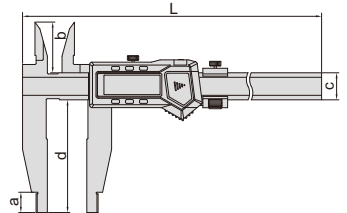
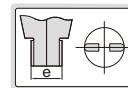

- Resolution .0005"/0.01mm
- Button function: on/off, zero, inch/mm, ABS, data preset
- Battery CR2032, data output
- Made of stainless steel
- Optional accessory: data output cable (part no. 7306-20, 7302-SPC5A/SPC5B, 7305-SPC2A, 7305-A01/A02)


**1133-24**


Part No.	EDP No.	Range	Accuracy	a	b	c	d	e	L
1133-24	285061	0-24"/0-600mm	±.0020"	.709"	1.772"	.945"	3.937"	.800"	30.315"
1133-40	285062	0-40"/0-1000mm	±.0031"	.945"	2.362"	1.220"	5.906"	.800"	48.031"

**ELECTRONIC CALIPERS**

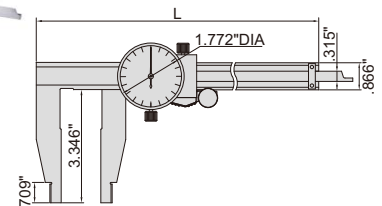
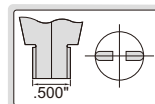

- Resolution: 0.01mm/0.0005"
- Button function: on/off, zero, mm/inch, ABS, data preset
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (part no. 7306-20, 7302-SPC5A/SPC5B, 7305-SPC2A, 7305-A01/A02)


**1136-501**


Part No.	EDP No.	Range	Accuracy	a	b	c	d	e	L
1136-501	280117	0-500mm/0-20"	±0.05mm	18	45	24	100	20	675
1136-1002	816022	0-1000mm/0-40"	±0.08mm	24	60	31	150	20	1220

**DIAL CALIPERS**

- Shockproof dial indicator
- Graduation .001"
- Made of stainless steel


**1316-18**


Part No.	EDP No.	Range	Accuracy	L
1316-18	877128	0-18"	±.0020"	22.835"
1316-24	877129	0-24"	±.0020"	28.740"

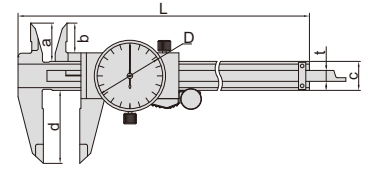
## DIAL CALIPERS



- Shockproof dial indicator
- Made of stainless steel



1311-6



### Dial indicator graduation .001"

Part No.	EDP No.	Range	Accuracy	L	a	b	c	d	D	t
1311-4	280462	0-4"	±.0012"	6.496"	.709"	.472"	.512"	1.181"	1.260" DIA	.228"
1311-6	816028	0-6"	±.0015"	9.252"	.827"	.650"	.630"	1.575"	1.535" DIA	.256"
1311-8	816030	0-8"	±.0020"	11.339"	.945"	.748"	.630"	1.890"	1.535" DIA	.256"
1311-12	816032	0-12"	±.0020"	16.142"	1.102"	.866"	.787"	2.441"	1.752" DIA	.295"

### Dial indicator graduation 0.01mm

Part No.	EDP No.	Range	Accuracy	L	a	b	c	d	D	t
1311-150A	816034	0-150mm	±0.03mm	235mm	21mm	16.5mm	16mm	40mm	Ø39mm	6.5mm
1311-200A	816036	0-200mm	±0.03mm	288mm	24mm	19mm	16mm	48mm	Ø39mm	6.5mm
1311-300A	816038	0-300mm	±0.03mm	410mm	28mm	22mm	20mm	62mm	Ø44.5mm	7.5mm

## VERNIER CALIPERS

- Made of stainless steel
- Satin chrome plated reading surface



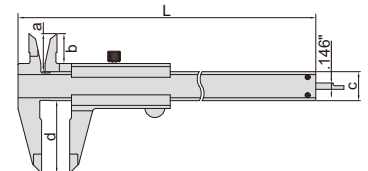
1205-1502E

### Graduation .001"/0.02mm

Part No.	EDP No.	Range	Accuracy	L	a	b	c	d
1205-1502E	876750	0-6"/0-150mm	±.0012"	9.252"	.807"	.610"	.630"	1.575"
1205-2002E	876225	0-8"/0-200mm	±.0012"	11.417"	.925"	.748"	.669"	1.969"
1205-3002E	876232	0-12"/0-300mm	±.0012"	16.299"	1.083"	.866"	.787"	2.520"

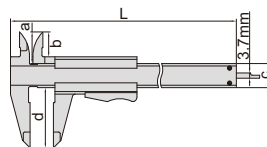
### Graduation 0.05mm/1/128"

Part No.	EDP No.	Range	Accuracy	L	a	b	c	d
1205-150S	876224	0-150mm/0-6"	±0.05mm	235mm	20.5mm	15.5mm	16mm	40mm



## VERNIER CALIPER WITH THUMB CLAMP

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



1223-150

### Graduation 0.05mm/1/128" (mm)

Part No.	EDP No.	Range	Accuracy	L	a	b	c	d
1223-150	280184	0-150mm/0-6"	±0.05mm	230	20.5	16.5	16	40

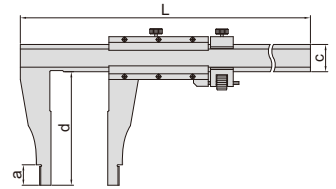
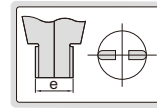
## VERNIER CALIPERS

1



1211-24

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



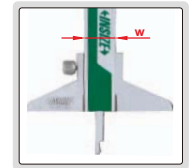
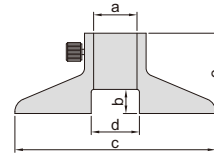
Part No.	EDP No.	Range	Graduation	Accuracy	Graduation on scale	a	c	d	e	L
1211-24	280408	0-24"/0-600mm	.001"/0.02mm	±.002"	inch on bottom, metric on top	.709"	.945"	3.937"	.800"	30.315"
1211-40	280409	0-40"/0-1000mm	.001"/0.02mm	±.0031"	inch on bottom, metric on top	.945"	1.26"	5.512"	.800"	47.874"

## DEPTH BASE ATTACHMENT

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

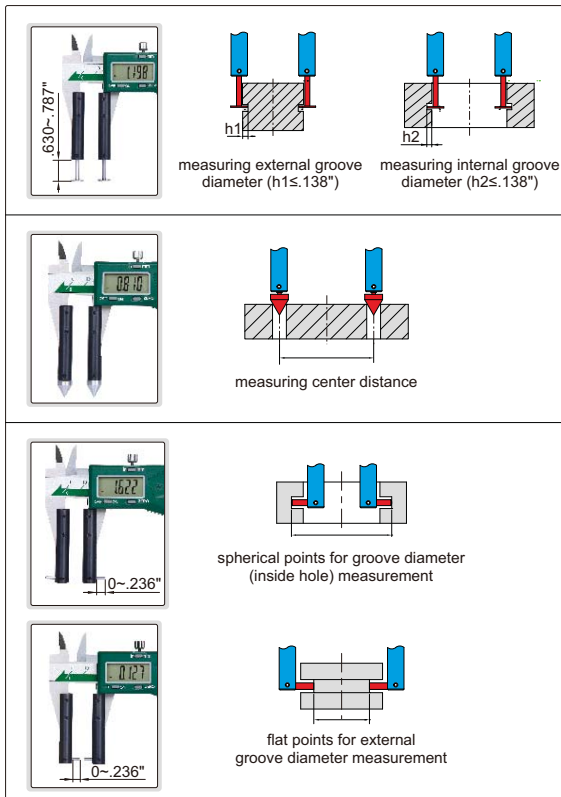


6140

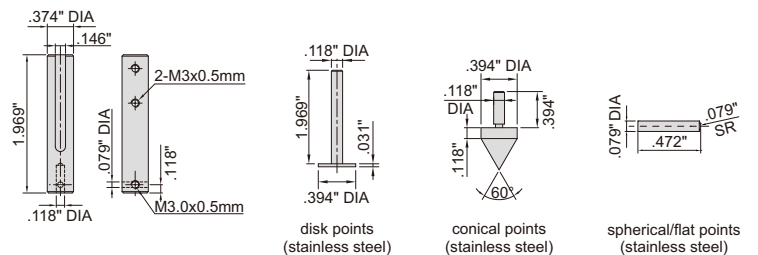


Part No.	EDP No.	a	b	c	d	e	Application
6140	816046	.650"	.354"	2.953"	.709"	1.181"	Suitable for calipers with beam width (w) .630"

## ACCESSORY SET FOR ELECTRONIC CALIPERS PART NO. 6144



6144



- Suitable for 0-6"/0-150mm and 0-8"/0-200mm electronic calipers (thickness of lower jaws .146")

Part No.	EDP No.
6144	877188

## UNIVERSAL CALIPER PART NO. 1125-600

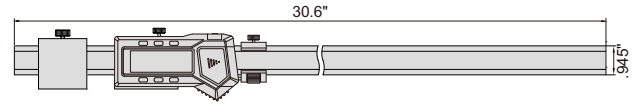


1125-600

working with stands



working with measuring jaws

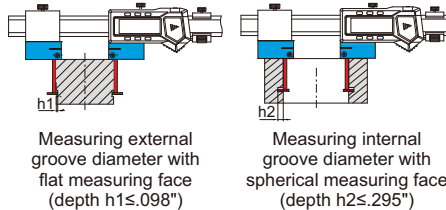
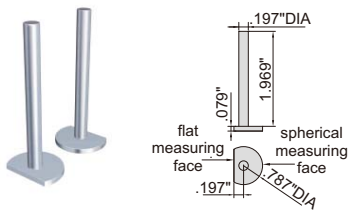


- Buttons: on/off, set, inch/mm, ABS, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, data output
- Made of stainless steel
- Optional accessory: data output cable (part no. 7306-20, 7302-SPC5A/SPC5B, 7305-SPC2A, 7305-A01/A02)

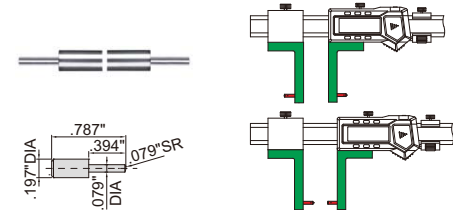
Part No.	EDP No.	Range *	Resolution	Accuracy
1125-600	877100	0-24"/0-600mm	.0005"/0.01mm	±.002"

\* The range changes according to different points

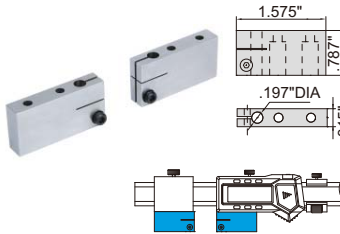
### Half disk points (included)



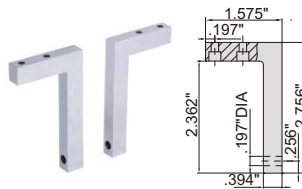
### Spherical points (included)



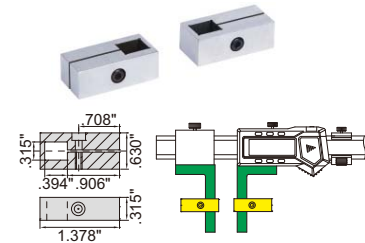
### Stands (included)



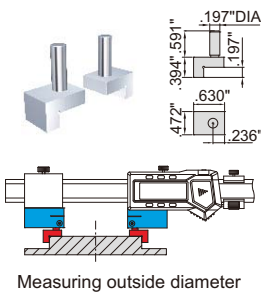
### Measuring jaws (included)



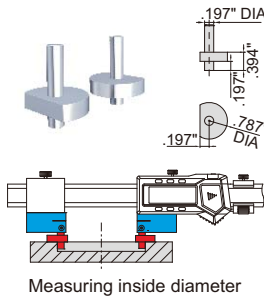
### Depth stop (included)



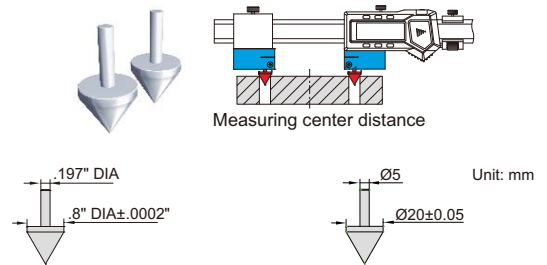
### Flat shoulder points (optional)



### Round shoulder points (optional)



### Conical points (optional)



Part No.	EDP No.
1125-T103	877112

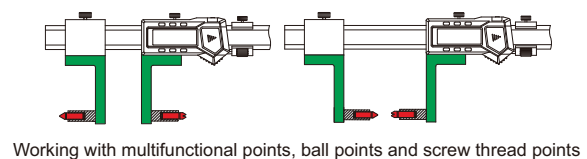
Part No.	EDP No.
1125-T102	877111

Part No.	EDP No.
1125-T101-1	877110

Part No.	EDP No.
1125-T101	877101

### Point sleeve (optional)

Part No.	EDP No.
1125-T104	877113



### Multifunctional points 7392 (optional, next page)



### Ball points 7391 (optional, next page)



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

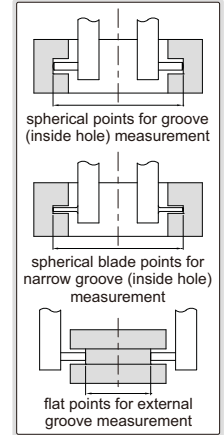


# ELECTRONIC CALIPER WITH INTERCHANGEABLE POINTS

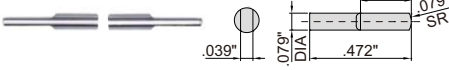
## PART NO. 1526-200



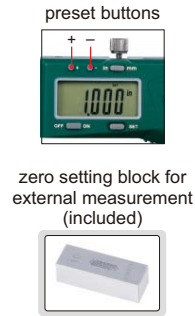
measure internal and external grooves


**short spherical points (included)**

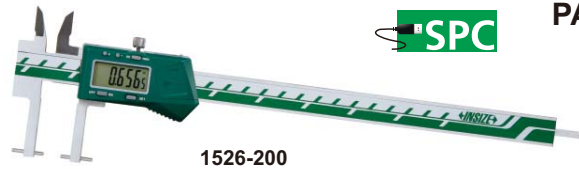
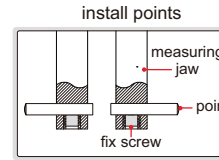
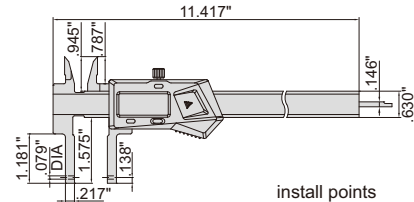
**long spherical/flat points (included)**

**spherical blade points (included)**


- Supplied with 3 pairs of points and zero setting block for external measurement
- Resolution .0005"/0.01mm
- Accuracy  $\pm 0.012$ "
- Buttons: on/off, set, inch/mm, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, data output
- Made of stainless steel
- Optional accessory: points (part no. **1526-T101**, **7392**, **7391**, **7381**, **7321**), depth stop (part no. **6143**), data output cable (part no. **7306-20**, **7302-SPC5A/SPC5B**, **7305-SPC2A**, **7305-A01/A02**)

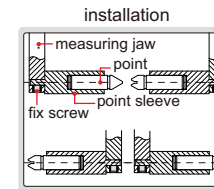


zero setting block for external measurement (included)

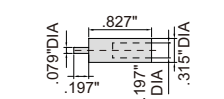

**1526-200**


install points

Part No.	EDP No.
1526-200	816620

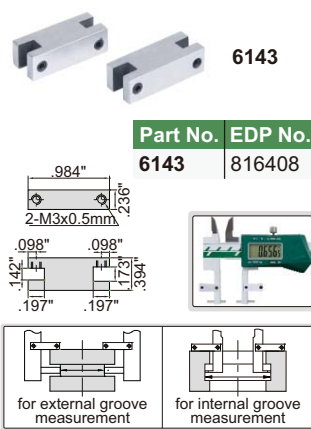
**Point sleeve (optional)**


installation

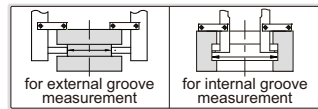
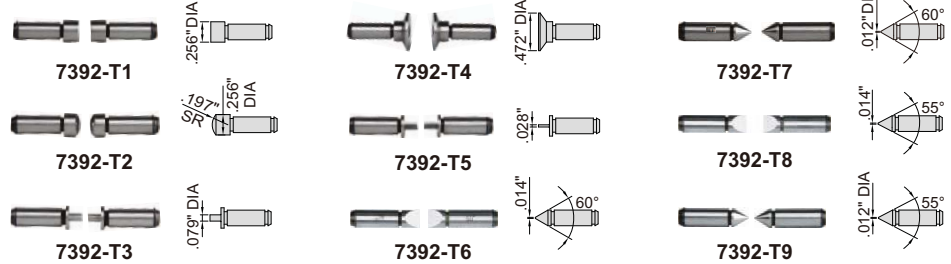

**1526-T101**


Part No.	EDP No.
1526-T101	816621

Point	Range	Application
short spherical points	.5-8.5"/12-212mm (internal)	for grooves inside small hole
long spherical/flat points	1-8.8"/24-224mm (internal) 0-7.5"/0-187mm (external)	spherical points for grooves inside hole flat points for external grooves
spherical blade points	1-8.8"/24-224mm (internal) 0-7.5"/0-187mm (external)	for narrow grooves inside hole

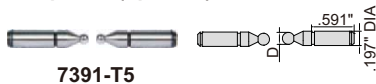
**Depth stop (optional)**

**6143**

Part No.	EDP No.
6143	816408

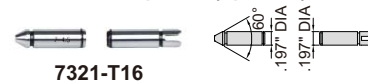

**Multifunctional points (optional)**


Part No.	EDP No.	Type	Part No.	EDP No.	Type	Part No.	EDP No.	Type
7392-T1*	816622	flat	7392-T4*	816625	disk	7392-T7*	816628	point
7392-T2*	816623	spherical	7392-T5*	816626	blade	7392-T8*	816629	knife-edge
7392-T3*	816624	spline	7392-T6*	816627	knife-edge	7392-T9*	816630	point

 \* It is necessary to use point sleeve (part no. **1526-T101**) for these points

**Ball points (optional)**

**7391-T5**

Part No.	EDP No.	Ball dia.(D)
7391-T3*	282169	.079" DIA
7391-T4*	282170	.098" DIA
7391-T5*	282171	.118" DIA
7391-T6*	282172	.138" DIA
7391-T7*	282173	.157" DIA
7391-T8*	282174	.177" DIA
7391-T9*	282175	.197" DIA
7391-T10*	282176	.236" DIA

**Screw thread points (optional)**

**7321-T16**

Part No.	EDP No.	Pitch
7321-T11*	282160	64-48TPI/0.4-0.5mm
7321-T12*	282161	44-28TPI/0.6-0.9mm
7321-T13*	282162	24-14TPI/1-1.75mm
7321-T14*	282163	13-9TPI/2-3mm
7321-T15*	282164	8-5TPI/3.5-5mm
7321-T16*	282165	4.5-3.5TPI/5.5-7mm
7321-T1S*	282159	6 pairs/set, including all above points


**7381-T11**

Part No.	EDP No.	Pitch
7381-T11*	281671	64-48TPI/0.4-0.5mm
7381-T12*	281672	44-28TPI/0.6-0.9mm
7381-T13*	281673	24-14TPI/1-1.75mm
7381-T14*	281674	13-9TPI/2-3mm
7381-T15*	281675	8-5TPI/3.5-5mm
7381-T16*	281676	4.5-3.5TPI/5.5-7mm
7381-TS*	281670	6 pairs/set, including all above points

 \* It is necessary to use point sleeve (part no. **1526-T101**) for these points

## ELECTRONIC CALIPER WITH INTERCHANGEABLE POINTS PART NO. 1124-300A



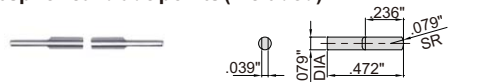
short spherical/flat points (included)



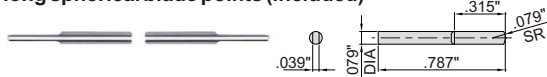
long spherical/flat points (included)



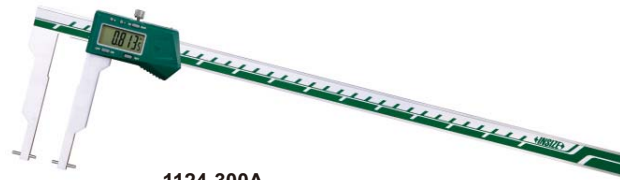
short spherical blade points (included)



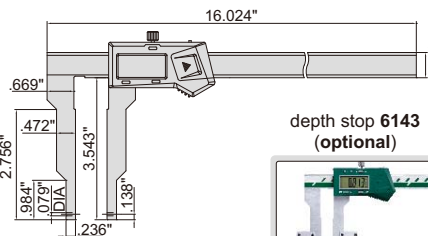
long spherical blade points (included)



- Supplied with 4 pairs of points and zero setting block for external measurement
- Resolution .0005"/0.01mm
- Buttons: on/off, set, inch/mm, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: points (part no. 1526-T101, 7392, 7391, 7381, 7321), depth stop (part no. 6143), data output cable (part no. 7306-20, 7302-SPC5A/SPC5B, 7305-SPC2A, 7305-A01/A02)



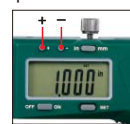
1124-300A



depth stop 6143 (optional)

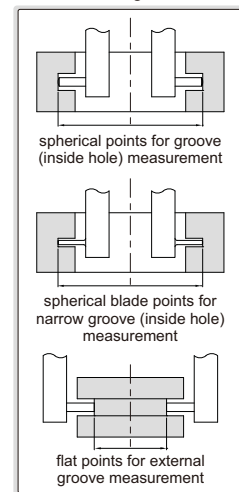


preset buttons



Part No.	EDP No.
1124-300A	816619

measure internal and external grooves



zero setting block for external measurement (included)



Point	Range	Accuracy	Application
short spherical/flat points	1-12.7"/24-324mm (internal) 0-11.3"/0-288mm (external)	±.0016"	spherical points for grooves inside hole (small hole) flat points for external grooves
long spherical/flat points	1.5-13.3"/40-340mm (internal) 0-10.7"/0-272mm (external)	±.0016"	spherical points for grooves inside hole (large hole) flat points for external grooves
short spherical blade points	1-12.7"/24-324mm (internal) 0-11.3"/0-288mm (external)	±.0016"	for narrow grooves inside hole (small hole)
long spherical blade points	1.5-13.3"/40-340mm(internal) 0-10.7"/0-272mm(external)	±.0016"	for narrow grooves inside hole (large hole)

Multifunctional points 7392 (optional, refer to 1526-200 for more details)



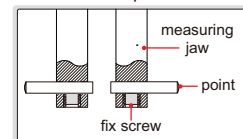
Ball points 7391 (optional, refer to 1526-200 for more details)



Screw thread points 7381, 7321 (optional, refer to 1526-200 for more details)



install points



## ELECTRONIC INSIDE GROOVE CALIPER



- Measure groove diameter
- Resolution .0005"/0.01mm
- Buttons: on/off, set, inch/mm, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, data output
- Made of stainless steel
- Optional accessory: depth stop (part no. 6143), data output cable (part no. 7306-20, 7302-SPC5A/SPC5B, 7305-SPC2A, 7305-A01/A02)

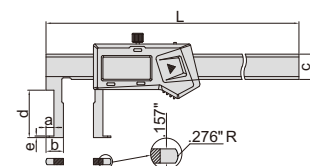
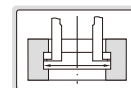
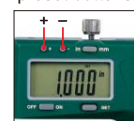


1120-150AE

depth stop 6143 (optional)



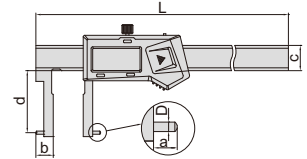
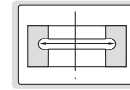
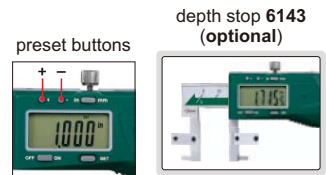
preset buttons



Part No.	EDP No.	Range	Accuracy	L	a	b	c	d	e
1120-150AE	280523	1-6"/25.4-150mm	±.0016"	9.843"	.197"	.5000"	.630"	1.181"	.039"


**ELECTRONIC INSIDE GROOVE CALIPER**

- Measure groove diameter
- Resolution .0005"/0.01mm
- Buttons: on/off, set, inch/mm, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, data output
- Made of stainless steel
- Optional accessory: depth stop (part no. **6143**), data output cable (part no. **7306-20**, **7302-SPC5A/SPC5B**, **7305-SPC2A**, **7305-A01/A02**)


**1121-150A**


Part No.	EDP No.	Range	Accuracy	L	a	b	c	d	D
<b>1121-150A</b>	280541	.9-6"/24-150mm	±.0016"	9.843"	.197"	.4724"	.630"	1.181"	.079" DIA

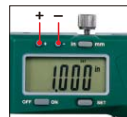
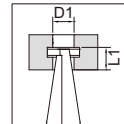

**ELECTRONIC INSIDE GROOVE CALIPER**

 depth stop **6143**  
(optional)

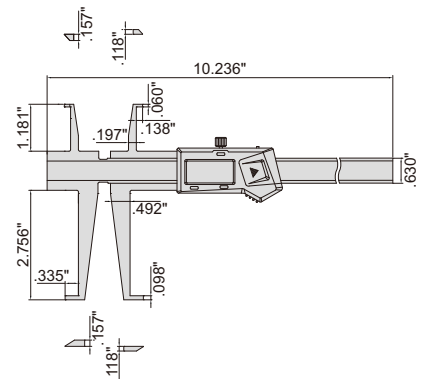
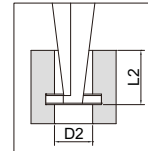
**1176-150**

- Measure diameter of grooves inside bores
- Resolution .0005"/0.01mm
- Buttons: on/off, set, inch/mm, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: depth stop (part no. **6143**), data output cable (part no. **7306-20**, **7302-SPC5A/SPC5B**, **7305-SPC2A**, **7305-A01/A02**)

preset buttons


 sizes to be measured  
(use upper jaws)


D1	L1
.354" DIA	<.315"
.394" DIA	<.591"
.433"~6" DIA	<1.181"


 sizes to be measured  
(use lower jaws)


D2	L2
.590" DIA	<.394"
.630" DIA	<.709"
.669" DIA	<1.024"
.709" DIA	<1.339"
.748" DIA	<1.654"
.787" DIA	<1.969"
.827" DIA	<2.283"
.866"~6" DIA	<2.756"

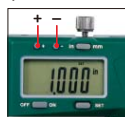
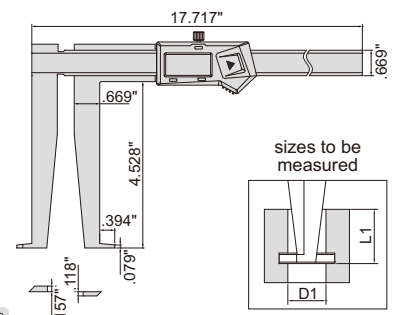
Part No.	EDP No.	Range of upper jaw	Range of lower jaw	Accuracy
<b>1176-150</b>	817005	.35-6"/9-150mm	.59-6"/15-150mm	±.0016"


**ELECTRONIC INSIDE GROOVE CALIPER**

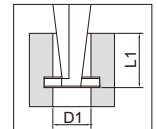
- Measure diameter of grooves inside bores
- Resolution .0005"/0.01mm
- Buttons: on/off, set, inch/mm, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, data output
- Made of stainless steel
- Optional accessory: depth stop (part no. **6143**), data output cable (part no. **7306-20**, **7302-SPC5A/SPC5B**, **7305-SPC2A**, **7305-A01/A02**)


**1178-300**

preset buttons


 depth stop **6143**  
(optional)


sizes to be measured



D1	L1
.984" DIA	<1.968"
1.024" DIA	<2.362"
1.063"~12" DIA	<4.331"

Part No.	EDP No.	Range	Accuracy
<b>1178-300</b>	816633	1.18-12"/25-300mm	±.0020"

## ELECTRONIC INSIDE GROOVE CALIPER

- Measure diameter of grooves inside small bores
- Resolution .0005"/0.01mm
- Buttons: on/off, set, inch/mm, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: depth stop (part no. 6143), data output cable (part no. 7306-20, 7302-SPC5A/SPC5B, 7305-SPC2A, 7305-A01/A02)

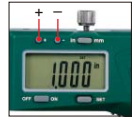
Part No.	EDP No.	Range	Accuracy
1520-150	877105	.43-6"/11-150mm	±.0016"



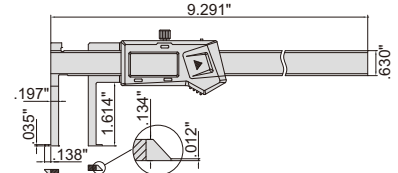
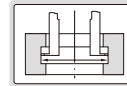
1520-150



preset buttons



depth stop 6143 (optional)



## ELECTRONIC OUTSIDE GROOVE CALIPER

- Measure grooves and recesses
- Resolution .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: depth stop (part no. 6143), data output cable (part no. 7306-20, 7302-SPC5A/SPC5B, 7305-SPC2A, 7305-A01/A02)

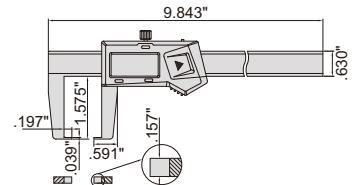
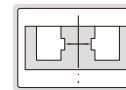
Part No.	EDP No.	Range	Accuracy
1187-150A	280505	0-6"/0-150mm	±.0016"



1187-150A



depth stop 6143 (optional)



## ELECTRONIC OUTSIDE POINT CALIPER

- Measure wall thickness inside bores and recesses
- Resolution .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: depth stop (part no. 6143), data output cable (part no. 7306-20, 7302-SPC5A/SPC5B, 7305-SPC2A, 7305-A01/A02)

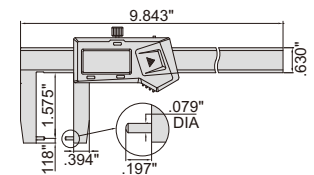
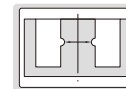
Part No.	EDP No.	Range	Accuracy
1185-150A	280514	0-6"/0-150mm	±.0016"



1185-150A



depth stop 6143 (optional)



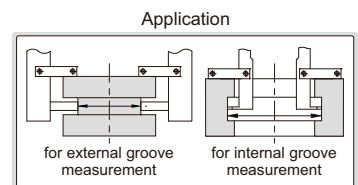
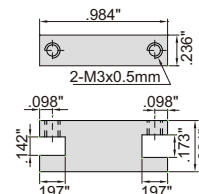
## DEPTH STOP FOR CALIPERS

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



6143

Part No.	EDP No.
6143	816408





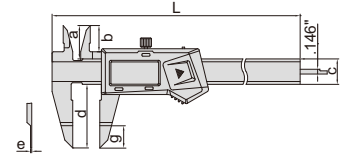
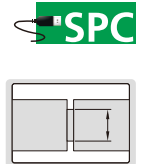


### ELECTRONIC BLADE CALIPER

- The blade jaws fit into small grooves
- Resolution .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, data output
- Made of stainless steel
- Optional accessory: data output cable (part no. 7306-20, 7302-SPC5A/SPC5B, 7305-SPC2A, 7305-A01/A02)



1188-150A



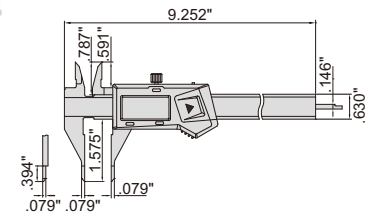
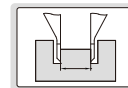
Part No.	EDP No.	Range	Accuracy	L	a	b	c	d	e	g
1188-150A	280580	0-6"/0-150mm	±.0012"	9.291"	.827"	.630"	.630"	1.575"	.030"	.669"

### ELECTRONIC SMALL POINT CALIPER

- Small pointed jaws fit into small grooves and recesses
- Resolution .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, data output
- Made of stainless steel
- Optional accessory: data output cable (part no. 7306-20, 7302-SPC5A/SPC5B, 7305-SPC2A, 7305-A01/A02)



1169-150



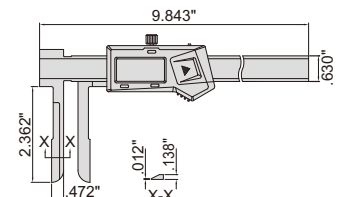
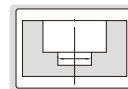
Part No.	EDP No.	Range	Accuracy
1169-150	877119	0-6"/0-150mm	±.0012"

### ELECTRONIC INSIDE KNIFE-EDGE CALIPER

- Measure diameter of deep step holes
- Resolution .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (part no. 7306-20, 7302-SPC5A/SPC5B, 7305-SPC2A, 7305-A01/A02)



1123-150A



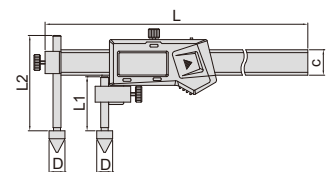
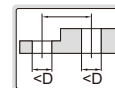
Part No.	EDP No.	Range	Accuracy
1123-150A	280589	.6-6"/15-150mm	±.0020"

### ELECTRONIC OFFSET CENTERLINE CALIPER

- Measure hole center distance in the same or offset planes
- Resolution .0005"/0.01mm
- Buttons: on/off, set, inch/mm, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (part no. 7306-20, 7302-SPC5A/SPC5B, 7305-SPC2A, 7305-A01/A02)



1192-300AE



Part No.	EDP No.	Range	Accuracy	c	D (DIA)	L1	L2	L
1192-300AE	877123	.4-12"/10.5-300mm	±.0035"	.630"	.4"	1.260"	2.559"	15.591"

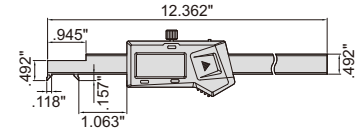
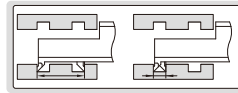
## ELECTRONIC HOOK CALIPER



- Measure width of groove inside bores
- Resolution .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, data output
- Made of stainless steel
- Optional accessory: data output cable (part no. 7306-20, 7302-SPC5A/SPC5B, 7305-SPC2A, 7305-A01/A02)



1122-200A



Part No.	EDP No.	Range	Accuracy
1122-200A	280644	.12-8"/3-200mm	±.0012"

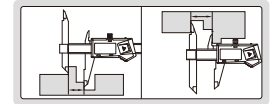
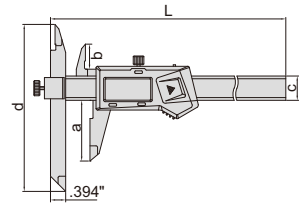
## ELECTRONIC OFFSET CALIPER



- The left jaw can slide up and down to facilitate measurement of stepped sections
- Resolution .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (part no. 7306-20, 7302-SPC5A/SPC5B, 7305-SPC2A, 7305-A01/A02)



1186-150A



Part No.	EDP No.	Range	Accuracy	L	a	b	c	d
1186-150A	280625	0-6"/0-150mm	±.0016"	9.409"	1.575"	.650"	.669"	4.331"

## ELECTRONIC RTJ RING GROOVE CALIPERS



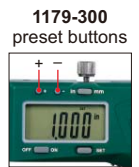
- Measure ring grooves of flange
- Resolution .0005"/0.01mm
- Button function: on/off, set, zero, inch/mm, data preset
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (part no. 7306-20, 7302-SPC5A/SPC5B, 7305-SPC2A, 7305-A01/A02)



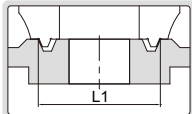
1179-300



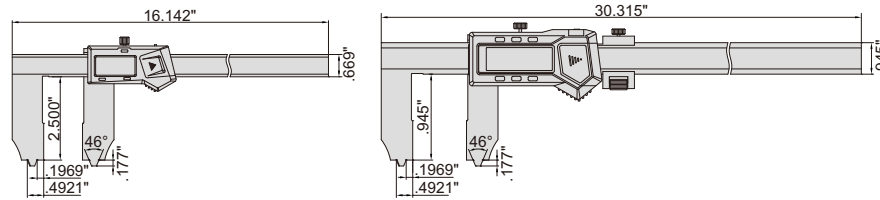
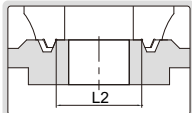
1179-600



measure outside diameter of RTJ ring groove



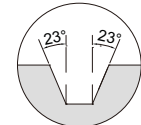
measure inside diameter of RTJ ring groove



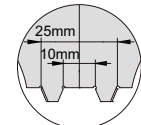
1179-300

1179-600

applicable for RTJ ring grooves with angle 23°



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



Part No.	EDP No.	Range (inside diameter of RTJ ring groove)	Range (outside diameter of RTJ ring groove)	Angle of RTJ ring groove	Accuracy
1179-300	877121	.4-12"/10-300mm	1-12"/25-300mm	23°	±.0024"
1179-600	877122	.4-24"/10-600mm	1-24"/25-600mm	23°	±.0028"

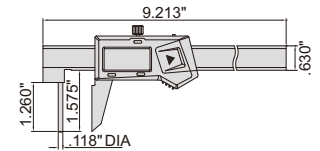
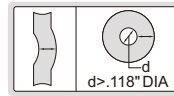
## ELECTRONIC TUBE THICKNESS CALIPER



- Measure wall thickness of tubes
- Resolution .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (part no. 7306-20, 7302-SPC5A/SPC5B, 7305-SPC2A, 7305-A01/A02)



1161-150A



Part No.	EDP No.	Range	Accuracy
1161-150A	280502	0-6"/0-150mm	±.0020"

## ELECTRONIC CALIPER WITH LARGE MEASURING FACE



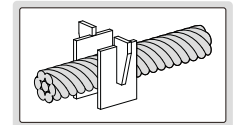
- Measure diameter of wire ropes, and thickness of soft materials like rubber, sponge, etc.
- Resolution .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (part no. 7306-20, 7302-SPC5A/SPC5B, 7305-SPC2A, 7305-A01/A02)



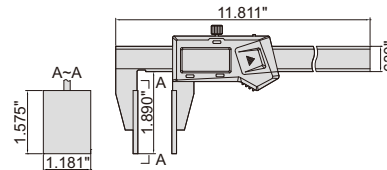
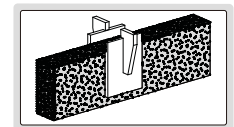
1172-200



measure diameter of wire ropes



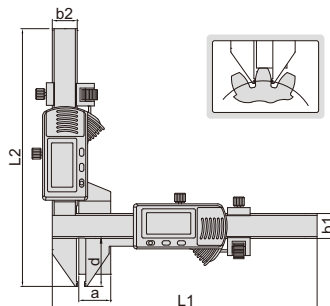
measure thickness of rubber, sponge, etc.



Part No.	EDP No.	Range	Accuracy
1172-200	877104	0-8"/0-200mm	±.0028"

## ELECTRONIC GEAR TOOTH CALIPERS

- Resolution .0005"/0.01mm
- Carbide tips
- Buttons: zero, on/off, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel



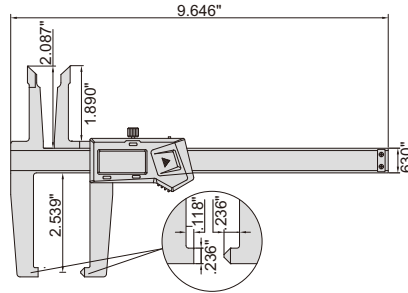
1181-M25A

Part No.	EDP No.	Range	Accuracy	L1	L2	a	b1	b2	d
1181-M25A	280658	P1-P24	±.0016"	6.693"	6.516"	.827"	.630"	.630"	1.201"
1181-M50A	280659	P1/2-P5	±.0016"	8.661"	7.480"	1.988"	.630"	.630"	2.165"

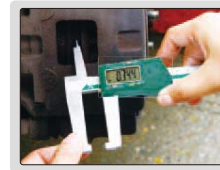
## ELECTRONIC DISK BRAKE AND PAD CALIPER



- Measure thickness of disk brakes and pad wear
- Resolution .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (part no. 7306-20, 7302-SPC5A/SPC5B, 7305-SPC2A, 7305-A01/A02)



1167-150A



Part No.	EDP No.	Range	Accuracy
1167-150A	877118	0-6"/0-150mm	±.0028"

## ELECTRONIC DEPTH GAGES

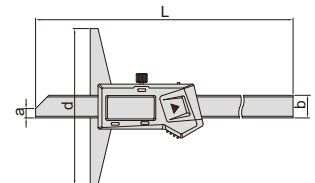


- Resolution .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, data output
- Made of stainless steel
- Optional accessory: data output cable (part no. 7306-20, 7302-SPC5A/SPC5B, 7305-SPC2A, 7305-A01/A02)



1141-150A

Part No.	EDP No.	Range	Accuracy	L	a	b	d
1141-150A	816040	0-6"/0-150mm	±.0012"	9.055"	.236"	.571"	3.937"
1141-200A	816042	0-8"/0-200mm	±.0012"	11.024"	.236"	.571"	3.937"
1141-300A	816044	0-12"/0-300mm	±.0012"	14.961"	.236"	.571"	5.906"
1141-500A	280676	0-20"/0-500mm	±.0020"	23.031"	.276"	.591"	5.906"



## ELECTRONIC DEPTH GAGES WITH MOUNTING HOLES FOR EXTENSION BASE



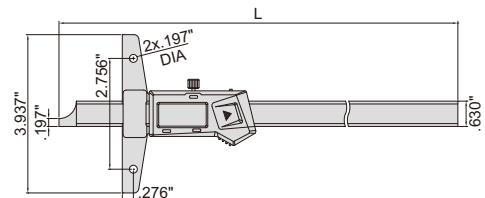
- Resolution .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (part no. 7306-20, 7302-SPC5A/SPC5B, 7305-SPC2A, 7305-A01/A02), extension base (part no. 6141)



1147-300



Part No.	EDP No.	Range	Accuracy	L
1147-150	285130	0-6"/0-150mm	±.0012"	9.331"
1147-200	285131	0-8"/0-200mm	±.0012"	11.299"
1147-300	285132	0-12"/0-300mm	±.0012"	15.866"



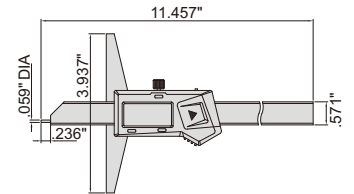
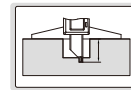
## ELECTRONIC POINT DEPTH GAGE



- Resolution .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (part no. 7306-20, 7302-SPC5A/SPC5B, 7305-SPC2A, 7305-A01/A02)



1143-200A



Part No.	EDP No.	Range	Accuracy
1143-200A	877004	0-8"/0-200mm	±.0012"

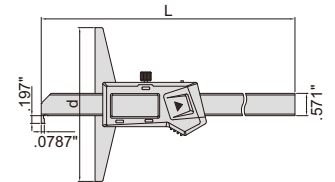
## ELECTRONIC HOOK DEPTH GAGES



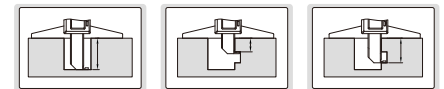
- Resolution .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (part no. 7306-20, 7302-SPC5A/SPC5B, 7305-SPC2A, 7305-A01/A02)



1142-150A



Part No.	EDP No.	Range	Accuracy	L	d
1142-150A	280677	0-6"/0-150mm	±.0012"	9.055"	3.937"
1142-200A	280678	0-8"/0-200mm	±.0012"	11.024"	3.937"
1142-300A	280679	0-12"/0-300mm	±.0016"	14.961"	5.906"



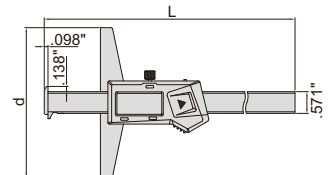
## ELECTRONIC DOUBLE HOOK DEPTH GAGES



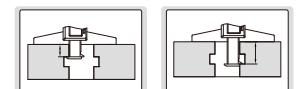
- Resolution .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (part no. 7306-20, 7302-SPC5A/SPC5B, 7305-SPC2A, 7305-A01/A02)



1144-150A



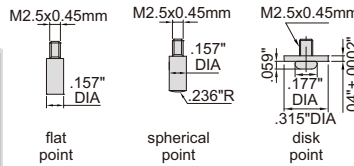
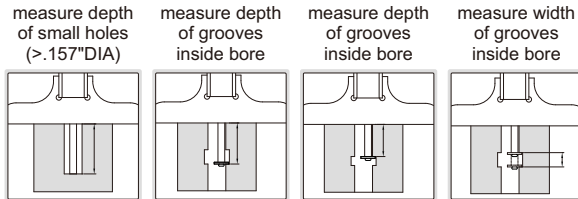
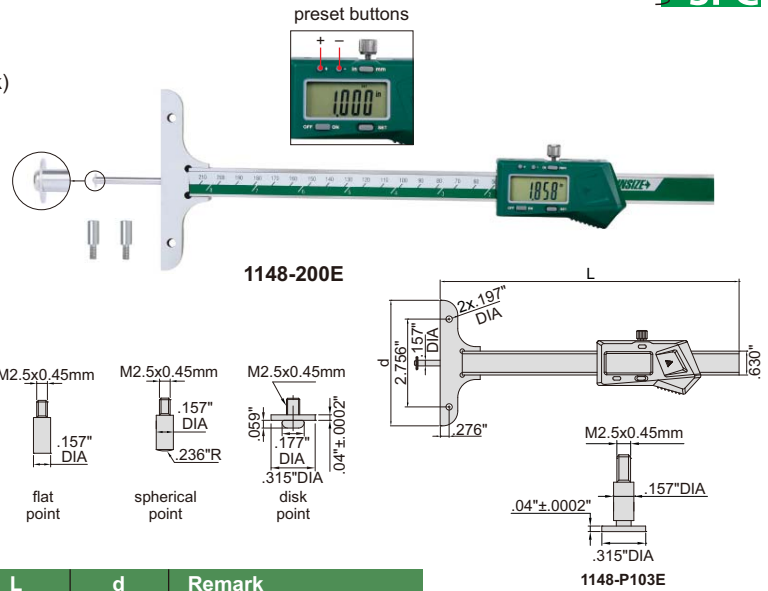
Part No.	EDP No.	Range	Accuracy	L	d
1144-150A	280681	0-6"/0-150mm	±.0012"	9.173"	3.937"
1144-200A	280682	0-8"/0-200mm	±.0012"	11.142"	3.937"
1144-300A	280683	0-12"/0-300mm	±.0012"	15.079"	5.906"



**ELECTRONIC DEPTH GAGE WITH ROUND DEPTH BAR**



- Resolution .0005"/0.01mm
- Supplied with three interchangeable points (flat, spherical, disk)
- Buttons: on/off, set, inch/mm, preset (+, -)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, data output
- Made of stainless steel
- Optional accessory: data output cable (part no. 7306-20, 7302-SPC5A/SPC5B, 7305-SPC2A, 7305-A01/A02), disk points (see below table), extension base (part no. 6141)



Part No.	EDP No.	Range *	Accuracy	L	d	Remark
1148-200E	877103	0-8 1/0-200mm	±.0012"	11.811"	3.976"	with mounting holes for extension base

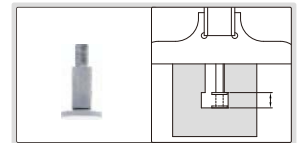
\* When disk points are used, the range is reduced by .394"

**OPTIONAL DISK POINT**

Part No.	EDP No.	Description	Remark
1148-P103E	877116	.04" disk point	for grooves inside blind hole



1148-P103E (optional), measure width of bottom grooves inside blind hole

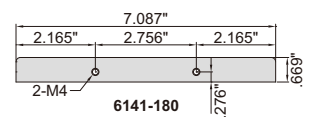


**EXTENSION BASES**

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

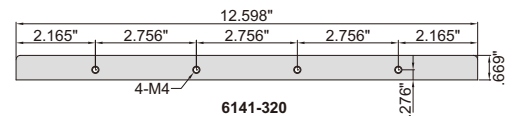
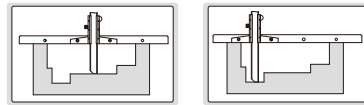


6141-320



6141-180

Part No.	EDP No.	Length
6141-180	280750	7.087"
6141-320	280752	12.598"

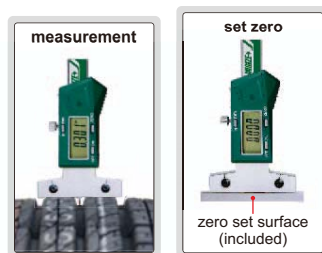


6141-320

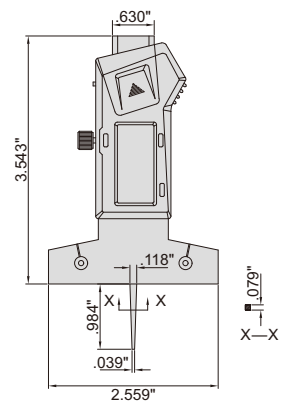
**MINI ELECTRONIC DEPTH GAGE**



- Measure depth of small groove and hole, also measure depth of tire tread
- Resolution .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Supplied with zero set surface
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (part no. 7306-20, 7302-SPC5A/SPC5B, 7305-SPC2A, 7305-A01/A02)



1145-25A



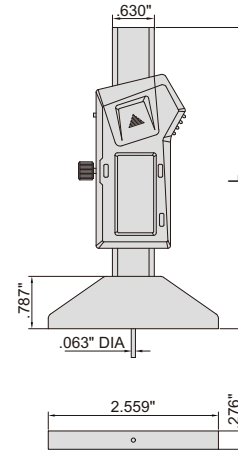
Part No.	EDP No.	Range	Accuracy
1145-25A	284550	0-1 1/0-25mm	±.0012"

**SPC**

- Measure depth of small groove and hole
- Resolution .0005"/0.01mm
- Accuracy ±.0008"
- Buttons: on/off, set, inch/mm, preset (+,-)
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (part no. 7306-20, 7302-SPC5A/SPC5B, 7305-SPC2A, 7305-A01/A02)



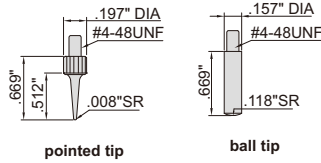
1140-25



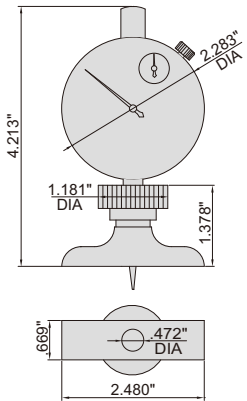
Part No.	EDP No.	Range	L
1140-25	877114	0-1"/0-25mm	4.488"
1140-50	877115	0-2"/0-50mm	5.512"

**DIAL DEPTH GAGE**

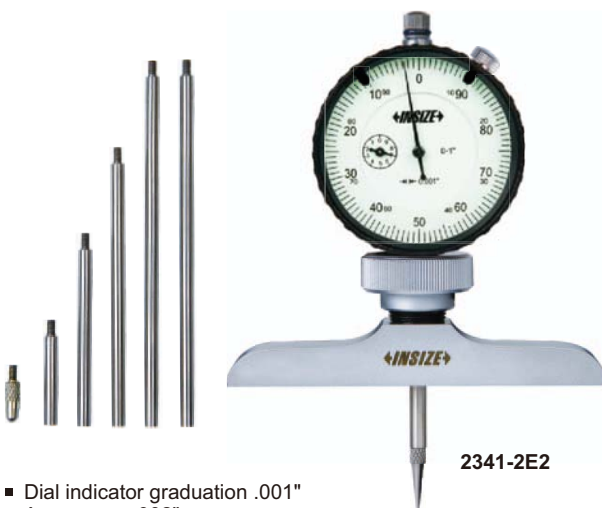
- Accuracy ±.0012"
- Stainless steel base
- Supplied with pointed tip and ball tip



2341-E1

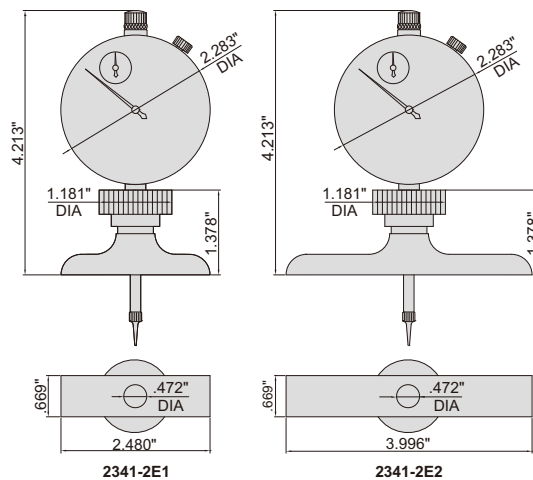


Part No.	EDP No.	Range	Dial indicator stroke	Dial indicator graduation
2341-E1	283207	0-1.2"	.5"	.001"



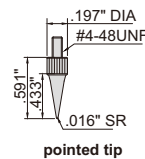
2341-2E2

- Dial indicator graduation .001"
- Accuracy: ±.002"
- Stainless steel base
- Extension rods: 1" (1 pc), 2" (1 pc), 3" (1 pc), 4" (2 pcs)
- Supplied with pointed tip and ball tip

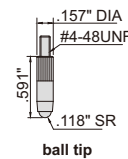


2341-2E1

2341-2E2



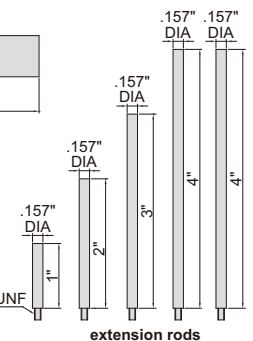
pointed tip



ball tip

Part No.	EDP No.	Range	Dial indicator stroke	Base
2341-2E1	876240	0-12"	1"	2.480 x .669"
2341-2E2	876241	0-12"	1"	3.996 x .669"

**DIAL DEPTH GAGES**



extension rods

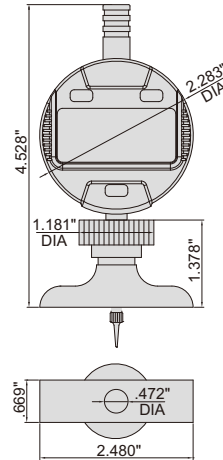
## ELECTRONIC DEPTH GAGES



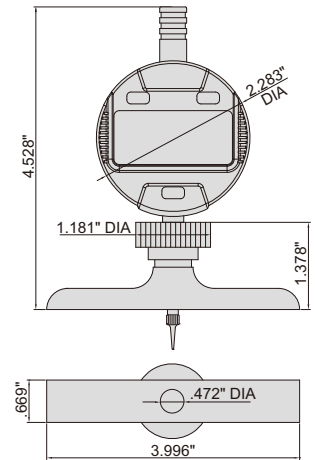
2



2141-202A

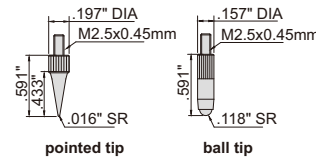


2141-201A



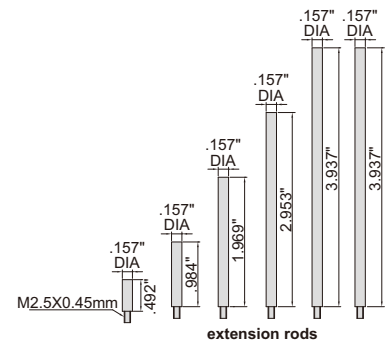
2141-202A

- Button function: on/off, zero, inch/mm, ABS, data preset, change measuring direction
- CR2032 battery, automatic power off
- Data output
- Stainless steel base
- Supplied with pointed tip and ball tip
- Optional accessory: data output cable (part no. 7306-40, 7302-SPC3A, 7305-SPC1A, 7305-C01)



pointed tip

ball tip



extension rods

Part No.	EDP No.	Range	Digital indicator stroke	Digital indicator resolution	Accuracy	Base
2141-201A	876242	0-12"/0-300mm	.5"/12.7mm	.0005"/0.01mm	±.0008"	2.480 x .669"
2141-202A	876243	0-12"/0-300mm	.5"/12.7mm	.0005"/0.01mm	±.0008"	3.996 x .669"

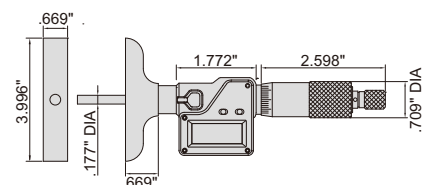
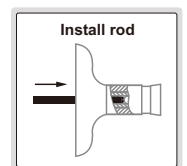
## ELECTRONIC DEPTH MICROMETERS



- Resolution .0005"/0.01mm
- Micrometer head accuracy: ±.00012"
- Rod accuracy: ±[.001+.0005(L/3)]", L is the measuring range in inch
- Button function: on/off, set, inch/mm, ABS/INC
- IP65 dust/coolant proof
- Data output
- LR44 battery, automatic power off
- Rods with flat end
- Ratchet stop
- Optional accessory: data output cable (part no. 7306-30A, 7302-SPC6, 7305-SPC3A, 7305-B01)



3540-150E

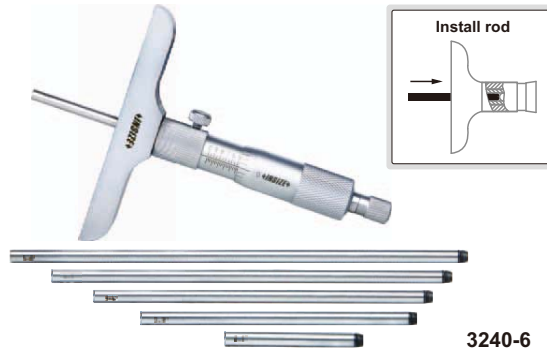


Part No.	EDP No.	Range	Rods
3540-150E	281945	0-6"/0-150mm	6 pcs
3540-300E	281947	0-12"/0-300mm	12 pcs

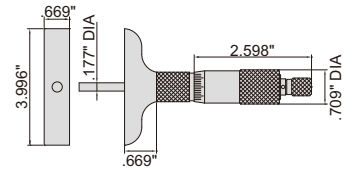


**DEPTH MICROMETER**

- Graduation .001"
- Micrometer head accuracy:  $\pm 0.0012''$
- Rod accuracy:  $\pm [0.001 + 0.0005(L/3)]''$ , L is the measuring range in inch
- Rods with flat end
- Ratchet stop



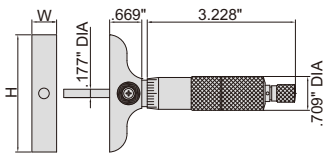
Part No.	EDP No.	Range	Rods
3240-6	281939	0-6"	6 pcs



3240-6

**DEPTH MICROMETERS**

- Graduation .001"
- Micrometer head accuracy:  $\pm 0.0012''$
- Rod accuracy:  $\pm [0.001 + 0.0005(L/3)]''$ , L is the measuring range in inch
- Rods with flat end
- Ratchet stop

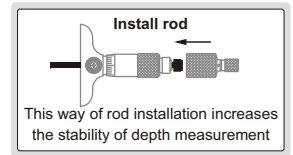


Base: HxW=2.480x.669"

Part No.	EDP No.	Range	Rods
3241-B1	281927	0-1"	1 pc
3241-B4	281929	0-4"	4 pcs



3241-4

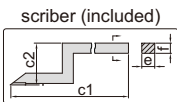


Base: HxW=3.996x.669"

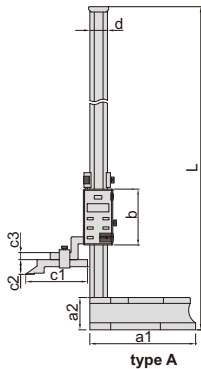
Part No.	EDP No.	Range	Rods
3241-1	281921	0-1"	1 pc
3241-4	281923	0-4"	4 pcs
3241-6	281924	0-6"	6 pcs
3241-12	281926	0-12"	12 pcs



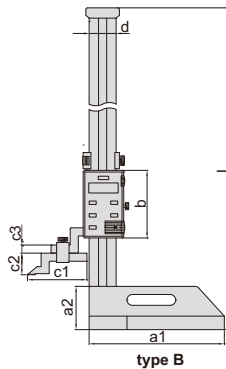
- Resolution .0005"/0.01mm
- Buttons: on/off, zero, inch/mm, ABS/INC, data hold, TOL, set
- ABS/INC is for absolute and incremental measurement
- TOL is for tolerance measurement
- Carbide tipped scriber
- Made of stainless steel (except the base)
- LR44 battery, data output
- Supplied with dial test indicator holder
- Supplied with dust cover
- Optional accessory: data output cable (part no. 7301-SPC5)



dust cover (included)



type A



type B

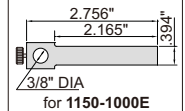
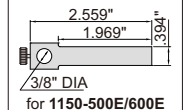
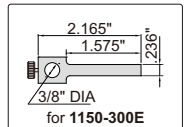


1150-500E

1150-1000E

**ELECTRONIC HEIGHT GAGES**

dial test indicator holder (included)



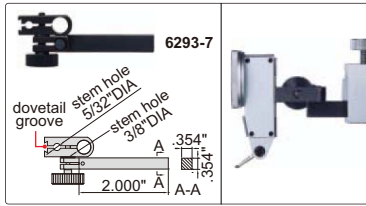
Part No.	EDP No.	Range	Type	Accuracy	L	a1	a2	b	c1	c2	c3	d	e	f
1150-300E	280756	0-12"/0-300mm	A	$\pm 0.0020''$	18.504"	5.315"	1.772"	3.150"	2.992"	.984"	.394"	.906"	.236"	.315"
1150-500E	280757	0-20"/0-500mm	A	$\pm 0.0024''$	28.346"	7.087"	2.165"	3.740"	4.055"	.984"	.472"	1.181"	.394"	.472"
1150-600E	280758	0-24"/0-600mm	B	$\pm 0.0024''$	32.283"	7.087"	2.165"	3.740"	4.055"	.984"	.472"	1.181"	.394"	.472"
1150-1000E	280759	0-40"/0-1000mm	B	$\pm 0.0031''$	50.197"	9.843"	3.150"	4.921"	4.331"	1.535"	.591"	1.969"	.394"	.591"

## ELECTRONIC HEIGHT GAGES WITH DRIVING WHEEL

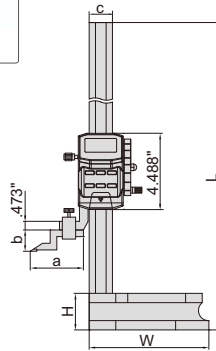
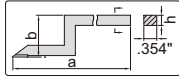


3

dial test indicator holder (optional)



scraper (included)

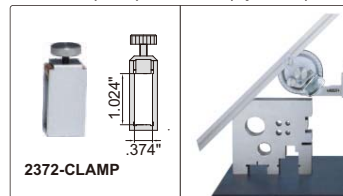


dust cover (included)

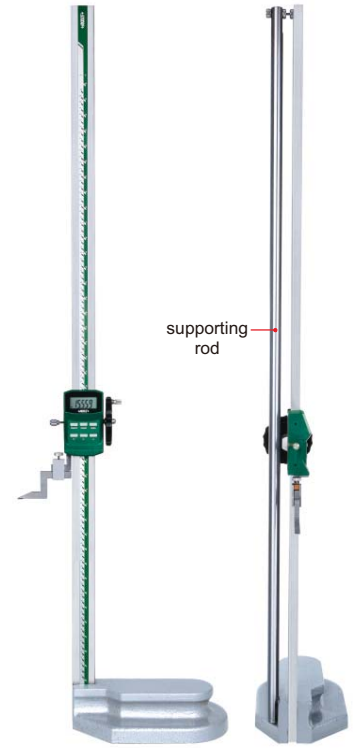


1156-300

clamp for protractors (optional)



2372-CLAMP



front

side

1156-1000

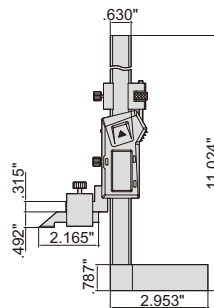
- Resolution .0005"/0.01mm
- Buttons: on/off, zero, inch/mm, preset (+, -), hold
- Automatic power off, move the digital unit to turn on power
- Carbide tipped scriber
- Made of stainless steel
- Battery CR2032, data output
- Supplied with dust cover
- Optional accessory: data output cable (part no. 7306-20, 7302-SPC5A/SPC5B, 7305-SPC2A, 7305-A01/A02), dial test indicator holder (part no. 6293-7), clamp for protractors (part no. 2372-CLAMP)

Part No.	EDP No.	Range	Accuracy	L	W	H	a	b	c	h
1156-300	816634	0-12"/0-300mm	±.0012"	20.276"	7.087"	2.165"	3.150"	1.181"	1.378"	.354"
1156-600	816635	0-24"/0-600mm	±.0020"	32.087"	7.087"	2.165"	3.150"	1.181"	1.378"	.354"
1156-1000	877117	0-40"/0-1000mm	±.0028"	48.031"	10.433"	2.756"	3.622"	1.890"	1.575"	.472"

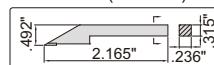
## ELECTRONIC HEIGHT GAGE (LIGHT DUTY)



- Resolution .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Carbide tipped scriber
- With fine adjustment
- Made of stainless steel
- Battery CR2032, data output
- Optional accessory: data output cable (part no. 7306-20, 7302-SPC5A/SPC5B, 7305-SPC2A, 7305-A01/A02), dial test indicator holder (part no. 7151-CL2)
- Can not use clamp for protractors (part no. 2372-CLAMP)

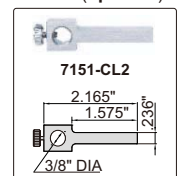


scraper (included)



1154-150

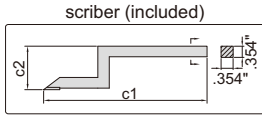
dial test indicator holder (optional)



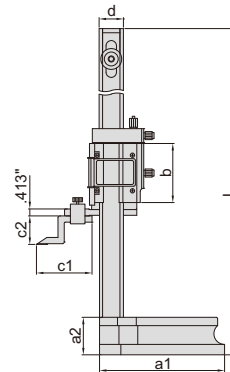
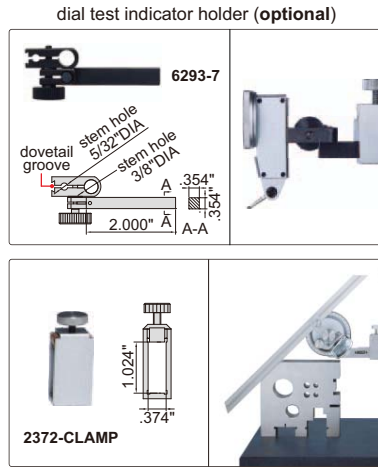
Part No.	EDP No.	Range	Accuracy
1154-150	877102	0-6"/0-150mm	±.0012"



## VERNIER HEIGHT GAGES



- Graduation .001"/0.02mm
- Adjustable main scale to set zero
- Carbide tipped scribe
- Made of stainless steel (except the base)
- Satin chrome plated scale
- Supplied with magnifier
- With fine adjustment
- Supplied with dust cover
- Optional accessory: dial test indicator holder (part no. **6293-7**), clamp for protractors (part no. **2372-CLAMP**)

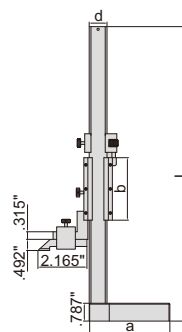
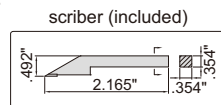


1250-300

Part No.	EDP No.	Range	Accuracy	L	a1	a2	b	c1	c2	d
1250-300	280780	0-12"/0-300mm	±.0016"	21.457"	5.315"	1.693"	2.953"	3.150"	1.181"	1.102"
1250-600	280783	0-24"/0-600mm	±.0020"	34.252"	7.087"	2.126"	3.346"	3.150"	1.614"	1.378"

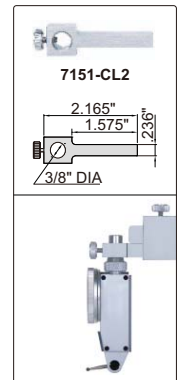
## VERNIER HEIGHT GAGES (LIGHT DUTY)

- Graduation .001"/0.02mm
- Carbide tipped scribe
- Made of stainless steel (except the base)
- Satin chrome plated scale
- Optional accessory: dial test indicator holder (part no. **7151-CL2**)
- Supplied in fitted storage case
- Can not use clamp for protractors (part no. **2372-CLAMP**)



1253-200

dial test indicator holder (optional)



Part No.	EDP No.	Range	Accuracy	L	a	b	d
1253-200	877126	0-8"/0-200mm	±.0012"	12.795"	3.543"	2.756"	.787"



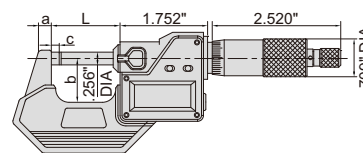
## ELECTRONIC OUTSIDE MICROMETER (WITH DATA OUTPUT)

- IP65 dust/coolant proof
- Resolution .00005"/0.001mm
- Button function: on/off, set, inch/mm, ABS/INC
- Data output
- LR44 battery, automatic power off
- Carbide measuring faces
- Supplied with spherical anvil
- Setting standards are included (except 0-1"/0-25mm)
- Optional accessory: data output cable (part no. **7306-30A**, **7302-SPC6**, **7305-SPC3A**, **7305-B01**)



3101-25E

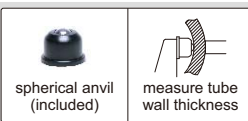
data output



ratchet stop



friction thimble for one hand operation



### Individual (ratchet stop type)

Part No.	EDP No.	Range	Accuracy	L	a	b	c
3101-25E	280838	0-1"/0-25mm	±.00008"	1.358"	.236"	.984"	.118"
3101-50E	280839	1-2"/25-50mm	±.00008"	2.343"	.315"	1.260"	.118"
3101-75E	280840	2-3"/50-75mm	±.00012"	3.327"	.315"	1.752"	.118"
3101-100E	280841	3-4"/75-100mm	±.00012"	4.311"	.315"	2.244"	.118"

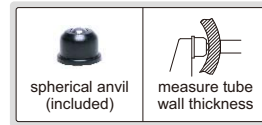
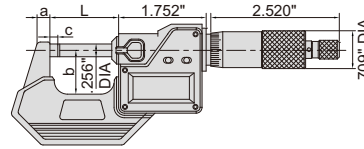
## ELECTRONIC OUTSIDE MICROMETERS (WITHOUT DATA OUTPUT)



without data output



3108-1



- Resolution .00005"/0.001mm
- IP65 dust/coolant proof
- Button function: on/off, set, inch/mm, ABS/INC
- Without data output
- LR44 battery, automatic power off
- Carbide measuring faces
- Supplied with spherical anvil
- Setting standards are included (except 0-1"/0-25mm)

### Ratchet stop type

Part No.	EDP No.	Range	Accuracy	L	a	b	c
3108-1	280868	0-1"/0-25mm	±.00008"	1.358"	.236"	.984"	.118"
3108-2	280869	1-2"/25-50mm	±.00008"	2.343"	.315"	1.260"	.118"

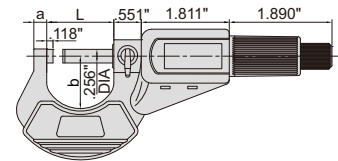
## ELECTRONIC OUTSIDE MICROMETERS



- Resolution .00005"/0.001mm
- Button functions: on/off, set, inch/mm, ABS/INC
- No data output
- LR44 battery, automatic power off
- Carbide measuring faces
- Friction thimble
- Supplied with spherical anvil
- Setting standards are included (except 0-1"/0-25mm)



3109-25E



Part No.	EDP No.	Range	Accuracy	L	a	b
3109-25E	816500	0-1"/0-25mm	±.00010"	1.260"	.236"	1.083"
3109-50E	816502	1-2"/25-50mm	±.00015"	2.244"	.315"	1.457"
3109-75E	816504	2-3"/50-75mm	±.00015"	3.228"	.315"	1.969"
3109-100E	816506	3-4"/75-100mm	±.00015"	4.213"	.394"	2.402"

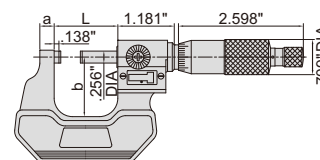
## OUTSIDE MICROMETERS WITH COUNTER



- Counter resolution .001"
- Thimble graduation .0001"
- Carbide measuring faces
- Ratchet stop
- Supplied with setting standards (except 0-1")



3400-1

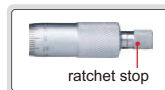
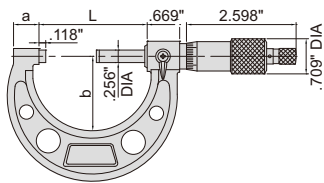


Part No.	EDP No.	Range	Accuracy	L	a	b
3400-1	280933	0-1"	.00016"	1.260"	.236"	1.024"
3400-2	280934	1-2"	.00016"	2.244"	.315"	1.260"
3400-3	280935	2-3"	.00020"	3.228"	.315"	1.752"
3400-4	280936	3-4"	.00020"	4.213"	.315"	2.244"



## OUTSIDE MICROMETERS

- Graduation: imperial .0001"  
metric 0.01mm
- Carbide measuring faces
- Supplied with setting standards (except 0-1" and 0-25mm)



4



3203-44A



3203-126A



3203-1A



3203-2A

### Imperial (ratchet stop type)

Part No.	EDP No.	Range	Accuracy	L	a	b
3203-1A*	816564	0-1"	.00016"	1.260"	.354"	1.102"
3203-2A*	816566	1-2"	.00016"	2.244"	.551"	1.496"
3203-3A*	816568	2-3"	.00020"	3.228"	.591"	1.929"
3203-4A*	816570	3-4"	.00020"	4.213"	.591"	2.362"
3203-5A*	816572	4-5"	.00024"	5.236"	.650"	2.874"
3203-6A*	816574	5-6"	.00024"	6.220"	.650"	3.346"
3203-7A	816576	6-7"	.00028"	7.205"	.764"	4.094"
3203-8A	816578	7-8"	.00028"	8.228"	.764"	4.606"
3203-9A	816580	8-9"	.00031"	9.213"	.764"	5.118"
3203-10A	816582	9-10"	.00031"	10.236"	.764"	5.591"
3203-11A	816584	10-11"	.00035"	11.220"	.764"	6.102"
3203-12A	816586	11-12"	.00035"	12.205"	.764"	6.614"

### Metric (ratchet stop type)

Part No.	EDP No.	Range	Accuracy	L	a	b
3203-25A*	816530	0-25mm	±2µm	32mm	9mm	28mm
3203-50A*	816532	25-50mm	±2µm	57mm	14mm	38mm
3203-75A*	816534	50-75mm	±2µm	82mm	15mm	49mm
3203-100A*	816536	75-100mm	±3µm	107mm	15mm	60mm
3203-125A	816538	100-125mm	±3µm	133mm	16.5mm	73mm
3203-150A	816540	125-150mm	±3µm	158mm	16.5mm	85mm
3203-175A	816542	150-175mm	±4µm	183mm	19.4mm	104mm
3203-200A	816544	175-200mm	±4µm	209mm	19.4mm	117mm
3203-225A	816546	200-225mm	±4µm	234mm	19.4mm	130mm
3203-250A	816548	225-250mm	±5µm	260mm	19.4mm	142mm
3203-275A	816550	250-275mm	±5µm	285mm	19.4mm	155mm
3203-300A	816552	275-300mm	±5µm	310mm	19.4mm	168mm

### Imperial micrometer set (ratchet stop type)

Part No.	EDP No.	Range	Micrometers included	Packaging
3203-33A*	816588	0-3"	3203-1A, 3203-2A, 3203-3A	blow mould case
3203-44A*	816590	0-4"	3203-1A, 3203-2A, 3203-3A, 3203-4A	blow mould case
3203-66A*	816592	0-6"	3203-1A, 3203-2A, 3203-3A, 3203-4A, 3203-5A, 3203-6A	blow mould case
3203-126A	816594	6-12"	3203-7A, 3203-8A, 3203-9A, 3203-10A, 3203-11A, 3203-12A	aluminum box
3203-1212A	816596	0-12"	3203-1A, 3203-2A, 3203-3A, 3203-4A, 3203-5A, 3203-6A, 3203-7A, 3203-8A, 3203-9A, 3203-10A, 3203-11A, 3203-12A	aluminum box

### Metric micrometer set (ratchet stop type)

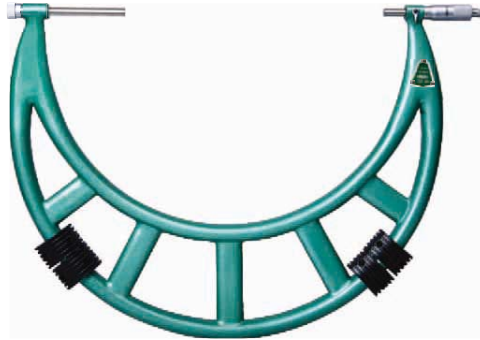
Part No.	EDP No.	Range	Micrometers included	Packaging
3203-753A*	816554	0-75mm	3203-25A, 3203-50A, 3203-75A	blow mould case
3203-1004A*	816556	0-100mm	3203-25A, 3203-50A, 3203-75A, 3203-100A	blow mould case
3203-1506A	816558	0-150mm	3203-25A, 3203-50A, 3203-75A, 3203-100A, 3203-125A, 3203-150A	blow mould case
3203-3006A	816560	150-300mm	3203-175A, 3203-200A, 3203-225A, 3203-250A, 3203-275A, 3203-300A	aluminum box
3203-3012A	816562	0-300mm	3203-25A, 3203-50A, 3203-75A, 3203-100A, 3203-125A, 3203-150A, 3203-175A, 3203-200A, 3203-225A, 3203-250A, 3203-275A, 3203-300A	aluminum box

\* Supplied with manufacturer inspection certificate traceable to NIST or DKD Germany

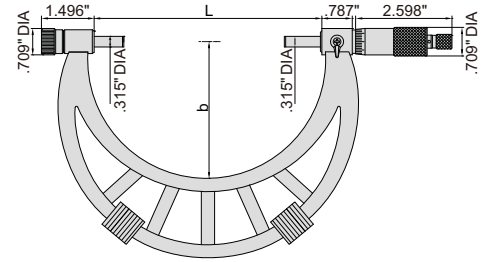
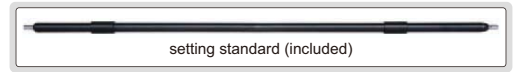
## OUTSIDE MICROMETERS WITH INTERCHANGEABLE ANVILS



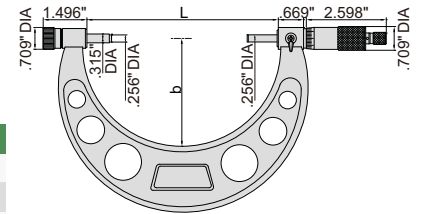
3206-6



3206-16



type B



type A

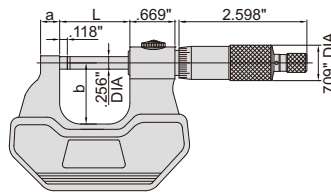


- Graduation .0001" (within 12")  
.001" (over 12")
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards

Part No.	EDP No.	Range	Type	Accuracy	L	b	Setting standard (included)
3206-2	281180	0-2"	A	.00016"	2.283"	1.378"	1"
3206-4	281181	0-4"	A	.00020"	4.252"	2.244"	1", 2", 3"
3206-6	281182	0-6"	A	.00024"	6.220"	3.228"	1", 2", 3", 4", 5"
3206-61	816406	2-6"	A	.00024"	6.220"	3.228"	2", 3", 4", 5"
3206-8	281183	4-8"	A	.00028"	8.189"	4.488"	4", 5", 6", 7"
3206-12	281186	6-12"	A	.00035"	12.126"	6.496"	6", 7", 8", 9", 10", 11"
3206-121	281187	8-12"	A	.00035"	12.126"	6.496"	8", 9", 10", 11"
3206-16	281188	12-16"	B	.00043"	16.102"	8.819"	13", 15"
3206-20	281189	16-20"	B	.00051"	20.039"	10.827"	17", 19"
3206-24	281190	20-24"	B	.00055"	23.976"	12.638"	21", 23"
3206-28	281191	24-28"	B	.00063"	27.913"	14.606"	25", 27"
3206-32	281192	28-32"	B	.00071"	31.850"	16.772"	29", 31"
3206-36	281193	32-36"	B	.00079"	35.787"	18.740"	33", 35"
3206-40	281194	36-40"	B	.00087"	39.724"	22.677"	37", 39"

## OUTSIDE MICROMETERS FOR LEFT OR RIGHT HAND

- Graduation .001"
- Graduations on two sides
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards (except 0-1")



front



back

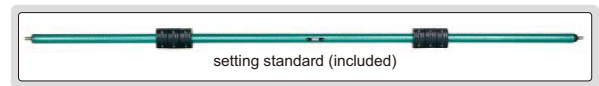
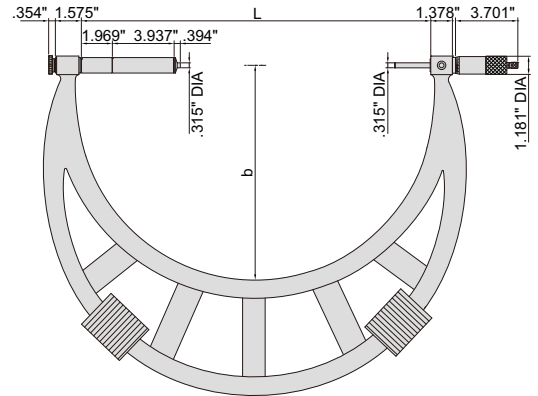
3236-1B

Part No.	EDP No.	Range	Accuracy	L	a	b
3236-1B	816636	0-1"	.00016"	1.260"	.236"	.945"
3236-2B	816637	1-2"	.00016"	2.244"	.315"	1.260"

## OUTSIDE MICROMETERS WITH EXTENSION ANVIL COLLAR



3205-56



- Graduation .0005"
- Adjust collars for different measuring ranges
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards

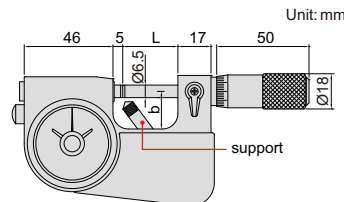
Part No.	EDP No.	Range	Accuracy	L	b	Setting standard (included)
3205-48	281160	40-48"	.00087"	47.638"	25.394"	42", 46"
3205-56	281161	48-56"	.00094"	55.512"	29.331"	50", 54"
3205-64	281162	56-64"	.00110"	63.386"	33.268"	58", 62"
3205-72	281163	64-72"	.00122"	71.260"	37.205"	66", 70"
3205-80	281164	72-80"	.00134"	79.134"	41.142"	74", 78"



adjust collars for different measuring ranges

## INDICATING MICROMETERS

- Meet DIN863-3
- Micrometer head graduation: 0.002mm
- Dial indicator: range  $\pm 0.04$ mm, graduation 0.001mm, accuracy 0.001mm
- Carbide measuring faces
- Supplied with setting standards (except 0-25mm)



(mm)



3332-25

Part No.	EDP No.	Micrometer head range	Micrometer head accuracy	L	b	Remark
3332-25	281840	0-25mm	4 $\mu$ m	28.5	19	with support
3332-50	281841	25-50mm	4 $\mu$ m	53.5	30	with support

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

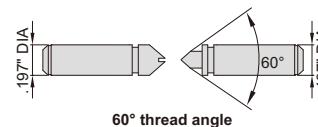
## MEASURING TIPS FOR SCREW THREAD MICROMETERS

Unified and metric thread (60° thread angle)

Part No.	EDP No.	Pitch
7381-T11	281671	64-48TPI/0.4-0.5mm
7381-T12	281672	44-28TPI/0.6-0.9mm
7381-T13	281673	24-14TPI/1-1.75mm
7381-T14	281674	13-9TPI/2-3mm
7381-T15	281675	8-5TPI/3.5-5mm
7381-T16	281676	4.5-3.5TPI/5.5-7mm
7381-TS	281670	6 pairs/set, including all above tips

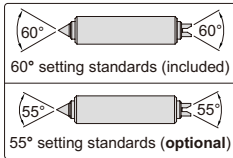


7381-T13



## SCREW THREAD MICROMETERS

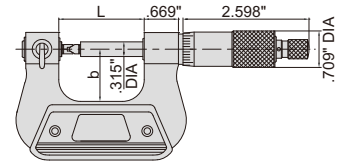
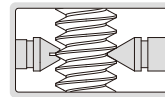
4



measuring tips are not included



3281-1



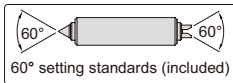
- Measure pitch diameter of screw threads
- Graduation .001"
- Non-rotating spindle
- Ratchet stop
- Supplied with 60° setting standards
- Optional accessory: 55° setting standards, measuring tips (part no. 7381)

Part No.	EDP No.	Range	L	b	55° setting standard (optional)
3281-1	281696	0-1"	1.654"	1.024"	-
3281-2	281697	1-2"	2.638"	1.496"	3281-SPE1
3281-3	281698	2-3"	3.622"	1.969"	3281-SPE2
3281-4	281699	3-4"	4.630"	2.441"	3281-SPE3
3281-5	281700	4-5"	5.630"	2.756"	3281-SPE4
3281-6	281701	5-6"	6.622"	3.228"	3281-SPE5

accuracy of micrometers with tips

Pitch	Range					
	0-1"	1-2"	2-3"	3-4"	4-5"	5-8"
64~48TPI	±394µin	-	-	-	-	-
44~32TPI	±394µin	±512µin	-	-	-	-
28~20TPI	±472µin	±591µin	±670µin	±670µin	-	-
18~13TPI	±551µin	±670µin	±748µin	±748µin	±787µin	±906µin
12~7TPI	±630µin	±748µin	±827µin	±827µin	±906µin	±984µin
6~3.5TPI	-	±827µin	±906µin	±906µin	±984µin	±1102µin

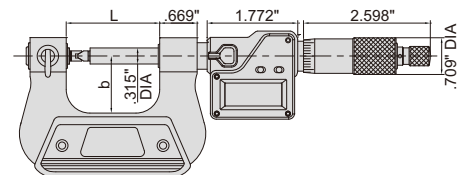
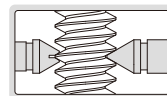
## ELECTRONIC SCREW THREAD MICROMETER



measuring tips are not included



3581-25E



- Measure pitch diameter of screw threads
- Resolution .00005"/0.001mm
- Button function: on/off, set, inch/mm, ABS/INC
- Data output
- LR44 battery, automatic power off
- Non-rotating spindle
- Ratchet stop
- Supplied with 60° setting standards
- Optional accessory: data output cable (part no. 7306-30A, 7302-SPC6, 7305-SPC3A, 7305-B01)

Part No.	EDP No.	Range	L	b
3581-25E	877166	0-1"/0-25mm	1.654"	1.024"

accuracy of micrometers with tips

Pitch	Range
	0-1"
64~48TPI	±394µin
44~32TPI	±394µin
28~20TPI	±472µin
18~13TPI	±551µin
12~7TPI	±630µin
6~3.5TPI	-

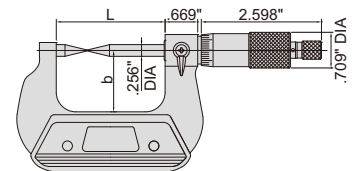
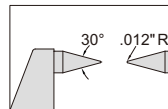


## POINT MICROMETER

- Measure the web thickness of drills, small grooves and keyways
- Graduation .0001"
- Ratchet stop
- Carbide tips



3230-1



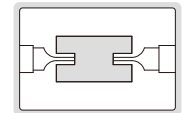
Part No.	EDP No.	Range	Accuracy	L	b
3230-1	281345	0-1"	.00016"	2.244"	1.260"

## BLADE MICROMETERS

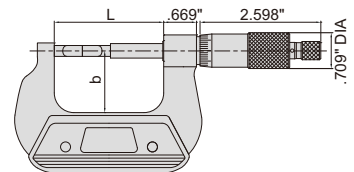
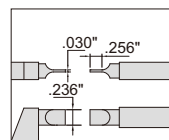
- Measure the groove diameter of shafts and keyways
- Graduation .0001"
- Non-rotating spindle
- Ratchet stop
- Supplied with setting standards (except 0-1")



3232-1



Part No.	EDP No.	Range	Accuracy	L	b
3232-1	281320	0-1"	.00016"	2.244"	1.260"
3232-2	281321	1-2"	.00016"	3.228"	1.752"
3232-3	281322	2-3"	.00020"	4.213"	2.244"
3232-4	281323	3-4"	.00020"	5.220"	2.736"
3232-5	281324	4-5"	.00024"	6.220"	3.228"
3232-6	281325	5-6"	.00024"	7.220"	3.720"
3232-7	281326	6-7"	.00028"	8.220"	4.213"



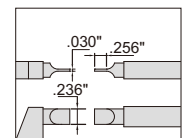
## ELECTRONIC BLADE MICROMETER



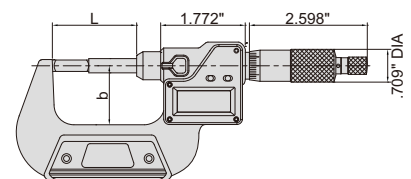
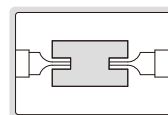
- Measure the groove diameter of shafts and keyways
- Resolution .00005"/0.001mm
- Non-rotating spindle
- Button function: on/off, set, inch/mm, ABS/INC
- Data output
- LR44 battery, automatic power off
- Ratchet stop
- Optional accessory: data output cable (part no. 7306-30A, 7302-SPC6, 7305-SPC3A, 7305-B01)



3532-50E



Part No.	EDP No.	Range	Accuracy	L	b
3532-50E	281328	2-3"/50-75mm	±.00016"	3.228"	1.752"



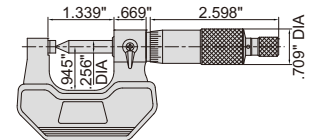
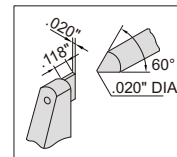
### CRIMP HEIGHT MICROMETER



3266-1B

- Measure the height of crimp contact
- Graduation .0001"
- Ratchet stop
- Optional product: electronic crimp height caliper (part no. 1165-150A)

Part No.	EDP No.	Range	Accuracy
3266-1B	281395	0-1"	.00016"



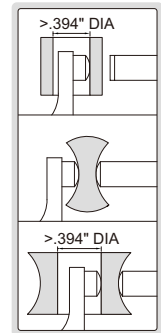
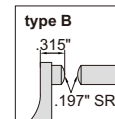
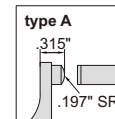
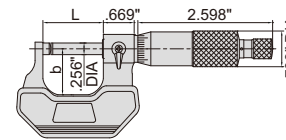
### SPHERICAL ANVIL TUBE MICROMETERS



3260-1

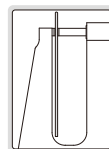
- Measure wall thickness of tubes
- Graduation .0001"
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards (except 0-1")

Part No.	EDP No.	Range	Type	Accuracy	L	b
3260-1	281457	0-1"	A	.00016"	1.260"	.945"
3260-2	281458	1-2"	A	.00016"	2.244"	1.260"
3260-3	281459	2-3"	A	.00020"	3.228"	1.752"
3260-1S	281461	0-1"	B	.00016"	1.260"	.945"



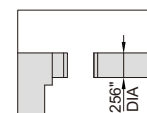
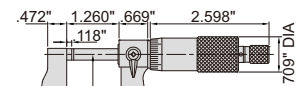
### DEEP THROAT MICROMETER

- Deep frame suitable for deep throat, paper and plastic
- Graduation .0001"
- Ratchet stop
- Carbide measuring faces



3239-13

Part No.	EDP No.	Range	Accuracy	b
3239-13	281235	0-1"	.00028"	6.102"



## NON-ROTATING SPINDLE UNIVERSAL MICROMETER

- Graduation .0001"
- Non-rotating spindle
- Ratchet stop
- Supplied with 7 pairs of anvil/spindle tip
- Optional accessory: 55° anvil/spindle tip (part no. **3280-SP1** and **3280-SP2**)



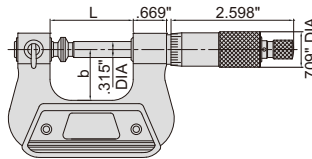
**3280-1**

Anvil/spindle tip (included)

Flat		
Spherical		
Spline		
Disk		
Blade		
Knife-edge		
Point		

55° anvil/spindle tip (optional)

Part No. <b>3280-SP1</b> Knife-edge		
Part No. <b>3280-SP2</b> Point		



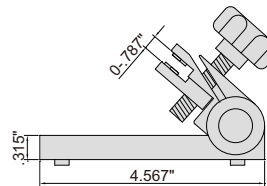
Part No.	EDP No.	Range	Accuracy	L	b
<b>3280-1</b>	281607	0-1"	.00016"	1.654"	1.024"

## MICROMETER STAND

- Suitable for micrometers up to 4"



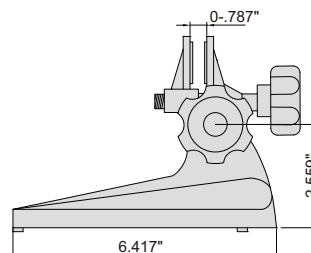
**6300**



Part No.	EDP No.
<b>6300</b>	282455

## MICROMETER STAND

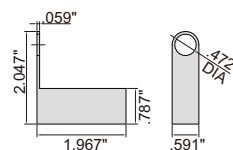
- Suitable for micrometers up to 4"



**6301**

Part No.	EDP No.
<b>6301</b>	282456

- Suitable for inside micrometers



**6301-1**

Part No.	EDP No.	Description	Applicable products
<b>6301-1</b>	877191	clamp for inside micrometers	all sizes of <b>3220</b> series

## MICROMETER SETTING STANDARDS

Part No.	EDP No.	Length	Accuracy	D (DIA)
6311-1	282508	1"	±.00006"	.276"
6311-2	282509	2"	±.00008"	.276"
6311-3	282510	3"	±.00010"	.276"
6311-4	282511	4"	±.00012"	.315"
6311-5	282512	5"	±.00014"	.315"
6311-6	282513	6"	±.00016"	.315"
6311-7	282514	7"	±.00018"	.315"
6311-9	282516	9"	±.00022"	.315"
6311-10	282517	10"	±.00024"	.315"



6311-4

4

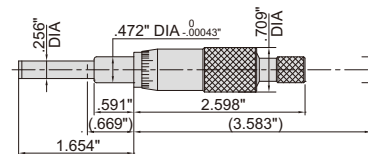
5

## MICROMETER HEAD

- Ratchet stop



6381-1W



Part No.	EDP No.	Range	Graduation	Spindle tip	Accuracy
6381-1W	816688	0-1"	.001"	flat (carbide)	.00012"

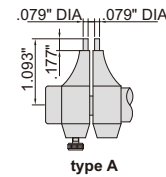
## INSIDE MICROMETERS

- Graduation .001"
- Ratchet stop
- Carbide measuring faces
- Optional accessory: setting ring (part no. 6313), micrometer stand and clamp (part no. 6301 and 6301-1)

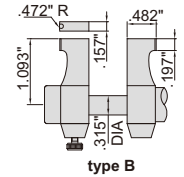
micrometer stand with clamp (optional)



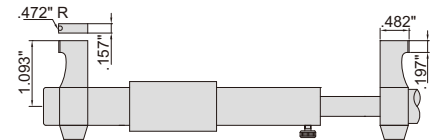
3220-2



type A



type B



type C

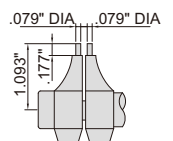
Part No.	EDP No.	Range	Type	Setting ring	Accuracy
3220-1	281962	.2-1.2"	A	.2" DIA (included)	.00028"
3220-2	281963	1-2"	B	1" DIA (included)	.00032"
3220-3	281964	2-3"	B	2" DIA (optional)	.00036"
3220-4	281965	3-4"	C	3" DIA (optional)	.00040"

## ELECTRONIC INSIDE MICROMETER

- Resolution .00005"/0.001mm
- Button function: on/off, set, inch/mm, ABS/INC
- Data output
- LR44 battery, automatic power off
- Ratchet stop
- Carbide measuring faces
- Optional accessory: data output cable (part no. 7306-30A, 7302-SPC6, 7305-SPC3A, 7305-B01), setting ring (part no. 6313)



3520-30E



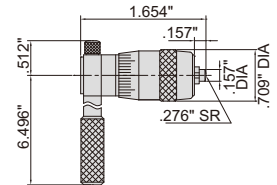
Part No.	EDP No.	Range	Setting ring	Accuracy
3520-30E	281970	.2-1.2"/5-30mm	.2" DIA (included)	±.00020"

## INTERNAL MICROMETERS

- Graduation .001"
- Accuracy:  $[\pm 0.0003 + 0.00005(L/2)]$   
L=maximum measuring length (inch)
- Optional accessory: setting ring (part no. **6313**)



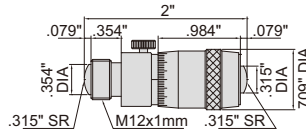
3221-8



Part No.	EDP No.	Range	Travel of micrometer head	Extension rods
3221-8	282039	2-8"	.5"	6 pcs
3221-12	282040	2-12"	.5"	10 pcs
3221-20	282042	8-20"	1"	3 pcs
3221-40	282043	8-40"	1"	8 pcs

## INTERNAL MICROMETERS

- Graduation .001"
- Accuracy:  $[\pm 0.00005(3+n+L/2)]$   
n=number of rods,  
L=maximum measuring length (inch)
- Supplied with setting standards
- Carbide measuring faces



3222-6

Part No.	EDP No.	Range	Travel of micrometer head	Extension rods
3222-6	281999	2-6"	.5"	.5", 1", 2"
3222-12	282000	2-12"	.5"	.5", 1", 2" (2 pcs), 4"
3222-20	282001	2-20"	.5"	.5", 1", 2" (2 pcs), 4", 8"
3222-40	282002	2-40"	.5"	.5", 1", 2" (2 pcs), 4", 8" (2 pcs), 12"
3222-60	282003	2-60"	.5"	.5", 1", 2" (2 pcs), 4", 8" (3 pcs), 12" (2 pcs)



## ELECTRONIC WIDE RANGE THREE POINTS INTERNAL MICROMETERS

- Resolution .00005"/0.001mm
- IP54 dust/coolant proof
- Buttons: on/off, set, inch/mm, ABS/INC
- Data output
- LR44 battery, automatic power off
- Carbide measuring faces
- Ratchet stop
- Supplied with extension rods
- Setting rings are included (except part no. **3128-12**)
- Optional accessory: data output cable (part no. **7306-30A, 7302-SPC6, 7305-SPC3A, 7305-B01**)



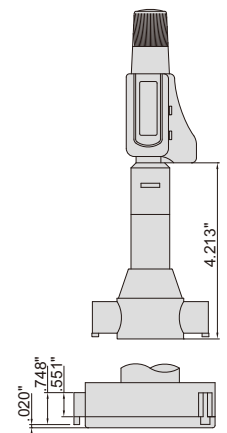
setting ring



extension rod (included)



3128-28



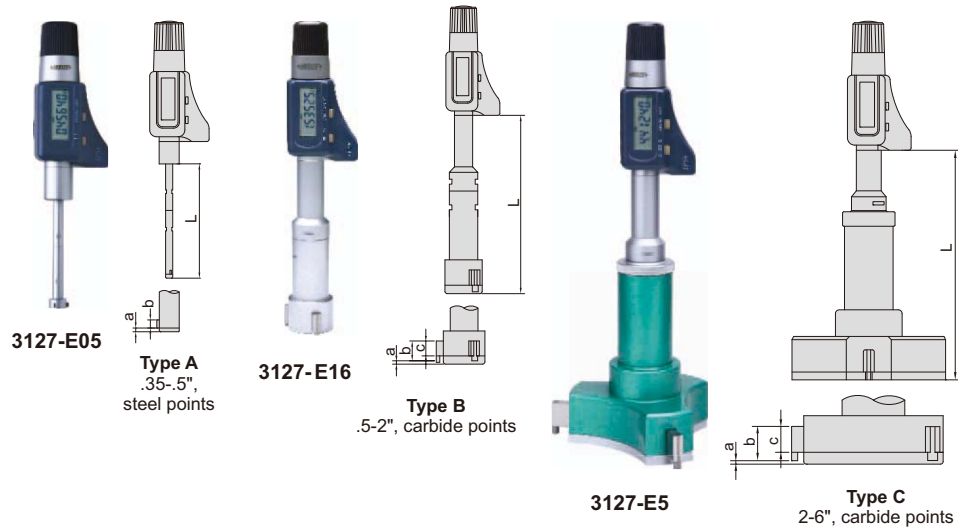
Part No.	EDP No.	Range	Accuracy	Setting ring	Extension rod (included)
3128-28	816640	2-2.8"/51-71mm	.00020"	2" DIA (included)	6"
3128-4	816641	2.8-4"/71-101mm	.00020"	2.8" DIA (included)	6"
3128-6	816642	4-6"/101-152mm	.00024"	4" DIA (included)	6"
3128-10	816643	6-10"/152-254mm	.00032"	6" DIA (included)	6"
3128-12	816644	8-12"/203-305mm	.00036"	8" DIA (optional)	6"

## ELECTRONIC THREE POINTS INTERNAL MICROMETERS



- Resolution .00005"/0.001mm
- IP54 dust/coolant proof
- Buttons: on/off, set, inch/mm, ABS/INC
- Data output
- LR44 battery, automatic power off
- Ratchet stop
- Optional accessory:  
data output cable (part no. **7306-30A**, **7302-SPC6**, **7305-SPC3A**, **7305-B01**),  
setting ring (part no. **6313**),  
micrometer stand and clamp (part no. **6301** and **6301-2**)

5



3127-E24

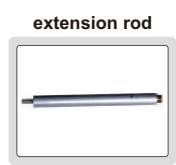


micrometer stand with clamp (optional)

Manufacturer Inspection Certificate			
INSIZE		Inspection Certificate	
Product name	Electronic Three Points Internal Micrometer	Traceable to	Germany 10338(D)-K-15015-01-02/2012-09
Code No.	3127-E 112	Inspector	Germany 31-0830(D)-K-09901/2012-09
Measuring range	1.1-2"/25-30mm	Inspected	<i>Paulo</i>
Resolution	.00005" / 0.001mm	Judgement	Passed
Serial No.	0910120004		
Standard temperature	68 °F		



.35-4": included  
4-6": optional



included

### Individual

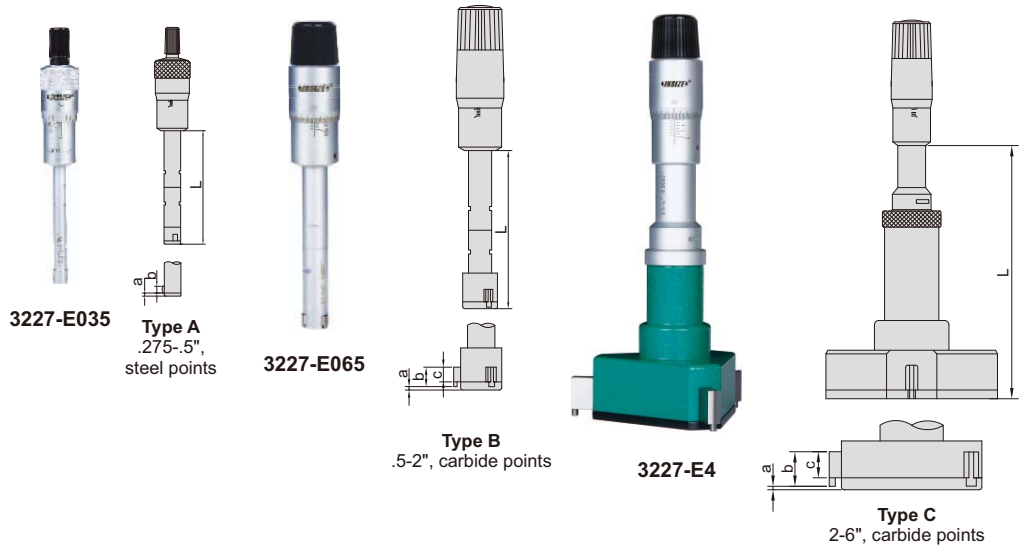
Part No.	EDP No.	Range	Type	Accuracy	Setting ring	Extension rod (included)	L	a	b	c
3127-E0425	816638	.35-.425"/9-11mm	A	.00016"	.35" DIA (included)	4"	2.18"	.059"	.098"	—
3127-E05	282305	.425-.5"/11-13mm	A	.00016"	.5" DIA (included)	4"	2.18"	.059"	.098"	—
3127-E065	282317	.5-.65"/13-17mm	B	.00016"	.65" DIA (included)	6"	3.2"	.020"	.236"	.177"
3127-E08	282318	.65-.8"/17-20mm	B	.00016"	.65" DIA (included)	6"	3.2"	.020"	.236"	.177"
3127-E1	282319	.8-1"/20-25mm	B	.00016"	1" DIA (included)	6"	3.6"	.020"	.315"	.236"
3127-E112	282320	1-1.2"/25-30mm	B	.00016"	1" DIA (included)	6"	3.6"	.020"	.315"	.236"
3127-E16	282321	1.2-1.6"/30-40mm	B	.00016"	1.6" DIA (included)	6"	3.88"	.020"	.551"	.472"
3127-E2	282322	1.6-2"/40-51mm	B	.00020"	1.6" DIA (included)	6"	3.88"	.020"	.551"	.472"
3127-E25	282323	2-2.5"/51-63mm	C	.00020"	2.5" DIA (included)	6"	4.56"	.020"	.689"	.571"
3127-E3	282324	2.5-3"/63-76mm	C	.00020"	2.5" DIA (included)	6"	4.56"	.020"	.689"	.571"
3127-E35	282325	3-3.5"/76-89mm	C	.00020"	3.5" DIA (included)	6"	4.56"	.020"	.689"	.571"
3127-E4	282326	3.5-4"/89-101mm	C	.00020"	3.5" DIA (included)	6"	4.56"	.020"	.689"	.571"
3127-E5	282367	4-5"/101-127mm	C	.00024"	optional	6"	6"	.035"	1.142"	.984"
3127-E6	282368	5-6"/127-152mm	C	.00024"	optional	6"	6"	.035"	1.142"	.984"

### Set

Part No.	EDP No.	Range	Micrometers included	Setting ring (included)	Extension rod
3127-E053	282306	.275-.5"/7-13mm	.275-.35"/7-9mm, .35-.425"/9-11mm .425-.5"/11-13mm	.275" DIA, .35" DIA, .5" DIA	4" (included)
3127-E082	282330	.5-.8"/13-20mm	.5-.65"/13-17mm, .65-.8"/17-20mm	.65" DIA	6" (included)
3127-E24	282331	.8-2"/20-51mm	.8-1"/20-25mm, 1-1.2"/25-30mm 1.2-1.6"/30-40mm, 1.6-2"/40-51mm	1" DIA, 1.6" DIA	6" (included)
3127-E44	282332	2-4"/51-101mm	2-2.5"/51-63mm, 2.5-3"/63-76mm 3-3.5"/76-89mm, 3.5-4"/89-101mm	2.5" DIA, 3.5" DIA	6" (included)

## THREE POINTS INTERNAL MICROMETERS

- .275-.5": graduation .0001"
- .5-12": graduation .0002"
- Ratchet stop
- Optional accessory: setting rings (part no. **6313**), micrometer stand and clamp (part no. **6301** and **6301-2**)



3227-E24

micrometer stand with clamp (optional)



Manufacturer Inspection Certificate

Actual Ring Size (inch)		Permissible Error	Measured Deviation	
1.02360			0	
1.10228	0.00016		.00010	
1.18107			.00010	

setting ring



.275-4": included  
4-6": optional

extension rod



included

### Individual

Part No.	EDP No.	Range	Type	Accuracy	Setting ring	Extension rod (included)	L	a	b	c
3227-E035	282196	.275-.35"	A	.00016"	.275" DIA (included)	4"	2.146"	.059"	.098"	—
3227-E0425	877165	.35-.425"	A	.00016"	.35" DIA (included)	4"	2.146"	.059"	.098"	—
3227-E05	282198	.425-.5"	A	.00016"	.5" DIA (included)	4"	2.146"	.059"	.098"	—
3227-E065	282213	.5-.65"	B	.00016"	.65" DIA (included)	6"	3.150"	.020"	.236"	.177"
3227-E08	282214	.65-.8"	B	.00016"	.65" DIA (included)	6"	3.150"	.020"	.236"	.177"
3227-E1	282215	.8-1"	B	.00016"	1" DIA (included)	6"	3.543"	.020"	.315"	.236"
3227-E112	282216	1-1.2"	B	.00016"	1" DIA (included)	6"	3.543"	.020"	.315"	.236"
3227-E16	282217	1.2-1.6"	B	.00016"	1.6" DIA (included)	6"	3.819"	.020"	.551"	.472"
3227-E2	282218	1.6-2"	B	.00020"	1.6" DIA (included)	6"	3.819"	.020"	.551"	.472"
3227-E25	282219	2-2.5"	C	.00020"	2.5" DIA (included)	6"	4.488"	.020"	.689"	.571"
3227-E3	282220	2.5-3"	C	.00020"	2.5" DIA (included)	6"	4.488"	.020"	.689"	.571"
3227-E35	282221	3-3.5"	C	.00020"	3.5" DIA (included)	6"	4.488"	.020"	.689"	.571"
3227-E4	282222	3.5-4"	C	.00020"	3.5" DIA (included)	6"	4.488"	.020"	.689"	.571"

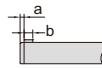
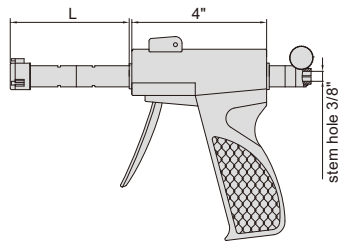
### Set

Part No.	EDP No.	Range	Micrometers included	Setting ring (included)	Extension rod (included)
3227-E053	282199	.275-.5"	.275-.35", .35-.425", .425-.5"	.275" DIA, .35" DIA, .5" DIA	4"
3227-E082	282223	.5-.8"	.5-.65", .65-.8"	.65" DIA	6"
3227-E24	282224	.8-2"	.8-1", 1-1.2", 1.2-1.6", 1.6-2"	1" DIA, 1.6" DIA	6"
3227-E44	282225	2-4"	2-2.5", 2.5-3", 3-3.5", 3.5-4"	2.5" DIA, 3.5" DIA	6"

# PISTOL GRIP THREE POINTS BORE GAGES



- Optional accessory: electronic indicators (part no. **2103-10FE**, resolution .00005"/0.001mm), setting rings (part no. **6313**)



**Type A**  
.275-.5", steel measuring points



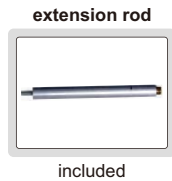
**2124-E035**

electronic indicator is not included

5



**2124-E24**



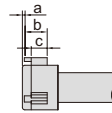
extension rod

included



setting ring

.275-4": included  
4-6": optional

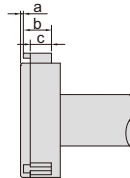


**Type B**  
.5-2", carbide measuring points



**2124-E1**

electronic indicator is not included



**Type C**  
2-6", carbide measuring points



**2124-E5**

electronic indicator is not included

### Manufacturer Inspection Certificate

Actual Ring Size(inch)		Permissible Error(without digital indicator)	Measured Deviation
1.02360		0	
1.10228	.00016	.00010	
1.18107		.00010	

### Individual

Part No.	EDP No.	Range	Type	Accuracy (without electronic indicator)	Setting ring	Extension rod	L	a	b	c
2124-E035	877133	.275-.35"	A	.00016"	.275" DIA (included)	4" (included)	2"	.059"	.098"	—
2124-E0425	877134	.35-.425"	A	.00016"	.35" DIA (included)	4" (included)	2"	.059"	.098"	—
2124-E05	877135	.425-.5"	A	.00016"	.5" DIA (included)	4" (included)	2"	.059"	.098"	—
2124-E065	877137	.5-.65"	B	.00016"	.65" DIA (included)	6" (included)	2.6"	.020"	.236"	.177"
2124-E08	877138	.65-.8"	B	.00016"	.65" DIA (included)	6" (included)	2.6"	.020"	.236"	.177"
2124-E1	877140	.8-1"	B	.00016"	1" DIA (included)	6" (included)	3.64"	.020"	.315"	.236"
2124-E112	877141	1-1.2"	B	.00016"	1" DIA (included)	6" (included)	3.64"	.020"	.315"	.236"
2124-E16	877142	1.2-1.6"	B	.00016"	1.6" DIA (included)	6" (included)	3.88"	.020"	.551"	.472"
2124-E2	877143	1.6-2"	B	.00020"	1.6" DIA (included)	6" (included)	3.88"	.020"	.551"	.472"
2124-E25	877145	2-2.5"	C	.00020"	2.5" DIA (included)	6" (included)	4.48"	.020"	.689"	.571"
2124-E3	877146	2.5-3"	C	.00020"	2.5" DIA (included)	6" (included)	4.48"	.020"	.689"	.571"
2124-E35	877147	3-3.5"	C	.00020"	3.5" DIA (included)	6" (included)	4.48"	.020"	.689"	.571"
2124-E4	877148	3.5-4"	C	.00020"	3.5" DIA (included)	6" (included)	4.48"	.020"	.689"	.571"
2124-E5	877150	4-5"	C	.00024"	optional	6" (included)	5.51"	.035"	1.142"	.984"
2124-E6	877151	5-6"	C	.00024"	optional	6" (included)	5.51"	.035"	1.142"	.984"

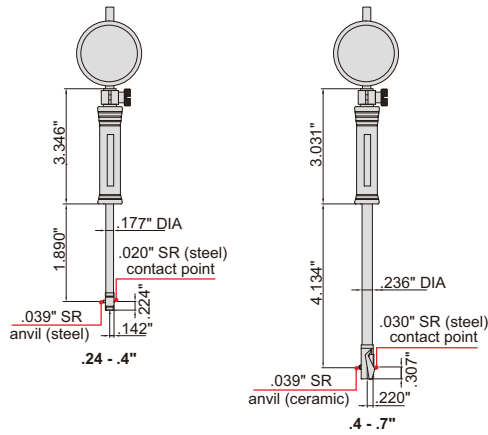
### Set

Part No.	EDP No.	Range	Probes included	Setting ring (included)	Extension rod (included)
2124-E053	877136	.275-.5"	.275-.35", .35-.425", .425-.5"	.275" DIA, .35" DIA, .5" DIA	4"
2124-E082	877139	.5-.8"	.5-.65", .65-.8"	.65" DIA	6"
2124-E24	877144	.8-2"	.8-1", 1-1.2", 1.2-1.6", 1.6-2"	1" DIA, 1.6" DIA	6"
2124-E44	877149	2-4"	2-2.5", 2.5-3", 3-3.5", 3.5-4"	2.5" DIA, 3.5" DIA	6"





## BORE GAGES FOR SMALL HOLES



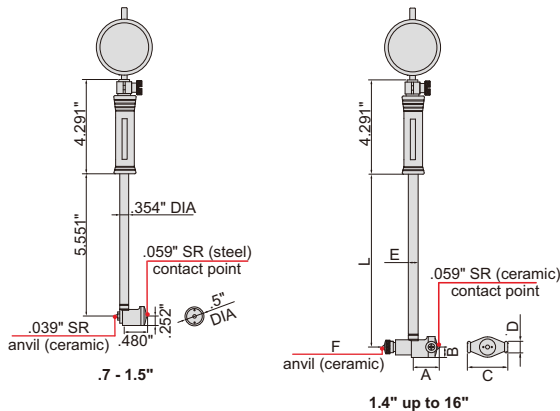
2323-04

- Optional accessory: setting ring (part no. 6313)
- Not compatible for .00005" or .0001" dial indicators

### With dial indicator

Part No.	EDP No.	Range	Indicator	Accuracy	Repeatability
2323-04	282928	.24-.4"	dial indicator, range .25", graduation .0005"	±.00075"	.00015"
2323-07	282929	.4-.7"		±.00075"	.00015"

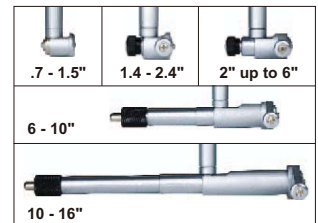
## BORE GAGES



2323-6

- Optional accessory: setting ring (part no. 6313), long handle (part no. 7351)
- Not compatible for .00005" or .0001" dial indicators

Range	A	B	C	D	E	F	L
1.4-2.4"	.866"	.354"	1.063"	.512" DIA	.504" DIA	.079" R	5.551"
2-6"	1.024"	.354"	1.378"	.512" DIA	.504" DIA	.079" R	5.551"
6-10"	2.224"	.512"	2.933"	.591" DIA	.571" DIA	.079" R	9.488"
10-16"	3.406"	.591"	3.996"	.591" DIA	.571" DIA	.098" R	9.488"



### With dial indicator

Part No.	EDP No.	Range	Indicator	Accuracy	Repeatability
2323-15	282930	.7-1.5"	dial indicator, range .25", graduation .0005"	±.00075"	.00015"
2323-24	816188	1.4-2.4"		±.0009"	.00015"
2323-6	816192	2-6"		±.0009"	.00015"
2323-10	816184	6-10"		±.0009"	.00015"
2323-16	816186	10-16"		±.0009"	.00015"

**BORE GAGE SETS**

- Optional accessory: setting ring (part no. 6313)
- Not compatible for .00005" or .0001" dial indicators



packaging (part no. 2824-S3E)

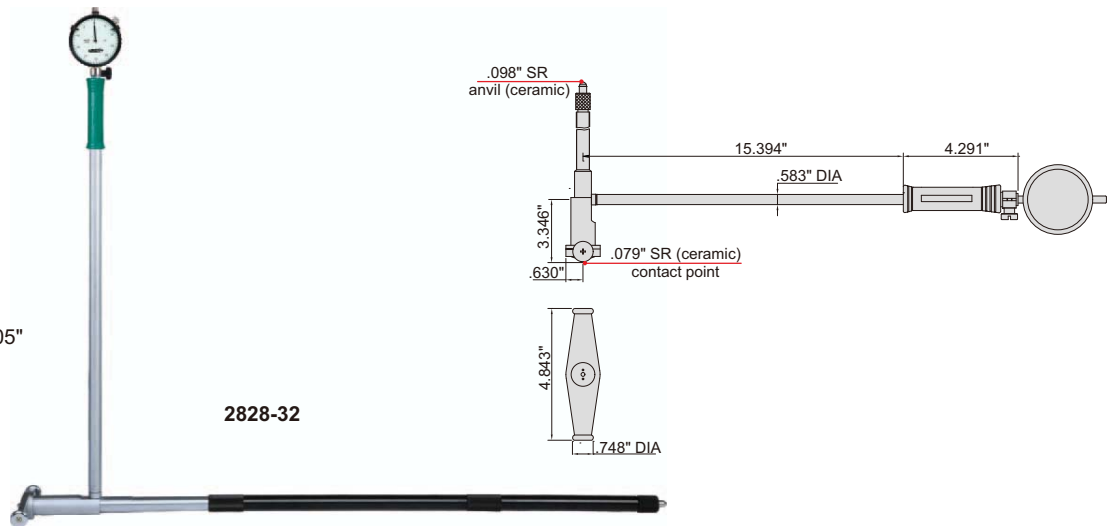


5

Part No.	EDP No.	Range	Indicator	Bore gages included	Accuracy	Repeatability
2824-S2E	877159	1.4-6"	dial indicator range .25", graduation .0005"	① 1.4-2" (dial indicator and handle are not included) ② 2-6"	1.4-2" ±.0009" 2-6" ±.0009"	.00015"
2824-S3E	877160	.7-6"	dial indicator range .25", graduation .0005"	① .7-1.5" ② 1.4-2.4" (dial indicator is not included) ③ 2-6" (dial indicator is not included)	.7-1.5" ±.00075" 1.4-2.4" ±.0009" 2-6" ±.0009"	.00015"

**BORE GAGE**

- Not compatible for .00005" or .0001" dial indicators



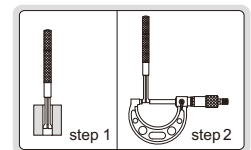
Part No.	EDP No.	Range	Indicator	Accuracy	Repeatability
2828-32	877161	16-32"	dial indicator, range .25", graduation .0005"	±.001"	.00015"

**SMALL HOLE GAGE SET**

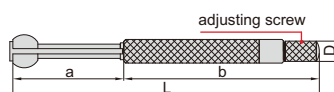
- 4 gages per set
- For small holes, slots and grooves, etc.
- Satin chrome finish



4208-1



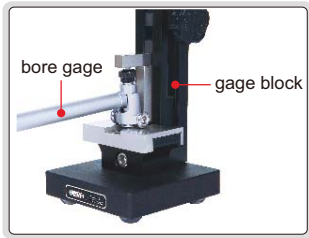
Part No.	EDP No.	Total range	Gages included
4208-1	816204	.125~.5"	.125~.2", .2~.3", .3~.4", .4~.5"



Range	L	a	b	D
.125~.2"	2.992"	.945"	2.047"	.197" DIA
.2~.3"	3.110"	1.063"	2.047"	.197" DIA
.3~.4"	3.465"	1.181"	2.283"	.236" DIA
.4~.5"	3.583"	1.339"	2.283"	.236" DIA

## BORE GAGE SETTER

application



gage blocks for 7353-6



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

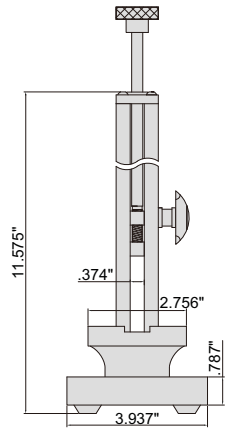
Part No.	EDP No.	Range	Repeatability	Remark
7353-6	877262	0-6"	.00005"	with gage block set
7353-160W	877213	0-6"	.00005"	without gage block set

Gage block set for 7353-6

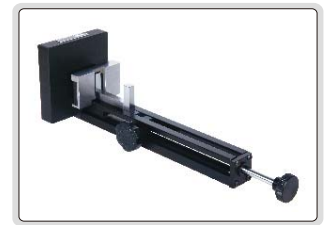
Blocks per set	Size (inch)	Step (inch)	Quantity (pcs)	Remark
36	.05		1	grade AS-2 (ASME B89.1.9)
	.1001-.1009	.0001	9	
	.101-.109	.001	9	
	.11-.19	.01	9	
	.1-5	.1	5	
1			1	
2			1	
4			1	



7353-6



horizontal use

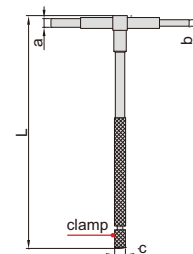


## TELESCOPING GAGE SET

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

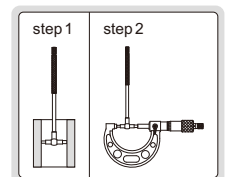


4206-1

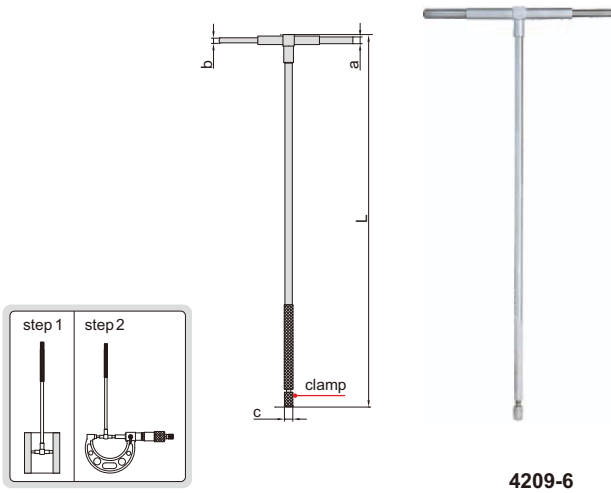


Range	L	a (DIA)	b (DIA)	c (DIA)
5/16~1/2"	4.528"	.154"	.114"	.244"
1/2~3/4"	4.528"	.209"	.150"	.244"
3/4~1-1/4"	4.528"	.209"	.150"	.244"
1-1/4~2-1/8"	5.394"	.299"	.240"	.283"
2-1/8~3-1/2"	5.394"	.299"	.240"	.283"
3-1/2~6"	5.394"	.299"	.240"	.283"

Part No.	EDP No.	Total range	Gages included
4206-1	816202	5/16~6"	5/16~1/2", 1/2~3/4", 3/4~1-1/4", 1-1/4~2-1/8", 2-1/8~3-1/2", 3-1/2~6"



**LONG HANDLE TELESCOPING GAGES**

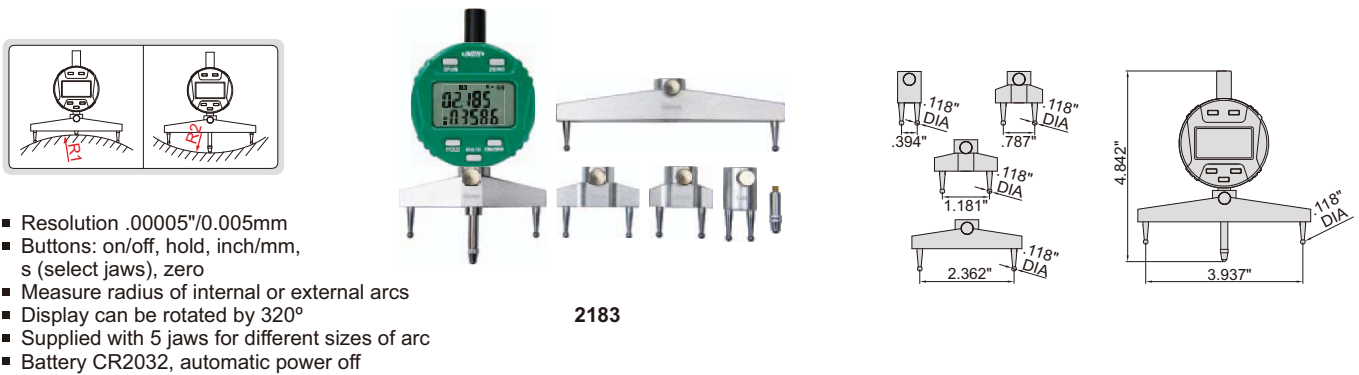


- For quick measurement of inside diameter of deep holes and width of slots
- Satin chrome finish

Part No.	EDP No.	Range	L	a (DIA)	b (DIA)	c (DIA)
4209-1	283589	5/16~1/2"	9.843"	.154"	.114"	.244"
4209-2	283590	1/2~3/4"	9.843"	.209"	.150"	.244"
4209-3	283591	3/4~1-1/4"	9.843"	.209"	.150"	.244"
4209-4	283592	1-1/4~2-1/8"	11.811"	.299"	.240"	.283"
4209-5	283593	2-1/8~3-1/2"	11.811"	.299"	.240"	.283"
4209-6	283594	3-1/2~6"	11.811"	.299"	.240"	.283"

5  
6

**ELECTRONIC RADIUS GAGE**



- Resolution .00005"/0.005mm
- Buttons: on/off, hold, inch/mm, s (select jaws), zero
- Measure radius of internal or external arcs
- Display can be rotated by 320°
- Supplied with 5 jaws for different sizes of arc
- Battery CR2032, automatic power off

2183

Part No.	EDP No.	Range of external radius (R1)	Range of internal radius (R2)	Accuracy (inch)
2183	283213	.2-35.83"/5-910mm	.3-35.83"/7-910mm	±0.01R*

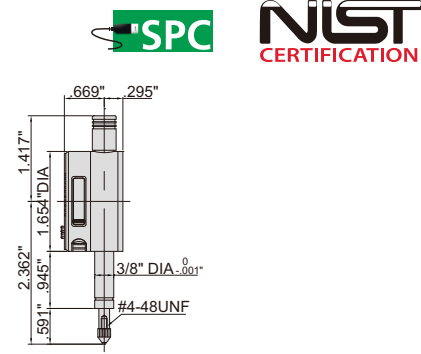
\* R is the radius to be measured

**COMPACT ELECTRONIC INDICATORS**

- Meet ASME B89.1.10M-2001
- Button function:
  - in/mm: short press for inch/metric conversion
  - long press to change measuring direction
  - ABS: short press for absolute/incremental measurement long press to preset data
  - 0/ON: short press to turn on when power is off
  - short press to set zero when power is on
  - long press to turn off
- Keep preset data in memory after restart
- CR1632 battery, automatic power off
- Data output
- With flat back
- Optional accessory: data output cable (part no. 7306-40, 7302-SPC3A, 7305-SPC1A, 7305-C01), contact points (page 45)

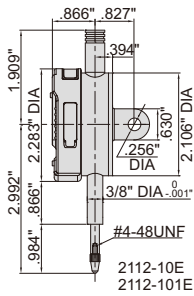


2114-51FE

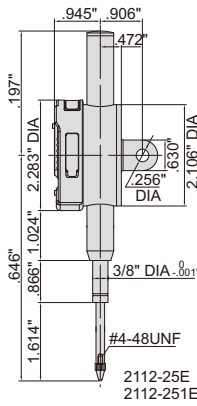


Part No.	EDP No.	Range	Resolution	Accuracy	Hysteresis
2114-5FE	877131	.2"/5mm	.0005"/0.01mm	±.0015"	.0005"
2114-51FE	877130	.2"/5mm	.00005"/0.001mm	±.00015"	.00005"

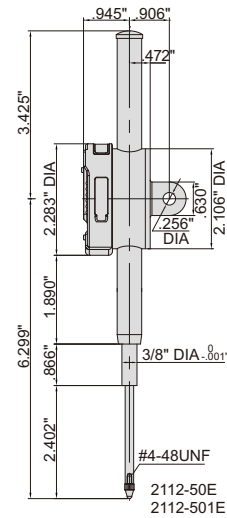
spindle lift knob is included



2112-10E



2112-251E



2112-501E

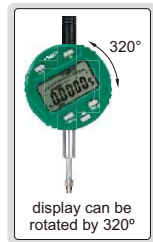
**Resolution .0005"/0.01mm**

Part No.	EDP No.	Range	Accuracy	Hysteresis
2112-10E	877010	.5"/12.7mm	±.0015"	.0005"
2112-25E	816393	1"/25.4mm	±.0015"	.0005"
2112-50E	816395	2"/50.8mm	±.0015"	.0005"

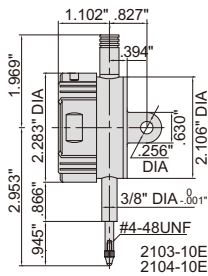
**Resolution .00005"/0.001mm**

Part No.	EDP No.	Range	Accuracy	Hysteresis
2112-101E	877008	.5"/12.7mm	±.00015"	.00005"
2112-251E	816392	1"/25.4mm	±.00015"	.00005"
2112-501E	816394	2"/50.8mm	±.00015"	.00005"

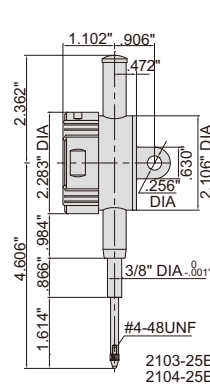
- Meet ASME B89.1.10M-2001
- Button function: on/off, inch/mm, zero
- CR2032 battery, automatic power off
- Data output
- With lug back
- Optional accessory: data output cable (part no. 7306-40, 7302-SPC3A, 7305-SPC1A, 7305-C01), backs (page 46), contact points (page 45)



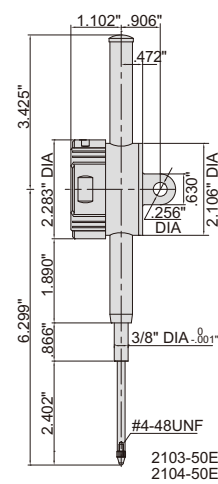
display can be rotated by 320°



2103-10E



2104-25E



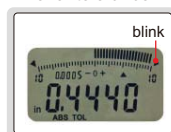
2103-50E

- Meet ASME B89.1.10M-2001
- Reading in digit and analog
- Display can be rotated by 320°
- Button function: tolerance Go and No-Go display, data preset, measuring direction change, max./min./TIR measurement, inch/metric conversion, absolute/incremental measurement
- Keep preset data and tolerance data in memory after restart
- CR2032 battery, automatic power off
- Data output
- Optional accessory: data output cable (part no. 7306-40, 7302-SPC3A, 7305-SPC1A, 7305-C01), backs (page 46), contact points (page 45)

analog pointer



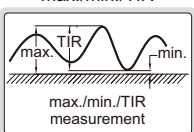
warning when over tolerance



spindle lift knob is included



max./min./TIR



**Resolution .00005"/0.001mm**

Part No.	EDP No.	Range	Accuracy	Hysteresis	Remark
2103-10E	285053	.5"/12.7mm	±.00015"	.00005"	lug back
2103-25E	285052	1"/25.4mm	±.00015"	.00005"	lug back
2103-50E	285051	2"/50.8mm	±.00015"	.00005"	lug back

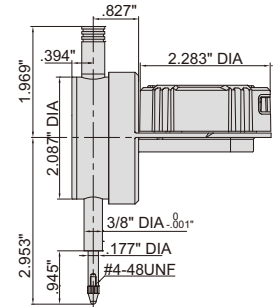
**Resolution .0005"/0.01mm**

Part No.	EDP No.	Range	Accuracy	Hysteresis	Remark
2104-10E	877006	.5"/12.7mm	±.0015"	.0005"	lug back
2104-25E	876700	1"/25.4mm	±.0015"	.0005"	lug back
2104-50E	876272	2"/50.8mm	±.0015"	.0005"	lug back

## BACK PLUNGER TYPE ELECTRONIC INDICATOR

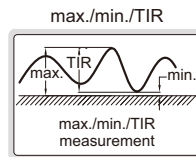


2118-10E

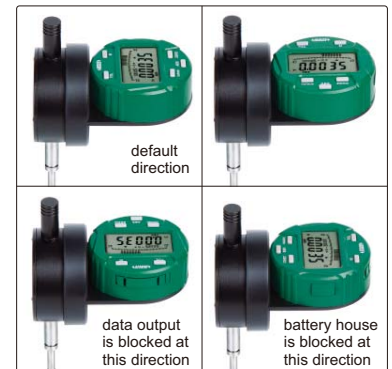


6

- Display can rotate 320°, display direction is changeable
- Reading in digit and analog
- Meet ASME B89.1.10-2001
- Button function: tolerance Go and No-Go display, data preset, measuring direction change, max./min./TIR measurement, inch/metric conversion, absolute/incremental measurement
- Keep preset data and tolerance data in memory after restart
- CR2032 battery, automatic power off
- Data output
- Optional accessory: data output cable (part no. **7306-40**, **7302-SPC3A**, **7305-SPC1A**, **7305-C01**), backs (page 46), contact points (page 45)



display direction is changeable



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

display can rotate 320°



Part No.	EDP No.	Range	Resolution	Accuracy	Hysteresis	Remark
2118-10E	877132	.5"/12.7mm	.0005"/0.01mm	±.0015"	.0005"	flat back

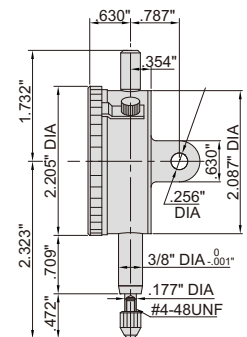
## PRECISION DIAL INDICATOR



- Meet ASME B89.1.10M-2001
- Shockproof
- Jeweled bearing
- With lug back
- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 46), contact points (page 45)



2315-05



Part No.	EDP No.	Range	Graduation	Accuracy		Range/rev	Dial reading
				First 2.5 rev	Overall		
2315-05	282719	.05"	.0001"	±.0001"	±.0003"	.01"	0-100

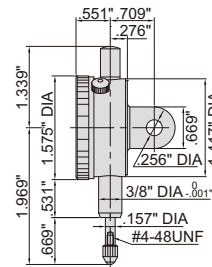


## COMPACT DIAL INDICATORS

- Meet ASME B89.1.10M-2001
- With lug back
- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 46), contact points (page 45)



2304-01



Part No.	EDP No.	Range	Graduation	Accuracy		Range/rev	Dial reading
				First 2.5 rev	Overall		
2304-01	282699	.1"	.001"	—	±.001"	.1"	0-100
2304-02	282700	.2"	.001"	—	±.001"	.1"	0-100
2304-025	282701	.25"	.001"	±.001"	±.001"	.1"	0-100
2304-015	282702	.1"	.0005"	—	±.0005"	.05"	0-50
2304-0205	282703	.2"	.0005"	±.0005"	±.0015"	.05"	0-50
2304-0255	282704	.25"	.0005"	±.0005"	±.0015"	.05"	0-50

6

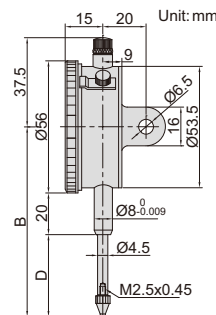


## METRIC DIAL INDICATORS (LONG STROKE)

- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 46), contact points (page 45)



2310-30A



(mm)

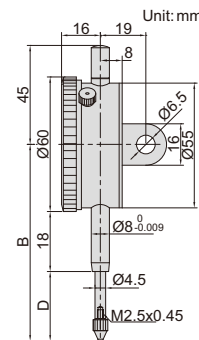
Part No.	EDP No.	Range	Graduation	Accuracy	Hysteresis	Range/rev	Dial reading	Remark	B	D
2310-30FA	282664	30mm	0.01mm	35µm	7µm	1mm	0-100	flat back	88	40
2310-30A	282665	30mm	0.01mm	35µm	7µm	1mm	0-100	lug back	88	40

## METRIC DIAL INDICATOR (GRADUATION 0.1mm)

- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 46), contact points (page 45)



2318-25



(mm)

Part No.	EDP No.	Range	Graduation	Accuracy	Hysteresis	Range/rev	Dial reading	Remark	B	D
2318-25	816164	25mm	0.1mm	60µm	20µm	10mm	0-10	lug back	85	35

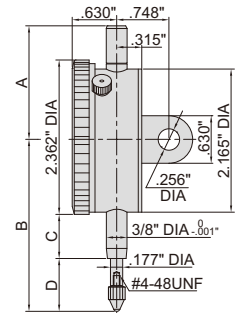
## DIAL INDICATORS

- Meet ASME B89.1.10M-2001
- With lug back
- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 46), contact points (page 45)



2307-1

**NIST**  
CERTIFICATION



Part No.	EDP No.	Range	Graduation	Accuracy		Range/rev	Dial reading
				First 2.5 rev	Overall		
2307-025	282705	.25"	.001"	±.001"	±.001"	.1"	0-100
2307-05	816156	.5"	.001"	±.001"	±.002"	.1"	0-100
2307-1	816158	1"	.001"	±.001"	±.002"	.1"	0-100
2307-2	816160	2"	.001"	±.001"	±.004"	.1"	0-100
2307-0255	282707	.25"	.0005"	±.0005"	±.0015"	.05"	0-50
2307-055	282708	.5"	.0005"	±.0005"	±.0015"	.05"	0-50
2307-105	282709	1"	.0005"	±.0005"	±.002"	.05"	0-50
2307-205	282710	2"	.0005"	±.0005"	±.002"	.05"	0-50

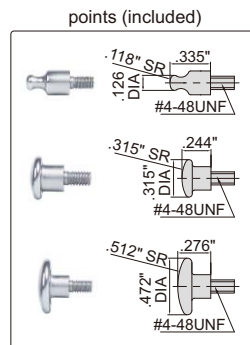
Range	A	B	C	D
.25"	1.811"	2.953"	.787"	.984"
.5"	1.811"	2.953"	.787"	.984"
1"	1.811"	3.346"	.787"	1.378"
2"	4.370"	5.472"	1.969"	2.323"

## BACK PLUNGER TYPE DIAL INDICATOR

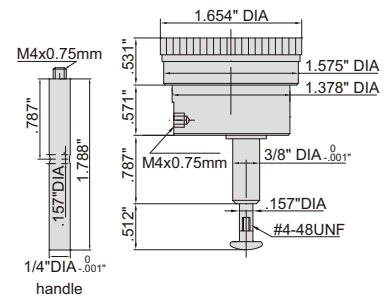
handle can be removed



- Supplied with handle
- Optional accessory: contact points (page 45)



2320-02



Part No.	EDP No.	Range	Graduation	Accuracy	Hysteresis	Range/rev	Dial reading
2320-02	816371	.2"	.001"	±.001"	.00033"	.1"	0-100

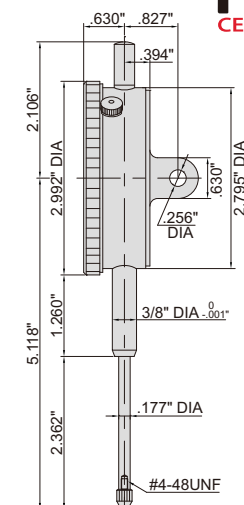
## LARGE FACE DIAL INDICATORS

- Meet ASME B89.1.10M-2001
- With lug back
- Supplied with limit pointers and bezel clamp
- Optional accessory: contact points (page 45)



2312-15

**NIST**  
CERTIFICATION



Part No.	EDP No.	Range	Graduation	Accuracy		Range/rev	Dial reading
				First 2.5 rev	Overall		
2312-15 *	282711	1.5"	.001"	±.001"	±.004"	.1"	0-100
2312-2	282712	2"	.001"	±.001"	±.004"	.1"	0-100

\* Supplied with manufacturer inspection certificate traceable to NIST





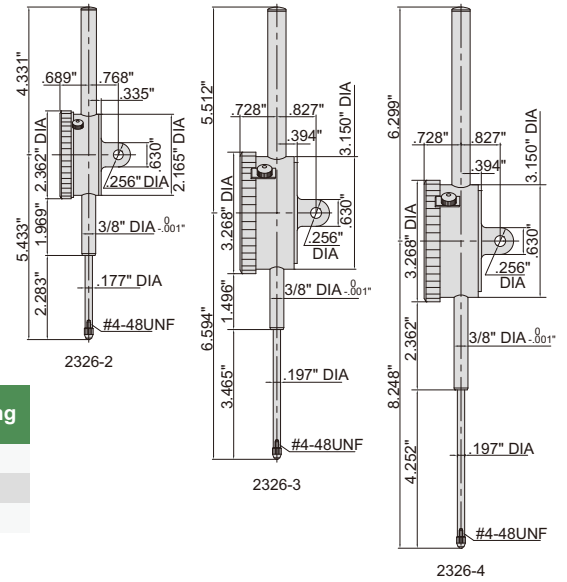
2326-2

- Graduation .001"
- With lug back
- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 46), contact points (page 45)

Part No.	EDP No.	Range	Accuracy		Range/rev	Dial reading
			First 2.5 rev	Overall		
2326-2	282715	2"	±.001"	±.004"	.1"	0-100
2326-3 *	282717	3"	±.001"	±.005"	.1"	0-100
2326-4 *	282718	4"	±.001"	±.005"	.1"	0-100

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

## LONG STROKE DIAL INDICATORS



## DIAL INDICATOR ACCESSORIES

### BALL POINT



Part No.	EDP No.	Material of measuring face
6282-0102	282737	carbide
6282-0304	282769	carbide

### SPHERICAL POINT



Part No.	EDP No.	Material of measuring face
6282-0402	282764	steel

### SHELL TYPE POINT



Part No.	EDP No.	Material of measuring face
6282-0201	282753	steel

### CONICAL POINT



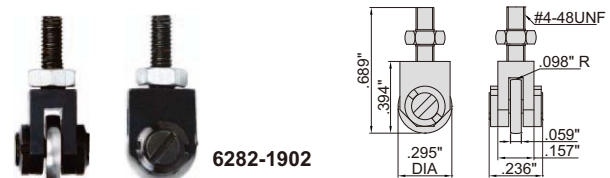
Part No.	EDP No.	Material of measuring face
6282-0702	282778	steel

### FLAT POINT



Part No.	EDP No.	Material of measuring face
6282-1207	282795	steel

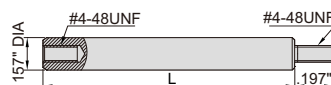
### ROLLER POINT



Part No.	EDP No.	Material of measuring face
6282-1902	282827	steel

## EXTENSION RODS

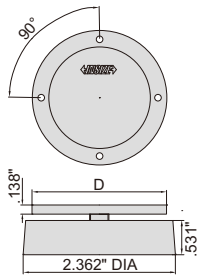
Part No.	EDP No.	Material	L
6282-2018	282823	steel	1"
6282-2019	282824	steel	2"
6282-2020	282825	steel	4"



6282-2018

## MAGNETIC BACKS

Part No.	EDP No.	D (DIA)	For electronic/ dial indicators
7331-M1	877211	2.028"	2103
			2104
			2109
			2112
			2113
			2115
			2117
7331-M2	877212	2.126"	2307



front



back



7331-M2

6

## LUG BACKS

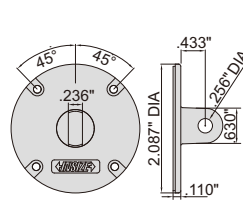
Part No.	EDP No.	For electronic/ dial indicators
7330-L2	282850	2324
		2315
7330-L3	282851	2326-3
		2326-4
7330-L4	816645	2304
7330-L5	816431	2103
		2104
		2109
		2112
		2113
		2115
		2117
7330-L6	877058	2307
		2326-2
7330-L7	816646	2837
7330-L8	816647	2832



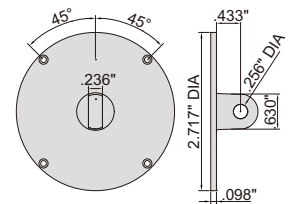
7330-L2



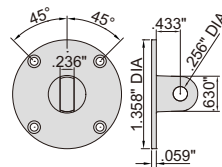
7330-L8



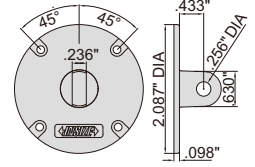
7330-L2



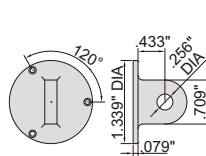
7330-L3



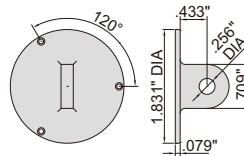
7330-L4



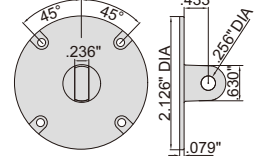
7330-L5



7330-L8



7330-L7



7330-L6

## FLAT BACKS

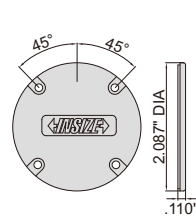
Part No.	EDP No.	For electronic/ dial indicators
7330-F1	282852	2311
7330-F2	282853	2324
		2315
7330-F3	282854	2326-3
		2326-4
7330-F4	889333	2304
7330-F5	877054	2103
		2104
		2109
		2112
		2113
		2115
		2117
7330-F6	877056	2307
		2326-2
7330-F7	816648	2837
7330-F8	816649	2832



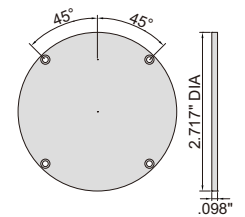
7330-F8



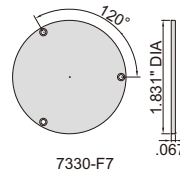
7330-F2



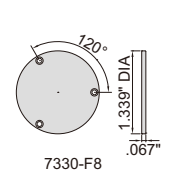
7330-F2



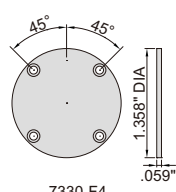
7330-F3



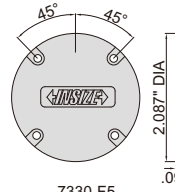
7330-F7



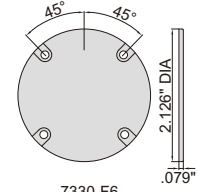
7330-F8



7330-F4



7330-F5



7330-F6

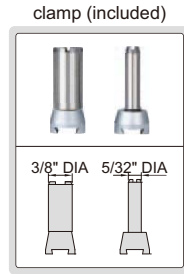


## DIAL TEST INDICATORS

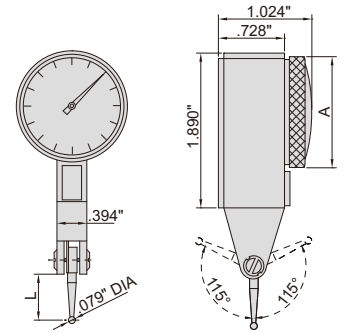
- Jeweled bearing
- Carbide contact point
- Two measuring directions
- Anti magnetic body
- Supplied with two clamps: 5/32" DIA and 3/8" DIA
- Optional accessory: styli (page 49)



2380-31



Part No.	EDP No.	Range	Graduation	Accuracy	Dial reading	A	L
2380-31	282858	.03"	.001"	±.001"	0-15-0	1.181" DIA	.50"
2380-35	816170	.03"	.0005"	±.0005"	0-15-0	1.181" DIA	.50"
2380-301	816172	.008"	.0001"	±.0001"	0-40-0	1.181" DIA	.563"
2381-31	282859	.03"	.001"	±.001"	0-15-0	1.457" DIA	.50"
2381-35	282860	.03"	.0005"	±.0005"	0-15-0	1.457" DIA	.50"
2381-301	282861	.008"	.0001"	±.0001"	0-40-0	1.457" DIA	.563"

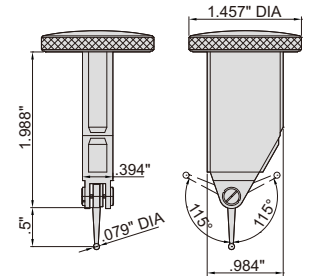


## BACK PLUNGER TYPE DIAL TEST INDICATOR

- Jeweled bearing
- Carbide contact point
- Two measuring directions
- Anti magnetic body
- Supplied with two clamps: 5/32" DIA and 3/8" DIA
- Optional accessory: styli (page 49)



2398-03



Part No.	EDP No.	Range	Graduation	Accuracy	Dial reading
2398-03	877156	.03"	.0005"	±.0005"	0-15-0

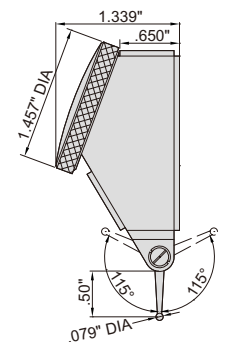
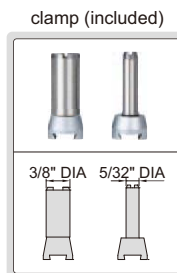


## TILTED FACE TYPE DIAL TEST INDICATOR

- Jeweled bearing
- Carbide contact point
- Two measuring directions
- Anti magnetic body
- Supplied with two clamps: 5/32" DIA and 3/8" DIA
- Optional accessory: styli (page 49)



2399-03



Part No.	EDP No.	Range	Graduation	Accuracy	Dial reading
2399-03	877157	.03"	.0005"	±.0005"	0-15-0

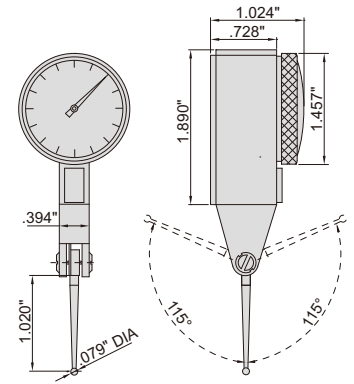
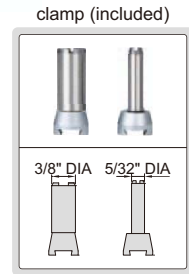
## LONG STYLI DIAL TEST INDICATOR



- Jeweled bearing
- Carbide contact point
- Two measuring directions
- Anti magnetic body
- Supplied with two clamps: 5/32" DIA and 3/8" DIA
- Optional accessory: styli (page 49)



2383-35A



Part No.	EDP No.	Range	Graduation	Accuracy	Dial reading
2383-35A	816372	.03"	.0005"	±.0005"	0-15-0

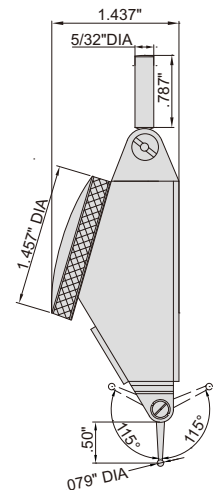
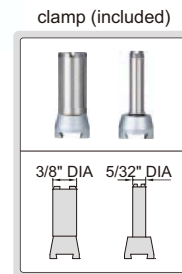
## LONG RANGE DIAL TEST INDICATOR



- Jeweled bearing
- Carbide contact point
- Two measuring directions
- Anti magnetic body
- Supplied with two clamps: 5/32" DIA and 3/8" DIA
- Optional accessory: styli (page 49)



2386-006A

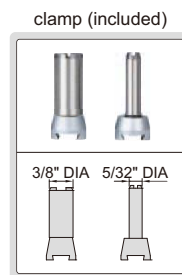


Part No.	EDP No.	Range	Graduation	Accuracy	Dial reading
2386-006A	816174	.06"	.0005"	±.0008"	0-15-0

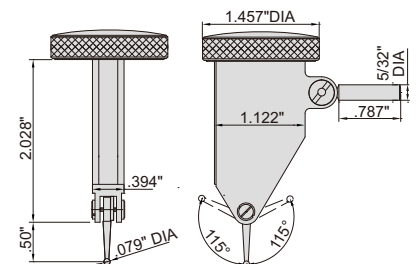
## LARGE RANGE BACK PLUNGER TYPE DIAL TEST INDICATOR



- Jeweled bearing
- Carbide contact point
- Two measuring directions
- Anti magnetic body
- Supplied with two clamps: 5/32" DIA and 3/8" DIA
- Optional accessory: styli (page 49)



2480-06



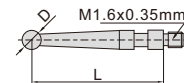
Part No.	EDP No.	Range	Graduation	Accuracy	Dial reading
2480-06	877158	.06"	.0005"	±.0008"	0-15-0

## CONTACT POINTS FOR DIAL TEST INDICATORS

Part No.	EDP No.	For dial test indicator	Material of contact point	L	D
6284-9	876268	2380-31, 2380-35, 2381-31, 2381-35, 2398-03, 2399-03	steel	.50"	.039" DIA
6284-10	285265		carbide	.50"	.079" DIA
6284-11	816409		ruby	.50"	.079" DIA
6284-12	816410		carbide	.50"	.118" DIA
6284-13	816411	2380-301, 2381-301	steel	.563"	.039" DIA
6284-14	816412		carbide	.563"	.079" DIA
6284-15	816413		ruby	.563"	.079" DIA
6284-16	816414	2383-35A	carbide	.563"	.118" DIA
6284-17	816373		steel	1.020"	.039" DIA
6284-18	816374		carbide	1.020"	.079" DIA
6284-19	816375		ruby	1.020"	.079" DIA
6284-20	816376	2386-006A, 2480-06	carbide	1.020"	.118" DIA
6284-65	816377		steel	.50"	.039" DIA
6284-66	816378		carbide	.50"	.079" DIA
6284-67	816379		ruby	.50"	.079" DIA
6284-68	816380	carbide	.50"	.118" DIA	



6284-10



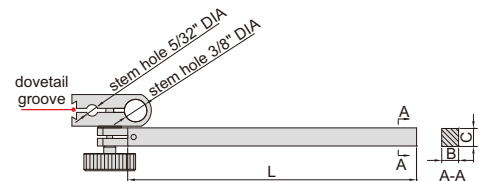
## DIAL TEST INDICATOR HOLDERS



6293-7



6293-3



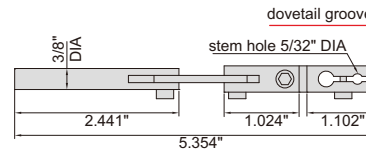
Part No.	EDP No.	Stem section (BxC)	Stem length (L)
6293-7	816416	.354x.354"	2"
6293-3	282878	.25x.5"	4"

## DIAL TEST INDICATOR HOLDER

- Supplied with hex key



6296-2



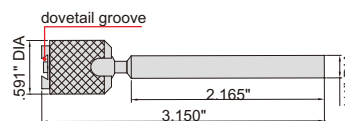
Part No.	EDP No.
6296-2	877030

## DIAL TEST INDICATOR UNIVERSAL HOLDER

- Set the indicators at the desired attitude to the workpiece



6293-5



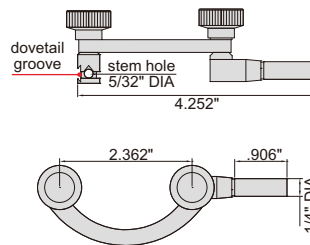
Part No.	EDP No.
6293-5	282880

## DIAL TEST INDICATOR CENTERING HOLDER

- Center cylinders or holes on machine tools



6291-2



Part No.	EDP No.
6291-2	282875

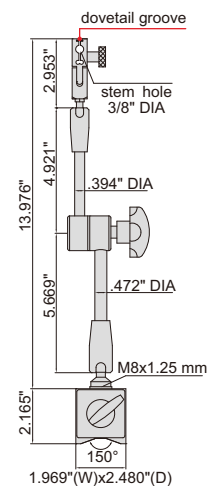
6

## UNIVERSAL MAGNETIC STAND (LIGHT DUTY)

- For electronic/dial indicators and dial test indicators

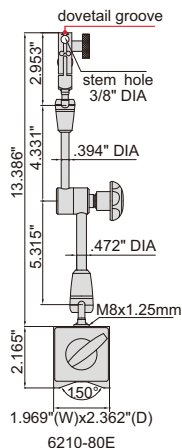


6208-80E



Part No.	EDP No.	Magnetic force	Applicable holding stem	Remark
6208-80E	816256	176lbf	3/8" DIA	with fine adjustment and dovetail groove

## UNIVERSAL MAGNETIC STAND



6210-80E

- For electronic/dial indicators and dial test indicators

Part No.	EDP No.	Magnetic force	Applicable holding stem	Remark
6210-80E	877028	176lbf	3/8" DIA	with fine adjustment and dovetail groove

## MAGNETIC STANDS



6200-60



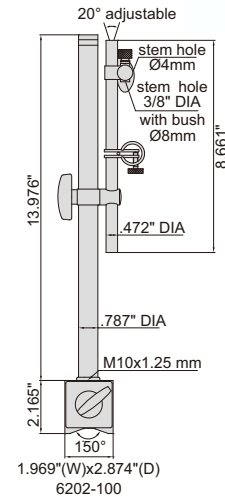
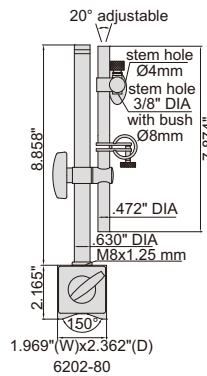
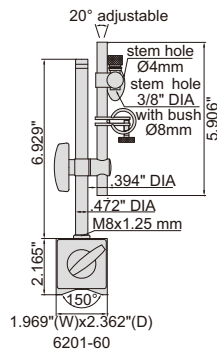
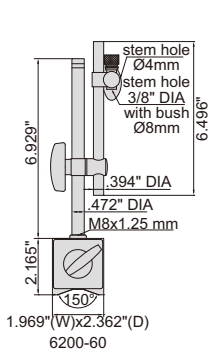
6201-60



6202-80



6202-100

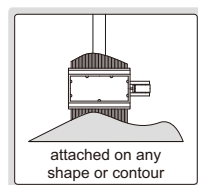


- For electronic/dial indicators and dial test indicators

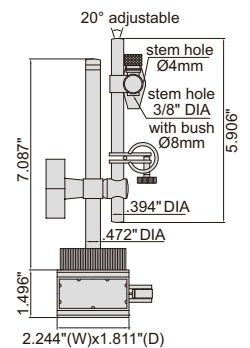
Part No.	EDP No.	Magnetic force	Applicable holding stem	Remark
6200-60	816250	132lbf	3/8" DIA, Ø8mm, Ø4mm	without fine adjustment
6201-60	816252	132lbf	3/8" DIA, Ø8mm, Ø4mm	with fine adjustment
6202-80	282886	176lbf	3/8" DIA, Ø8mm, Ø4mm	with fine adjustment
6202-100	816254	220lbf	3/8" DIA, Ø8mm, Ø4mm	with fine adjustment

## MAGNETIC STAND FOR UNEVEN SURFACE

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



6215-60

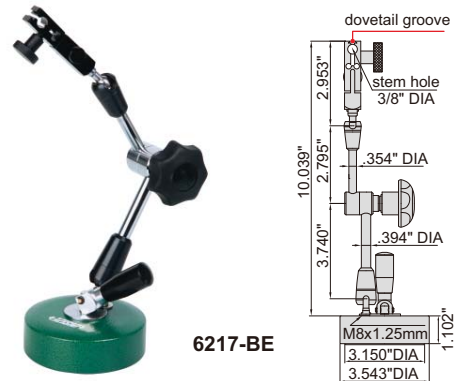


Part No.	EDP No.	Magnetic force	Applicable holding stem
6215-60	282893	132lbf	3/8" DIA, Ø8mm, Ø4mm

## VACUUM STAND

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

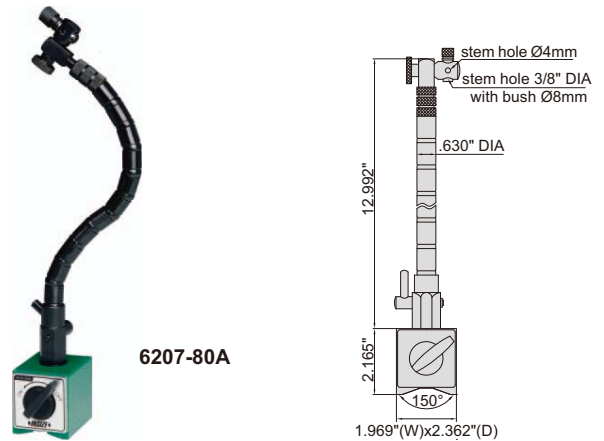
Part No.	EDP No.	Diameter of vacuum disc	Vacuum force	Applicable holding stem	Remark
6217-BE	877190	3.150" DIA	176lbf	3/8" DIA	with fine adjustment and dovetail groove



## FLEX ARM MAGNETIC STAND

- For dial test indicators

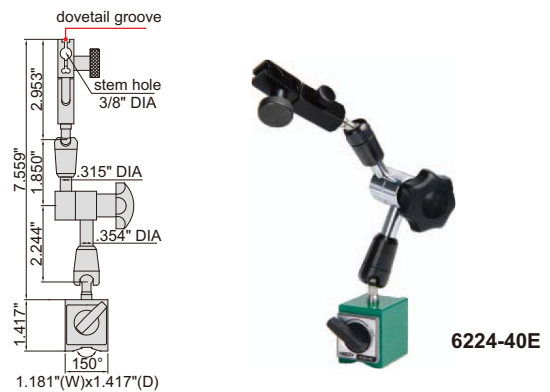
Part No.	EDP No.	Magnetic force	Applicable holding stem
6207-80A	282892	176lbf	3/8" DIA, Ø8mm, Ø4mm



## MINI MAGNETIC STAND

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

Part No.	EDP No.	Magnetic force	Applicable holding stem
6224-40E	816650	88lbf	3/8" DIA



## MINI MAGNETIC STAND

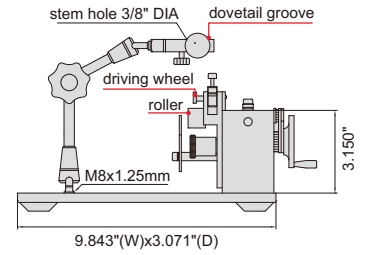
- For dial test indicators
- With dovetail groove

Part No.	EDP No.	Magnetic force	Applicable holding stem
6211-10E	877189	22lbf	1/4" DIA, 3/8" DIA



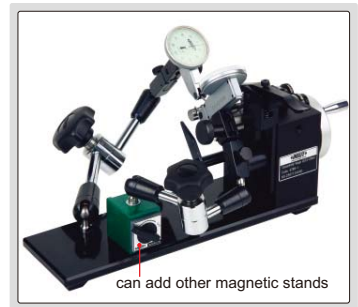
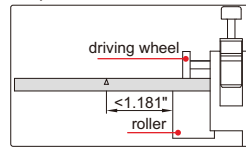


## CONCENTRICITY GAGE



- Accuracy .00008"
- Optional accessory: dial test indicator, mini magnetic stand (part no. 6224-40E)

distance between measuring point and roller <1.181"



Part No.	EDP No.	Applicable diameter
4789-1E	877169	.138" DIA~.984" DIA

6

7

## SPC KEYBOARD OUTPUT CABLES

without software, data can be input as keyboard signal to Excel, Word, etc.



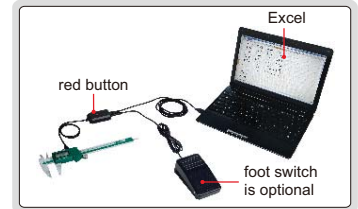
7302-SPC3A



7304-2



7302-HUB



Part No.	EDP No.	Description	Plug to product	Socket on product	Plug to computer	Applicable products
7302-SPC5A	816385	cable for electronic calipers (length 100")				for electronic calipers for electronic depth gages for electronic height gages
7302-SPC6	877207	cable for electronic micrometers (length 100")				for electronic micrometers for electronic three points internal micrometers
7302-SPC3A	877042	cable for electronic indicators (length 100")				for electronic indicators for electronic protractors
7304-2	877046	foot switch with cable (length 60")				
7302-HUB	877261	HUB converter (length 12", four USB ports to computer)				

## MEASURING DATA MANAGEMENT SOFTWARE

### DATABASE COMPUTER

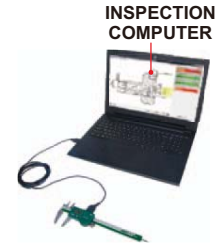
1. Make measurement program of inspection computers (set the dimension and tolerance to be measured of each inspection computer)
2. Receive data from inspection computers and make statistics



send program  
send data



send program  
send data



send program  
send data



### INSPECTION COMPUTER

1. Inspection computers are connected with database computer by wire or wireless LAN (Local Area Network). Maximum 128 inspection computers can be connected with one database computer.
2. Measuring tools are connected by data output cable or wireless data transfer system to USB port of inspection computers. Several measuring tools can be connected to one inspection computer.



7

### SOFTWARE FOR DATABASE COMPUTER PART NO. 7311-1

Part No.	EDP No.
7311-1	877209

#### make measurement program

workpiece information

measuring code

input port

measuring items

description

measuring tools

set tolerance

workpiece drawing

Make measurement program for each one inspection computer.  
Maximum 200 dimensions can be measured by one inspection computer.

#### make data statistics

process control analysis

CPK analysis

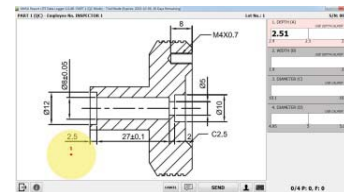
overall equipment effectiveness analysis

#### report

### SOFTWARE FOR INSPECTION COMPUTER PART NO. 7311-2

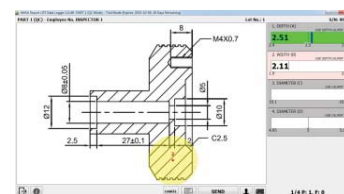
Part No.	EDP No.
7311-2	877210

#### step 1



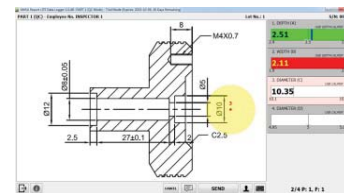
Measure the 1st dimension by following the yellow position indication.

#### step 2



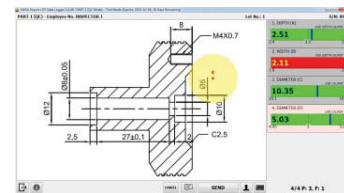
Measure the 2nd dimension by following the yellow position indication.  
The 1st data will be shown in red or green according its tolerance.

#### step 3



Measure the 3rd dimension by following the yellow position indication.  
The 2nd data will be shown in red or green according its tolerance.

#### step 4

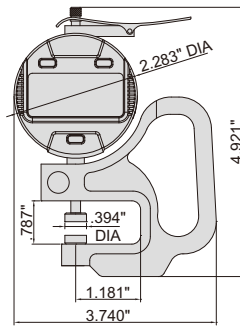


Measure the 4th dimension by following the yellow position indication.  
The 3rd data will be shown in red or green according its tolerance.  
The data of four measurements will be sent to the database computer.

## ELECTRONIC THICKNESS GAGES



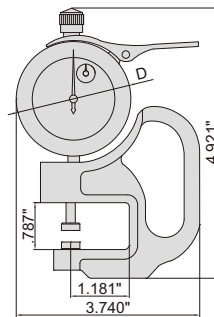
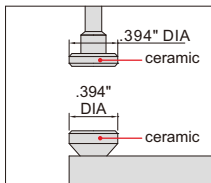
- Ceramic spindle tip and anvil
- Buttons: on/off, zero, inch/mm
- Battery CR2032, automatic power off
- Data output
- Optional accessory: data output cable (part no. 7306-40, 7302-SPC3A, 7305-SPC1A, 7305-C01)



2871-101

Part No.	EDP No.	Range	Resolution	Accuracy
2871-10	877162	0-.4"/0-10mm	.0005"/0.01mm	±.0008"
2871-101	877163	0-.4"/0-10mm	.00005"/0.001mm	±.0002"

## THICKNESS GAGE



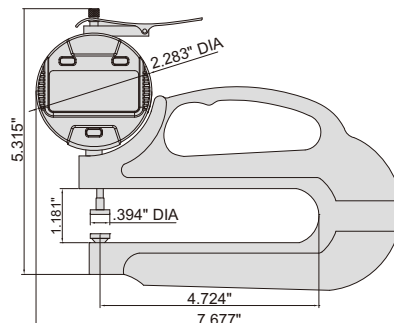
2364-055

Part No.	EDP No.	Range	Graduation	Accuracy	D
2364-055	876312	0-.5"	.0005"	±.0008"	2.283" DIA

## ELECTRONIC THICKNESS GAGE



- Ceramic spindle tip and anvil
- Buttons: on/off, zero, inch/mm
- Battery CR2032
- Automatic power off
- Data output
- Optional accessory: data output cable (part no. 7306-40, 7302-SPC3A, 7305-SPC1A, 7305-C01)



2872-10

Part No.	EDP No.	Range	Resolution	Accuracy
2872-10	877164	0-.4"/0-10mm	.0005"/0.01mm	±.0008"

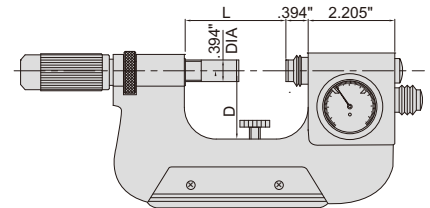
## DIAL SNAP GAGE



- Go/No-Go judgement for mass production
- Dial indicator: range  $\pm 0.0015"$ , graduation  $.00005"$ , accuracy  $.00004"$
- IP54 dust/coolant proof
- Measuring force: 1.125-2.25lbf
- Carbide measuring faces
- Supplied with setting standard



3334-4



Part No.	EDP No.	Range	L	D
3334-4	281839	3-4"	4.075"	2.362"

## ELECTRONIC SNAP GAGE

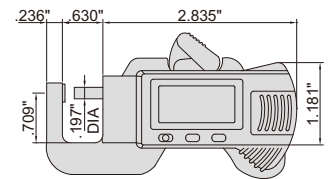


8

- Optional accessory: data output cable (part no. 7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)



2166-12



Part No.	EDP No.	Range	Resolution	Accuracy
2166-12	283197	0-.5"/0-12mm	.0005"/0.01mm	$\pm 0.0012"$

## STEP AND GAP GAGE

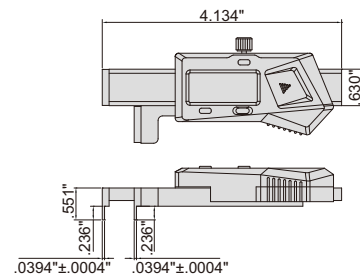


front



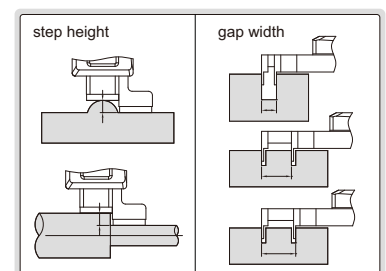
back

2168-12



- Measure step height and gap width
- Resolution  $.0005"/0.01mm$
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Supplied with zero setting block
- Optional accessory: data output cable (part no. 7306-20, 7302-SPC5A/SPC5B, 7305-SPC2A, 7305-A01/A02)

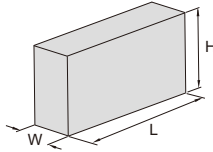
zero setting block (included)



Part No.	EDP No.	Range	Accuracy
2168-12	877152	0-.5"/0-12.7mm	$\pm 0.0012"$



**INSPECTION  
CERTIFICATE**



Dimension:

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

## STEEL GAGE BLOCK SETS



4102-81

Blocks per set	Gage blocks included in set			Grade 0		Grade AS-2	
	Size (inch)	Step (inch)	Quantity	Part No.	EDP No.	Part No.	EDP No.
36	.05		1	4102-36	283257	4102-236	283259
	.1001-.1009	.0001	9				
	.101-.109	.001	9				
	.11-.19	.01	9				
	.1-5	.1	5				
	1		1				
	2		1				
4		1					
81	.1001-.1009	.0001	9	4102-81	283260	4102-281	283262
	.101-.149	.001	49				
	.05-.95	.05	19				
	1-4	1	4				

- Made of alloy steel
- Meet ASME B89.1.9
- Supplied with manufacturer inspection certificate

9

**INSPECTION  
CERTIFICATE**

## METRIC THREAD PLUG GAGES

- Supplied with Go and No-Go end
- Class 6H
- Standard ISO1502

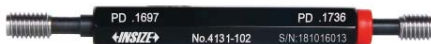


4130-10

(mm)			(mm)			(mm)			(mm)		
Part No.	EDP No.	Size	Part No.	EDP No.	Size	Part No.	EDP No.	Size	Part No.	EDP No.	Size
4130-2	284053	M2x0.4	4130-7	816680	M7x1	4130-18	284066	M18x2.5	4130-39	284074	M39x4
4130-2D2	284054	M2.2x0.45	4130-8	284061	M8x1.25	4130-20	284067	M20x2.5	4130-42	284075	M42x4.5
4130-2D5	284055	M2.5x0.45	4130-9	816681	M9x1.25	4130-22	284068	M22x2.5	4130-45	284076	M45x4.5
4130-3	284056	M3x0.5	4130-10	284062	M10x1.5	4130-24	284069	M24x3	4130-48	284077	M48x5
4130-3D5	284057	M3.5x0.6	4130-11	816682	M11x1.5	4130-27	284070	M27x3	4130-52	284078	M52x5
4130-4	284058	M4x0.7	4130-12	284063	M12x1.75	4130-30	284071	M30x3.5	4130-56	284079	M56x5.5
4130-5	284059	M5x0.8	4130-14	284064	M14x2	4130-33	284072	M33x3.5	4130-60	284080	M60x5.5
4130-6	284060	M6x1	4130-16	284065	M16x2	4130-36	284073	M36x4			

**INSPECTION  
CERTIFICATE**

## AMERICAN STANDARD THREAD PLUG GAGES



4131-102

- Supplied with Go and No-Go end
- Class 2B
- Standard ANSI B1.2

Part No.	EDP No.	Size	Part No.	EDP No.	Size
4131-41	816651	4-40UNC	4131-1A2	816663	1/2-20UNF
4131-61	816652	6-32UNC	4131-9D2	816664	9/16-18UNF
4131-81	816653	8-32UNC	4131-5C1	816665	5/8-11UNC
4131-102	816654	10-32UNF	4131-5C2	816666	5/8-18UNF
4131-1B1	816655	1/4-20UNC	4131-3B1	816667	3/4-10UNC
4131-1B2	816656	1/4-28UNF	4131-3B2	816668	3/4-16UNF
4131-5D1	816657	5/16-18UNC	4131-3C2	816660	3/8-24UNF
4131-5D2	816658	5/16-24UNF	4131-7D2	816661	7/16-20UNF
4131-3C1	816659	3/8-16UNC	4131-1A1	816662	1/2-13UNC

## NPT THREAD PLUG GAGES



4644-1B18

- American tapered pipe thread for threads with sealant
- Standard ANSI/ASME B1.20.1
- Taper 1:16
- Material: OHNS (Oil Hardened Non-shrinking Steel), stable dimension and wear resistance
- Hardness HRC60-62

Part No.	EDP No.	Size
4644-3B14	816674	3/4-14NPT
4644-112	816675	1-11.5NPT
4644-1G12	816676	1 1/4-11.5NPT
4644-1H12	816677	1 1/2-11.5NPT
4644-212	816678	2-11.5NPT
4644-1J8	816679	2 1/2-8NPT

Part No.	EDP No.	Size
4644-1D27	816669	1/4-27NPT
4644-1C27	816670	1/8-27NPT
4644-1B18	816671	1/4-18NPT
4644-3C18	816672	3/8-18NPT
4644-1A14	816673	1/2-14NPT

## AMERICAN STANDARD THREAD RING GAGES

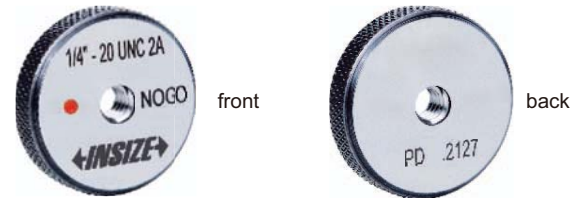


9

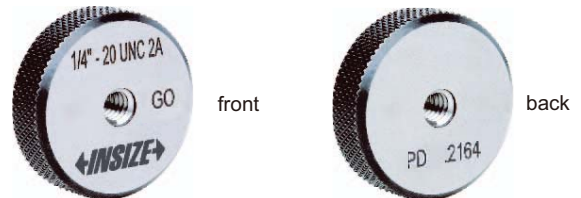
10

Part No. (GO)	EDP No.	Part No. (NOGO)	EDP No.	Size
4121-41	284272	4121-41N	284340	4-40UNC
4121-61	284276	4121-61N	284344	6-32UNC
4121-81	284278	4121-81N	284346	8-32UNC
4121-102	284281	4121-102N	284349	10-32UNF
4121-1B1	284285	4121-1B1N	284353	1/4-20UNC
4121-1B2	284286	4121-1B2N	284354	1/4-28UNF
4121-5D1	284288	4121-5D1N	284356	5/16-18UNC
4121-5D2	284289	4121-5D2N	284357	5/16-24UNF
4121-3C1	284291	4121-3C1N	284359	3/8-16UNC

Part No. (GO)	EDP No.	Part No. (NOGO)	EDP No.	Size
4121-3C2	284292	4121-3C2N	284360	3/8-24UNF
4121-7D2	284295	4121-7D2N	284363	7/16-20UNF
4121-1A1	284297	4121-1A1N	284365	1/2-13UNC
4121-1A2	284298	4121-1A2N	284366	1/2-20UNF
4121-9D2	284301	4121-9D2N	284369	9/16-18UNF
4121-5C1	284303	4121-5C1N	284371	5/8-11UNC
4121-5C2	284304	4121-5C2N	284372	5/8-18UNF
4121-3B1	284307	4121-3B1N	284375	3/4-10UNC
4121-3B2	284308	4121-3B2N	284376	3/4-16UNF



4121-1B1N

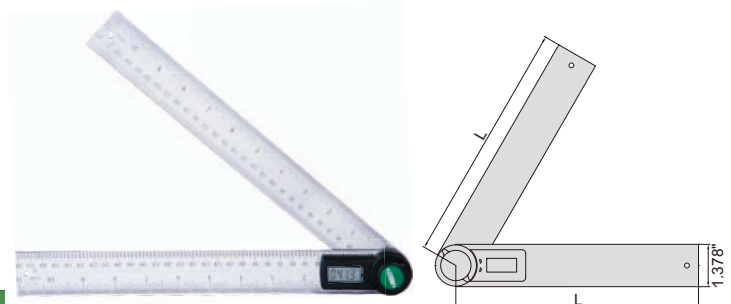
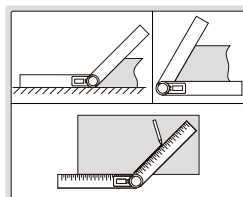


4121-1B1

- Class 2A
- Standard ANSI B1.2

## ELECTRONIC PROTRACTORS

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

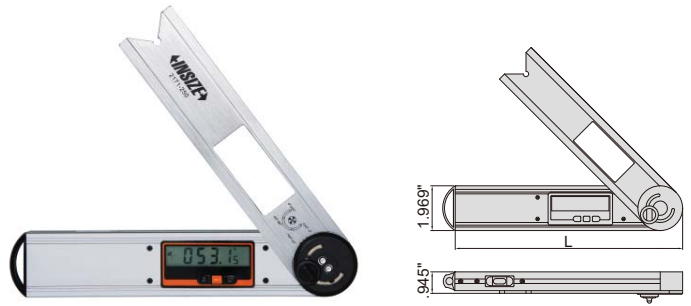
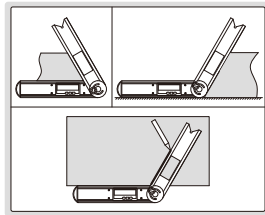
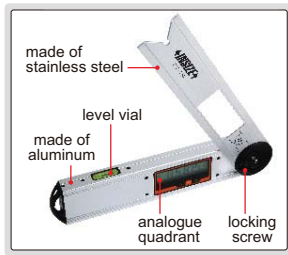


2176-300

Part No.	EDP No.	Size (L)	Range	Resolution	Accuracy
2176-200	877018	8"	0-360°	0.1°	±0.3°
2176-300	877107	12"	0-360°	0.1°	±0.3°



## ELECTRONIC PROTRACTOR



2171-250

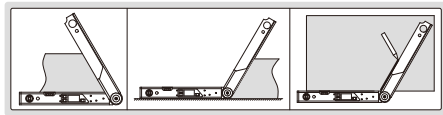
- Buttons: on/off, hold (keep the reading), zero, ABS (absolute and incremental measurement)
- Fix the locking screw at 4 positions for different measuring ranges: 0°~225°, -225°~0°, -45°~180°, -180°~45°
- Remove the locking screw for 360° range
- With level vial
- Battery CR2032, automatic power off

Part No.	EDP No.	Size (L)	Range	Resolution	Accuracy
2171-250	877106	10"	0-360°	0.05°	±0.15°

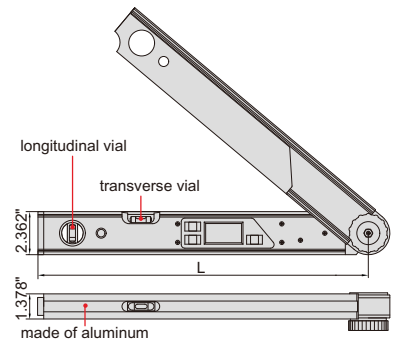


## COOLANT PROOF ELECTRONIC PROTRACTOR (HEAVY DUTY)

10



2174-225



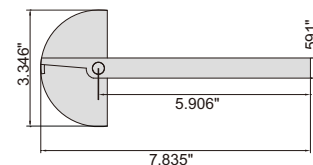
- Suitable for setting horizontal and vertical mitre angles of cutting machine
- Buttons: ON/OFF, HOLD/SUP, SPR/CNR/MTR/BVL
- IP54 dust/coolant proof
- With transverse and longitudinal vials
- 2xAAA batteries
- Automatic backlight
- Absolute level, zero setting is not needed when batteries are replaced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

Part No.	EDP No.	Size (L)	Range	Resolution	Accuracy
2174-225	877153	18.11"	0-225°	0.05°	±0.10°

## PROTRACTOR



4780-85

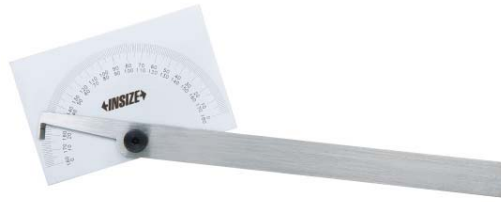
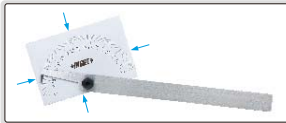


- Made of stainless steel
- Satin chrome plated scale
- With clamping screw

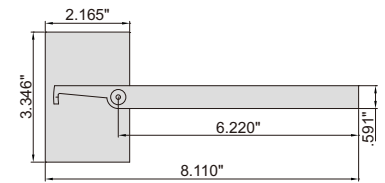
Part No.	EDP No.	Range	Graduation	Accuracy
4780-85	283328	0-180°	1°	±0.3°

## PROTRACTOR

4 working edges



4781-85

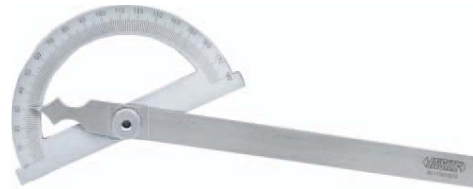


- Made of stainless steel
- Satin chrome plated scale
- With clamping screw

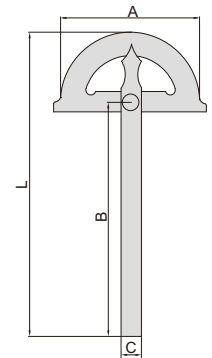
Part No.	EDP No.	Range	Graduation	Accuracy
4781-85	877168	0-180°	1°	±0.3°

## PROTRACTORS

- Graduation: 1°
- Made of stainless steel (4799-1300 is made of carbon steel)
- Satin chrome plated scale
- With clamping screw



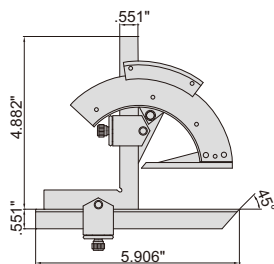
4799-180



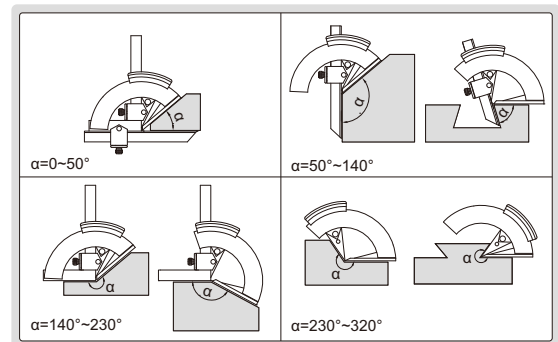
Part No.	EDP No.	Size (AxB)	Range	Accuracy	L	C
4799-180	283329	3.1x4.7"	0-180°	±0.3°	6.614"	.433"
4799-1120	283330	4.7x5.9"	0-180°	±0.3°	8.661"	.551"
4799-1150	283331	5.9x7.9"	0-180°	±0.3°	11.220"	.630"
4799-1200	283332	7.9x11.8"	0-180°	±0.3°	16.260"	.787"
4799-1300	283333	11.8x19.7"	0-180°	±0.3°	26.575"	1.181"

10

## PROTRACTOR



2374-320

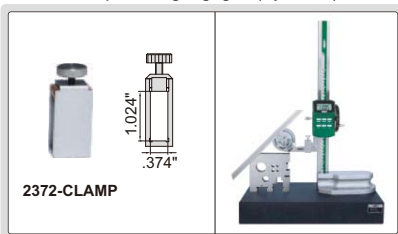


- Made of stainless steel
- Satin chrome plated scale

Part No.	EDP No.	Range	Graduation	Accuracy
2374-320	283340	0-320°	2'	±2'

## UNIVERSAL PROTRACTOR

clamp for height gages (optional)



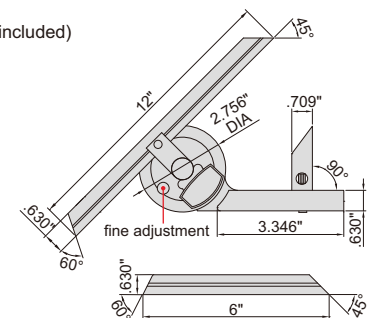
2372-CLAMP



6" blade (included)



2372-360

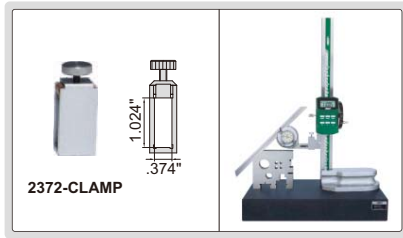


- Parallax-free reading
- Made of stainless steel
- Optional accessory: clamp (part no. 2372-CLAMP), suitable for height gages 1156, 1351 and 1250

Part No.	EDP No.	Range	Graduation	Accuracy
2372-360	283341	0-360°	5'	±5'



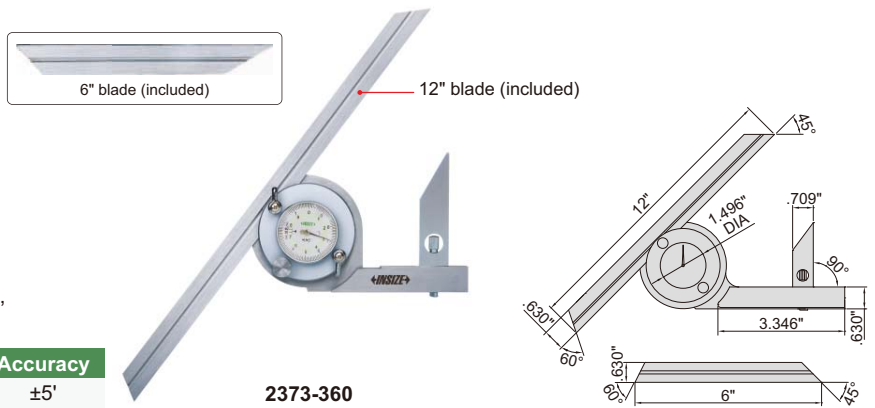
clamp for height gages (optional)



2372-CLAMP

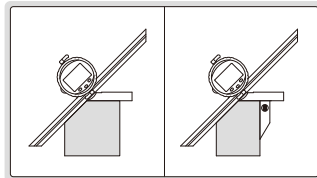
- Made of stainless steel
- Optional accessory: clamp (part no. 2372-CLAMP), suitable for height gages 1156, 1351 and 1250

Part No.	EDP No.	Range	Graduation	Accuracy
2373-360	283342	0-360°	5'	±5'



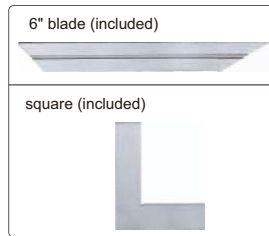
## DIAL PROTRACTOR

2373-360



- Display in degree (for example 32.655°) and degree/minute/second (for example 32°39'30")
- SET button: preset the reading, change measuring direction
- MODE button: choose 0-90°, 0-180° or 0-360° display
- ZERO/ON/OFF button: zero and power on/off
- Battery CR2032, automatic power off
- Data output
- Supplied with square to set 90°
- Made of stainless steel
- Optional accessory: data output cable (part no. 7306-40, 7302-SPC3A, 7305-SPC1A, 7305-C01), clamp (part no. 2372-CLAMP), suitable for height gages 1156, 1351 and 1250

Part No.	EDP No.	Range	Resolution	Accuracy
2172-360A	283343	0-360°	10"/0.005°	±5'



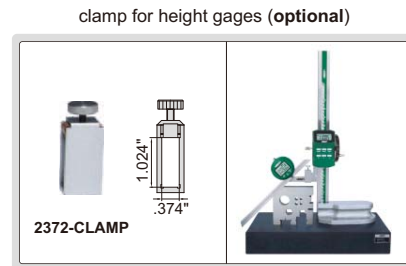
6" blade (included)

square (included)



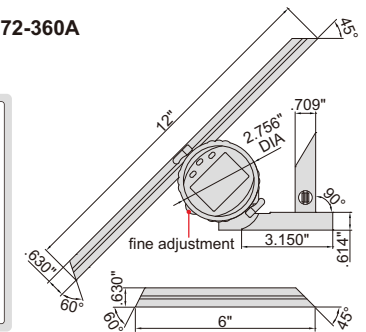
## ELECTRONIC PROTRACTOR

2172-360A



2372-CLAMP

clamp for height gages (optional)



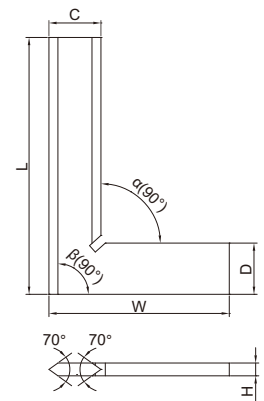
## 90° BEVELED EDGE SQUARES

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

Part No.	EDP No.	Size (LxW)	Squareness		C	D	H
			Inside (α)	Outside (β)			
4790-050	816300	2.0x1.6"	94µin	98µin	.512"	.512"	.157"
4790-075	816302	3.0x2.0"	102µin	110µin	.591"	.591"	.157"
4790-0100	816304	3.9x2.8"	110µin	118µin	.787"	.787"	.197"
4790-0150	816306	5.9x3.9"	126µin	138µin	1.181"	1.181"	.236"
4790-0200	816308	7.9x5.1"	146µin	157µin	1.339"	1.339"	.276"
4790-0300	816310	11.8x7.9"	181µin	197µin	1.575"	1.575"	.315"



4790-0100



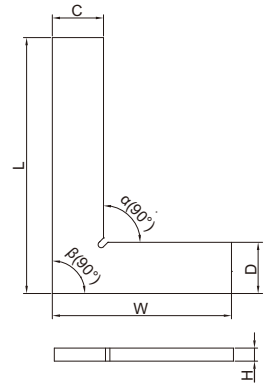
## 90° FLAT EDGE SQUARES

- DIN875 grade 0
- Made of hardened stainless steel

Part No.	EDP No.	Size (LxW)	Squareness		C	D	H
			Inside ( $\alpha$ )	Outside ( $\beta$ )			
4791-50	816312	2.0x1.6"	236 $\mu$ m	236 $\mu$ m	.591"	.591"	.157"
4791-75	816314	3.0x2.0"	236 $\mu$ m	276 $\mu$ m	.591"	.591"	.157"
4791-100	816316	3.9x2.8"	276 $\mu$ m	276 $\mu$ m	.787"	.787"	.197"
4791-150	816318	5.9x3.9"	276 $\mu$ m	315 $\mu$ m	1.181"	1.181"	.236"
4791-200	816320	7.9x5.1"	315 $\mu$ m	354 $\mu$ m	1.181"	1.181"	.276"
4791-250	283375	9.8x6.5"	354 $\mu$ m	394 $\mu$ m	1.378"	1.378"	.276"
4791-300	816322	11.8x7.9"	394 $\mu$ m	433 $\mu$ m	1.575"	1.575"	.315"



4791-100



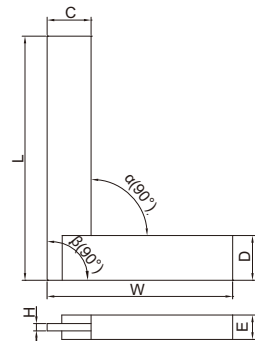
## 90° FLAT EDGE SQUARES WITH WIDE BASE

- DIN875 grade 0
- Made of hardened stainless steel

Part No.	EDP No.	Size (LxW)	Squareness		C	D	H	E
			Inside ( $\alpha$ )	Outside ( $\beta$ )				
4792-150	283391	5.9x3.9"	315 $\mu$ m	315 $\mu$ m	.866"	.866"	.157"	.472"



4792-150



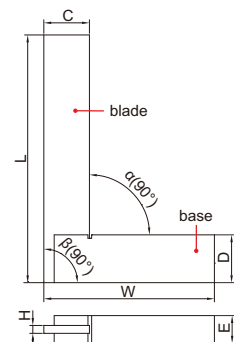
## MACHINIST SQUARES WITH WIDE BASE

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

Part No.	EDP No.	Size (LxW)	Squareness		C	D	H	E
			Inside ( $\alpha$ )	Outside ( $\beta$ )				
4707-50	283490	2.0x1.6"	.95mil	.98mil	.630"	.472"	.118"	.354"
4707-75	283491	3.0x2.0"	1.02mil	1.10mil	.630"	.630"	.118"	.354"
4707-100	283492	3.9x2.8"	1.10mil	1.18mil	.748"	.748"	.118"	.472"
4707-150	283493	6x4"	1.30mil	1.38mil	.984"	.984"	.118"	.630"
4707-200	283494	8x5"	1.46mil	1.58mil	1.181"	1.260"	.157"	.630"
4707-250	283495	10x6"	1.65mil	1.77mil	1.181"	1.260"	.157"	.748"
4707-300	283496	12x8"	1.85mil	1.97mil	1.260"	1.260"	.157"	.748"
4707-400	283497	16x10"	2.21mil	2.36mil	1.496"	1.496"	.197"	.866"
4707-500	283498	20x12"	2.56mil	2.76mil	1.772"	1.969"	.236"	.984"
4707-600	877026	24x14"	2.95mil	3.15mil	1.969"	1.969"	.236"	1.181"

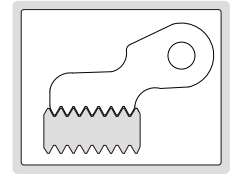


4707-100



## PITCH GAGES

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



4820-122

### Metric 60° and Whitworth 55° screw

Part No.	EDP No.	Range	Pitch of leaves included	Quantity of leaves
4820-452	283556	0.25-6.0mm	0.25, 0.3, 0.35, 0.4, 0.45, 0.5, 0.6, 0.7, 0.75, 0.8, 0.9, 1, 1.25, 1.5, 1.75, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6mm	52
		4-62TPI	4, 4-1/2, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16, 18, 19, 20, 22, 24, 25, 26, 28, 30, 32, 36, 40, 48, 60, 62TPI	

### Metric 60° and Unified 60° screw

Part No.	EDP No.	Range	Pitch of leaves included	Quantity of leaves
4820-552	816695	0.4-7.0mm	0.4, 0.5, 0.6, 0.7, 0.75, 0.8, 0.9, 1, 1.25, 1.5, 1.75, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7mm	52
		4-42TPI	4, 4-1/2, 5, 5-1/2, 6, 7, 8, 9, 10, 11, 11-1/2, 12, 13, 14, 15, 16, 18, 20, 22, 24, 26, 27, 28, 30, 32, 34, 36, 38, 40, 42TPI	

### Unified 60° screw

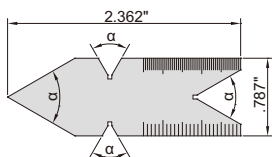
Part No.	EDP No.	Range	Pitch of leaves included	Quantity of leaves
4820-230	283552	4-42TPI	4, 4-1/2, 5, 5-1/2, 6, 7, 8, 9, 10, 11, 11-1/2, 12, 13, 14, 15, 16, 18, 20, 22, 24, 26, 27, 28, 30, 32, 34, 36, 38, 40, 42TPI	30

### Metric 60° screw

Part No.	EDP No.	Range	Pitch of leaves included	Quantity of leaves
4820-122	283550	0.4-7.0mm	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
4820-124	283551	0.25-7.0mm	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

### Whitworth 55° screw

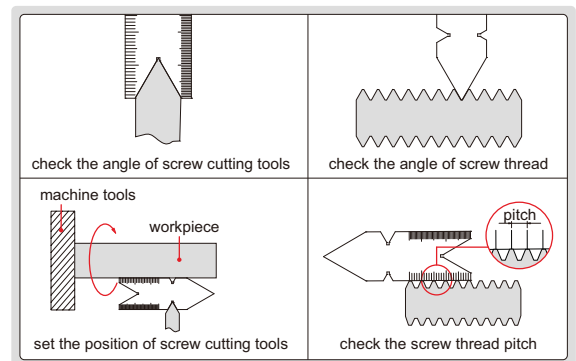
Part No.	EDP No.	Range	Pitch of leaves included	Quantity of leaves
4820-330	283554	4-42TPI	4, 4-1/2, 5, 5-1/2, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 22, 24, 26, 27, 28, 30, 32, 34, 36, 38, 40, 42TPI	30



4810-602

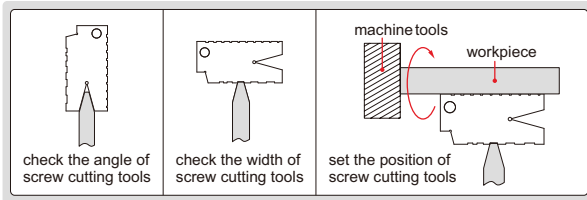
- To check and set screw cutting tools, and check the angle and pitch of screw thread
- Angle accuracy:  $\pm 30\text{min}$ .
- Made of stainless steel

## CENTER GAGES

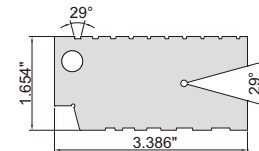


Part No.	EDP No.	Thread type	Angle ( $\alpha$ )	Graduation
4810-602	283560	UNIFIED 60°	60°	14ths and 20ths on front side, 24ths and 32ths on back side
4810-601	283559	METRIC 60°	60°	0.5mm and 1mm
4810-55	283561	WHITWORTH 55°	55°	14ths and 20ths on front side, 24ths and 32ths on back side

## THREAD GAGE



4812-E



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

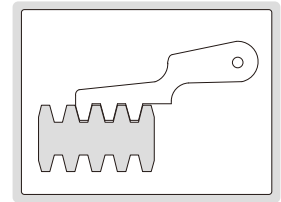
Part No.	EDP No.	Range	Thread type	Pitch
4812-E	283557	1-10TPI	ACME 29°	1, 1-1/3, 1-1/2, 1-3/4, 2, 2-1/2, 3, 4, 5, 6, 7, 8, 9, 10TPI

## PITCH GAGES

- Check the pitch of screw thread
- Accuracy:  $\pm .0028\text{''}$
- Made of medium carbon steel

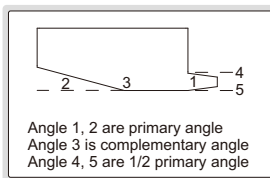


4824-12

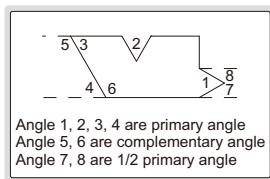


Part No.	EDP No.	Range	Thread type	Pitch of leaves included	Quantity of leaves
4824-16	283549	1-12TPI	ACME 29°	1, 1-1/3, 1-1/2, 1-3/4, 2, 2-1/2, 3, 3-1/2, 4, 5, 6, 7, 8, 9, 10, 12TPI	16
4824-12	283548	2-20mm	Tr30°	2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 16, 20mm	12

## ANGLE GAGE SET



type A



type B

- Each blade checks primary, 1/2 primary and complementary angles
- Made of medium carbon steel



4807

Primary angle	1/2 primary angle	Complementary angle	Type
5°	2°30'	175°	A
10°	5°	170°	A
15°	7°30'	165°	A
20°	10°	160°	B
25°	12°30'	155°	B
30°	15°	150°	B
35°	17°30'	145°	B
40°	20°	140°	B
45°	22°30'	135°	B
50°	25°	130°	B
55°	27°30'	125°	B
60°	30°	120°	B
65°	32°30'	115°	B
70°	35°	110°	B
75°	37°30'	105°	B
80°	40°	100°	B
85°	42°30'	95°	B
90°	45°	90°	B

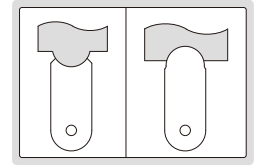
Part No.	EDP No.	Quantity of leaves	Accuracy
4807	816602	18	$\pm 10'$

## RADIUS GAGES

- Made of medium carbon steel



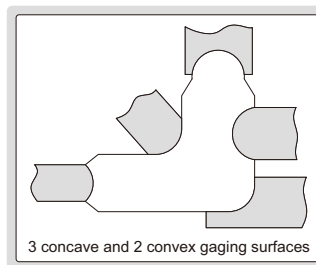
4801-15E



Part No.	EDP No.	Range	Radius of leaves included	Quantity of leaves (internal+external)	Accuracy
4801-15E	283567	1/32"-1/4"	1/32", 3/64", 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 11/64", 3/16", 13/64", 7/32", 15/64", 1/4"	15+15	±.0012"
4801-16E	283568	17/64"-1/2"	17/64", 9/32", 19/64", 5/16", 21/64", 11/32", 23/64", 3/8", 25/64", 13/32", 27/64", 7/16", 29/64", 15/32", 31/64", 1/2"	16+16	±.0014"

## RADIUS GAGE SETS

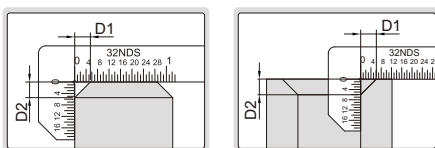
- Each piece has 3 concave and 2 convex gauging surfaces
- Made of medium carbon steel



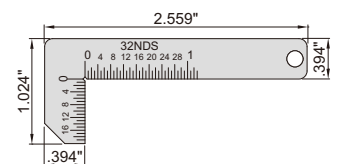
4804-26

Part No.	EDP No.	Range	Radius of leaves included	Quantity of leaves	Accuracy	Handle
4804-25E	816198	1/64"~1/2"	1/64", 1/32", 3/64", 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 11/64", 3/16", 13/64", 7/32", 15/64", 1/4", 17/64", 9/32", 5/16", 11/32", 3/8", 13/32", 7/16", 15/32", 1/2"	25	±.002"	with
4804-8E	816200	9/16"~1"	9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1"	8	±.0025"	without
4804-26	816196	0.5~13mm	0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10, 10.5, 11, 11.5, 12, 12.5, 13mm	26	±0.05mm	with

## CHAMFER GAGE



4844-1E



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

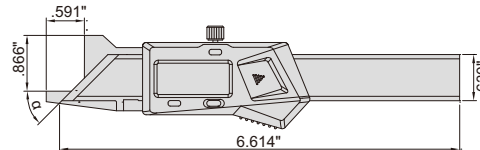
Part No.	EDP No.	Graduation	Accuracy
4844-1E	877174	1/32"	±.01"

## ELECTRONIC CHAMFER GAGE

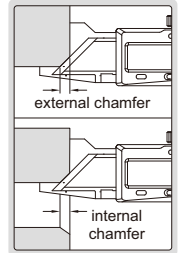
- Measure 45° chamfer dimension
- Resolution .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, data output
- Made of stainless steel
- Optional accessory: data output cable (part no. 7306-20, 7302-SPC5A/SPC5B, 7305-SPC2A, 7305-A01/A02)



1180-6



measure chamfer dimension



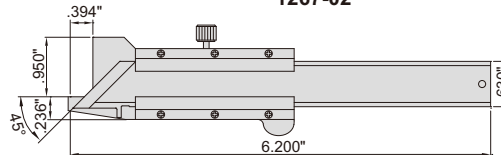
Part No.	EDP No.	Range	Accuracy	Chamfer (α)
1180-6	816370	0-.39"/0-10mm	±.0025"	45°

## CHAMFER GAGE

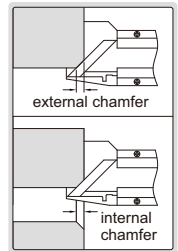
- Measure 45° chamfer dimension
- Graduation .001"
- Made of stainless steel
- Satin chrome plated reading surface



1267-02



measure 45° chamfer dimension



Part No.	EDP No.	Range	Accuracy
1267-02	877127	0-.2"	±.003"

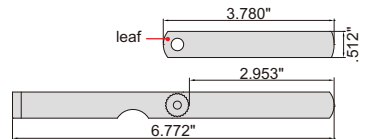
11

## FEELER GAGE



4608-31

- .010" is made of brass, others are made of hardened alloy steel
- Each blade is marked with inch/metric size

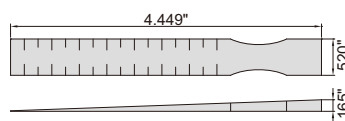


Part No.	EDP No.	Range	Quantity of Leaves
4608-31	283543	.0015"-.035"	32

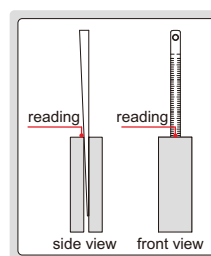
Thickness of leaves included	Accuracy
.010" (brass)	±.00039"
.0015", .002"	±.0002"
.0025", .003", .004", .005", .006", .007"	±.00028"
.008", .009"	±.00035"
.010", .011"	±.00039"
.012", .013"	±.00047"
.014", .015"	±.00051"

Thickness of leaves included	Accuracy
.016", .017"	±.00055"
.018", .019"	±.00059"
.020", .021"	±.00067"
.022", .023"	±.00071"
.024", .025", .026"	±.00075"
.028"	±.00091"
.030"	±.00094"
.032", .035"	±.00102"

## TAPER GAGE



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

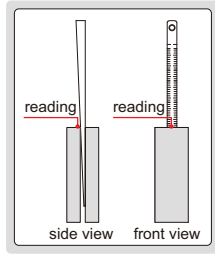


4630-1E

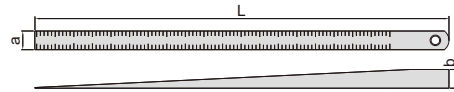
Part No.	EDP No.	Range	Graduation	Accuracy
4630-1E	283577	.01-.15"	.001"	±.003"

### TAPER GAGE

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



4630-1



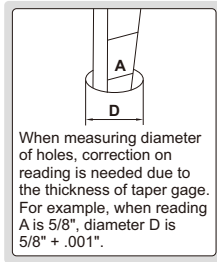
(mm)

Part No.	EDP No.	Range	Graduation	Accuracy	L	a	b
4630-1	283576	0.5-10mm	0.05mm	±0.07mm	220	10	10.5

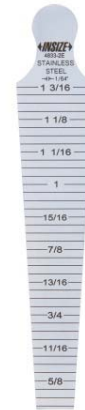
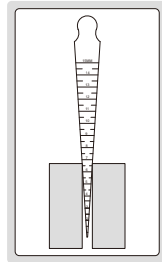
### TAPER GAGES

- Measure opening, slot width, hole diameter, etc.
- Diameter correction table on the back
- Made of stainless steel

measure diameter of hole



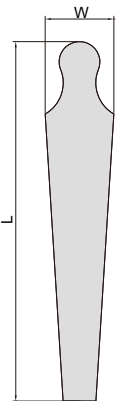
measure slot width



front



back



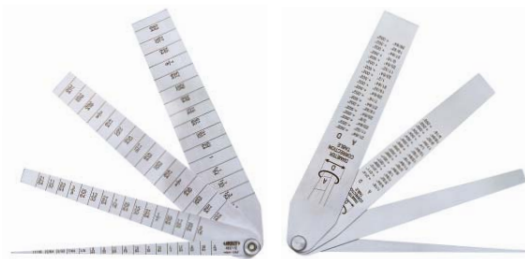
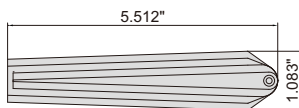
4833-1E

Part No.	EDP No.	Range	Graduation	Accuracy	L	W
4833-1E	877263	1/32~5/8"	1/64"	±.004"	5.748"	.669"

(mm)

Part No.	EDP No.	Range	Graduation	Accuracy	L	W
4833-1	285112	0.8-15mm	0.1mm	±0.1mm	146	17

- Graduation: 1/64"
- Include 4 pcs (1/16~5/16", 21/64~9/16", 37/64~13/16", 53/64~1-1/16")
- Measure opening, slot width, hole diameter, etc.
- Diameter correction table on the back
- Made of stainless steel



front

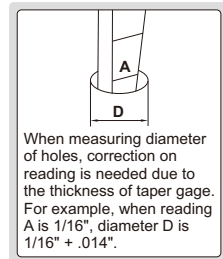
back

4837-1E

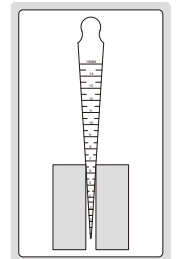
Part No.	EDP No.	Range	Accuracy
4837-1E	877172	1/16~1-1/16"	±.004"

### TAPER GAGE SET

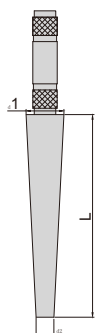
measure diameter of hole



measure slot width



### TAPER BORE GAGES



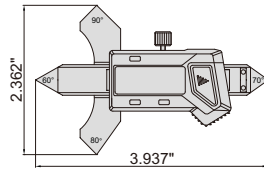
4852-E15

- Quick measurement of bore diameter
- Hardened steel, HRC50-58
- Satin chrome plated surface
- Aluminium oxidized handle

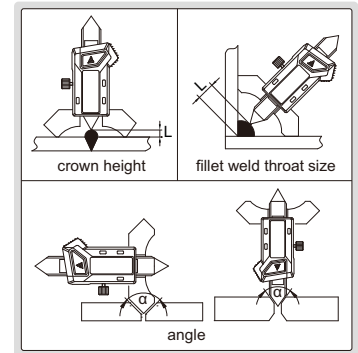
Part No.	EDP No.	Range	Graduation	Accuracy	L	d1	d2
4852-E15	877175	.6-1.2"	.005"	±.0025"	6.496"	1.220" DIA	.579" DIA
4852-E30	877176	1.2-1.8"	.005"	±.0025"	6.496"	1.811" DIA	1.165" DIA

## ELECTRONIC WELDING GAGE

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



4831-20A



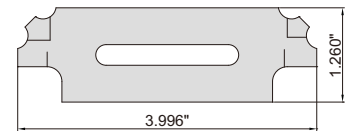
Part No.	EDP No.	Measurement	Range	Resolution	Accuracy
4831-20A	877170	crown height	0-.4"/0-7mm	.0005"/0.01mm	±.0012"
		fillet weld throat size	0-.8"/0-20mm	.0005"/0.01mm	±.0039"
		angle	60°, 70°, 80°, 90°	—	±1°

## FILLET WELDING GAGES

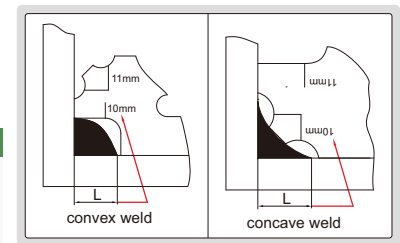
- Measure concave and convex weld sizes
- 7 blades are included
- Made of stainless steel



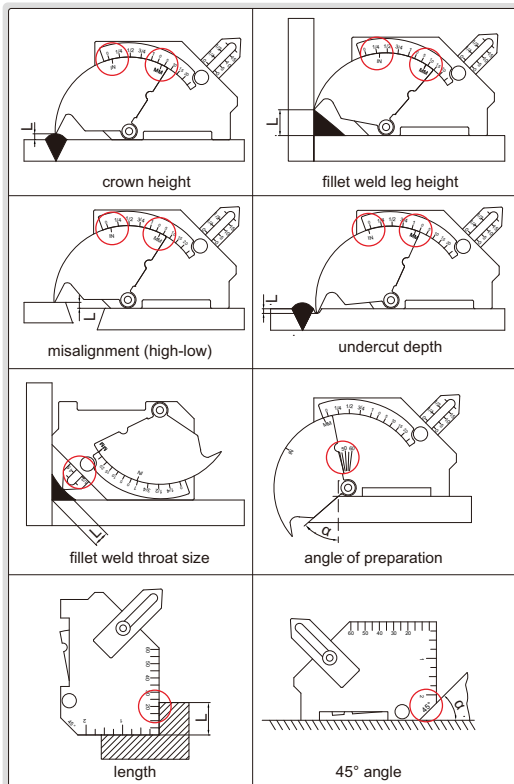
4836-2



Part No.	EDP No.	Size	Accuracy
4836-2	877171	1/8" (3.2mm), 3/16" (4.8mm), 1/4" (6.4mm), 5/16" (7.9mm), 3/8" (9.5mm), 7/16" (11.1mm), 1/2" (12.7mm), 5/8" (15.9mm), 3/4" (19.1mm), 7/8" (22.2mm), 1" (25.4mm)	±.02" (0.5mm)



## WELDING GAGE



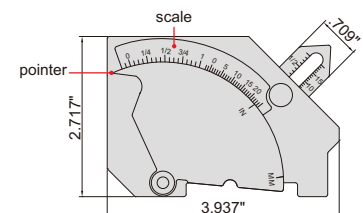
front



back

4835-1

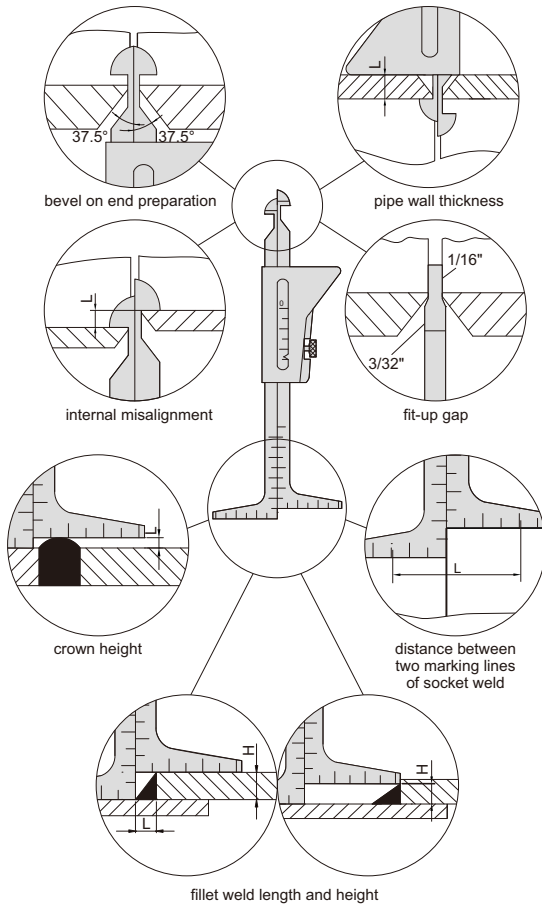
- Adjustable scale to compensate pointer wear
- Made of stainless steel



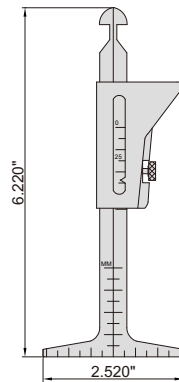
Part No.	EDP No.	Measurement	Range	Graduation	Accuracy
4835-1	877031	crown height	0-1" (0-25mm)	1/16" (1mm)	±.02"
		fillet weld leg height	0-1" (0-25mm)	1/16" (1mm)	±.02"
		misalignment (high-low)	0-1" (0-25mm)	1/16" (1mm)	±.02"
		undercut depth	0-1/8" (0-2mm)	1/16" (1mm)	±.02"
		fillet weld throat size	0-3/4" (0-20mm)	1/16" (1mm)	±.02"
		angle of preparation	0-60°	5°	±1°
		length	0-2" (0-60mm)	1/16" (1mm)	±.02"
		45° angle	—	—	±1°



## PIPE WELDING GAGE



4839-1



■ Made of stainless steel

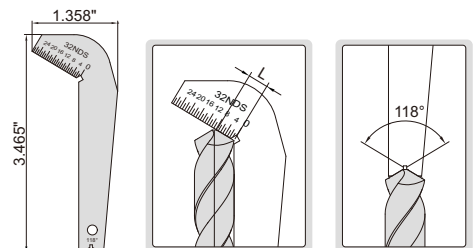
Part No.	EDP No.	Measurement	Range	Graduation	Accuracy
4839-1	877032	bevel on end preparation	37.5°	—	±1°
		pipe wall thickness	0~1-3/4" (0-45mm)	1/16" (1mm)	±.02"
		internal misalignment	0~1-3/8" (0-35mm)	1/32" (1mm)	±.02"
		fit-up gap	1/16", 3/32"	—	±.004"
		crown height	0~1-3/8" (0-35mm)	1/32" (1mm)	±.02"
		distance between two marking lines of socket weld	0~2-3/8" (0-60mm)	1/16" (1mm)	±.02"
		fillet weld length	0~1-1/4" (0-30mm)	1/16" (1mm)	±.02"
		fillet weld height	0~1-3/8" (0-35mm)	1/32" (1mm)	±.02"

## DRILL POINT GAGE

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



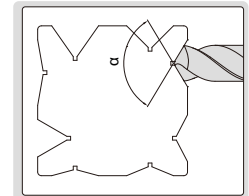
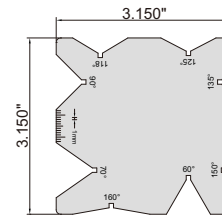
4843-1E



Part No.	EDP No.	Accuracy	
		Angle	Length
4843-1E	877173	±0.5°	±.02"

## DRILL ANGLE GAGE

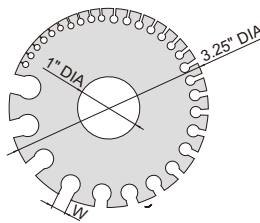
- Check drills with angle 60°, 70°, 90°, 118°, 125°, 135°, 150° or 160°
- Made of stainless steel



Part No.	EDP No.	Accuracy
4842-1	816683	±0.5°

4842-1

## AMERICAN STANDARD WIRE GAGE



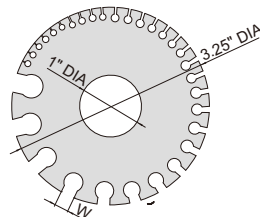
4808

- For gaging non-ferrous wire and metals such as copper, brass and aluminum
- Hardened and satin chrome finish

Part No.	EDP No.	Range
4808	283574	0-36 (.3249-.0050")

No.	W	No.	W	No.	W
0	.3249"	13	.0720"	26	.0159"
1	.2893"	14	.0641"	27	.0142"
2	.2576"	15	.0571"	28	.0126"
3	.2294"	16	.0508"	29	.0113"
4	.2043"	17	.0453"	30	.0100"
5	.1819"	18	.0403"	31	.0089"
6	.1620"	19	.0359"	32	.0080"
7	.1443"	20	.0320"	33	.0071"
8	.1285"	21	.0285"	34	.0063"
9	.1144"	22	.0253"	35	.0056"
10	.1019"	23	.0226"	36	.0050"
11	.0907"	24	.0201"		
12	.0808"	25	.0179"		

## AMERICAN STANDARD SHEET METAL GAGE



4809

- For gaging sheet metal, plate iron and steel
- Hardened and satin chrome finish

Part No.	EDP No.	Range
4809	283575	0-36 (.3125-.0070")

No.	W	No.	W	No.	W
0	.3125"	13	.0938"	26	.0188"
1	.2813"	14	.0781"	27	.0172"
2	.2656"	15	.0703"	28	.0156"
3	.2500"	16	.0625"	29	.0141"
4	.2344"	17	.0563"	30	.0125"
5	.2188"	18	.0500"	31	.0109"
6	.2031"	19	.0438"	32	.0102"
7	.1875"	20	.0375"	33	.0094"
8	.1719"	21	.0344"	34	.0086"
9	.1563"	22	.0313"	35	.0078"
10	.1406"	23	.0281"	36	.0070"
11	.1250"	24	.0250"		
12	.1094"	25	.0219"		

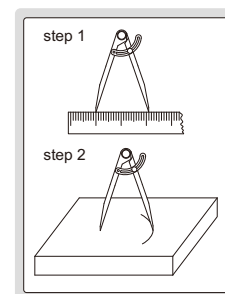
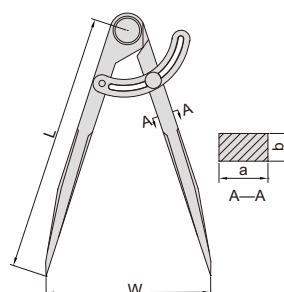


## DIVIDERS

- Made of carbon steel
- Hardened points



7247-150



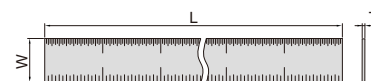
Part No.	EDP No.	Size (L)	Range (W)	a	b
7247-150	283917	6"	0-5.51"	.33"	.28"
7247-200	283919	8"	0-7.48"	.39"	.28"
7247-300	283921	12"	0-11.42"	.47"	.28"

## RIGID RULES

- 4R graduation
- Made of stainless steel
- Non-glare surface



7126-6



Part No.	EDP No.	Range (L)	Graduation	Accuracy	W	T
7126-6	877203	6"	1/64" and 1/32" on front face, 1/16" and 1/8" on back face	±.003"	.748"	.039"
7126-12	877201	12"	1/64" and 1/32" on front face, 1/16" and 1/8" on back face	±.004"	.984"	.039"
7126-24	877202	24"	1/64" and 1/32" on front face, 1/16" and 1/8" on back face	±.006"	1.102"	.047"

11

## RIGID RULE



7113-300A



- Rigid rules
- With groove on the back, suitable for combination square set (2278 series)
- Satin chrome plated



groove on the back

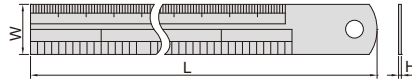
Part No.	EDP No.	Range	Graduation		Accuracy	L
			front	back		
7113-300A	283606	12"/300mm	1/32" and 0.5mm	1/64" and 1mm	±.006"	12"

## STEEL RULES



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

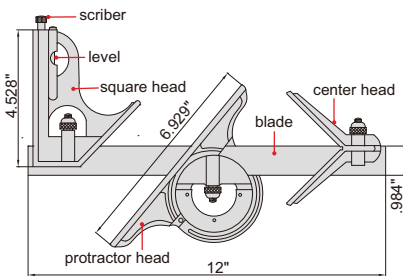
7110-300



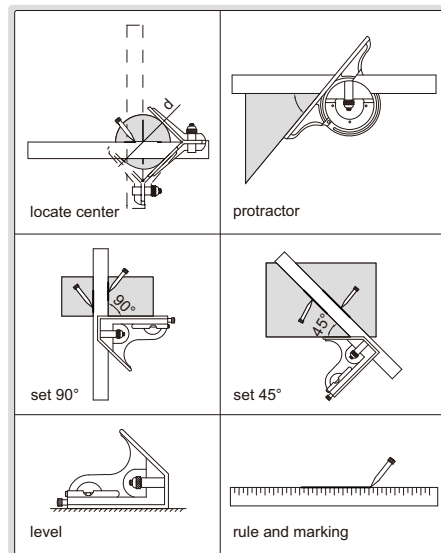
Part No.	EDP No.	Range	Accuracy	L	W	H	Remark
7110-150	283596	6"/150mm	±.006"	6.693"	.709"	.039"	graduation on front and back
7110-200	283597	8"/200mm	±.006"	8.661"	.709"	.039"	graduation on front and back
7110-300	283598	12"/300mm	±.006"	12.992"	.984"	.039"	graduation on front and back
7110-3001	816384	12"/300mm	±.006"	12.795"	1.181"	.039"	graduation on front and back
7110-500	283599	20"/500mm	±.006"	20.866"	1.181"	.047"	graduation on front and back
7110-600	283600	24"/600mm	±.008"	24.803"	1.181"	.047"	graduation on front and back
7110-1000	283601	40"/1000mm	±.008"	40.945"	1.260"	.059"	graduation on front and back
7110-1200	283603	48"/1200mm	±.009"	48.819"	1.378"	.071"	graduation on front
7110-1500	283604	60"/1500mm	±.010"	61.024"	1.496"	.071"	graduation on front
7110-2000	283605	80"/2000mm	±.012"	81.299"	1.575"	.079"	graduation on front

## COMBINATION SQUARE SETS

11



- Center head (made of cast iron):  
To locate center of cylinder with diameter (d): 1.181" DIA-3.937" DIA  
Accuracy: ±.006"
- Protractor head (made of cast iron):  
To set the blade at desired angle to an edge of a workpiece, and can be used to measure angles  
Range: 0-180°, accuracy: ±7min.
- Square head (made of cast iron):  
To set the blade at 90° or 45° to an edge of a workpiece  
Accuracy: ±8min for 90° square,  
±10min for 45° square
- Optional accessory: rigid rule (part no. 7113)



2278-2E



2278-3E



2278-180

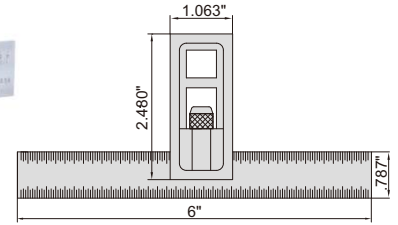
Part No.	EDP No.	Remark	Blade range	Blade graduation
2278-2E	877154	2-piece set	12"	1/8" and 1/16" on front face, 1/32" and 1/64" on back face
2278-3E	877155	3-piece set	12"	1/8" and 1/16" on front face, 1/32" and 1/64" on back face
2278-180	816324	4-piece set	12"/300mm	1/32" and 0.5mm on front face, 1/64" and 1mm on back face
2278-180E	283344	4-piece set	12"	1/8" and 1/16" on front face, 1/32" and 1/64" on back face

## DOUBLE SQUARE

- Accuracy:  $\pm 2\text{min}$  for  $90^\circ$  square
- Hardened and chrome plated blade



2277-2



Part No.	EDP No.	Blade length	Graduation
2277-2	283348	6"	1/8", 1/16", 1/32", 1/64"

## SCRIBERS

- Nickel plated



7230

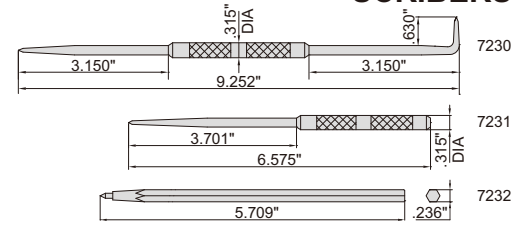


7231



7232

Part No.	EDP No.	Tip
7230	283972	hardened tips
7231	283973	hardened tip
7232	283974	carbide tip



## LONG DRIVE PIN PUNCH

- Made of tool steel, black oxide finish
- Hardened and tempered both ends
- Knurled finger grip for ease of use
- 5 pcs set
- 8" length, drive pin section 3-1/2" long



7253

Part No.	EDP No.	Point size (DIA)
7253	283975	1/8", 3/16", 1/4", 5/16", 3/8"

## DRIVE PIN PUNCH

- Made of tool steel, black oxide finish
- Hardened and tempered both ends
- Knurled finger grip for ease of use
- 8 pcs set
- 4" length



7252

Part No.	EDP No.	Point size (DIA)
7252	283976	1/16", 3/32", 1/8", 5/32", 3/16", 7/32", 1/4", 5/16"

## 2-PIECE MEASURING TOOL SET

- Includes:
  - Digital caliper, range 0-150mm/0-6", resolution 0.01mm/0.0005" (part no. 1108-150)
  - Digital outside micrometer, range 0-25mm/0-1", resolution 0.001mm/0.00005" (part no. 3109-25A)



5022

Part No.	EDP No.
5022	816345

## 2-PIECE MEASURING TOOL SET

- Includes:
  - 1) Dial test indicator, range .03", graduation .0005" (part no. 2380-35)
  - 2) Magnetic stand

Part No.	EDP No.
5023-E	284501



5023-E

## 2-PIECE MEASURING TOOL SET

- Includes:
  - 1) Dial indicator, range 1", graduation .001" (part no. 2307-1)
  - 2) Magnetic stand (part no. 6201-60)

Part No.	EDP No.
5002-4E	284505



5002-4E

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## 3-PIECE MEASURING TOOL SET

- Includes:
  - 1) Dial caliper, range 0-6", graduation .001" (part no. 1311-6)
  - 2) Outside micrometer, range 0-1", graduation .0001" (part no. 3202-1)
  - 3) Steel rule, 6"/150mm (part no. 7110-150)

Part No.	EDP No.
5003-1	284512



5003-1

## 3-PIECE MEASURING TOOL SET

- Includes:
  - 1) Electronic caliper, range 0-6"/0-150mm, resolution .0005"/0.01mm (part no. 1108-150)
  - 2) Outside micrometer, range 0-1", graduation .0001" (part no. 3202-1)
  - 3) Steel rule, 6"/150mm (part no. 7110-150)

Part No.	EDP No.
5003-1E	284514



5003-1E

## 13-PIECE MEASURING TOOL SET

- Includes:
  - 1) Electronic caliper, range 0-6"/0-150mm, resolution .0005"/0.01mm, (part no. **1108-150**)
  - 2) Outside micrometer, range 0-1", graduation .0001" (part no. **3202-1**)
  - 3) Dial indicator, range 1", graduation .001" (part no. **2307-1**)
  - 4) Magnetic stand (part no. **6201-60**)
  - 5) Protractor, range 0-180°, graduation 1° (part no. **4799-180**)
  - 6) Pitch gauge, range 4-42TPI, 30 pcs, unified 60° thread (part no. **4820-230**)
  - 7) Radius gauge, range 1/32"-1/4" (part no. **4801-15E**)
  - 8) Feeler gauge, range .0015-.035", 31 pcs (part no. **4608-31**)
  - 9) 90° beveled edge square, 3.937x2.756", grade 0 (part no. **4790-1000**)
  - 10) Scriber (part no. **7230**)
  - 11) Steel rule, 6"/150mm (part no. **7110-150**)
  - 12) Depth base attachment (part no. **6140**)
  - 13) Zero setting bar for depth base attachment

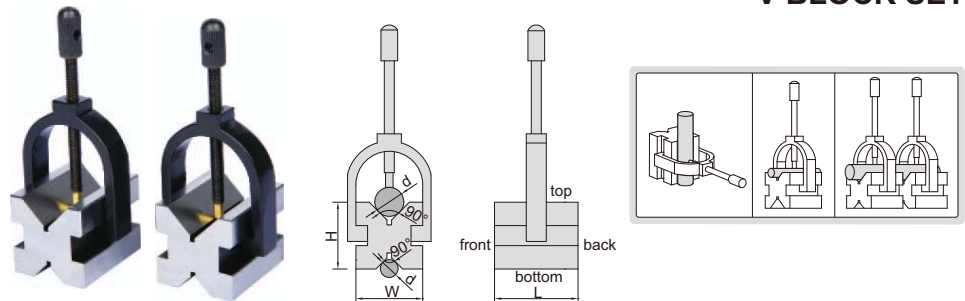


5013-E

Part No.	EDP No.
5013-E	816407

## V-BLOCK SET

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



6896-11

Part No.	EDP No.	Size (LxWxH)	Range of shafts (d)	Parallelism of both V grooves to top and bottom sides	Squareness of both V grooves to front and back sides	Height difference of a matched pair
6896-11	889455	2.0x1.6x1.6"	.20-1.18" DIA	197µin	197µin	197µin
6896-12	889456	3.1x2.5x2.5"	.28-2.48" DIA	197µin	197µin	197µin
6896-13	889457	3.9x3.1x3.1"	.28-3.15" DIA	197µin	197µin	197µin

12

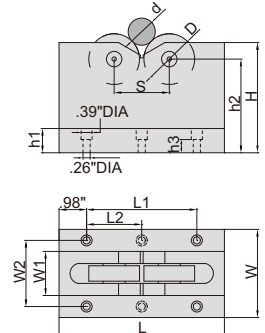
13

## ROLLER BEARING V-BLOCK SETS

- Runout accuracy: 197µin
- Parallelism of bearings to bottom: 472µin
- Two V-blocks per set
- Workpieces don't get damaged due to bearings
- Suitable for heavy workpieces

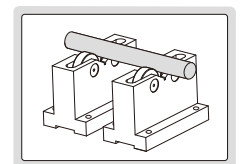


6888-1

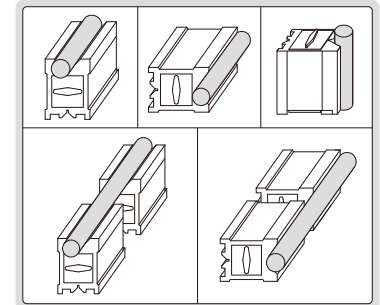
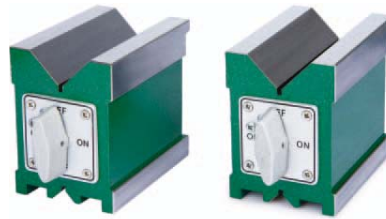
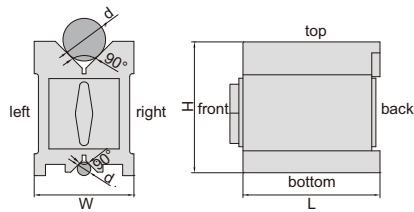


Part No.	W1	W2	h1	h2	h3	L1	L2	S
6888-1	.87"	1.73"	.79"	3.35"	.47"	3.94"	-	2.36"
6888-2	1.57"	2.36"	.87"	3.35"	.47"	3.94"	-	1.97"
6888-3	2.36"	3.15"	1.18"	4.88"	.79"	7.09"	3.54"	4.72"

Part No.	EDP No.	Size (LxWxH)	Part No. of bearings	Diameter of bearings (D)	Range of shafts (d)	Load capacity
6888-1	877034	5.9x2.4x3.9"	6303 ZZ	1.65" DIA	.98-2.76" DIA	1100lb
6888-2	877198	5.9x3.1x3.9"	16004 ZZ	1.85" DIA	.20-2.17" DIA	2200lb
6888-3	877199	9.1x3.9x5.9"	6306 ZZ	2.83" DIA	2.76-7.87" DIA	2200lb



## MAGNETIC V-BLOCK



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

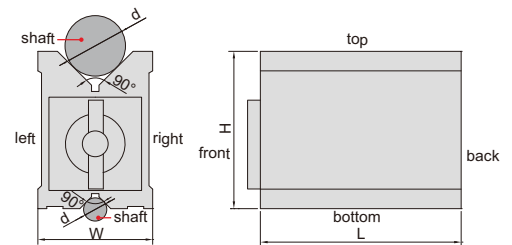
6889-1

### Matched pair

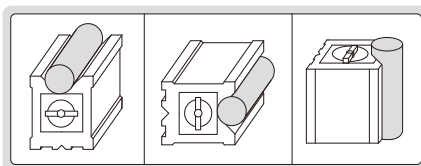
Part No.	EDP No.	Size (LxWxH)	Range of shafts (d)	Magnetic force	Parallelism of V grooves to top, bottom, left, right sides	Squareness of V grooves to back side	Height difference of a matched pair
6889-1	877036	3.0x2.2x3.0"	.20-1.57"DIA	165lbf	197µin	197µin	197µin

## MAGNETIC V-BLOCK

- Hold cylindrical workpieces for inspection and machining
- Supplied in single piece
- Not hardened
- V groove on the top for large shafts
- V groove on the bottom for small shafts
- Not suitable for steel or iron surface



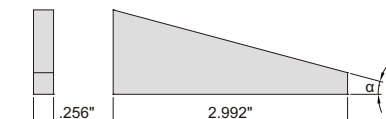
6801-1201



Part No.	EDP No.	Size (LxWxH)	Range of shafts (d)	Magnetic force	Parallelism of V grooves to top, bottom, left, right side	Squareness of V grooves to back side
6801-1201	877035	3.1x2.8x3.7"	.24-2.64" DIA	141lbf	394µin	394µin

## ANGLE PLATE SET

- For angle set-up in tooling, production and inspection
- Made of tool steel
- Hardness HRC55



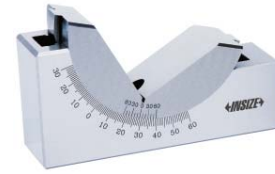
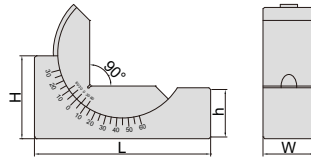
4003-12

Part No.	EDP No.	Angle plates included	Angle $\alpha$	Accuracy
4003-12	877167	12 pcs	1/4°, 1/2°, 1°, 2°, 3°, 4°, 5°, 10°, 15°, 20°, 25°, 30°	±9"



## ADJUSTABLE ANGLE BLOCKS

- Made of hardened tool steel
- With locking screw
- Accuracy of angle: 10'



6535-30

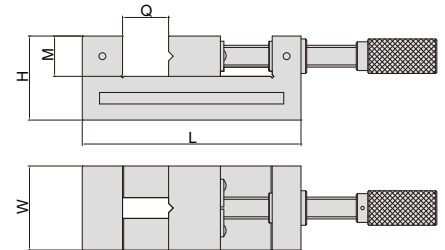
Part No.	EDP No.	Size (LxWxH)	h	Adjustable angle	Graduation of angle
6535-25	877195	3.0x1.0x1.4"	.98"	30°~0°~60°	10'
6535-30	877196	4.0x1.2x1.9"	1.18"	30°~0°~60°	10'

## PRECISION VISES

- Parallelism: 40µin/per inch
- Squareness: 60µin/per inch
- Made of alloy steel
- Hardness HRC56-58



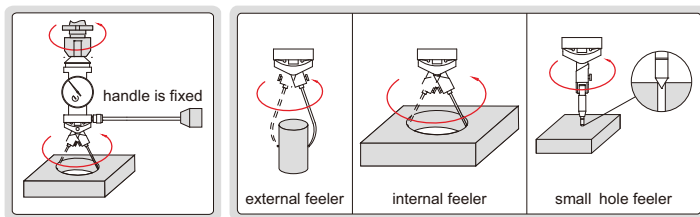
6525-76



Part No.	EDP No.	Jaw opening (Q)	Jaw width (W)	L	H	M
6525-73	877193	0-2.9"	2.480"	6.929"	2.480"	1.181"
6525-76	877194	0-3.0"	2.874"	7.480"	2.874"	1.378"
6525-120	877192	0-4.7"	3.858"	10.039"	3.228"	1.575"

13

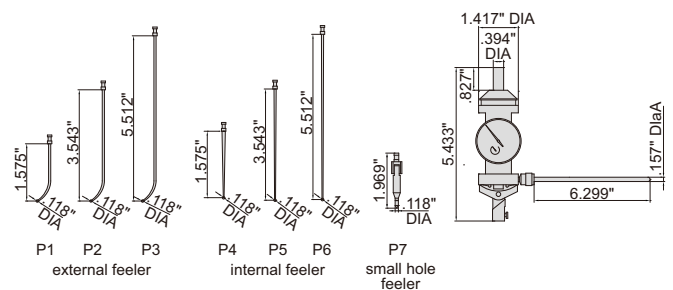
## CENTERING INDICATOR



2385-3

- Provides quick and accurate centering in boring and milling set-up

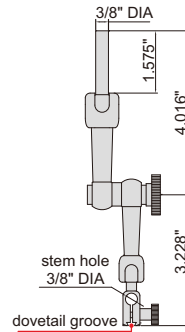
Feeler	Measuring diameter	Accuracy
P1	0-2.362" DIA	±.0015"
P2	0-6.299" DIA	±.0023"
P3	0-9.843" DIA	±.0031"
P4	.126-3.150" DIA	±.0015"
P5	.126-7.087" DIA	±.0023"
P6	.126-11.024" DIA	±.0031"
P7	0-.110" DIA	±.0015"



Part No.	EDP No.
2385-3	284450

## DIAL TEST INDICATOR CENTERING HOLDER

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



Part No.	EDP No.
6295-1AE	284452

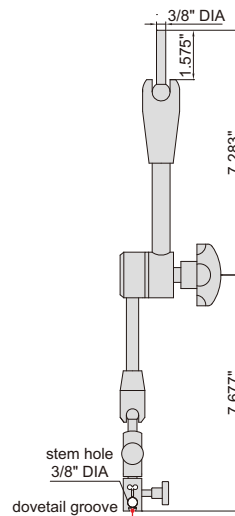


6295-1AE



## INDICATOR CENTERING HOLDER

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



Part No.	EDP No.
6294-1AE	284453

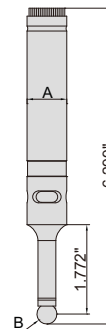
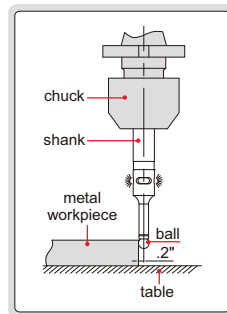


6294-1AE



## ELECTRONIC EDGE FINDERS

- The shank is electrically conducted to the metal workpiece through the chuck and table, the LED lights up and the beeper sounds (only for 6566-3E), when the ball touches the workpiece
- Not suitable for rotary use
- Hardened shank and contact ball



6566-2E



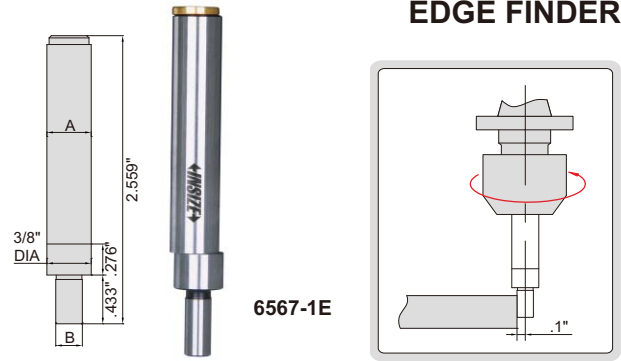
6566-3E

Part No.	EDP No.	Shank (A)	Contact ball (B)	Accuracy	Beeper	Battery
6566-2E	816381	3/4" DIA	.4" DIA	.0002"	without	23AE, 12Vx1 pc
6566-3E	816382	3/4" DIA	.4" DIA	.0002"	with	23AE, 12Vx1 pc

### EDGE FINDER

- Hardened shank and contact point

Part No.	EDP No.	Shank (A)	Contact point (B)	Accuracy
6567-1E	816383	3/8" DIA	.2" DIA	.0003"



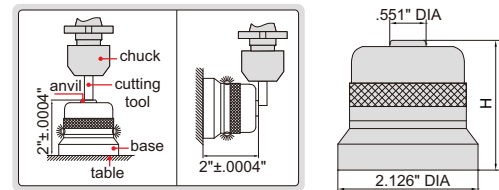
6567-1E

### ELECTRONIC ZERO SETTER

- The base is electrically conducted to the cutting tools through the table and chuck, the LED lights up when the cutting tool touches the anvil
- Magnetic base
- Battery Lr44
- High test force



6550-2A

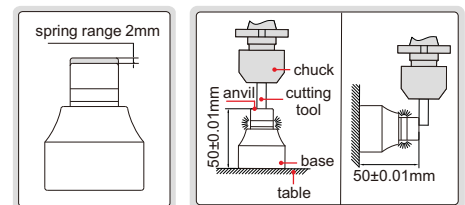
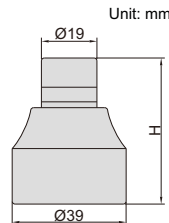


Part No.	EDP No.	Height (H)	Accuracy	Test force
6550-2A	816684	2"	±.0004"	6lbf (at 2")
6550-50A	876730	50mm	±10µm	27N (at 49mm)

### ELECTRONIC ZERO SETTER

- The base is electrically conducted to the cutting tools through the table and chuck, the LED lights up when the cutting tool touches the anvil
- Magnetic base
- Two batteries Lr44
- Low test force

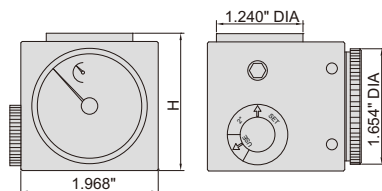
6553-50



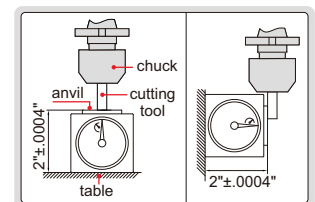
Part No.	EDP No.	Height (H)	Accuracy	Test force
6553-50	877197	50mm	±10µm	7N (at 49mm)

### ZERO SETTER

- Magnetic base



2397-25A

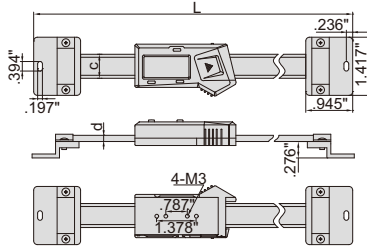


Part No.	EDP No.	Height (H)	Accuracy	Test force
2397-25A	284447	2"	±.0004"	2lbf (at 2")

## ELECTRONIC HORIZONTAL SCALES

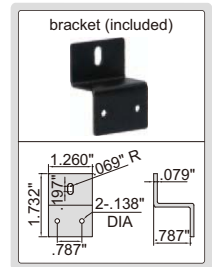


type A

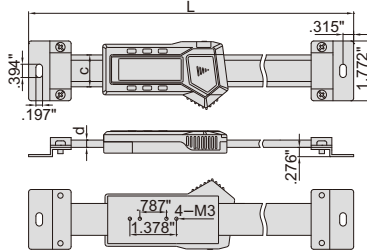


7101-400A

- Resolution .0005"/0.01mm
- Buttons: on/off, zero, inch/mm
- Automatic power off, move the digital unit to turn on power
- Battery CR2032, data output
- Made of stainless steel
- Supplied with bracket to be mounted on the back
- Optional accessory: data output cable (part no. **7306-20**, **7302-SPC5A/SPC5B**, **7305-SPC2A**, **7305-A01/A02**)

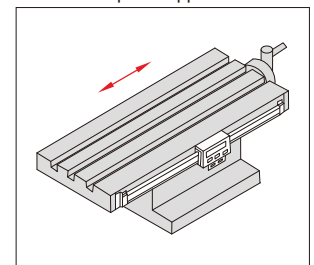


type B



- Resolution .0005"/0.01mm
- Button function: on/off, zero, inch/mm, ABS, data preset
- Absolute and incremental measurement
- Battery CR2032, data output
- Made of stainless steel
- Supplied with bracket to be mounted on the back
- Optional accessory: data output cable (part no. **7306-20**, **7302-SPC5A/SPC5B**, **7305-SPC2A**, **7305-A01/A02**)

example of application



Part No.	EDP No.	Range	Type	Accuracy	L	c	d
7101-200A	284456	8"/200mm	A	±.0012"	12.402"	.630"	.157"
7101-400A	284458	16"/400mm	B	±.0020"	23.228"	.945"	.217"
7101-800A	284462	32"/800mm	B	±.0039"	38.976"	.945"	.217"
7101-1000A	877200	40"/1000mm	B	±.0039"	46.850"	1.220"	.413"

## ELECTRONIC VERTICAL SCALES

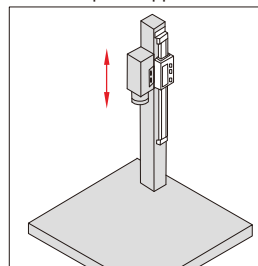


data output cable

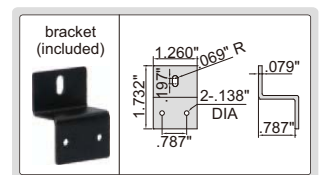
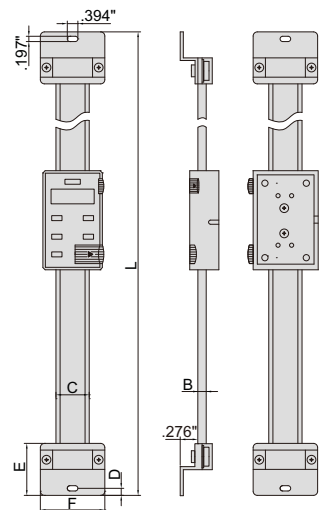


- Resolution .0005"/0.01mm
- Buttons: on/off, zero, inch/mm, ABS/INC, data hold, TOL, set
- ABS/INC is for absolute and incremental measurement
- TOL is for tolerance measurement
- Battery LR44
- Made of stainless steel
- Data output
- Supplied with bracket to be mounted on the back
- Optional accessory: data output cable (part no. **7301-SPC5**)

example of application

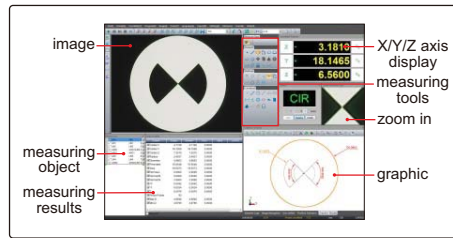


7102-200



Part No.	EDP No.	Range	Accuracy	B	C	D	E	F	L
7102-200	284470	8"/200mm	±.0012"	.157"	.787"	.236"	.945"	1.575"	13.583"
7102-400	284472	16"/400mm	±.0020"	.157"	.787"	.236"	.945"	1.575"	21.457"
7102-800	284476	32"/800mm	±.0039"	.217"	.945"	.315"	1.260"	1.772"	38.780"
7102-1000	284478	40"/1000mm	±.0039"	.413"	1.220"	.984"	1.575"	2.362"	49.016"

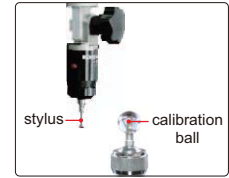
**INSPECTION  
CERTIFICATE**



## VISION MEASURING SYSTEM



lens with coaxial light  
(optional, must be  
installed in factory)



probe (optional), includes  
Ø2mm/.079" DIA and  
Ø3mm/.118" DIA styli,  
Ø25mm/.984" calibration ball,  
measuring accuracy is .0004"

### STANDARD DELIVERY

Main unit	1 pc
Video card with dongle	1 pc
Software disc	1 pc
Calibration glass chart	1 pc
Laser positioner	1 pc
Clay	1 pc
Foot switch	1 pc
Anti-dust cover	1 pc

### OPTIONAL ACCESSORY

0.5X auxiliary objective	Part No. <b>ISD-V-OB05X</b> Working distance: 6.89" Magnification: 16.5~97.5X (on 19" monitor)
2X auxiliary objective	Part No. <b>ISD-V-OB2X</b> Working distance: 1.42" Magnification: 66~390X (on 19" monitor)
Probe	Part No. <b>ISD-V-PROBE</b> includes Ø2mm/.079" DIA and Ø3mm/.118" DIA styli, Ø25mm/.984" calibration ball
Lens with coaxial light	Part No. <b>ISD-V-LENS</b> (must be installed in factory)
Vision measuring system with computer	Part No. <b>ISD-V150A, ISD-V250A, ISD-V300A</b>

### SPECIFICATION

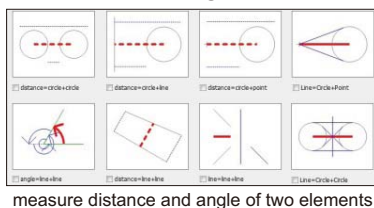
Part No.	ISD-V150	ISD-V250	ISD-V300
EDP No.	219183	219184	219185
Measuring range (X×Y×Z)	6×4×8"	10×6×8"	12×8×8"
Stage size	13.94×8.98"	17.72×11.02"	19.69×12.99"
Glass stage size	8.27×6.30"	12.05×7.72"	13.78×9.84"
Resolution of X/Y/Z axis	.00002"		
Accuracy of X/Y axis	≤(98.4+10L)µin L is the measuring length in inch		
Repeatability of X/Y axis	.00008"		
Objective	0.7X~4.5X (zoom)		
Working distance	3.62"		
Magnification	33X~195X (on 19" monitor)		
Camera	1/3" color CCD, 0.3M pixel		
Illumination	surface and contour with adjustable LED		
Max. height of workpiece	6.30"		
Max. weight of workpiece	44lb		
Operation system	Windows 7/8/10		
Drive method	manual		
Power supply	110/220V, 50/60Hz		
Dimension (L×W×H)	22.05×21.26×33.46"	29.92×23.62×35.43"	29.92×23.62×35.43"
Weight	220lb	264lb	308lb

### SOFTWARE

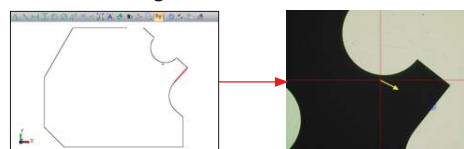
- **Operation system:** Windows 7/8/10
- **Language:** English
- **Single measuring tools:**

	measure distance between two points		measure length, width and diameter of key slot		measure coordinate of point		measure length and diameter of arc		measure width and diameter of ring
	measure focus distance of surface		measure center coordinate and axis length of ellipse		measure angle of two lines		measure length and area of closed curve		measure distance of two elements
	measure length of open curve		measure length, width and area of rectangle		measure center coordinate, diameter and area of circle				

### Combined measuring tools:

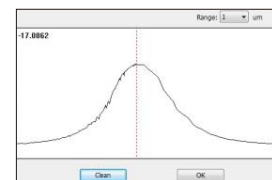


### CAD measuring:



Input CAD drawing and set reference, move the stage to make the target box in the center of crosshair, then the software will do automatic measurement

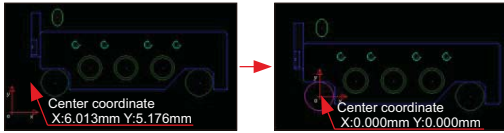
### Focus indicator:



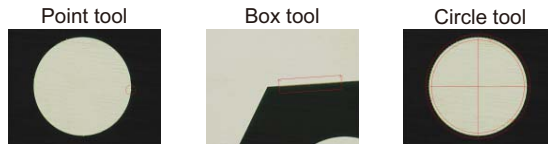
To be continued

Continued from previous page

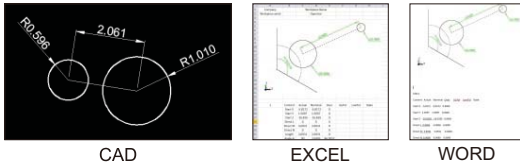
■ **Coordinate transfer:**



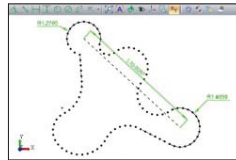
■ **Edge-detection:**



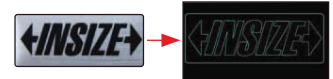
■ **Data export to CAD, EXCEL and WORD:**



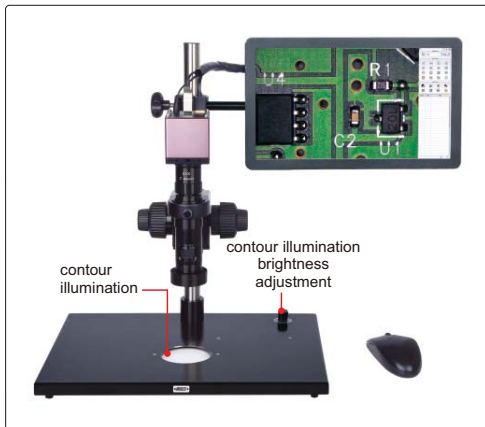
■ **Contour scanning:**



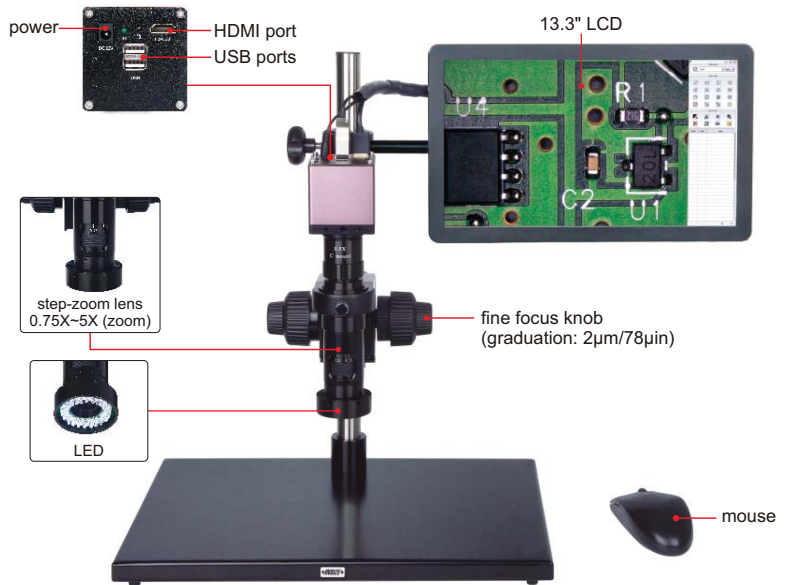
■ **Profile detection:**



## DIGITAL MEASURING MICROSCOPE (WITH DISPLAY)



**ISM-DL301-U (with contour illumination)**



**ISM-DL300 (without contour illumination)**

15

16

- 1080P high-definition image
- Built-in software without computer, operation by mouse
- Take pictures, saved to USB flash disk
- Measurement results can be output to Excel
- Automatic white balance and exposure
- Brightness, contrast ratio, gain are adjustable



calibration plate (included)



16G USB flash disk (included)



1X auxiliary objective (included)



0.5X camera adapter (included)



1X camera adapter (optional)



2X auxiliary objective (optional)



X-Y glass stage (optional) (X-Y travel: 2.91x2.36")

To be continued



Continued from previous page

**SPECIFICATION**

Part No.	ISM-DL300 (without contour illumination)	ISM-DL301-U (with contour illumination)
EDP No.	877229	877230
Magnification	15X~100X	
Sensor	1/2" CMOS	
Pixel	2M	
Resolution	1920×1080	
Frame rate	60fps	
Output	HDMI	
Power supply	power adapter	power adapter and 110V, 50/60Hz
Dimension (L×W×H)	22.44×11.81×16.93"	
Weight	14.44lb	

**OPTIONAL ACCESSORY**

1X camera adapter	ISM-DL-CA1X
2X auxiliary objective	ISM-DL-OB2X
X-Y glass stage (travel: 2.91×2.36")	ISM-DL-STAGE

**STANDARD DELIVERY**

Main unit	1 pc
0.5X camera adapter	1 pc
1X auxiliary objective	1 pc
Calibration plate	1 pc
16G USB flash disk	1 pc
White/black plate	1 pc
Mouse	1 pc
HDMI cable	1 pc
Power adapter	2 pc

**MAGNIFICATION, FOCUS DISTANCE AND VIEW FIELD**

Auxiliary Objective	Specification	Camera adapter	
		0.5X (included)	1X (optional)
1X (included)	Magnification	15~100X	30~200X
	Focus distance	2.76±.08"	2.76±.08"
	View field	.63×.43~.1×.06"	.31×.21~.05×.03"
2X (optional)	Magnification	30~200X	60~400X
	Focus distance	1.14±.08"	1.14±.08"
	View field	.31×.21~.05×.03"	.15×.11~.024×.016"

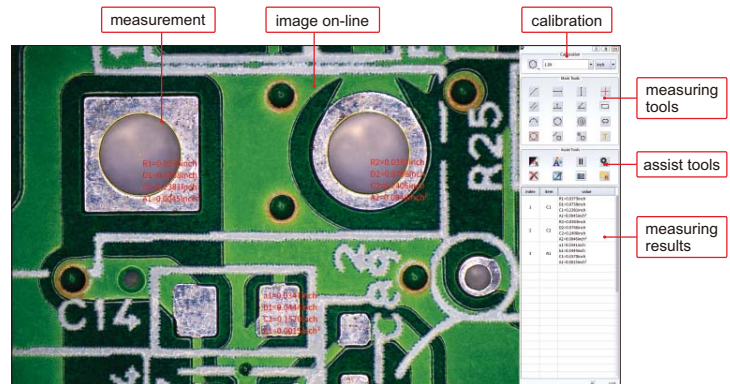
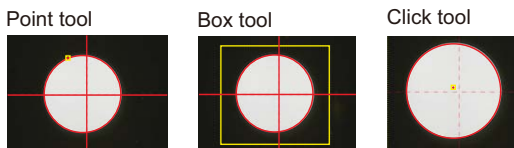
**MEASURING ACCURACY**

Magnification	Measuring accuracy *
15X	±.00031"
30X	±.00024"
50X	±.00024"
80X	±.00016"
100X	±.00016"
>100X	±.00016"

\* When measuring the contour of workpieces, please select ISM-DL301-U to ensure accuracy.

**SOFTWARE**

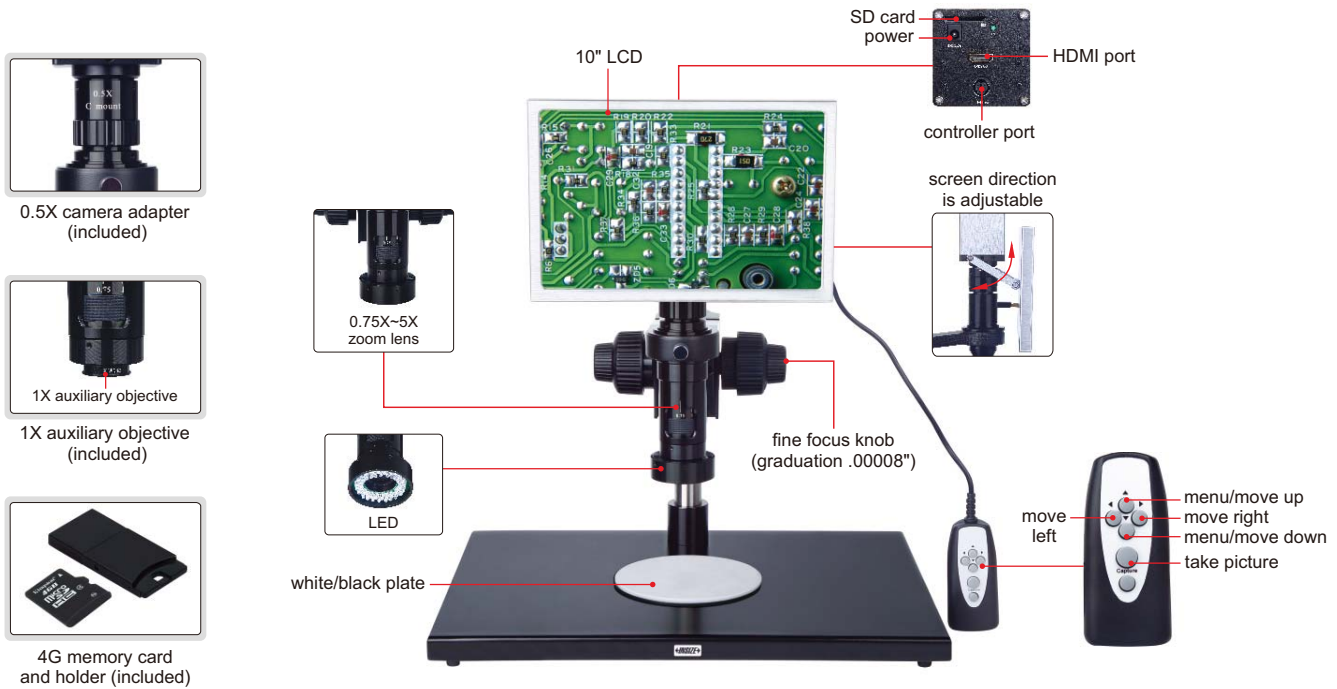
- Language: English
- Output to Excel
- Edge-detection:



■ Measurement tools:

- |  |   |   |
|--|---|---|
| measure length of line or distance between two points                | measure length of line or distance between two points in horizontal direction | measure length of line or distance between two points in vertical direction |
| measure angle from horizontal line                                   | measure angle from vertical line  | measure angle of two lines  |
| measure distance between two parallel lines                          | measure distance between three parallel lines                                 | measure distance between multiple parallel lines                            |
| measure distance between point and line                              | measure radius, length and angle of arc                                       | measure girth and area of polygon   |
| measure radius, diameter, girth and area of circle with three points | measure radius, diameter, girth and area concentric of circles                | measure length, width, girth and area of rectangle                          |
| measure minimum distance between point and circle                    | measure distance between point and center of circle                           | measure maximum distance between point and circle                           |
| measure minimum distance between line and circle                     | measure distance between line and center of circle                            | measure maximum distance between line and circle                            |
| measure minimum distance between two circles                         | measure center distance between two circles                                   | measure maximum distance between two circles                                |
| add text   | measure radius, diameter, girth and area of circle with two points            | cross hair  |

# DIGITAL MICROSCOPE (WITH DISPLAY) PART NO. ISM-DL200



- Take pictures, saved to memory card
- Automatic white balance and exposure
- Brightness, contrast ratio, gain are adjustable

### SPECIFICATION

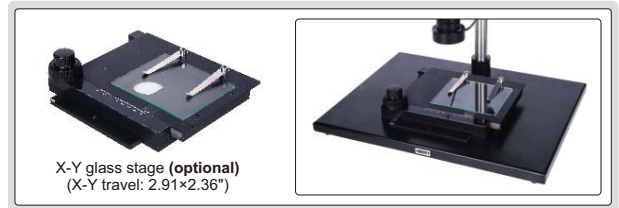
Part No.	ISM-DL200
EDP No.	877228
Magnification	18X~112X
Sensor	1/3" CMOS
Pixel	1.3M
Resolution	1280×800
Frame rate	60fps
Output	HDMI
Power supply	power adapter
Dimension (L×W×H)	15.75×11.81×16.93"
Weight	13.33lb

### STANDARD DELIVERY

Main unit	1 pc
0.5X camera adapter	1 pc
1X auxiliary objective	1 pc
4G memory card and holder	1 pc
White/black plate	1 pc
HDMI cable	1 pc
Power adapter	1 pc

### OPTIONAL ACCESSORY

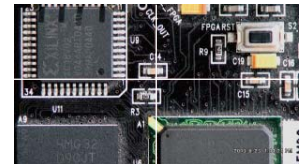
1X camera adapter	ISM-DL-CA1X
2X auxiliary objective	ISM-DL-OB2X
X-Y glass stage (travel: 2.91×2.36")	ISM-DL-STAGE



1X camera adapter (optional)



2X auxiliary objective (optional)



crosshair (white/black)

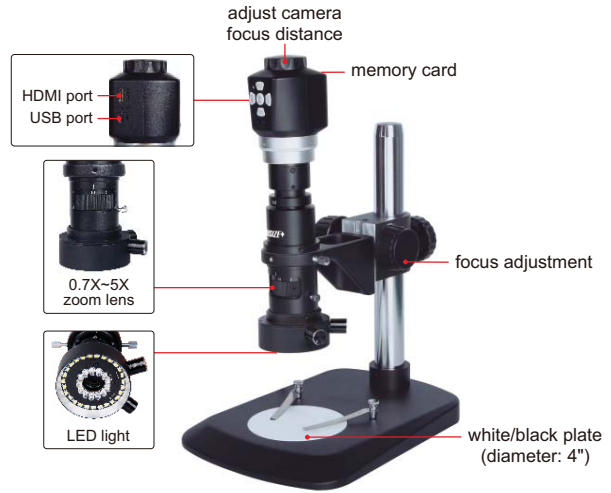
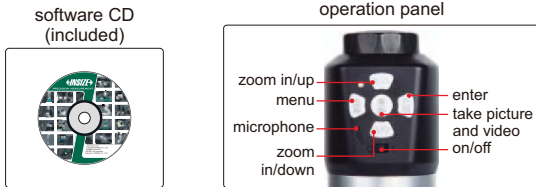
### MAGNIFICATION, FOCUS DISTANCE AND VIEW FIELD

Auxiliary Objective	Specification	Camera adapter	
		0.5X (included)	1X (optional)
1X (included)	Magnification	18~112X	36~224X
	Focus distance	2.76±.08"	2.76±.08"
	View field	.5×.33~.08×.05"	.25×.17~.04×.03"
2X (optional)	Magnification	36~224X	72~448X
	Focus distance	1.14±.08"	1.14±.08"
	View field	.25×.17~.04×.03"	.13×.08~.02×.01"





## DIGITAL MEASURING MICROSCOPE PART NO. ISM-DM40



- Connected to TV and computer
- Take pictures and videos, saved to memory card
- Measurement on computer with accuracy  $\pm .0004''$
- Large working distance because focus distance of camera is adjustable
- Automatic white balance and exposure, white-black display mode
- Automatic power off

### SPECIFICATION

Part No.	ISM-DM40	
EDP No.	877231	
Magnification	15X~205X (on 19" monitor)	
Pixel	1.3M	
Sensor	1/3" CMOS	
Resolution	HDMI output	1920×1080, 1280×720, 640×480
	picture	2304×1536, 2304×1296, 1920×1080, 1280×720, 800×480
	video	1920×1080, 1280×720, 800×480
Output	USB/HDMI	
Power supply	5V (>500mA)	
Dimension (L×W×H)	10.75×8.07×12.2"	
Weight	7.78lb	



### STANDARD DELIVERY

Main unit	1 pc
8G memory card and holder	1 pc
HDMI cable (for TV)	1 pc
USB cable and software (for computer)	1 pc
Plastic calibration rule (graduation 1mm/.039")	1 pc
Glass calibration rule (graduation 0.1mm/.004")	1 pc

### OPTIONAL ACCESSORY

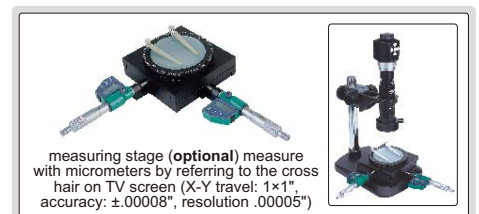
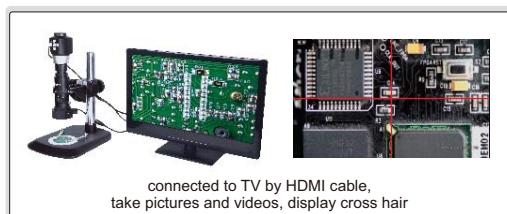
Measuring stage	ISM-DM40-STAGE
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### LENS SCALE, MAGNIFICATION AND FOCUS DISTANCE

Lens scale	Magnification (on 19" monitor)	Focus distance
0.7X	15~40X	.94~9.92"
1X	30~50X	1.06~6.1"
2X	70~80X	3.19~4.61"
3X	110~120X	3.7~4.37"
4X	140~160X	3.97~4.33"
5X	180~205X	4.05~4.29"

### MAGNIFICATION, VIEW FIELD AND FOCUS DISTANCE

Magnification (on 19" monitor)	View field	Focus distance
15X	1.1×.63"	9.92"
30X	.53×.32"	6.1"
50X	.31×.19"	4.88"
100X	.16×.09"	4.33"
150X	.11×.06"	4.25"
200X	.08×.05"	4.13"
















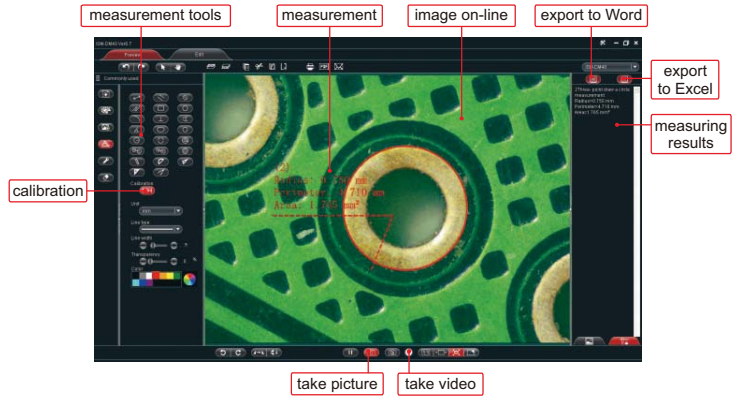
To be continued

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## SOFTWARE FOR COMPUTER

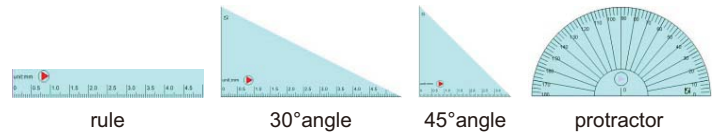
- **Language:** Chinese, English, Japanese, German, French
- **Operation system:** Windows XP/7/8/10
- **Measurement tools:**

-  measure length of continuous line
-  measure radius, length and angle of arc
-  measure angle with three points
-  measure distance between two circles
-  measure distance between point and line
-  measure angle with two lines
-  measure radius, girth and area of circle
-  measure length of line or distance between two points
-  measure distance between two parallel lines
-  measure length, width, girth and area of rectangle
-  measure center distance between parallel lines
-  measure axis lengths, girth and area of ellipse
-  measure circumference and area of polygon

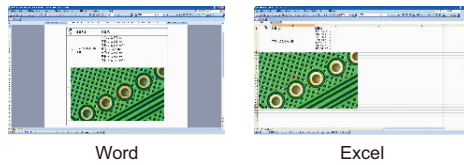


### Comparison tools:

Create rule, angle or protractor, to compare with workpieces.

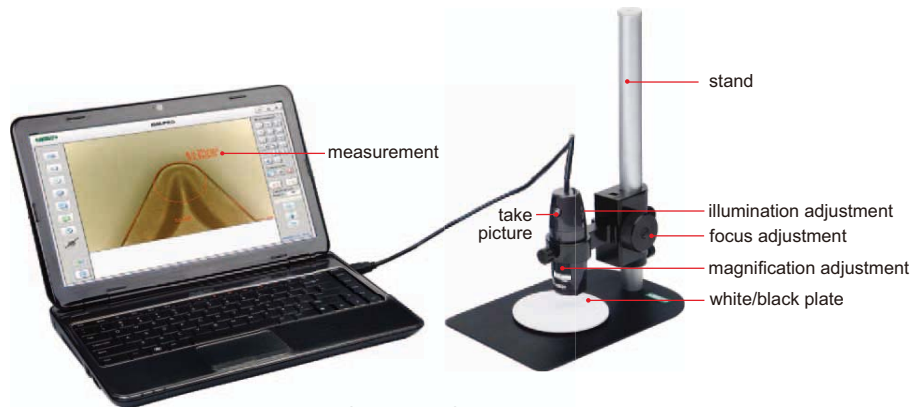


### Data export to Word or Excel:



## DIGITAL MEASURING MICROSCOPES

16



**ISM-PM200SA**  
computer is not included

- Can take pictures and videos
- Supplied with software

### SPECIFICATION

Part No.	ISM-PM200SA	ISM-PM200SB
EDP No.	285000	285007
Magnification	10X~200X	10X~200X
Focus distance	short focus distance	short focus distance
Stand	standard	universal
Focus support	included	included
Calibration rule	graduation 0.1mm/.004" and 1mm/.039"	graduation 0.1mm/.004" and 1mm/.039"
Pixel	2M (resolution: 1600×1200)	
Illumination	built-in adjustable LED	
Power supply	USB 2.0 cable (voltage required: 5±0.1V)	

To be continued

Continued from previous page

universal stand (included in ISM-PM200SB)



filter (optional)



software CD (included)



**MAGNIFICATION, FOCUS DISTANCE, VIEW FIELD AND ACCURACY**

ISM-PM200SA/ISM-PM200SB			
Magnification	Focus distance	View field	Accuracy
50X	.83"	.32×.25"	1.2mil
100X	.51"	.15×.12"	0.6mil
150X	.63"	.10×.08"	0.4mil
200X	.75"	.07×.06"	0.3mil

**OPTIONAL ACCESSORY**

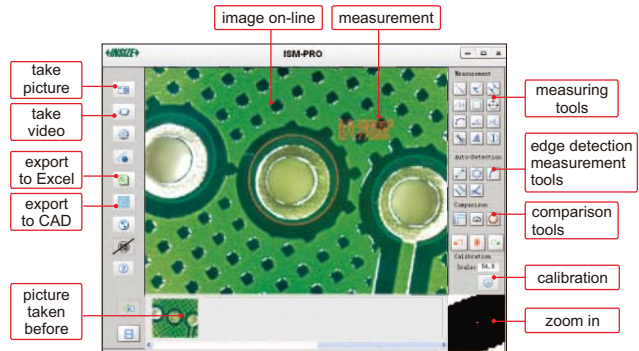
Green filter	ISM-PM-GREEN
Yellow filter	ISM-PM-YELLOW
Blue filter	ISM-PM-BLUE

**SOFTWARE**

- **Language:** English, Japanese, Korean, German, Turkey, Portuguese, Chinese
- **Operation system:** Windows XP/7/8/10/Vista
- **Measuring tools:**

- measure length of line or distance between two points
- measure radius, length and angle of arc
- measure distance between two parallel lines
- measure distance between two circles
- measure distance between point and line
- measure length of continuous line
- measure angle with three points
- measure radius, girth and area of circle
- measure area of rectangle
- measure angle with two lines
- add number with circle
- add text

■ **Data export to CAD or Excel:**

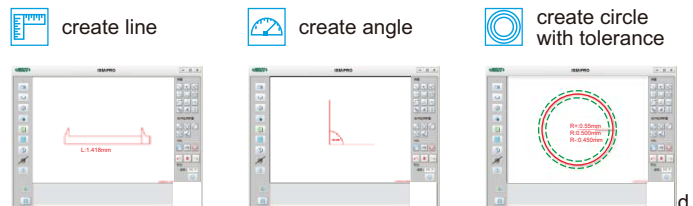


■ **Edge detection measurement tools:**

- detect two parallel lines automatically and calculate distance
- detect circle automatically, and calculate radius, girth and area
- detect arc automatically, and calculate radius, angle and arc length
- detect line automatically, and calculate length
- detect two lines automatically, and calculate angle

■ **Comparison tools:**

Create line, angle or circle with desired size, to compare with workpieces



## WiFi DIGITAL MEASURING MICROSCOPE PART NO. ISM-WF200

- Maximum working distance is 200" under WiFi mode
- Can be connected to multiple iPads, Android devices or computers at the same time under WiFi mode
- Take pictures and videos
- Supplied with software

### SPECIFICATION

Part No.	ISM-WF200
EDP No.	816685
Magnification	10X~200X
Pixel	1.3M (resolution: 1280×1024)
Illumination	built-in adjustable LED
Power supply	built-in rechargeable battery

### STANDARD DELIVERY

Microscope	1 pc
Base support	1 pc
Focus support ring for 80X/150X	1 pc
Focus support ring for 60X/200X	1 pc
Glass calibration rule (graduation 0.1mm/.004")	1 pc
Plastic calibration rule (graduation 1mm/.039")	1 pc
USB cable and software	1 pc
AC/DC adapter	1 pc

### OPTIONAL ACCESSORY

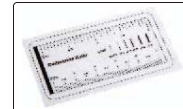
Stand	ISM-PM-STAND
Green filter	ISM-PM-GREEN
Yellow filter	ISM-PM-YELLOW
Blue filter	ISM-PM-BLUE



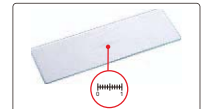
stand (part no. ISM-PM-STAND, optional)



filter (optional)



plastic calibration rule (included, graduation 1mm/.039")



glass calibration rule (included, graduation 0.1mm/.004")



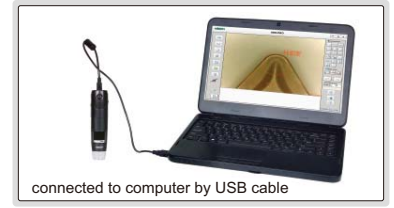
connected to iPad by WiFi



connected to Android device by WiFi



connected to computer by WiFi



connected to computer by USB cable

### MAGNIFICATION, FOCUS DISTANCE, VIEW FIELD AND ACCURACY

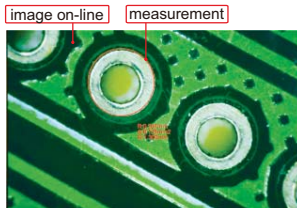
Magnification	Focus distance	View field	Accuracy
50X	.83"	.32×.25"	1.2mil
100X	.51"	.15×.12"	0.6mil
150X	.63"	.10×.08"	0.4mil
200X	.75"	.07×.06"	0.3mil



software CD (included)

### 1 Software ISM-PAD (for iPad by WiFi)

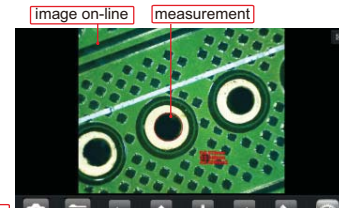
- measure length of line or distance between two points
- measure angle
- measure radius, girth and area of circle with three points



take picture and video, image on-line, measurement, resolution setting, picture taken before, move measuring point, take picture/video switch, measuring tools and calibration

### 2 Software ISM-APK (for Android devices by WiFi)

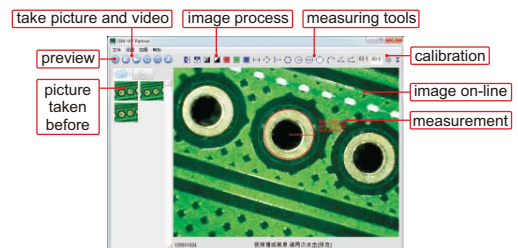
- measure length of line or distance between two points
- measure angle
- measure radius, girth and area of circle with three points



take picture, image on-line, measurement, resolution setting, picture taken before, move measuring point, measuring tools and calibration

### 3 Software ISM-WF Partner (for computer by WiFi)

- measure length of line or distance between two points
- measure area of polygon
- measure angle with three points
- measure radius, girth and area of circle with center point
- measure length of continuous line
- measure radius, girth and area of circle with three points
- measure angle with two lines
- measure radius, girth and area of circle with two points
- measure distance between point and line
- measure radius, length and angle of arc
- measure area of rectangle



take picture and video, image process, measuring tools, preview, picture taken before, calibration, image on-line, measurement

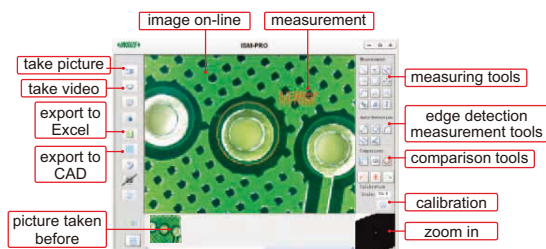
To be continued

Continued from previous page

#### 4 Software ISM-PRO (for computer by USB cable)

##### Measuring tools:

- measure length of line or distance between two points
- measure length of continuous line
- measure radius, length and angle of arc
- measure distance between two circles
- measure distance between two parallel lines
- measure radius, girth and area of circle
- measure distance between point and line
- measure area of rectangle
- measure angle with three points
- add text
- measure angle with two lines
- add number with circle



##### Edge detection measurement tools:

- detect line automatically, and calculate length
- detect circle automatically, and calculate radius, girth and area
- detect two lines automatically, and calculate angle
- detect arc automatically, and calculate radius, angle and arc length
- detect two parallel lines automatically, and calculate distance

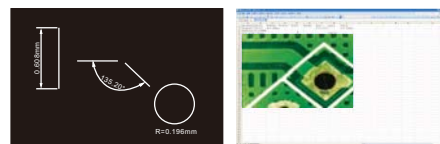
##### Comparison tools:

Create line, angle or circle with desired size, to compare with workpieces

- create line
- create angle
- create circle with tolerance



##### Data export to CAD or Excel:



## ZOOM STEREO MICROSCOPE

### SPECIFICATION

Part No.	ISM-ZS50
EDP No.	877232
Optical tube	binocular
Eyepiece (wide field)	10X (view field .87" DIA)
Objective	0.8X~5X (zoom)
Zoom ratio	1:6.3
Pupil distance	2.17~2.95" (adjustable)
Diopter adjustment	±5 diopter (two eyepieces)
Working distance of objective	4.53"
Max. workpiece height	8.46"
Illumination	adjustable reflected and transmitted LED light
Power supply	110/220V, 50/60Hz
Dimension (L×W×H)	11.42×10.24×18.90"
Weight	10.80lb



### STANDARD DELIVERY

Main unit	1 pc
WF 10X eyepiece	2 pcs
3.94" DIA glass plate	1 pc
3.94" DIA white/black plate	1 pc
Anti-dust cover	1 pc



LED ring light (optional)

### OPTIONAL ACCESSORY

Auxiliary objective	0.5X	ISM-ZS50-OB05X
	2X	ISM-ZS50-OB2X
Eyepiece	10X dividing eyepiece (graduation 0.1mm/.004")	ISM-ZS50-EPD10X
	WF15X (view field .63" DIA)	ISM-ZS50-EP15X
	WF20X (view field .47" DIA)	ISM-ZS50-EP20X
Digital camera		ISM-D500
LED ring light		ISM-ZS-RL

## MAGNIFIERS WITH ILLUMINATION

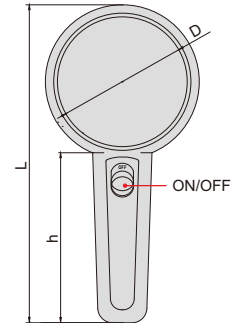
- Glass lens
- Powered by 3xAAA batteries (included)



7513-2



7513-4



Part No.	EDP No.	Magnification	Lens diameter (D)	L	h
7513-2	816388	2X	2.953" DIA	6.693"	3.543"
7513-4	816389	4X	1.969" DIA	5.709"	3.543"

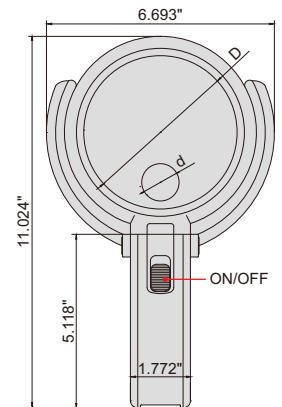


## THREE WAYS MAGNIFIER WITH ILLUMINATION

- Plastic lens
- Powered by 2xAA batteries (included) or power adapter (110~240V, 50~60Hz)



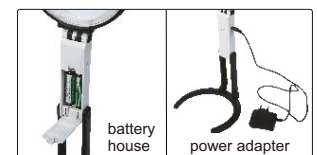
7512-1



16



three ways use



Part No.	EDP No.	Magnification	Lens diameter (D)	Lens diameter (d)
7512-1	816387	2X/4X	4.724" DIA	1.102" DIA

## TABLE MAGNIFIER WITH ILLUMINATION PART NO. 7516-5D-U

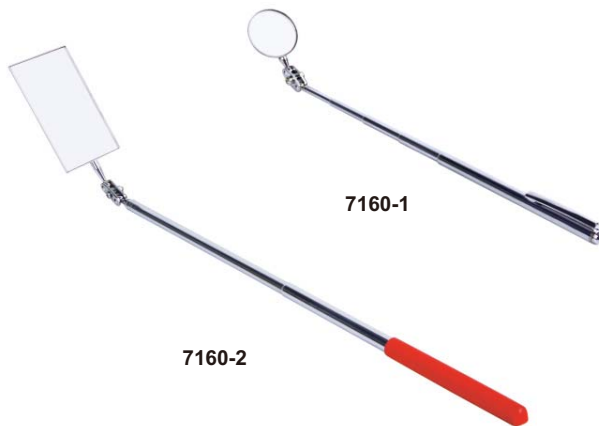
- LED illumination, working life 20000h

### SPECIFICATION

Part No.	7516-5D-U
EDP No.	877214
Magnification	2.25X
Diopter	5D
Lens diameter	4.803" DIA
Illumination	power: 7W, illuminance: 420lm
Power supply	100~240V, 50~60Hz

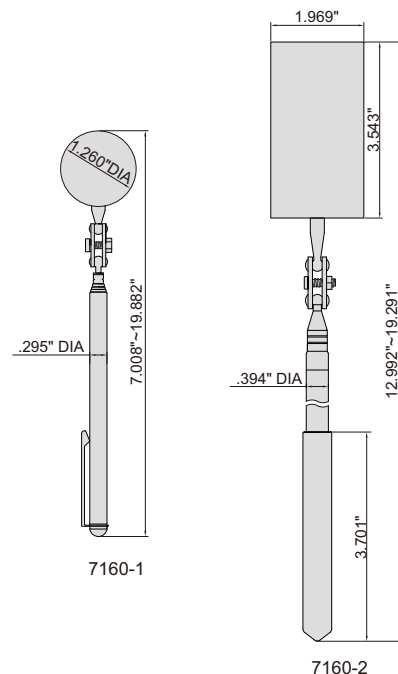


## TELESCOPING INSPECTION MIRRORS



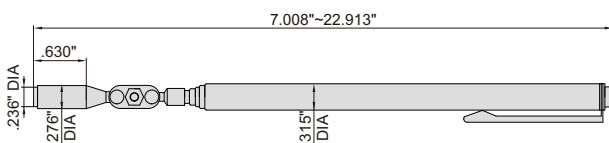
- Inspect hidden areas
- Rotation of the mirror: 360°
- Length of the handle is adjustable, the handle is made of brass and chrome plated

Part No.	EDP No.	Size of mirror	Length
7160-1	877204	1.260" DIA	7.008"~19.882"
7160-2	877205	1.969"x3.543"	12.992"~19.291"



## TELESCOPING MAGNETIC PICK-UP

- Pick up metal parts from hidden areas
- Rotation of the magnetic head: 360°
- Length of the handle is adjustable, the handle is made of brass and chrome plated



Part No.	EDP No.	Size of magnetic tip	Magnetic force	Length
7161-1	877206	.236" DIA	0.99lbf	7.008"~22.913"

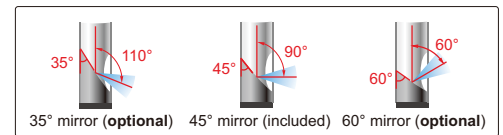
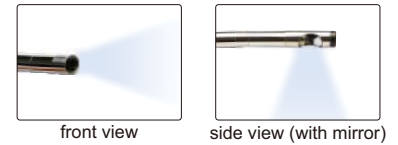
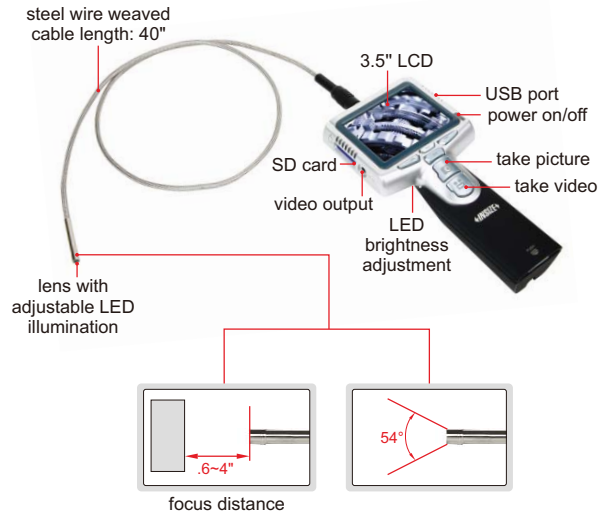
## VIDEOSCOPE



- IP65 dust/coolant proof
- Optional cable length 3m, 5m and 10m
- The cable can be bent but can't be set at a fixed shape

### SPECIFICATION

<b>Part No.</b>		<b>ISV-E10</b>
<b>EDP No.</b>		816397
<b>Lens</b>	<b>diameter</b>	.22"
	<b>pixel</b>	0.3M
	<b>resolution</b>	640×480
	<b>frame rate</b>	30fps
<b>Cable</b>	<b>length</b>	40"
	<b>type</b>	steel wire weaved cable
<b>Main unit</b>	<b>function</b>	take picture, take video
	<b>file format</b>	picture: JPG, video: AVI
	<b>image process</b>	brightness, contrast, color saturation
	<b>memory</b>	2G SD card
	<b>output</b>	TV, USB
	<b>power supply</b>	rechargeable battery (for 3 hours working)
<b>Weight</b>		.99lb



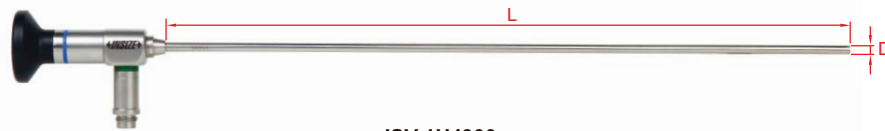
### STANDARD DELIVERY

Main unit	1 pc
Cable with lens	1 pc
2G SD card	1 pc
45° mirror	1 pc
AC/DC adapter	1 pc
Video output cable	1 pc
USB cable	1 pc
Lens cleaning kit	1 pc

### OPTIONAL ACCESSORY

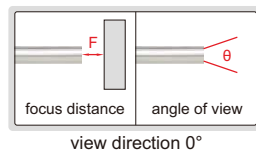
35° mirror	ISV-E55-M35
60° mirror	ISV-E55-M60

## RIGID BORESCOPE



ISV-1H4300

- Focus distance .08", depth of view .2~4"
- IP67 dust/coolant proof
- Can be used in the liquid with temperature: 14°F~185°F



### SPECIFICATION

Part No.	EDP No.	Length (L)	View direction (α)	Diameter (D)	Angle of view (θ)
ISV-1H4300	877260	11.89"	0°	.16"	≥60°

### OPTIONAL ACCESSORY

LED light handle	ISV-1HLED
Adjustable LED light source	ISV-1LED1
Camera	ISV-2CAM



# ROUGHNESS TESTER

- 21 roughness parameters
- Display roughness values, profile and curve
- Memory of maximum 100 results
- Automatic power off
- Can be controlled by computer
- Data output



software CD (included)

printer (optional)



probe cover (included)

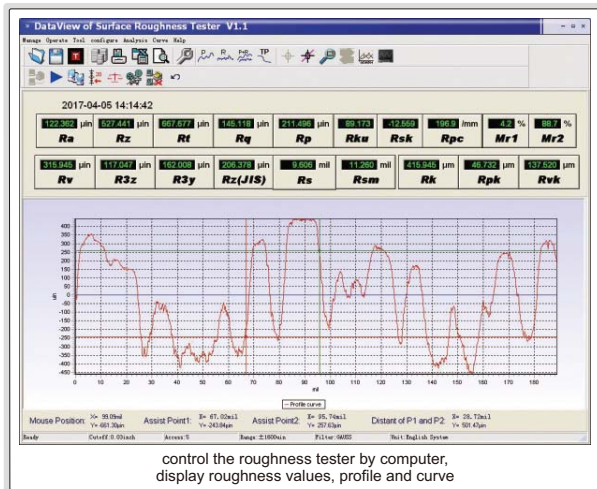


put the small workpieces directly under the probe for measurement

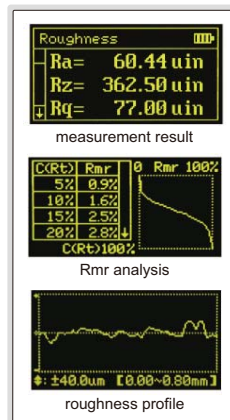
adjustable stand (included)



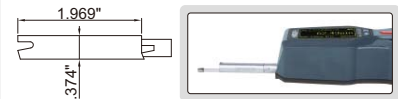
software (included)



screen display



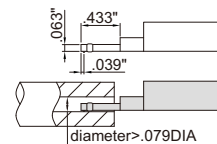
extension rod (optional), Part No. ISR-C002-ER



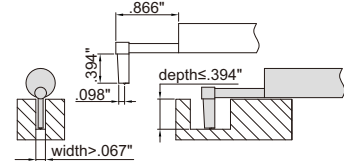
transverse rod (optional), Part No. ISR-C002-TR



small hole probe (optional), Part No. ISR-C002-SBP



deep groove probe (optional), Part No. ISR-C002-DGP



light duty test stand (optional)



heavy duty test stand (optional)



## SPECIFICATION

Part No.	ISR-C002	
EDP No.	219180	
Parameters	Ra, Rz, Rq, Rv, Rp, RS, R3z, R3y, Rt, Rz (JIS), Rk, Rku, Rsm, Rpc, Rpk, Rvk, Rsk, Mr1, Mr2, Ry (JIS), Rmax	
Range	6299µm	
Accuracy	±10%	
Resolution (Ra)	0.01µm	
Probe	type	inductive
	stylus radius/angle	196µm/90°
	stylus material	diamond
Measuring force	.01ozf	
Measuring unit	µm/µin	
Cut off	.01/.03/.1"	
Number of cut-offs	1 to 5	
Traverse speed	.02"/s, .04"/s	
Memory	100 measurement results	
Output	USB	
Power	built-in rechargeable battery	
Dimension (L×W×H)	5.55×2.16×1.57"	
Weight	.89lb	

## STANDARD DELIVERY

Main unit	1 pc
Standard probe	1 pc
Calibration block and support	1 pc of each
Adjustable stand	1 pc
Probe cover	1 pc
Software	1 pc
AC/DC adapter	1 pc

## OPTIONAL ACCESSORY

Extension rod	ISR-C002-ER
Transverse rod	ISR-C002-TR
Deep groove probe	ISR-C002-DGP
Small hole probe	ISR-C002-SBP
Light duty test stand	ISR-C002-STAND1
Heavy duty test stand	ISR-C002-STAND
Printer	ISR-C002-PRINTER

# ROUGHNESS TESTER (SEPARABLE TYPE) PART NO. ISR-C300

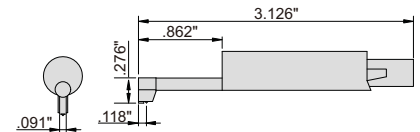
CAN BE OPERATED BY  
COMPUTER OR MOBILE PHONE

BLUETOOTH

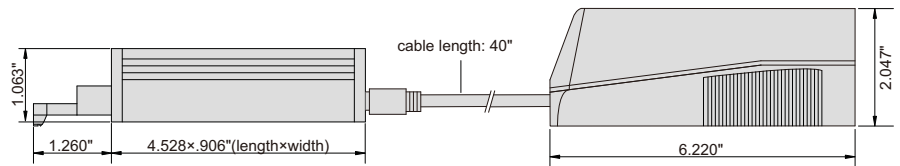


software CD  
(included)

- Roughness tester can be operated by mobile phone (only android system) or computer
- Data can be output to Excel by connecting with computer via bluetooth or USB cable
- Support bluetooth printer
- 22 roughness parameters
- Meet ISO, DIN, ANSI, JIS standards
- Display roughness values, profile and curve
- Memory of maximum 100 data and waveform
- Built-in lithium battery, working time more than 50 hours
- Automatic power off



probe and main unit can be combined together



## SPECIFICATION

Part No.	<b>ISR-C300</b>	
EDP No.	877234	
Parameters	Ra, Rz, Rq, Rv, Rp, Rs, R3z, R3y, Rt, Rc Rz (JIS), Rk, Rku, Rsm, Rpc, Rpk, Rvk, Rsk, Mr1, Mr2, Ry, Rmax	
Range	X axis	.689"
	Z axis	12598µin(-6299µin~6299µin)
Accuracy	±10%	
Resolution (Ra)	0.01µin	
Probe	type	inductive
	stylus radius/angle	196µin/90°
	stylus material	diamond
Measuring force	.01ozf	
Measuring unit	µm/µin	
Cut off	.01/.03/.1"	
Number of cut-offs	1 to 5	
Traverse speed	.005"/s, .02"/s, .04"/s	
Memory	100 measurement results	
Output	USB and bluetooth	
Power	built-in rechargeable battery	
Dimension (L×W×H)	6.22×2.52×2.05"	
Weight	.89lb	

## STANDARD DELIVERY

Main unit	1pc
Standard probe	1pc
Calibration block and support	1pc of each
Connecting cable (long and short)	1pc of each
Magnetic stand adapter	1pc
Adjustable stand	1pc
Touch pen	1pc
USB cable and software	1pc
AC/DC adapter	1pc

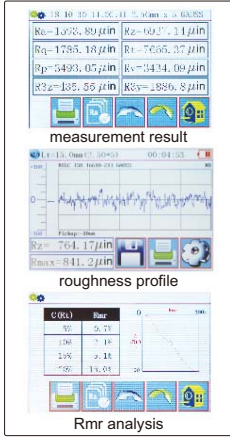
## OPTIONAL ACCESSORY

Extension rod	ISR-C002-ER
Small hole probe	ISR-C002-PROBE
Tiny hole probe	ISR-C002-SBP
Deep groove probe	ISR-C002-DGP
Bluetooth printer	ISR-C002-PRINTER
Height gage adapter	ISR-C300-LB1
Bluetooth receiver	ISR-C300-RECEIVER
Support for flat surface	ISR-C300-COVER1
Support for cylindrical surface	ISR-C300-COVER2

To be continued

Continued from previous page

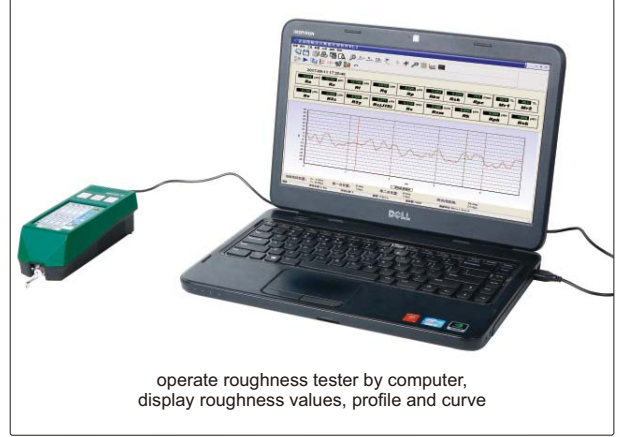
roughness tester  
screen display



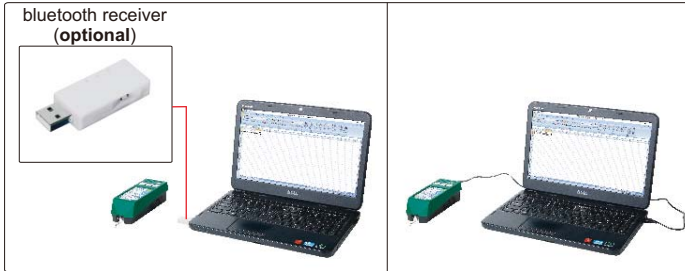
connect mobile phone via bluetooth  
(only android system)



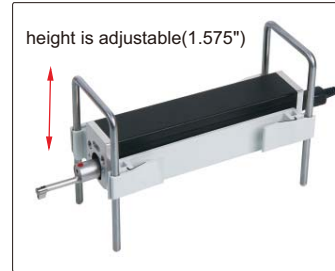
connect computer via USB cable (software is included)



data can be output to Excel by  
connecting computer via bluetooth or USB cable



adjustable stand (included)



bluetooth printer (optional)



magnetic stand adapter (included)

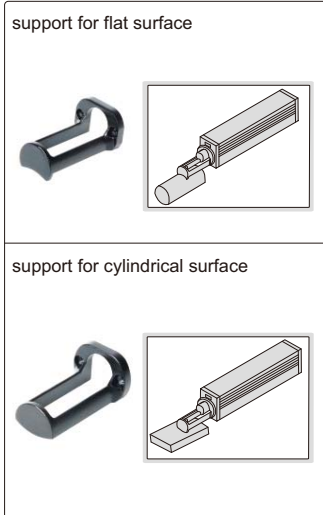


height gage adapter (optional)

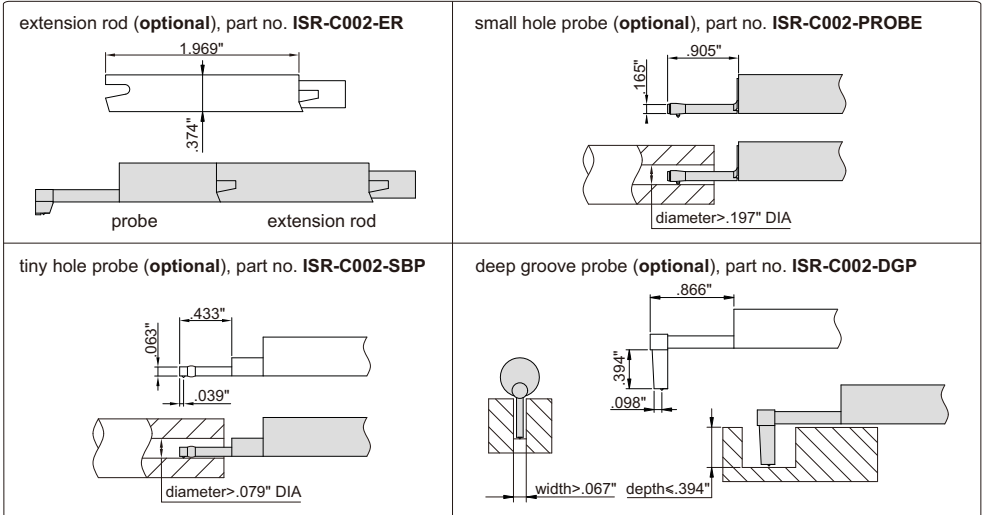


**NOTE:** Please confirm whether the adapter can fit your height gages. When using INSIZE height gages, please use the dial test indicator holder of height gages

probe support (optional)



optional probes



# ROUGHNESS TESTER PART NO. ISR-S400



- Automatic probe leveling
- Language: English, French, German, Italian, Spanish, Portuguese
- 12 roughness parameters
- Can set tolerance
- Measuring range up to 15748µin, can measure grit and shot blasting
- Traverse length up to .63"
- The probe can be set at 90° or 270°, for transverse measurement
- Memory of maximum 100 results
- Data output
- Probe can be replaced

CUSTOM-MADE  
PROBES ARE AVAILABLE



software CD  
(included)



VIDEO



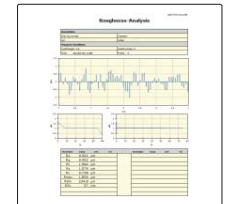
adjustable stand (included)



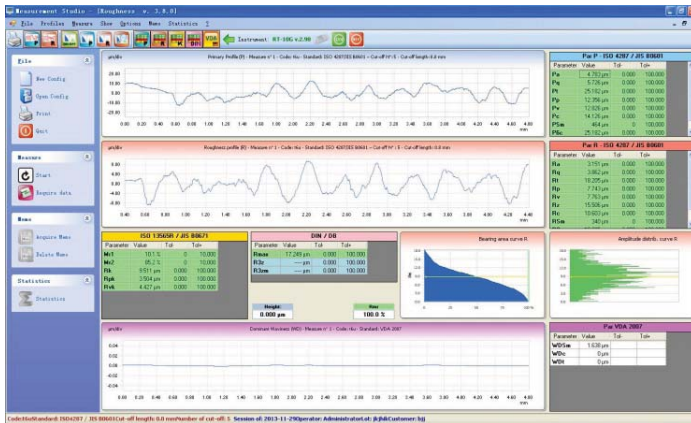
transverse measurement



probe cover (included), can put the small  
workpieces directly on the  
probe for measurement



output software (included),  
output data and graphic to  
Excel, make report, print



measuring software (optional), can control the roughness tester,  
display roughness values, profile and curve, data statistics



heavy duty test stand (optional)



light duty test stand (optional)

## SPECIFICATION

Part No.	<b>ISR-S400</b>	
EDP No.	877235	
Parameters	Ra, Rq, Rt, Rz, Rc, Rmax, Rsm, Rpc, Rmr, R, AR, Rx	
Range	Ra: 0~3937µin, Rt: 1.97~15748µin	
Accuracy	±3%	
Resolution (Ra)	.01µin	
Probe	type	inductive
	stylus radius/angle	196µin/90°
	stylus material	diamond
Measuring force	.003ozf	
Measuring unit	µin/µm	
Cut off	.01/.03/.1"	
Number of cut-offs	1 to 5	
Traverse speed	.04"/s	
Memory	100 measurement results	
Output	USB	
Power	built-in rechargeable battery	
Dimension (L×W×H)	4.80×2.05×2.68"	
Weight	1.43lb	

## STANDARD DELIVERY

Main unit	1 pc
Standard probe	1 pc
Calibration block	1 pc
Adjustable stand	1 pc
AC/DC adapter	1 pc
Probe cover	1 pc
USB cable and output software	1 pc

## OPTIONAL ACCESSORY

Extension rod	<b>ISR-S400-ER100</b>
Probe	see details
Measuring software	<b>ISR-S-SOFTWARE</b>
Heavy duty test stand	<b>ISR-S400-DK</b>
Light duty test stand	<b>ISR-S400-STAND</b>

To be continued

**SPECIFICATION OF PROBES**

<p><b>standard probe (included)</b></p>	<p><b>small roughness probe (optional), part no. ISR-S400-SB10R2</b></p>
<p><b>extension rod (optional), part no. ISR-S400-ER100</b></p>	
<p><b>groove probe (optional), part no. ISR-S400-SB20</b></p>	<p><b>deep groove probe (optional), part no. ISR-S400-SB120</b></p>
<p><b>small hole probe (optional), part no. ISR-S400-SB30</b></p>	<p><b>deep hole probe (optional), part no. ISR-S400-SB80</b></p>
<p><b>small rod probe (optional), part no. ISR-S400-SB40</b></p>	<p><b>cylinder/hole probe (optional), part no. ISR-S400-SB110</b></p>
<p><b>transverse probe (optional), part no. ISR-S400-SB50</b></p>	<p><b>internal angle probe (optional), part no. ISR-S400-SB140</b></p>

## ROUGHNESS TESTER

- Unit:  $\mu\text{m}$ ,  $\mu\text{in}$
- Automatic power off

### SPECIFICATION

Part No.	ISR-C003	
EDP No.	219181	
Parameters	Ra, Rz, Rq, Rt	
Range	Ra, Rq: 2~590 $\mu\text{in}$ Rz, Rt: 4~1968 $\mu\text{in}$	
Accuracy	$\pm 10\%$	
Resolution (Ra)	0.01 $\mu\text{in}$	
Probe	type	piezoelectric
	stylus radius/angle	393 $\mu\text{in}/90^\circ$
	stylus material	diamond
Measuring force	.012ozf	
Measuring unit	$\mu\text{m}/\mu\text{in}$	
Cut off	.01/.03/.1"	
Evaluation length	.05" for cut off .01"	
	.15" for cut off .03"	
	.2" for cut off .1"	
Traverse speed	.03"/s	
Power	built-in rechargeable battery	
Dimension (L×W×H)	4.17×2.75×.94"	
Weight	.44lb	



calibration block  
(included)

### STANDARD DELIVERY

Main unit	1 pc
Calibration block	1 pc
AC/DC adapter	1 pc

## SURFACE ROUGHNESS SPECIMEN SET

- For checking, identifying and specifying the roughness by symbol
- Made of carbon steel
- For maintenance apply anti-rust oil after use



Part No.	EDP No.	Machining method	Roughness (Ra)	Roughness (Rz)	Quantity
ISR-CS2E	877233	Horizontal milling	16, 32, 63, 125, 250, 500 $\mu\text{in}$	100, 160, 320, 640, 1280, 2000 $\mu\text{in}$	6 pcs
			0.4, 0.8, 1.6, 3.2, 6.3, 12.5 $\mu\text{m}$	1.6, 3.2, 6.3, 12.5, 25, 50 $\mu\text{m}$	
		Vertical milling	16, 32, 63, 125, 250, 500 $\mu\text{in}$	100, 160, 320, 640, 1280, 2000 $\mu\text{in}$	6 pcs
			0.4, 0.8, 1.6, 3.2, 6.3, 12.5 $\mu\text{m}$	1.6, 3.2, 6.3, 12.5, 25, 50 $\mu\text{m}$	
		Turning	16, 32, 63, 125, 250, 500 $\mu\text{in}$	100, 160, 320, 640, 1280, 2000 $\mu\text{in}$	6 pcs
			0.4, 0.8, 1.6, 3.2, 6.3, 12.5 $\mu\text{m}$	1.6, 3.2, 6.3, 12.5, 25, 50 $\mu\text{m}$	
		Plain grinding	2, 4, 8, 16, 32, 63 $\mu\text{in}$	22.1, 40, 63, 120, 240, 400 $\mu\text{in}$	6 pcs
			0.05, 0.1, 0.2, 0.4, 0.8, 1.6 $\mu\text{m}$	0.2, 0.4, 0.8, 1.6, 3.2, 6.3 $\mu\text{m}$	
		Flat lapping	2, 4 $\mu\text{in}$	22.1, 40 $\mu\text{in}$	2 pcs
			0.05, 0.1 $\mu\text{m}$	0.2, 0.4 $\mu\text{m}$	
		External grinding	8, 16, 32, 63 $\mu\text{in}$	63, 120, 240, 400 $\mu\text{in}$	4 pcs
			0.2, 0.4, 0.8, 1.6 $\mu\text{m}$	0.8, 1.6, 3.2, 6.3 $\mu\text{m}$	

## COATING THICKNESS GAGE



calibration foils  
(included)



zero calibration  
block for Fe  
(included)



eddy current probe  
NFe (optional)  
with zero  
calibration block



magnetic induction  
probe (Fe90) for  
bores and grooves  
(optional)



magnetic induction  
probe (Fe10) for  
large range  
(optional)



magnetic induction  
probe Fe (included)



software CD  
(included)

- Magnetic induction probe (Fe) is to measure the thickness of non-magnetic coating on magnetic substrate  
Substrate: iron, steel, magnetic stainless steel (does not include non-magnetic stainless steel)  
Coating: zinc, copper, chrome, tin, plastic, powder, paint (nickel is not included)
- Eddy current probe (NFe) is to measure the thickness of non-conductive coating on non-magnetic substrate  
Substrate: copper, aluminum, zinc, non-magnetic stainless steel  
Coating: plastic, powder, paint, anodizing
- Low and high limits with judgement
- Automatic power off
- For magnetic and non-magnetic substrates
- Data output

### SPECIFICATION

Part No.	9501-1200			
EDP No.	877217			
Probe type	<b>FE (included)</b> magnetic induction probe	<b>NFE (optional)</b> eddy current probe	<b>FE90 (optional)</b> magnetic induction probe for bores and grooves	<b>FE10 (optional)</b> magnetic induction probe with big range
Measuring range	0~50mils	0~50mils	0~50mils	20~400mils
Accuracy	±(3%L+.04)mils ±(3%L+.4)mils	(range≤50mils) (range>50mils)	L is measuring thickness in mils	
Resolution	.01mils			.1mils
Measuring mode	continuous and single			
Minimum substrate thickness	.02"	.012"	.02"	.08"
Minimum measuring area	.28" DIA	.2" DIA	.28" DIA	1.57" DIA
Minimum curvature radius of convex workpiece	.06"	.12"	-	.4"
Memory	500			
Power supply	2×1.5V AA batteries			
Dimension	5.04×2.68×1.26"			
Weight	.75lb			

### STANDARD DELIVERY

Main unit	1 pc
Magnetic induction probe (Fe)	1 pc
Zero calibration block for Fe probe	1 pc
Calibration foils (50µm/2mils, 100µm/4mils, 250µm/10mils, 500µm/20mils, 1000µm/40mils)	1 set
1.5V AA battery	2 pcs
USB cable and software	1 pc

### OPTIONAL ACCESSORY

Eddy current probe (NFe) with zero calibration block	9501-1200-NFE
Magnetic induction probe (Fe90) for bores and grooves	9501-1200-FE90
Magnetic induction probe (Fe10) for large range	9501-1200-FE10

## ULTRASONIC THICKNESS GAGE



- Measure the thickness from one side of object, suitable for pipe, tank, etc.
- Applicable material: metal, plastic, glass, nylon, resin, ceramic, ice
- Not recommended for casting workpieces

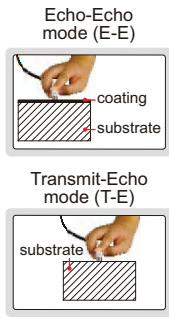
### SPECIFICATION

Part No.	ISU-100D	
EDP No.	816694	
Measuring range	.03~11.81"	
Resolution	.001" (range<10")	
	.01" (range≥10")	
Accuracy	±.002"	(range<.4")
	±(.002+H/1000)"	(range .4~4")
	±H/333"	(range≥4")
H is the thickness to be measured in inch		
Transducer	frequency	5MHz
	diameter (d)	.43" DIA
Minimum size of pipe for measurement	.79×.05" (diameter × wall thickness)	
Applicable temperature	<140°F	
Velocity	.039~.394 inch/μs	
Power supply	2×AAA batteries	
Dimension	4.49×2.52×1.1"	
Weight	.49lb	

### STANDARD DELIVERY

Main unit	1 pc
Transducer	1 pc
Couplant	1 bottle
Battery (AAA)	2 pcs

## ULTRASONIC THICKNESS GAGE (THROUGH COATING)



- Two measuring modes, Echo-Echo (E-E) and Transmit-Echo (T-E):
  - E-E is applicable for non-metallic coating (such as paint, plastic resin, etc.) on metal substrate, can penetrate coating and measure the thickness of substrate
  - T-E is to measure the thickness of material without coating, such as metal, plastic, glass, nylon, resin, ceramics, ice, etc.
- Low and high limits with judgment
- Average calculation of maximum 9 readings
- Memory of maximum 500 readings
- Data output

### SPECIFICATION

Part No.	ISU-300D	
EDP No.	877259	
Measuring range	E-E mode: coating thickness 0~.04", substrate thickness .16~.98"	
	T-E mode: substrate thickness .06~7.87"	
Resolution	.001" (range<10")	
	.01" (range≥10")	
Repeatability	.001" (range<4")	
	.004" (range 4~10")	
	.01" (range≥10")	
Accuracy	±.002"	(range<.4")
	±(.002+H/1000)"	(range .4~4")
	±H/333"	(range≥4")
H is the thickness to be measured in inch		
Velocity	.039~.394inch/μs	
Power supply	2×1.5V AAA batteries	
Dimension	4.57×2.52×1.06"	
Weight	.49lb	



couplant (included)



transducer ISU-T04 (optional)



transducer ISU-T06 (optional)



transducer ISU-T12 (optional)



transducer ISU-T13 (optional)



### STANDARD DELIVERY

Main unit	1 pc
Transducer ISU-T07	1 pc
Battery (AAA)	2 pcs
Couplant (for ISU-T04, ISU-T06, ISU-T07, ISU-T12)	1 bottle
USB cable	1 pc

### OPTIONAL ACCESSORY

Transducer	ISU-T04, ISU-T06, ISU-T12, ISU-T13
Couplant (for ISU-T13)	ISU-HT5-COULPLANT

### SPECIFICATION OF TRANSDUCERS

Part No.	Mode	Frequency	Diameter (d)	Measuring range	Minimum size of pipe for measurement (diameter × wall thickness)	Applicable temperature	Application
ISU-T07	T-E E-E	5.0MHz	.43" DIA	T-E mode .06~7.87" E-E mode .16~.98"	T-E mode .79×.05" E-E mode .79×.16"	<140°F	general use
ISU-T04	T-E	10.0MHz	.24" DIA	.03~0.79"	.39×.04"	<140°F	for small tube
ISU-T06	T-E	7.5MHz	.33" DIA	.03~1.97"	.59×.05"	<140°F	for thin material
ISU-T12	T-E	2.0MHz	.64" DIA	.08~15.75"	1.18×.16"	<140°F	for casting iron
ISU-T13	T-E	5.0MHz	.51" DIA	.08~7.87"	.98×.12"	<662°F	for high temperature



## INFRARED THERMOMETER



- Fast measurement with infrared or k-type sensor
- Maximum, minimum, average and difference modes
- Low and high limits with judgement
- Automatic power off

### SPECIFICATION

Part No.	9110-500	
EDP No.	877215	
Measuring range	infrared	-76~932°F
	k-type sensor	-40~1976°F
Accuracy	infrared	±(1.5%+4)°F
	k-type sensor	±(1%+4)°F
Resolution	.1°F (range<199.9°F), 1°F (range>199.9°F)	
Distance to spot ratio (D:S)	12:1	
Emissivity	0.1~1 (adjustable)	
Laser type	630~670nm, Class II, <1mW	
Response time	<500ms	
Power supply	9V battery	
Dimension	6.93×5.19×1.93"	
Weight	.5lb	

k-type sensor (included)



### STANDARD DELIVERY

Main unit	1 pc
K-type sensor	1 pc
9V battery	1 pc

## NON-CONTACT DIGITAL TACHOMETER

- Maximum and minimum modes
- Memory 100 measurement values
- Automatic power off

### SPECIFICATION

Part No.	9221-999
EDP No.	877216
Measuring range	50~99999RPM
Accuracy	±(.03%+2)RPM
Resolution	.01RPM (range 50~99.99RPM)
	.1RPM (range 100~9999.9RPM)
	1RPM (range 10000~99999RPM)
Measuring distance	2~10"
Power supply	4×AAA batteries
Dimension	6.1×2.36×1.06"
Weight	.26lb



reflection sticker (included)



### STANDARD DELIVERY

Main unit	1 pc
Reflection sticker	1 roll
Battery (AAA)	4 pcs

## PORTABLE REFRACTOMETER

- Quickly measure the concentration of coolant
- Refer to the refraction factor of coolant, for example: the refraction factor of grinding emulsion is 2.1, the reading value is 6%, so the actual concentration is  $(2.1 \times 6\%) = 12.6\%$
- Suitable for water based coolant

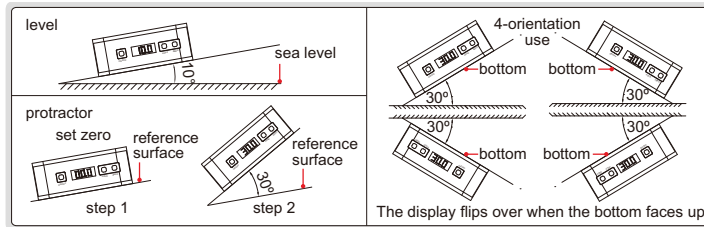
### SPECIFICATION

Part No.	ISQ-RM30
EDP No.	219182
Measuring range	0~32%
Graduation	0.2%
Dimension	1.06×1.57×6.3"
Weight	.39lb

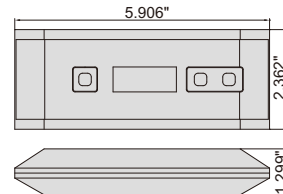


## ELECTRONIC LEVEL AND PROTRACTOR

- Aluminum frame
- Magnetic bottom with V-groove for shafts
- Zero setting can be made on any plain surfaces
- Buttons: ON/OFF, ZERO, HOLD (keep the reading)
- CR2032 battery
- Automatic power off



2173-360



Part No.	EDP No.	Range	Resolution	Accuracy
2173-360	816340	0-360° (90°x4)	0.1° (= 1.745 mm/m)	at 0° and 90°: ±0.1°; others: ±0.2°

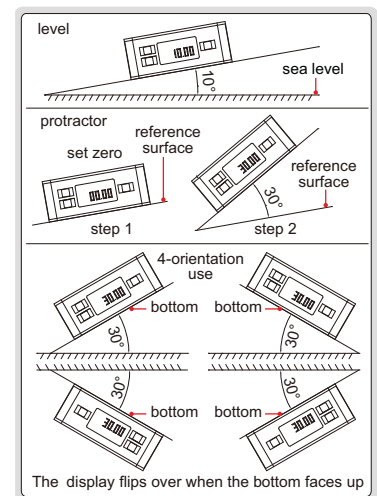
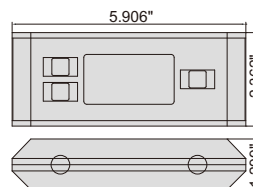
## ELECTRONIC LEVEL AND PROTRACTOR



- IP54 dust/coolant proof
- Aluminum frame
- Magnetic bottom with V-groove for shafts
- The sea level is permanently set inside the chip, zero setting is not needed when batteries are replaced
- Buttons: ON/OFF, absolute and incremental measurement, keep the reading, buzzer alarm (at 0° and 90°), unit (in/ft, %, mm/m), backlight
- Two AAA batteries
- Automatic power off
- Absolute level



2179-360



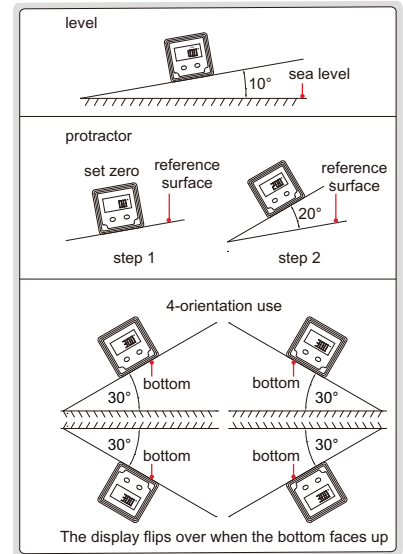
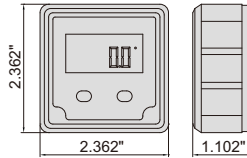
Part No.	EDP No.	Range	Resolution	Accuracy
2179-360	877108	0-360° (90°x4)	0.05°/1.125in/ft	at 0° and 90°: ±0.1°; others: ±0.2°

## ELECTRONIC LEVEL AND PROTRACTOR

- Aluminum frame
- Magnetic bottom
- The display flips over when the bottom faces up
- The backlight is on automatically when in use, and automatically off in 15 minutes after use
- The sea level is permanently set inside the chip, zero setting is not needed when battery is replaced
- Buttons: ON/OFF, ZERO, absolute and incremental measurement
- One AAA battery
- Automatic power off in 5 minutes
- Absolute level



2170-1



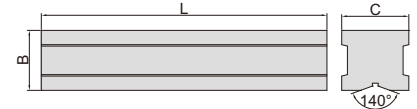
Part No.	EDP No.	Range	Resolution	Accuracy
2170-1	816396	4x90°	0.1°(=.021in/ft)	at 0°and 90°: ±0.1°; others: ±0.2°

## BLOCK LEVELS

- V-groove on bottom for shafts (shafts diameter .63~2.76")
- With transverse vial
- Supplied with adjusting wrench



4901-8



Part No.	EDP No.	Length (L)	B	C	Sensitivity
4901-6	816326	6"	1.575"	1.772"	.00024in/ft (=0.001°)
4901-8	816328	8"	1.654"	1.850"	.00024in/ft (=0.001°)
4901-12	816330	12"	1.772"	1.969"	.00024in/ft (=0.001°)

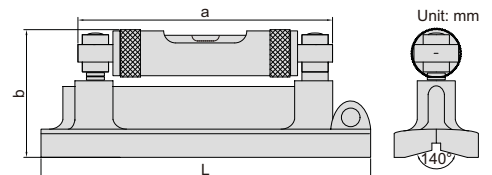
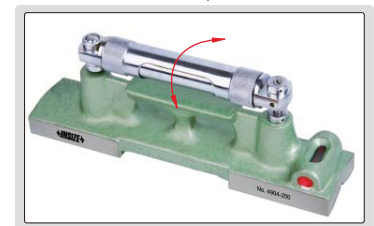
## MACHINISTS' LEVELS

rotate cover to protect vials

- With transverse and longitudinal vials
- V-groove on bottom for shafts (shafts dia. 15-60mm for 4904-150, and 15-70mm for 4904-200/300)
- Supplied with adjust wrench

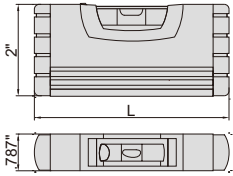


4904-200



Part No.	EDP No.	Sensitivity	Size (L)	a	b
4904-150	877177	0.3mm/m(=0.017°)	150mm	150	58
4904-200	877178	0.3mm/m(=0.017°)	200mm	135	73
4904-300	877179	0.3mm/m(=0.017°)	300mm	216	73

## PORTABLE LEVEL



4912-100

packaging



- Shockproof vials
- Magnetic base
- Shock absorbing rubber end caps
- Working temperature: 5°F~131°F
- Vials made in israel lifetime warranty

Part No.	EDP No.	Size (L)	Accuracy
4912-100	877180	4"	.006in/ft

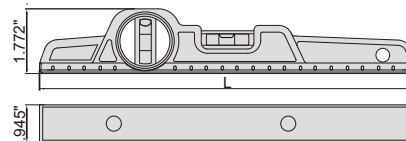
## CAST ALUMINUM LEVEL

- Shockproof horizontal and vertical vials
- Magnetic base
- Working temperature: 5°F~131°F
- Cast aluminum body
- Vials made in israel lifetime warranty



4913-250

packaging



Part No.	EDP No.	Size (L)	Accuracy
4913-250	877182	10"	.006in/ft

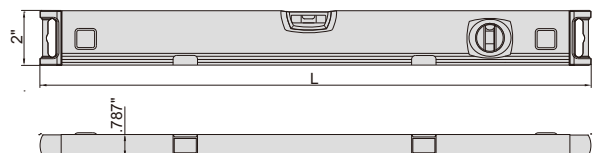
## ALUMINUM LEVELS

- Shockproof horizontal and vertical vials
- Magnetic base
- Shock absorbing rubber end caps
- Working temperature: 5°F~131°F
- Vials made in israel lifetime warranty

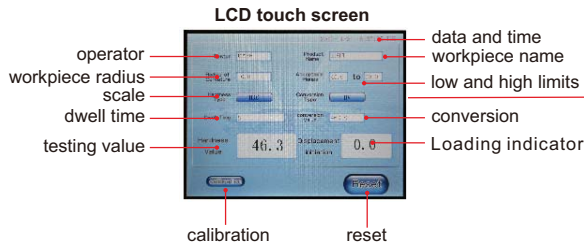


4914-600

Part No.	EDP No.	Size (L)	Accuracy
4914-600	877185	24"	.006in/ft
4914-800	877186	32"	.006in/ft
4914-1000	877183	40"	.006in/ft
4914-1200	877184	48"	.006in/ft



# AUTOMATIC ELECTRONIC ROCKWELL HARDNESS TESTER (DOLPHIN-NOSE MODEL) PART NO. ISHR-T100-U\*\*



- Dolphin-nose indenter for easy reach interior of pipe and groove
- Automatic testing after preliminary test force is loaded by hand
- LCD touch screen, easy operation
- Convert to other Rockwell scales, HV or HB automatically
- Low and high limits
- Insert USB flash disk, save the testing results as Excel
- Self-compensation of the hardness value for curved workpiece
- Force loading by electric motor (without weights)
- The test force is selected automatically according to hardness scale



2.48" DIA flat anvil (included)



5.91" DIA flat anvil (included)



level (included)



touch pen (included)



V-type anvil (included) for cylinders with diameter .16~2.36" DIA



small V-type anvil (optional) for cylinders with diameter .08~.16" DIA

## SPECIFICATION

Part No.	ISHR-T100-U
EDP No.	877227
Hardness scale	HRA, HRB, HRC, HRD, HRF, HRG (with standard indenters)
	HRE, HRH, HRK, HRL, HRM, HRP, HRR, HRS, HRV (with optional indenter)
Preliminary test force	98N/10kgf
Test force	588N/60kgf, 980N/100kgf, 1471N/150kgf
Stage elevation	manual
Load control	automatic (load/dwell/unload)
Load dwell time	0~60 second
Resolution	.1HR
Output	USB
Max. workpiece height	11.81"
Max. workpiece depth	9.84" (from the center of indenter)
Power supply	110V, 50/60Hz **
Dimension	27.95×10.24×33.07"
Weight	177lb

## STANDARD DELIVERY

Main unit	1 pc
2.48" DIA flat anvil	1 pc
5.91" DIA flat anvil	1 pc
V-type anvil	1 pc
Diamond indenter	1 pc
1/16" carbide ball indenter	1 pc
Hardness test block HRB88~95	1 pc
Hardness test block HRC60~65	1 pc
Hardness test block HRC20~30	1 pc
USB flash disk (8G)	1 pc
Level	1 pc
Touch pen	1 pc
Anti-dust cover	1 pc

## OPTIONAL ACCESSORY

Hardness test block HRB88~95	ISH-BHRB
Hardness test block HRC60~65	ISH-BHRC3
Hardness test block HRC20~30	ISH-BHRC1
Small V-type anvil	ISH-SMALL ANVIL

## PORTABLE LEEB HARDNESS TESTER



wireless printer (optional)



hardness test block D (included)



small support ring (included)



- Accuracy:  $\pm 6$ HLD (when HLD=800)
- Based on Leeb (HLD), converted to Vickers (HV), Brinell (HB), Rockwell (HRC and HRB), Shore (HS) and tensile strength (MPa)
- Memory of 99 measurement values for browsing
- Set measurement times (1~9) to have average value
- Connected with printer via bluetooth
- Automatic power off, according to ASTM A 956

### SPECIFICATION

Part No.	ISH-PHB	
EDP No.	816432	
Min. reading	1HLD, 1HV, 1HB, 0.1HRC, 0.1HRB, 1HS, 1MPa	
Display	Leeb (HLD), converted hardness, material, impact direction, test times, average value, date	
Output	bluetooth	
Applicable workpiece	minimum weight	11.02lb 4.41lb (on solid support) 0.22lb (coupled on plate)
	minimum thickness	.20"
	minimum radius of curved surface	1.18"
	maximum roughness (Ra)	63 $\mu$ m
Power supply	3 $\times$ AAA batteries	
Dimension	5.91 $\times$ 3.31 $\times$ 1.10"	
Weight	0.44lb	

### STANDARD DELIVERY

Main unit	1 pc
Impact device D	1 pc
Hardness test block D	1 pc
Small support ring	1 pc
Cleaning brush	1 pc

### OPTIONAL ACCESSORY

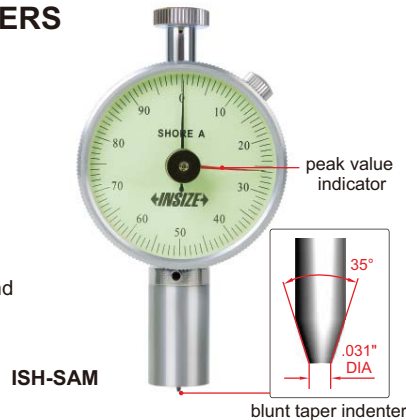
Wireless printer	ISH-DS-PRINTER
Couplant	ISH-COULPLANT
Support rings	see details
Hardness test block D	ISH-BHLD

### APPLICABLE MATERIAL AND HARDNESS RANGE FOR IMPACT DEVICE D

Material	HLD	HV	HB	HRC	HRB	HS	Tensile strength (MPa)
Steel & cast steel	300-900	81-955	81-654	20-68	38-100	32-100	375-2639
Tool steel	300-840	80-898		20-67			
Stainless steel	300-800	85-802	85-655		46-101		
Cast iron	360-650		93-334				
Cast aluminum alloy	170-570		19-164		23-84		
Brass	200-550		40-173		13-95		
Bronze	300-700		60-290				
Copper	200-690		45-315				

## SHORE DUROMETERS

- According to ISO868, ISO7619, ASTM D 2240
- With peak value indicator
- Optional accessory: test stand ISH-STAC and ISH-STD



### SPECIFICATION

Part No.	ISH-SAM
EDP No.	816696
Scale	Shore A
Application	nature rubber, soft elastomer, etc.
Measuring range	10~90HA
Graduation	1HA
Indenter protrusion	.10"
Dimension	4.53 $\times$ 2.36 $\times$ .98"
Weight	.35lb

\* Use ISH-SAM when measuring result is lower than 20HD

## TEST STAND FOR DIGITAL FORCE GAGES

- For digital force gages (part no. ISF-1DFxx and ISF-DFxx)
- To be used in vertical and horizontal orientation



horizontal orientation test



digital scale (optional)

force gages are not included



### OPTIONAL ACCESSORY

Digital scale (range: 8", resolution .0005"/0.01mm)	ISF-MT1K-SCALE
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### SPECIFICATION

Part No.	ISF-MT1K
EDP No.	877226
Load capacity	220lbf
Travel	7.87" (.12" vertical movement per revolution of handwheel)
Dimension	7.72 $\times$ 9.84 $\times$ 17.56"
Weight	28.67lb

### INSPECTION CERTIFICATE

- Push and pull test
- Peak (max.) and tracking mode
- Units: lbf, ozf, mN, N, gf, kgf,
- Low and high limits with judgement
- 1000 memories
- Automatic power off
- Metal case, touch buttons
- LCD display with backlight
- The display flips over when the bottom faces up
- Overload alarm
- Data output



ISF-DF100A

## ELECTRONIC FORCE GAGES (HIGH ACCURACY)

printer (optional)



software CD (included)



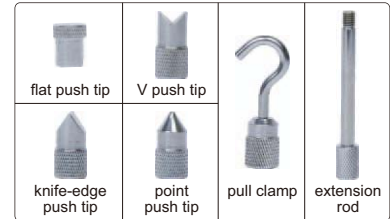
### SPECIFICATION

Part No.	ISF-DF50A	ISF-DF100A	ISF-DF200A	ISF-DF500A	ISF-DF1KA
EDP No.	877225	877221	877223	877224	877222
Load capacity (lbf)	11	22	44	110	220
Resolution (lbf)	0.001	0.005	0.01	0.01	0.05
Accuracy	±0.2% (of load capacity)				
Power supply	built-in rechargeable battery				

### STANDARD DELIVERY

Part No.	ISF-DF50A	ISF-DF100A	ISF-DF200A	ISF-DF500A	ISF-DF1KA
Main unit	1 pc				
AC/DC adapter	1 pc				
USB cable and software	1 pc				
Push/pull accessory	6 pcs (flat push tip, V push tip, knife-edge push tip, point push tip, pull clamp, extension rod)				

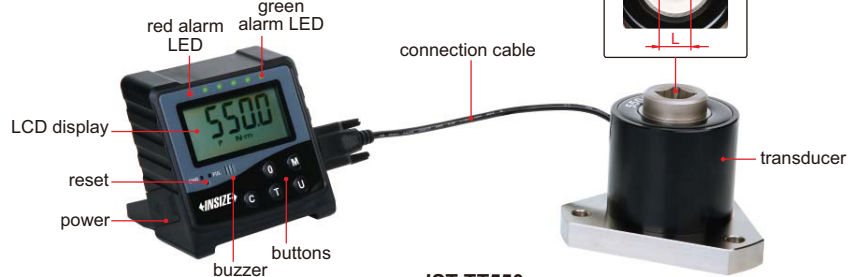
accessory (included)



### OPTIONAL ACCESSORY

Printer	ISF-DF-PRINTER
Test stand	ISF-MT1K

- With external sensor, to test torque wrenches, torque screwdrivers and other torque tools
- Clockwise and counter-clockwise operation
- Peak, track and first peak working modes
- Unit: N.m, in.lb, ft.lb, kg.cm
- Low and high limits with judgement
- Target torque value can be set, with audible and visible alarm:
  - Green LED light on and buzzer sounds when the value is 80%~100% of target torque
  - Both green and red LED light on and buzzer sounds when the target torque value is reached
- Automatic power off
- Not recommended for electric wrenches, impact wrenches or pneumatic wrenches



IST-TT550

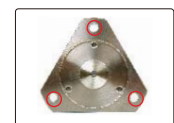
## ELECTRONIC TORQUE TESTERS

### SPECIFICATION

Part No.	IST-TT5	IST-TT50	IST-TT220	IST-TT550	IST-TT2200
EDP No.	877256	877257	877254	877258	877255
Range	4.42~44.24in.lb 0.369~3.687ft.lb	44.2~442.4in.lb 3.69~36.87ft.lb	195~1946in.lb 16.2~162.2ft.lb	487~4867in.lb 40.6~405.6ft.lb	— 162~1622ft.lb
Accuracy	±1% (clockwise and counter-clockwise)				
Resolution	0.01in.lb 0.001ft.lb	0.1in.lb 0.01ft.lb	1in.lb 0.1ft.lb	1in.lb 0.1ft.lb	— 1ft.lb
Square socket (L)	1/4"	3/8"	1/2"	3/4"	1"
Power supply	DC				
Adaptor	no	3/8" to 1/4"	1/2" to 3/8" 3/8" to 1/4"	3/4" to 1/2" 1/2" to 3/8"	1" to 3/4" 3/4" to 1/2"
Transducer dimension	2.36×2.36×1.85"	3.50×3.50×2.56"	4.29×4.29×2.87"	5.51×5.51×3.82"	6.30×6.30×4.57"
Weight	1.54lb	2.43lb	3.09lb	6.17lb	10.36lb



adaptor (included)



with 3 mounting holes on the bottom

### STANDARD DELIVERY

Main unit	1 pc
Transducer with 40" cable	1 pc

AC/DC adapter	1 pc
Adaptor	refer to the left

## TORQUE WRENCH TEST STAND

- Work with digital torque testers (IST-TT5, IST-TT50, IST-TT220, IST-TT550)

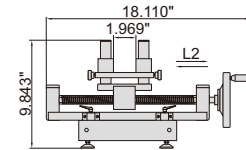
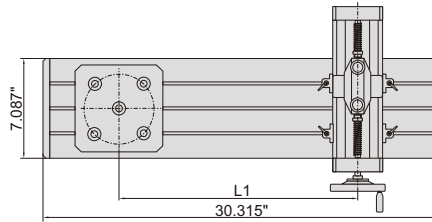


digital torque tester (optional)



adaptor (optional, for digital torque tester IST-TT5, IST-TT50, IST-TT220)

application example



Part No.	EDP No.
IST-TS500	877253

### SPECIFICATION

Digital torque tester	IST-TT5 (optional)	IST-TT50 (optional)	IST-TT220 (optional)	IST-TT550 (optional)
Applicable torque wrenches	4.42~44.24in.lb 0.369~3.687ft.lb	44.2~442.4in.lb 3.69~36.87ft.lb	195~1946in.lb 16.2~162.2ft.lb	487~4867in.lb 40.6~405.6ft.lb
Arm length (L1)	5.91~24.41", adjustable			
Maximum travel (L2)	7.87"			
Weight	28.17lb			

### OPTIONAL ACCESSORY

Digital torque tester	IST-TT5, IST-TT50, IST-TT220, IST-TT550
Adaptor	IST-TS500-BLOCK (necessary for IST-TT5, IST-TT50 and IST-TT220, not needed for IST-TT550)

## ELECTRONIC TORQUE SCREWDRIVERS



- Clockwise and counter-clockwise operation
- Unit: in.lb, cN.m, kg.cm
- Peak and track working mode
- Target torque value can be set, with audible and visible alarm:
  - Green LED light on and buzzer sounds when target torque value is 90%~100% of target torque
  - Red LED light on and buzzer sounds when target torque value is reached
- Power off automatically in 5 minutes without any operations



IST-SD200

### SPECIFICATION

Part No.	IST-SD50	IST-SD200	IST-SD400
EDP No.	877252	877250	877251
Range	0.88~4.42in.lb	3.54~17.7in.lb	7.08~35.39in.lb
Accuracy	clockwise	±3%	±2.5%
	counter-clockwise	±4%	±3.5%
Resolution	0.01in.lb		
Size of hex socket (L)	1/4"		
Power supply	1×AAA battery		
Length	7.60"	7.99"	7.99"
Weight	0.42lb	0.44lb	0.44lb

### OPTIONAL ACCESSORY

Calibration cable	IST-SD-CABLE
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## CLASSIC TORQUE WRENCHES



IST-7WM135

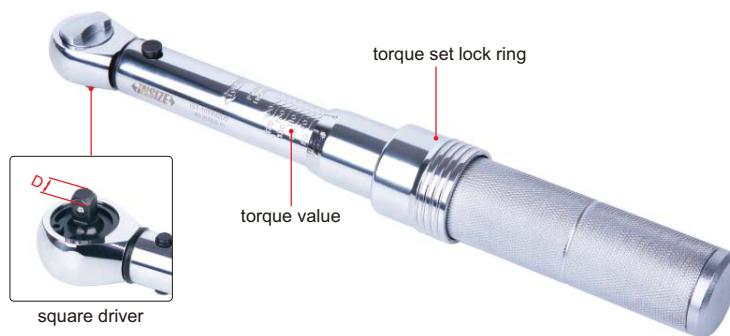
- Accuracy  $\pm 4\%$
- Clockwise and counter-clockwise operation
- Unit: lbf.in, lbf.ft, N.m, kgf.m
- Loud click sound when target torque value is reached
- According to DIN ISO 6789, ASME B107.300-2010

### SPECIFICATION

Part No.	IST-7WM33	IST-7WM68	IST-7WM135	IST-7WM225	IST-7WM330	IST-7WM560	IST-7WM800	IST-7WM1000	
EDP No.	877245	877248	877243	877244	877246	877247	877249	877242	
Range	lbf.in	40~300	100~600	200~1200	400~2000	60~3000	120~5000	1800~7200	1800~8850
	lbf.ft	4~24	10~50	20~100	40~160	50~250	100~410	140~600	140~740
	N.m	5~33	12~68	25~135	50~225	70~330	140~560	200~800	200~1000
	kgf.m	.5~3.4	1.2~7	3~14	5~23	7~35	14~57	22~82	22~100
Accuracy	$\pm 4\%$								
Graduation	lbf.in	10	20	50	50	100	100	200	200
	lbf.ft	1	2	2	5	10	10	20	20
	N.m	1	2	5	5	10	10	20	20
	kgf.m	.1	.2	1	1	1	1	2	2
Square driver (D)	1/4"	3/8"	1/2"	1/2"	1/2"	3/4"	3/4"	1"	
Length	16.73"	19.68"	21.89"	23.62"	31.69"	39.21"	42.12"	55.12"	
Weight	1.6lb	2.33lb	3.55lb	5.11lb	5.77lb	16.46lb	16.84lb	28.44lb	



## TORQUE WRENCHES



IST-10WM200

- According to DIN ISO 6789, ASME B107.300-2010
- All-metal construction
- Clockwise operation only

### SPECIFICATION

Part No.	IST-10WM200	IST-10WM250	IST-10WM100	IST-10WM150	IST-10WM250A	IST-10WM600
EDP No.	877238	877239	877236	877237	877240	877241
Range (clockwise)	40~200lb.in	50~250lb.in	20~100lb.ft	30~150lb.ft	50~250lb.ft	100~600lb.ft
Accuracy	$\pm 6\%$ (<89lb.in) $\pm 4\%$ ( $\geq 89$ lb.in)	$\pm 6\%$ (<89lb.in) $\pm 4\%$ ( $\geq 89$ lb.in)	$\pm 4\%$	$\pm 4\%$	$\pm 4\%$	$\pm 4\%$
Graduation	1lb.in	1lb.in	0.5lb.ft	0.5lb.ft	1lb.ft	2.5lb.ft
Square driver (D)	1/4"	3/8"	3/8"	1/2"	1/2"	3/4"
Length	11.02"	12.40"	16.73"	19.88"	20.67"	41.54"
Weight	1.50lb	1.81lb	2.29lb	2.56lb	2.87lb	13.01lb

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